Vehicle Safety Compliance Testing for FMVSS 208
for Occupant Crash Protection
Sled Test

Toyota Motor Manufacturing
2003 Toyota Tacoma
NIHTSA Number: C35106
TRC Inc. Test Number: S030501

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

Test Date: May 1, 2003
Report Date: May 14, 2003

Final Report

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

[Signature]
Virginia L. Watters, Project Manager
Transportation Research Center Inc.

Date 5/14/03

Final Report Accepted By:

[Signature]
Contracting Officer's Technical Representative (COTR),
NHTSA, Office of Vehicle Safety Compliance

Date 6/14/03
An FMVSS 208 Section 13 compliance sled test was conducted on a 2003 Toyota Tacoma regular cab pickup truck, NHTSA No. C35106, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208S-01 for the determination of FMVSS 208 compliance. Possible test failures identified were as follows:

Section 13.2 (d) axial compression for the passenger occupant.
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Purpose

This Federal Motor Vehicle safety Standard (FMVSS) 208 compliance sled test is part of the FMVSS compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by the Transportation Research Center Inc. (TRC Inc.) under Contract No. DTNH22-98-D-01055. The purpose of this test was to determine if the subject vehicle, a 2003 Toyota Tacoma regular cab pickup truck, NHTSA No.C35106, meets the performance requirements of FMVSS 208, “Occupant Crash Protection,” in the impact simulation sled test mode.
Test Procedure

This test was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-2088-01, dated January 15, 1998. Data was obtained relative to FMVSS 208, "Occupant Crash Protection," performance.

The sled test vehicle was instrumented with six (6) accelerometers to measure longitudinal accelerations. The sled was instrumented with one (1) longitudinal accelerometer, which is prefiltered with an analog filter to 200 Hz as an integral part of the sled firing circuit, and two (2) additional accelerometers: the primary accelerometer for pulse and integrated velocity determination and a backup accelerometer. In addition, the sled was instrumented with one (1) light trap to measure velocity and two (2) airbag firing timing circuits.

The sled test vehicle contained two (2) Part 572 E 50th percentile adult male anthropomorphic test devices (dummies). The dummies were positioned in the front outboard designated seating positions according to the dummy placement procedure specified in Appendix B of the Laboratory Test Procedure. The dummies were not restrained by seat belts.

Both dummies were instrumented with head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations; chest deflection potentiometers; left and right femur load cells to measure axial forces; and upper neck load cells to measure longitudinal, lateral, and vertical forces and moments.

The forty-two (42) data channels were digitally sampled at 12,500 samples per second and processed per Sections 11.7 through 11.9 of the Laboratory Test Procedure.

The sled test event was set up to be recorded by one (1) real-time motion picture camera and six (6) high-speed motion picture cameras. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera.
Test Results Summary

This FMVSS 208 compliance sled test was conducted by IRC Inc. on May 1, 2003.

The test vehicle, a 2003 Toyota Tacoma Truck, NHTSA No. C35106, does not appear to comply with the performance requirements of FMVSS 208 Section 13.2 (d), axial compression, in the impact simulation sled test mode as measured by Hybrid III 50th percentile male dummies.

<table>
<thead>
<tr>
<th></th>
<th>FMVSS 208 Max. Allowable Injury Assessment Values</th>
<th>Driver</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC</td>
<td>1000</td>
<td>331</td>
<td>456</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>39.7</td>
<td>34.0</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>3 inches</td>
<td>1.3</td>
<td>0.4</td>
</tr>
<tr>
<td>Left Femur</td>
<td>2250 lbs</td>
<td>1375</td>
<td>824</td>
</tr>
<tr>
<td>Right Femur</td>
<td>2250 lbs</td>
<td>782</td>
<td>928</td>
</tr>
<tr>
<td>Neck Extension</td>
<td>57 Nm</td>
<td>24.6</td>
<td>24.7</td>
</tr>
<tr>
<td>Neck Flexion</td>
<td>190 Nm</td>
<td>49.6</td>
<td>86.2</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>3300 N</td>
<td>802</td>
<td>332</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>4000 N</td>
<td>3324</td>
<td>4195</td>
</tr>
<tr>
<td>Neck Shear</td>
<td>3100 N</td>
<td>1099</td>
<td>1800</td>
</tr>
</tbody>
</table>

The subject vehicle, a 2003 Toyota Tacoma, NHTSA No. C35106, appears to meet the other FMVSS 208 requirements for which it was tested. These results are shown in the data sheets that are included in this report.

The sled test vehicle was equipped with air bags at the driver and passenger seating positions. The dummies were not restrained by seat belts. The sled carriage was accelerated to 18.1 g with an integrated velocity change of 29.8 mph. The single stage airbag inflators were triggered at 20.2 milliseconds after 0.5 g acceleration was measured by the firing circuit. Following subsequent digital data processing and filtering the acceleration signal to Channel Class 60, the single stage airbag event trigger signal was 20.8 ms after the 0.5 g acceleration level was indicated.
**Sled Test Summary**

**NIHTSA number:** C35106  
**Test type:** Alternate FMVSS 208 Sled  
**Test date:** 05/01/03  
**Test time:** 1125  
**Ambient temperature at impact area:** 70.8° F  
**Vehicle year/make/model/body style:** 2003/Toyota/Tacoma/Truck (regular cab pickup truck)

**Dummy Info:**  
<table>
<thead>
<tr>
<th>Driver #314</th>
<th>Front #229</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: Hybrid III 50th male</td>
<td>Hybrid III 50th male</td>
</tr>
<tr>
<td>Location: Left Front</td>
<td>Right Front</td>
</tr>
<tr>
<td>Restraint: Airbag</td>
<td>Airbag</td>
</tr>
<tr>
<td>Number of data channels: 15</td>
<td>15</td>
</tr>
</tbody>
</table>

**Number of Cameras:**  
| Real-time: 1 (Did not run) |  |
| High-speed: 6 |  |

**Door Opening Data:**  
| Left Front: Easy |  |
| Right Front: Easy |  |

**Front Seat Data:**  
| Seat track failure: None | None |
| Seat back failure: None | None |

**Visible Dummy Contact Points:**  
| Head: Airbag, windshield, headrest | Airbag, sun visor, headrest |
| Chest: Airbag | Airbag |
| Left knee: Knee Bolster | Glove Box |
| Right knee: Knee Bolster | Glove Box |
General Test and Vehicle Parameter Data for the Sled Test Vehicle

Test Vehicle Information:
Vehicle year/make/model/body style: 2003/Toyota/Tacoma/Truck (regular cab pickup truck)
Color: Mystic Gold Metallic/Oak
VIN: 5TENLA2N33Z228611
NHTSA number: C35106
Engine data:
  Placement: Inline
  Cylinders: 4
  Displacement: 2.4
Transmission data: 5_speed, X_manual, _automatic, X_overdrive
Final drive: _fwd, X_rwd, _4wd
Date vehicle received: 04/08/2003
Odometer reading: 39
Dealer's name and address: Tanksy Sawmill Toyota
  6300 Sawmill Road
  Dublin, OH 43017

Major Options:
Power steering Yes Other: 4-wheel anti-lock brakes, passenger
Power brakes Yes airbag cutoff switch, belt pretensioners and
Power windows No force limiters, CRS top tether, ISO fix
Air conditioning Yes
Power door locks No

Remarks:
General Test and Vehicle Parameter Data for the Sled Test Vehicle, Cont’d.

Data from Vehicle’s Certification Label:

Vehicle manufactured by: Toyota Motor Manufacturing, California, Inc.
Date of manufacture: 3/03
VIN: 5TENL42N33Z228611
GVWR: 4250 lbs
GAWR: Front: 2200 lbs
       Rear: 2500 lbs

Data from Vehicle’s Tire Placard:

Tire pressure with maximum capacity vehicle load:

   Front:  44 psi
   Rear:   44 psi

Recommended tire size: P205/75R15 or P235/55R16
Load index/speed rating: 97S (with P205/75R15) or 96T (with P235/55R16)

Recommended cold tire pressure:

   Front:  29 psi
   Rear:   29 psi

Size of tires on vehicle: P205/70R15
Spare tire: P205/70R15

Vehicle capacity data:

   Type of front seats: Bench

   Number of occupants (from count of seat belts):

   Front: 3
   Rear: N/A
   Total: 3

Remarks: None
General Test and Vehicle Parameter Data for the Sled Test Vehicle, Cont’d.

Weight of test vehicle as received (with maximum fluids):

<table>
<thead>
<tr>
<th></th>
<th>Right front</th>
<th>Left front</th>
<th>Right rear</th>
<th>Left rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (lbs)</td>
<td>782.6</td>
<td>826.7</td>
<td>601.9</td>
<td>611.8</td>
</tr>
</tbody>
</table>

Total front weight: 1609.3 lbs (57.0% of total vehicle weight)
Total rear weight: 1213.7 lbs (43.0% of total vehicle weight)
Total delivered weight: 2823.0 lbs

Calculation of test vehicle's target test weight:

\[ RCLW = \text{Rated Cargo and Luggage Weight} \]
\[ UDW = \text{Unloaded Delivered Weight (2823.0 lbs)} \]
\[ DSC = \text{Designated Seating Capacity (3)} \]
\[ RCLW^1 = 300 \text{ lbs} \]

Target test weight = \[ UDW + RCLW^1 + (\text{Number of Hybrid III dummies x 167 lbs per dummy}) \]

\[ \text{Target test weight} = 2823.0 + 300 + 334 = 3457.0 \text{ lbs} \]

Weight of test vehicle with two dummies and 301.0 lbs of cargo weight:

<table>
<thead>
<tr>
<th></th>
<th>Right front</th>
<th>Left front</th>
<th>Right rear</th>
<th>Left rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (lbs)</td>
<td>845.5</td>
<td>896.2</td>
<td>851.0</td>
<td>865.3</td>
</tr>
</tbody>
</table>

Total front weight: 1741.7 lbs (50.4% of total vehicle weight)
Total rear weight: 1716.3 lbs (49.6% of total vehicle weight)
Total test weight: 3458.0 lbs

Remarks:

Weight of ballast secured in vehicle cargo area: None
Components removed to meet target test weight: N/A

\[ RCLW^1 \text{ is set at a maximum of 300 lbs for target test weight determination.} \]
Test Vehicle Attitude:

As delivered door sill angle: 1.8° Nose Down
As tested door sill angle: 1.7° Nose Down
Fully loaded door sill angle: 1.1° Nose Down
Vehicle Wheelbase: 103.3 inches

Fuel System Data:

Fuel system capacity from owner's manual: 16.0 gallons
Useable capacity figure furnished by COTR: 16.0 gallons

Remarks: The roll angle measurements were within 1 inch of each other.
The left and right side measurements were 34.9 inches and 34.9 inches respectively.
Post-Impact Data

Test number: S030501
NHTSA number: C35106
Test date: 05/01/03
Test time: 1125
Test type: Alternate FMVSS 208 Sled
Impact angle: 0°
Ambient temperature at impact area: 70.8° F
Temperature in occupant compartment: 70.8° F

Sled carriage velocity:
Integrated velocity from the integration of the entire sled acceleration: 29.8 mph
Measured velocity from the light trap device attached to the sled (backup): 29.4 mph
Specified integrated velocity range: 28 to 30 mph

Sled carriage acceleration:
Acceleration: 18.1 g
Specified acceleration range: 16.0 g - 18.2 g

Sled carriage acceleration duration:
Time from T-0(-0.5 g) to 0.0 g: 121.8 ms
Specified acceleration duration: 120 - 130 ms

The sled acceleration curve was within the specified corridor.
Seat and Steering Column Positioning Data

Vehicle: 2003/Toyota/Tacoma/Truck

NHTSA No.: C35106

Nominal Design Riding Position:

Driver Seat: Seat Back Angle = 20.3° Fixed seat back position.

Passenger Seat: Seat Back Angle = 20.3° Fixed seat back position.

Seat Fore and Aft Positions:

Driver Seat: Mid position - manual adjustment. The bench seat was moved full forward and full rearward, marking each of 12 latch positions. There was no latch position at center of travel. The seat was set in the 7th latch (counting 1 as full forward) of 12 positions.

Passenger: Passenger seat was not independently adjustable from driver seat.

Steering Column Adjustments:

The steering column was not adjustable.
## Dummy Measurement Data for Front Seat Occupants

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<th>Type of Measurement</th>
<th>Driver (Serial #314)</th>
<th>Passenger (Serial #229)</th>
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<tbody>
<tr>
<td>WA</td>
<td>Windshield angle</td>
<td>38.0°</td>
<td>N/A</td>
</tr>
<tr>
<td>SWA</td>
<td>Steering wheel angle</td>
<td>26.8°</td>
<td>N/A</td>
</tr>
<tr>
<td>SCA</td>
<td>Steering column angle</td>
<td>63.2°</td>
<td>N/A</td>
</tr>
<tr>
<td>SA</td>
<td>Seat back angle</td>
<td>20.3°</td>
<td>20.3°</td>
</tr>
<tr>
<td>HZ</td>
<td>Head to roof</td>
<td>8.2 in</td>
<td>7.7 in</td>
</tr>
<tr>
<td>HH</td>
<td>Head to header</td>
<td>17.0 in</td>
<td>17.0 in</td>
</tr>
<tr>
<td>HW</td>
<td>Head to windshield</td>
<td>22.4 in</td>
<td>13.4 in</td>
</tr>
<tr>
<td>HR</td>
<td>Head to side header</td>
<td>8.8 in</td>
<td>9.6 in</td>
</tr>
<tr>
<td>NR</td>
<td>Nose to rim</td>
<td>17.4 in</td>
<td>N/A</td>
</tr>
<tr>
<td>NA</td>
<td>Nose to rim angle</td>
<td>9.2°</td>
<td>N/A</td>
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<tr>
<td>CD</td>
<td>Chest to dash</td>
<td>23.0 in</td>
<td>21.9 in</td>
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<tr>
<td>CS</td>
<td>Steering wheel to chest</td>
<td>12.2 in</td>
<td>N/A</td>
</tr>
<tr>
<td>RA</td>
<td>Rim to abdomen</td>
<td>7.8 in</td>
<td>N/A</td>
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<td>KDL</td>
<td>Left knee to dash</td>
<td>7.7 in</td>
<td>6.7 in</td>
</tr>
<tr>
<td>KDR</td>
<td>Right knee to dash</td>
<td>7.7 in</td>
<td>6.5 in</td>
</tr>
<tr>
<td>KDA</td>
<td>Outboard knee to dash angle</td>
<td>14.6°</td>
<td>22.4°</td>
</tr>
<tr>
<td>PA</td>
<td>Pelvis angle</td>
<td>22.5°</td>
<td>23.8°</td>
</tr>
<tr>
<td>TA</td>
<td>Tibia angle</td>
<td>38.8°</td>
<td>38.1°</td>
</tr>
<tr>
<td>KK</td>
<td>Knee to knee</td>
<td>13.4 in</td>
<td>10.6 in</td>
</tr>
<tr>
<td>ST¹</td>
<td>Striker to head</td>
<td>21.1 in</td>
<td>22.5 in</td>
</tr>
<tr>
<td></td>
<td>Striker to head angle</td>
<td>71.0°</td>
<td>73.3°</td>
</tr>
<tr>
<td>SK¹</td>
<td>Striker to knee</td>
<td>28.3 in</td>
<td>27.7 in</td>
</tr>
<tr>
<td></td>
<td>Striker to knee angle</td>
<td>2.5°</td>
<td>1.3°</td>
</tr>
<tr>
<td>SH¹</td>
<td>Striker to H-point</td>
<td>14.4 in</td>
<td>13.9 in</td>
</tr>
<tr>
<td></td>
<td>Striker to H-point angle</td>
<td>24.9°</td>
<td>191.0°</td>
</tr>
<tr>
<td>SIHY</td>
<td>Striker to H-point (Y dir.)</td>
<td>8.7 in</td>
<td>9.1 in</td>
</tr>
<tr>
<td>HS</td>
<td>Head to side window</td>
<td>12.4 in</td>
<td>12.8 in</td>
</tr>
<tr>
<td>HD</td>
<td>H-point to door</td>
<td>5.7 in</td>
<td>5.7 in</td>
</tr>
<tr>
<td>AD</td>
<td>Arm to door</td>
<td>3.9 in</td>
<td>3.9 in</td>
</tr>
</tbody>
</table>

The seat back angle (SA°) is measured relative to vertical.
All other angles are measured relative to horizontal.
¹ A negative angle indicates the measurement point was located below the striker.
Dummy Measurement Locations for Front Seat Occupants

[Diagram showing measurement locations with labels such as SWA, HH, HW, NA, CD, ST, etc.]

VERTICAL LONGITUDINAL PLANE

VERTICAL TRANSVERSE PLANE
Descriptions of Dummy Measurements

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

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

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

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

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

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

* CD  Chest to Dash, place a tape measure on the tip of the dummy’s chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy’s chest. Then measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement. See diagram.

RA  Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy. Use a level.

NR  Nose to Rim, taken from the tip of the dummy’s nose to the closest point on the top of the steering wheel rim. Also indicate the angle this line makes with respect to the horizontal (NA).

* Measurement used in Data Tape Reference Guide
Descriptions of Dummy Measurements, Cont'd.

\* KDL, KDR  Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt's outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard. Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA). See diagram.

\* SH, SK, ST  Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z plane measured from the forward most center point on the striker to the center of the H-point, outer knee bolt, and head target. When taking this measurement a firm device that can be rigidly connected to the striker should be used. Use a level. The angles of these measurements with respect to the horizontal should also be recorded. The measurement in the Y (transverse) direction from the striker to the H-point should also be taken (SHY). See diagram.

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

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

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

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

\* HR  Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy.

\* Measurement used in Data Tape Reference Guide
\* Only outboard measurement is referenced in Data Tape Reference Guide
Descriptions of Dummy Measurements, Cont'd.

SHY Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See diagram.

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

Angles

SA Seat Back Angle, find this angle using the instructions provided by the manufacturer. If the manufacturer doesn’t provide clear instructions contact the COTR.

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

SWA Steering Wheel Angle, find this by placing a straight edge against the steering wheel rim along the longitudinal plane. Then measure the acute angle of the straight edge with respect to the horizontal.

SCA Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column.

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

KDA Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See diagram.

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

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

* Measurement used in Data Tape Reference Guide
Vehicle Accelerometer Placement

Side View

Bottom View
### Vehicle Data Summary and Accelerometer Locations

<table>
<thead>
<tr>
<th>Test Number: S030501</th>
<th>No. Location</th>
<th>X</th>
<th>Y</th>
<th>Positive Direction</th>
<th>Negative Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SLED ACCELERATION</td>
<td>PRIMARY</td>
<td>165.6 in</td>
<td>-1.0 in</td>
<td>1.4 g @ 127.5 ms</td>
<td>13.1 g @ 53.1 ms</td>
</tr>
<tr>
<td>2 SLED ACCELERATION</td>
<td>BACKUP</td>
<td>165.6 in</td>
<td>-1.0 in</td>
<td>1.5 g @ 127.6 ms</td>
<td>13.2 g @ 53.0 ms</td>
</tr>
<tr>
<td>3 SLED VELOCITY</td>
<td></td>
<td></td>
<td></td>
<td>0.1 mph @ 8.0 ms</td>
<td>29.4 mph @ 122.6 ms</td>
</tr>
<tr>
<td>4 LEFT BODY AT FLOORPAN</td>
<td>LONGITUDINAL</td>
<td>98.4 in</td>
<td>-22.7 in</td>
<td>1.6 g @ 143.2 ms</td>
<td>23.6 g @ 55.0 ms</td>
</tr>
<tr>
<td>5 RIGHT BODY AT FLOORPAN</td>
<td>LONGITUDINAL</td>
<td>100.2 in</td>
<td>22.9 in</td>
<td>1.7 g @ 153.8 ms</td>
<td>24.6 g @ 56.5 ms</td>
</tr>
<tr>
<td>6 TOP ENGINE</td>
<td>LONGITUDINAL</td>
<td>161.8 in</td>
<td>1.1 in</td>
<td>3.5 g @ 130.5 ms</td>
<td>19.5 g @ 63.0 ms</td>
</tr>
<tr>
<td>7 REAR AXLE</td>
<td>LONGITUDINAL</td>
<td>44.2 in</td>
<td>-0.5 in</td>
<td>3.3 g @ 129.0 ms</td>
<td>18.7 g @ 49.3 ms</td>
</tr>
<tr>
<td>8 LEFT VEHICLE FRAME</td>
<td>LONGITUDINAL</td>
<td>51.5 in</td>
<td>-20.7 in</td>
<td>1.9 g @ 127.3 ms</td>
<td>18.6 g @ 57.8 ms</td>
</tr>
</tbody>
</table>
Vehicle Data Summary and Accelerometer Locations, Cont'd.

<table>
<thead>
<tr>
<th>TEST NUMBER: S030501</th>
<th>No.</th>
<th>LOCATION</th>
<th>X</th>
<th>Y</th>
<th>POSITIVE DIRECTION</th>
<th>NEGATIVE DIRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td></td>
<td>RIGHT VEHICLE FRAME</td>
<td>51.6 in</td>
<td>20.7 in</td>
<td>1.7 g @ 127.4 ms</td>
<td>10.8 g @ 46.2 ms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LONGITUDINAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>DRIVER AIRBAG</td>
<td></td>
<td></td>
<td>1.0 volt @ 20.8 ms</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EVENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>PASSENGER AIRBAG</td>
<td></td>
<td></td>
<td>1.0 volt @ 20.8 ms</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EVENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REFERENCE:  
X: + FORWARD FROM VEHICLE REAR SURFACE  
Y: + RIGHTWARD FROM SLED CARRIAGE CENTERLINE

1 Sign convention per SAEJ211 March 1995.  
2 No positive data in time frame of interest.
REFERENCE PHOTO TARGETS

LEFT SIDE VIEW
Camera Positions

Top View

Camera Frame Rates:
#1 = 24 fps
All Others = 1,000 fps

Left Side View
### Motion Picture Camera Locations

**Vehicle year/make/model/body style:** 2003/Toyota/Tacoma/Truck

**NHTSA No.:** C35106  
**Test Number:** S030501

<table>
<thead>
<tr>
<th>Camera Number</th>
<th>View</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>Camera Angle $^2$</th>
<th>Film Plane to Head</th>
<th>Camera Lens</th>
<th>Film Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Real-time Pre-Doc/Panning $^3$</td>
<td>93.0 in</td>
<td>308.9 in</td>
<td>44.8 in</td>
<td>1.3°</td>
<td>292.8 in</td>
<td>10 mm</td>
<td>24 frames/s</td>
</tr>
<tr>
<td>2</td>
<td>Left side view wide</td>
<td>68.8 in</td>
<td>71.2 in</td>
<td>51.9 in</td>
<td>-3.9°</td>
<td>58.5 in</td>
<td>8 mm</td>
<td>1025 frames/s</td>
</tr>
<tr>
<td>3</td>
<td>Left side view over shoulder</td>
<td>98.7 in</td>
<td>50.2 in</td>
<td>59.3 in</td>
<td>-15.0°</td>
<td>36.8 in</td>
<td>8 mm</td>
<td>905 frames/s</td>
</tr>
<tr>
<td>4</td>
<td>Right side view wide</td>
<td>70.5 in</td>
<td>73.5 in</td>
<td>51.5 in</td>
<td>0.9°</td>
<td>59.3 in</td>
<td>8 mm</td>
<td>1000 frames/s</td>
</tr>
<tr>
<td>5</td>
<td>Right side view over shoulder</td>
<td>98.6 in</td>
<td>49.3 in</td>
<td>56.0 in</td>
<td>-12.4°</td>
<td>38.0 in</td>
<td>8 mm</td>
<td>1000 frames/s</td>
</tr>
<tr>
<td>6</td>
<td>Front view - driver</td>
<td>26.3 in</td>
<td>12.1 in</td>
<td>59.2 in</td>
<td>-2.9°</td>
<td>57.1 in</td>
<td>8 mm</td>
<td>1020 frames/s</td>
</tr>
<tr>
<td>7</td>
<td>Front view - passenger</td>
<td>26.6 in</td>
<td>18.4 in</td>
<td>59.3 in</td>
<td>-1.3°</td>
<td>58.3 in</td>
<td>8 mm</td>
<td>997 frames/s</td>
</tr>
</tbody>
</table>

1. X: Film plane to front of sled  
2. Y: Film plane to sled centerline  
3. Z: Film plane to top of sled  
4. Angle: Film plane of camera downward from horizontal plane  
5. Camera did not run
### Maximum Acceleration Values: \((g)^1\)

<table>
<thead>
<tr>
<th></th>
<th>Driver Dummy #314</th>
<th>Passenger Dummy #229</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Channel X</td>
<td>74.9</td>
<td>80.4</td>
</tr>
<tr>
<td>Head Channel Y</td>
<td>19.9</td>
<td>28.1</td>
</tr>
<tr>
<td>Head Channel Z</td>
<td>53.5</td>
<td>42.9</td>
</tr>
<tr>
<td>HEAD RESULTANT</td>
<td>89.7</td>
<td>89.7</td>
</tr>
<tr>
<td>Chest Channel X</td>
<td>-37.8</td>
<td>-34.0</td>
</tr>
<tr>
<td>Chest Channel Y</td>
<td>3.5</td>
<td>2.7</td>
</tr>
<tr>
<td>Chest Channel Z</td>
<td>21.5</td>
<td>19.9</td>
</tr>
<tr>
<td>CHEST RESULTANT</td>
<td>40.9</td>
<td>35.3</td>
</tr>
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</table>

### Head Injury Criteria (HIC) Values:

<table>
<thead>
<tr>
<th>HIC</th>
<th>331</th>
<th>456</th>
</tr>
</thead>
<tbody>
<tr>
<td>(t_1) (ms)</td>
<td>91.84</td>
<td>106.00</td>
</tr>
<tr>
<td>(t_2) (ms)</td>
<td>122.88</td>
<td>115.52</td>
</tr>
</tbody>
</table>

The maximum HIC time interval from \(t_1\) to \(t_2\) is 36 milliseconds.

### Chest Injury Criteria (Clip) Values:

<table>
<thead>
<tr>
<th>CLIP (g)</th>
<th>39.7</th>
<th>34.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>(t_1) (ms)</td>
<td>104.59</td>
<td>108.12</td>
</tr>
<tr>
<td>(t_2) (ms)</td>
<td>102.64</td>
<td>105.60</td>
</tr>
<tr>
<td>Chest Deflection (in)</td>
<td>1.3</td>
<td>0.4</td>
</tr>
</tbody>
</table>

1 Sign convention per SAE J211, March 1995
### FMVSS 208 Occupant Injury Data, Cont'd

Vehicle: 2003/Toyota/Tacoma/Truck  
NHTSA No.: C55106  
Date: 05/01/03

<table>
<thead>
<tr>
<th>Max. Compressive Femur Forces:</th>
<th>Driver Dummy #314</th>
<th>Passenger Dummy #229</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Side (lbs)</td>
<td>1375</td>
<td>824</td>
</tr>
<tr>
<td>Right Side (lbs)</td>
<td>782</td>
<td>928</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neck Injury Criteria:</th>
<th>Driver Dummy #314</th>
<th>Passenger Dummy #229</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Flexion Bending Moment (N-m)</td>
<td>49.6</td>
<td>86.2</td>
</tr>
<tr>
<td>Peak Extension Bending Moment (N-m)</td>
<td>24.6</td>
<td>24.7</td>
</tr>
<tr>
<td>Peak Axial Tension (N)</td>
<td>802</td>
<td>332</td>
</tr>
<tr>
<td>Peak Axial Compression (N)</td>
<td>3324</td>
<td>4195</td>
</tr>
<tr>
<td>Peak Positive X-axis Shear (N)</td>
<td>1099</td>
<td>1800</td>
</tr>
<tr>
<td>Peak Negative X-axis Shear (N)</td>
<td>204</td>
<td>326</td>
</tr>
</tbody>
</table>
FMVSS 208 Seat Belt Warning System Check

Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
NHTSA No.: C35106 Technician: Ron Stoner Date: 04/14/2003

Complete the following to determine which seat belt warning system option (S7.3(a)(1) or S7.3(a)(2)) is used. (Manufacturers may use either option.)

A. With occupant in driver’s position and lap belt in stowed position and ignition switch placed in “Start/On” position:

A.1 S7.3(a)(1)
Time duration of audible warning signal = 5 seconds (4 to 8 seconds)
Time duration of reminder light operation = remains on (no less than 60 seconds)

A.2 S7.3(a)(2)
Time duration of audible warning signal = seconds (4 to 8 seconds) (see 49 USCS @ 30124)
Time duration of reminder light operation = seconds (4 to 8 seconds)

B. With occupant in driver’s position and lap belt in use and the ignition switch placed in “Start/On” position:

B.1 S7.3(a)(1)
Time duration of audible warning signal = 0 seconds (audible warning should not operate)
Time duration of reminder light operation = 0 seconds (reminder light does not operate)

B.2 S7.3(a)(2)
Time duration of audible warning signal = seconds (audible warning should not operate)
Time duration of reminder light operation = seconds (4 to 8 seconds)

C. Note wording of visual warning:
   Fasten Seat Belt
   Fasten Belt
   Symbol 101 ✗
FMVSS 208 Readiness Indicator

Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
NHTSA No.: C35106    Technician: Ron Stoner    Date: 04/14/2003

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).

☐ Yes;   ✗ No

Is the system totally mechanical?

Describe the location of the readiness indicator: Bottom left on instrument cluster

Is the readiness indicator clearly visible to the driver?   ✗ Yes;     ☐ No

Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided?   ✗ Yes;     ☐ No
FMVSS 208 Air Bag Labels

Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
NHTSA No.: C35106              Technician: Ron Stoner              Date: 04/14/2003

1. Air Bag Maintenance Label and Owner’s Manual Instructions:
   1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?
       □ Yes (Go to 1.2)
       ☑ No (Go to 2)
   1.2 Does the Vehicle have a maintenance or replacement label?
       □ Yes-Pass              □ No-Fail
   1.3 Does the label contain one of the following?
       □ Yes-Pass
         ☑ Schedule on label specifies month and year
         ☑ Schedule on label specifies vehicle mileage
         ☑ Schedule on label specifies interval measured from date on certification label
   1.4 Is the label permanently affixed within the passenger compartment?
       □ 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 inch 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: (§4.5.1 (f))
   2.1 Include a description of the vehicle’s air bag system in an easily understandable format?
       ☑ Yes              □ No-Fail
   2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating positions?
       ☑ Yes              □ No-Fail
2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions? ✓ Yes ☐ 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 ☐ No-Fail

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

3. Does the Vehicle:

3.1 Provide an automatic means to ensure that the air bag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard seat? ☐ Yes ✓ No

3.2 Incorporate sensors, other than or in addition to weight sensors, which automatically prevent the passenger air bag from deploying in situations in which it might have an adverse effect on infants in rear-facing child seat, and unbelted or improperly belted children? ☐ Yes ✓ No

3.3 Have a passenger air bag designed to deploy in a manner that does not create a risk of serious injury to infants in rear-facing child seats, and unbelted or improperly belted children? ☐ Yes ✓ No

If yes to 3.1, or 3.2, or 3.3, the vehicle is not required to have a Sun Visor Warning Label (S4.5.1(b)), an air bag alert label (S4.5.1(c)) or a label on the dash (S4.5.1(c)) and this check sheet is complete. (S4.5.1) If no to 3.1, 3.2, and 3.3, go to 4.
4. Sun Visor Warning Label

4.1 Is the label permanently affixed (may be permanent marking or molding) to either side of the sun visor at each front outboard seating position with an air bag?

- Driver side: ☒ Yes-Pass ☐ No-Fail
- Passenger side: ☒ Yes-Pass ☐ No-Fail

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

4.2.1 Dual air bags

- Driver side: ☒ Yes-Pass ☐ No-Fail
- Passenger side: ☒ Yes-Pass ☐ No-Fail

4.2.2 Vehicles with driver air bag ONLY - either 4.2.1 or 4.2.2 is applicable, not both. (S4.5.1(b)(2)(iv))

4.2.2.1 Does the label conform on content to the label shown in either Figure 6a or 6b as appropriate?

- ☒ N/A

- Driver side: ☐ Yes-Pass ☐ No-Fail

4.2.2.2 Does the label conform in content to the label shown in Figure 6a where the label can be modified to omit the pictogram and the message may read: DEATH or SERIOUS INJURY can occur.

- Sit as far back as possible from the air bag.
- ALWAYS use SEAT BELTS and CHILD RESTRAINTS.
- The BACK SEAT is the SAFEST place for children.

- ☒ N/A

- Driver side: ☐ Yes-Pass ☐ No-Fail
SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION
LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

- ARTWORK BLACK WITH WHITE BACKGROUND
- CIRCLE AND LINE RED WITH WHITE BACKGROUND
- BOTTOM TEXT BLACK WITH RED BULLETS ON WHITE BACKGROUND
- TOP TEXT AND SYMBOL BLACK WITH YELLOW BACKGROUND

WARNING

DEATH or SERIOUS INJURY can occur
- Children 12 and under can be killed by the air bag
- The BACK SEAT is the SAFEST place for children
- NEVER put a rear-facing child seat in the front
- Sit as far back as possible from the air bag
- ALWAYS use SEAT BELTS and CHILD RESTRAINTS

Figure 6a
§4.5.1(h)(2)
SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

ARTWORK BLACK WITH WHITE BACKGROUND

BOTTOM TEXT BLACK WITH RED BULLETS ON WHITE BACKGROUND

CIRCLE AND LINE RED WITH WHITE BACKGROUND

TOP TEXT AND SYMBOL BLACK WITH YELLOW BACKGROUND

WARNING

DEATH or SERIOUS INJURY can occur
- Children 12 and under can be killed by the air bag
- The BACK SEAT is the SAFEST place for children
- NEVER put a rear-facing child seat in the front unless air bag is off
- Sit as far back as possible from the air bag
- ALWAYS use SEAT BELTS and CHILD RESTRAINTS

Figure 6b (§4.5.1(b)(2))

4.3 Is the driver side label heading area yellow with the word “warning” and the alert symbol in black? (§4.5.1.(b)(2)(i))

Driver side  ☑ Yes-Pass  ☐ No-Fail
Passenger side  ☑ Yes-Pass  ☐ No-Fail

4.4 Is the message white with black text? (§4.5.1 (b)(2)(ii))

Driver side  ☑ Yes-Pass  ☐ No-Fail
Passenger side  ☐ No air bag  ☑ Yes-Pass  ☐ No-Fail

4.5 Is the message area at least 30 cm²? (§4.5.1(b)(2)(ii))

Actual message area, driver side 30.9 cm²
Actual message area, passenger side 30.9 cm²

Driver side  ☑ Yes-Pass  ☐ No-Fail
Passenger side  ☐ No air bag  ☑ Yes-Pass  ☐ No-Fail
4.6 Is the pictogram black with a red circle and slash on a white background? (§4.5.1(b)(2)(iii)) & (§4.5.1(b)(2)(iv))

For vehicles with driver side air bag only

- Driver side: ☒ Yes-Pass ☐ No-Fail
- Passenger side: ☐ No air bag ☒ Yes-Pass ☐ No-Fail

4.7 Is the pictogram at least 30 mm in diameter? (§4.5.1(b)(2)(iii))

Actual diameter, driver side: 30 mm
Actual diameter, passenger side: 30 mm

For vehicles with driver side air bag only

- Driver side: ☒ Yes-Pass ☐ No-Fail
- Passenger side: ☐ No air bag ☒ Yes-Pass ☐ No-Fail

4.8 Is the same side of the sun visor to which the sun visor label is affixed free of other information with the exception of an air bag maintenance label? (§4.5.1(b)(3)) and/or a rollover warning label specified in 49CFR Part 575 (§575.105)?

- Driver side: ☒ Yes-Pass ☐ No-Fail
- Passenger side: ☐ No air bag ☒ Yes-Pass ☐ No-Fail

4.9 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 or the utility vehicle label?

- Driver side: ☒ Yes-Pass ☐ No-Fail
- Passenger side: ☐ No air bag ☒ Yes-Pass ☐ No-Fail

5. Air Bag Alert Label

5.1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?

- Driver: ☒ Yes ☐ No
- Passenger: ☒ Yes ☐ No

If yes, go to 6

5.2 Does the label conform in content to the label shown in Figure 6c? (§4.5.1(c)(2))

- ☒ Yes-Pass ☐ No-Fail

5.3 SUN VISOR LABEL VISIBLE WHEN VISOR IS IN UP POSITION

- ☒ Yes-Pass ☐ No-Fail

Figure 6c
(S4.5.1(c)(2))
FMVSS 208 Air Bag Labels, Cont'd.

5.3 Is the message area black with yellow text? (S4.5.1(c)(2)(i))
   □ Yes-Pass □ No-Fail

5.4 Is the message area at least 20 cm²? (S4.5.1(c)(2)(ii))
   Actual message area N/A cm² □ Yes-Pass □ No-Fail

5.5 Is the pictogram black with a red circle and slash on a white background?
   (S4.5.1(c)(2)(ii))
   For vehicles with driver side air bag ONLY □ N/A
   □ Yes-Pass □ No-Fail

5.6 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2)(ii))
   Actual diameter is N/A mm
   For vehicles with driver side air bag ONLY □ N/A
   □ Yes-Pass □ No-Fail

6. Label On the Dash
6.1 Does the vehicle have a passenger air bag?
   □ Yes □ No
   **If no, this checklist is complete.**

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

6.3 Does the label conform in content (vehicles without back seats may omit the
   statement: "The back seat is the safest place for children 12 and under.")
   (S4.5.1(e)(iii)) to the label shown in Figure 7? (S4.5.1(e))
   □ Yes-Pass □ No-Fail

---

Figure 7
(S4.5.1(e))

- **WARNING**
  - Children Can Be KILLED or INJURED by Passenger Air Bag
  - The back seat is the safest place for children 12 and under.
  - Make sure all children use seat belts or child seats.
6.4 Is the heading area yellow with the word “warning” and the alert symbol in black? (§4.5.1(e)(i)) □ Yes-Pass □ No-Fail
6.5 Is the message white with black text? (§4.5.1(e)(ii)) □ Yes-Pass □ No-Fail
6.6 Is the message area at least 30 cm²? (§4.5.1(e)(ii))
Actual message area 30 cm² □ Yes-Pass □ No-Fail
FMVSS 208 Rear Outboard Seating Position Seat Belts

Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
NHTSA No.: C35106 Technician: Ron Stoner Date: 05/01/03

Do all rear outboard seating positions have type 2 seat belts?

☐ Yes; ☐ No; ☒ N/A (No Back Seat)

If No, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 belt was not installed.
Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

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

Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
NHTSA No.: C35106 Technician: Ron Stoner Date: 04/14/2003
Designated Seating Position: Right Front

1. Record test seat position: Middle (S7.1.1.5(e)(1)) (Any position is acceptable.)

2. Buckle the seat belt. (S7.1.1.5(e)(1))

3. Complete any procedures recommended in the vehicle owner’s manual to activate any locking feature. (S7.1.1.5(e)(1))

4. 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 to the vehicle? (S7.1.1.5(a)) Yes-Pass No-Fail

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

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
If yes, go to 6.1. If no, go to 7.

6.1 Does the vehicle owner’s manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system? (S7.1.1.5(b)) Yes-Pass No-Fail
FMVSS 208 Lap Belt Lockability, Cont’d.

Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck

NHTSA No.: C35106 Technician: Ron Stoner Date: 04/14/2003

Designated Seating Position: Right Front

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

☐ 8. 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))

☐ 9. 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))

☐ 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2)) Measured distance between A and B 58.7 inches.

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

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

☐ 13. 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 23.2 inches.
14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 25 lbs/sec (spec. 10 – 50 lb/sec)

The measured distance between A and B is 23.6 inches (S7.1.1.5(c)(6))

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

14-13 = 0.4 inches

Yes-Pass

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more? (S7.1.1.5(c)(8))

10-14 = 35.1 inches.

Yes-Pass
FMVSS 208 Lap Belt Lockability

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

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

Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
NHTSA No.: C35106 Technicisan: Ron Stoner Date: 04/14/2003

Designated Seating Position: Middle Front; Does not apply - lap belt only - no retractor

☐ 1. Record test seat position: Middle
   (S7.1.1.5(c)(1)) (Any position is acceptable.)

☐ 2. Buckle the seat belt. (S7.1.1.5(c)(1))

☐ 3. Complete any procedures recommended in the vehicle owner’s manual to activate any locking feature. (S7.1.1.5(c)(1))

☐ 4. 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 to the vehicle? (S7.1.1.5(a)) ☐ Yes-Pass ☐ No-Fail

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

☐ 6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
   If yes, go to 6.1. If no, go to 7. ☐ Yes ☐ No

6.1 Does the vehicle owner’s manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b)) ☐ Yes-Pass ☐ No-Fail
FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
NHTSA No.: C35106 Technician: Ron Stoner Date: 04/14/2003

Designated Seating Position: Middle Front

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

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

☐ 9. 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. (§7.1.1.5(c)(2))

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

☐ 11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (§7.1.1.5(c)(3))

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

☐ 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (§7.1.1.5(c)(4)) Measured distance between A and B ___ inches.
14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (§7.1.1.5(c)(5))

Record onset rate ___ lbs/sec (spec. 10 ~50 lb/sec)

The measured distance between A and B is ___ inches (§7.1.1.5(c)(5))

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

14-13= ___ inches

☐ Yes-Pass  ☐ No-Fail

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more? (§7.1.1.5(c)(8))

10-14= 35.1 inches.

☐ Yes-Pass  ☐ No-Fail
FMVSS 208 Seat Belt Comfort And Convenience Test

Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Left Front
Date of Comfort and Convenience Check: 04/11/2003
Technician Performing Check: Scott Bazzle
GVWR: 4250 pounds

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

1. Does the vehicle incorporate a webbing tension-relieving device?
   [ ] Yes-go to latchplate access
   [x] No-continue with this check sheet

2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)
   [x] Check
   [ ] N/A

3. If separately adjustable in a vertical direction, the seats are at the lowest position.
   [ ] Check
   [x] N/A

4. Place adjustable seat backs in the manufacturer’s nominal design riding position in the manner specified by the manufacturer.
   [ ] Check
   [x] N/A

5. Place any adjustable anchorages at the manufacturer’s nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.
   [x] Check
   [ ] N/A
6. Place each adjustable head restraint in its highest adjustment position.  
   □ Check  
   ✘ N/A

7. Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)  
   □ Check  
   ✘ N/A

8. Position the test dummy according to the dummy position placement instructions in Appendix B of the Laboratory Test Procedure.  
   ✘ Check

9. Fasten the seat belt latch. 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. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy’s chest. At that point pull the belt webbing out 3 inches from the dummy’s chest and release until it is within one inch from the dummy’s chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy’s chest. Contact the COTR if the contact force exceeds 0.7 pounds. Contact force is 0.6 pounds.  
   ✘ 0.0 to 0.7 pounds - Pass  
   □ greater than 0.7 pounds - FAIL*

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.
FMVSS 208 Seat Belt Comfort And Convenience Test

Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Right Front
Date of Comfort and Convenience Check: 04/11/2003
Technician Performing Check: Scott Bazzle
GVWR: 4250 pounds

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

1. Does the vehicle incorporate a webbing tension-relieving device?
   [ ] Yes-go to latchplate access
   [X] No-continue with this check sheet

2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)
   [X] Check
   [ ] N/A

3. If separately adjustable in a vertical direction, the seats are at the lowest position.
   [X] Check
   [ ] N/A

4. Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.
   [ ] Check
   [X] N/A

5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.
   [X] Check
   [ ] N/A
6. Place each adjustable head restraint in its highest adjustment position.

☐ Check
☒ N/A

7. Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)

☐ Check
☒ N/A

8. Position the test dummy according to the dummy position placement instructions in Appendix B of the Laboratory Test Procedure.

☒ Check

9. Fasten the seat belt latch. 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. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy’s chest. At that point pull the belt webbing out 3 inches from the dummy’s chest and release until it is within one inch from the dummy’s chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy’s chest. Contact the COTR if the contact force exceeds 0.7 pounds. Contact force is 0.6 pounds.

☒ 0.0 to 0.7 pounds - Pass
☐ greater than 0.7 pounds - FAIL*

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.
FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont’d.
Latchplate Access (S7.4.4)

Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Left Front
Date of Comfort and Convenience Check: 04/14/2003
Technician Performing Check: Ron Stoner
GVWR: 4250 pounds

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.

1. Position the seat in its forward most adjustment position. ☑ Check

2. Position the test dummy using the procedures in Appendix B of the Laboratory Test Procedure. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position.) ☑ Check

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

4. Attach the inboard and outboard reach string following the instructions on Figure 1C of the Laboratory Test Procedure. ☑ Check

5. Place the latch plate in the stowed position. ☑ Check

6. Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy’s arms. Is the latchplate within the reach envelope?
   ☑ Yes-Pass; ☐ No-Fail

7. Using the clearance test block, specified in Figure 2C of the Laboratory Test Procedure, determine if there is sufficient clearance between the vehicle seat and the side of vehicle to allow the test block to move unhindered to the latchplate or buckle.
   ☑ Yes-Pass; ☐ No-Fail
FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Latchplate Access (S7.4.4)

Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Right Front
Date of Comfort and Convenience Check: 04/14/2003
Technician Performing Check: Ron Stoner
GVWR: 4250 pounds

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.

1. Position the seat in its forward most adjustment position.  

2. Position the test dummy using the procedures in Appendix B of the Laboratory Test Procedure. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position.)  

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

4. Attach the inboard and outboard reach string following the instructions on Figure 1C of the Laboratory Test Procedure.

5. Place the latch plate in the stowed position.

6. Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy’s arms. Is the latchplate within the reach envelope?

   Yes-Pass; No-Fail

7. Using the clearance test block, specified in Figure 2C of the Laboratory Test Procedure, determine if there is sufficient clearance between the vehicle seat and the side of vehicle to allow the test block to move unhindered to the latchplate or buckle.

   Yes-Pass; No-Fail
FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Retraction (S7.4.5)

Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Left Front
Date of Comfort and Convenience Check: 04/14/2003
Technician Performing Check: Ron Stoner
GVWR: 4250 pounds

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.

1. Is the vehicle a passenger car or walk-in van-type vehicle? □ Yes □ No
   If yes, go to seat belt guides and hardware.

2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2) □ Check

3. If separately adjustable in a vertical direction, the seats are at the lowest position. □ Check

4. Place any adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer. □ Check

5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR. □ Check

6. Place each adjustable head restraint in its highest adjustment position. □ Check
FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Retraction (S7.4.5)

7. Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)  
   □ Check

8. Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B of the Laboratory Test Procedure.  
   □ Check

9. Restrain the dummies using the belt systems for the position being tested.  
   □ Check

10. Stow outboard armrests that are capable of being stowed.  
    □ Check

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

   (A) 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 latchplate is released.  
       □ Pass

   (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latchplate is released.  
       □ Pass

   (C) Neither A or B apply.  
       □ Fail

12. 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

13. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?  
    □ Yes-Pass;  □ No-Fail

48  S030501
Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Right Front
Date of Comfort and Convenience Check: 04/14/2003
Technician Performing Check: Ron Stoner
GVWR: 4250 pounds

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.

1. Is the vehicle a passenger car or walk-in van-type vehicle? [ ] Yes [ ] No

   If yes, go to seat belt guides and hardware.

2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2) [ ] Check

3. If separately adjustable in a vertical direction, the seats are at the lowest position. [ ] Check

4. Place any adjustable seat backs in the manufacturer’s nominal design riding position in the manner specified by the manufacturer. [ ] Check

5. Place any adjustable anchorages at the manufacturer’s nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR. [ ] Check

6. Place each adjustable head restraint in its highest adjustment position. [ ] Check
7. Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)  □ Check

8. Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B.  □ Check

9. Restrain the dummies using the belt systems for the position being tested.  □ Check

10. Stow outboard armrests that are capable of being stowed.  □ Check

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

   (A) 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 latchplate is released.  □ Pass

   (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latchplate is released.  □ Pass

   (C) Neither A or B apply.  □ Fail

12. 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

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

□ Yes-Pass;  □ No-Fail
Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Left Front
Date of Comfort and Convenience Check: 04/14/2003
Technician Performing Check: Ron Stoner
GVWR: 4250 pounds

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.

The requirements for accessibility DO NOT APPLY to:

A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b)).

B. Seats which are removable.

C. Seats that are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above, determine the following:

1. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?  
   □ Yes; go to 2.  
   □ No; this form is complete.

2. Does one of the following three parts, the seat belt latchplate, 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)?  
   □ Yes-Pass;  □ No-Fail

3. Are the remaining two seat belt parts accessible under normal conditions?  
   □ Yes-Pass;  □ No-Fail
4. The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched.  □ Check

(B) The seat is moved to any position to which it is designed to be adjusted.  □ Check

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.  □ Yes-Pass;  □ No-Fail

5. Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?  □ Yes-Pass;  □ No-Fail

N/A, no armrest
Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Front Right Front
Date of Comfort and Convenience Check: 04/14/2003
Technician Performing Check: Ron Stoner
GVWR: 4250 pounds

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.

The requirements for accessibility **DO NOT APPLY** to:

A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b)).

B. Seats which are removable.

C. Seats that are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above, determine the following:

1. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?
   - Yes: go to 2.
   - No: this form is complete.

2. Does one of the following three parts, the seat belt latchplate, 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)?
   - Yes-Pass;
   - No-Fail

3. Are the remaining two seat belt parts accessible under normal conditions?
   - Yes-Pass;
   - No-Fail
4. The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

   (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unatched. □ Check

   (B) The seat is moved to any position to which it is designed to be adjusted. □ Check

   (C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position. □ Check

   □ Yes-Pass; □ No-Fail

5. Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)? □ Yes-Pass; □ No-Fail

   N/A, no armrest
Test Vehicle NHTSA No.: C35106
Vehicle Model Year/Make/Model/Body Style: 2003/Toyota/Tacoma/Truck
Designated Seating Position Tested: Center Front
Date of Comfort and Convenience Check: 04/14/2003
Technician Performing Check: Ron Stoner
GVWR: 4250 pounds

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.

The requirements for accessibility DO NOT APPLY to:

A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b)).

B. Seats which are removable.

C. Seats that are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above, determine the following:

1. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?
   - Yes: go to 2.
   - No: this form is complete.

2. Does one of the following three parts, the seat belt latchplate, 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)?
   - Yes-Pass;
   - No-Fail

3. Are the remaining two seat belt parts accessible under normal conditions?
   - Yes-Pass;
   - No-Fail
4. The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:
   (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. ☒ Check

   (B) The seat is moved to any position to which it is designed to be adjusted. ☒ Check

   (C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position. ☒ Check

   ☒ Yes-Pass; ☐ No-Fail

5. Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)? ☒ Yes-Pass; ☐ No-Fail
   N/A, no armrest
LOCATION OF ANCHORING POINTS FOR LATCHPLATE REACH LIMITING CHAINS OR STRINGS TO TEST FOR LATCHPLATE ACCESSIBILITY

PART 572E DUMMY

50TH PERCENTILE DUMMY SEATED IN FOREMOST SEAT ADJUSTMENT POSITION

CENTERLINE

ATTACH THE OUTBOARD REACH STRING (19.125" LONG) AT THE BASE OF THE HEAD ON CENTERLINE

30"

18"

ATTACH THE OUTBOARD REACH STRING (29" LONG) AT THIS POINT ON THE TORSO SHEATH

A - USING FLEXIBLE TAPE, MEASURE 8" FROM BACK CENTERLINE 11.5" FROM FRONT CENTERLINE TO FIND ANCHOR POINT BELOW ARM PIT ON TORSO SHEATH

SEAT PLANE IS 90 DEGREES TO THE TORSO LINE

REAR VIEW

Laboratory Test Procedure Figure 1C
USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

CLEARANCE TEST BLOCK

NOTE: CORNERS ARE ROUNDED OFF TO REDUCE SNAGGING

TYPICAL ARM REST

FRONT VIEW OF VEHICLE

Laboratory Test Procedure Figure 2C
Appendix A

Photographs
Figure A-2. Post-Test Front View of Test Vehicle Mounted to Sled
Figure A.3. Pre-Test Left Side View of Test Vehicle Mounted to Sled
Figure A-4. Post-Test Left Side View of Test Vehicle Mounted to Stil
Figure A-9. Pre-Test Driver Dummy Position View with Door Open - View 1
Figure A-11. Pre-Test Driver Dummy Position View with Door Open - View 2
Figure A-12. Post-Test Driver Dummy Position View with Door Open - View 2
Figure A-15. Pre-Test Driver Dummy Position Front View
Figure A-16. Post-Test Driver Dummy Position Front View
Figure A-17. Pre-Test Passenger Dummy Position View with Door Open - View 1
Figure A-18. Post-Test Passenger Dummy Position View with Door Open - View 1
Figure A-20. Post-Test Passenger Dummy Position View with Door Open - View 2
Figure A-21. Pre-Test Passenger Seat Track Position View
Figure A-23. Pre-Test Passenger Dummy Position Front View
Figure A-25. Post-Test Driver Dummy Removed from Vehicle Overall View
Figure A-26. Post-Test Driver Head Contact - View 1
Figure A.29. Post-Test Passenger Dummy Removed from Vehicle Overall View
Figure A-32. Pre-Test Driver Knee Bolster View
Figure A-34. Pre-Test Passenger Glove Box View
Figure A-36. Post-Test Passenger Glove Box - View 2
Figure A-37. Post-Test Steering Column Linkage in Engine Compartment View
<table>
<thead>
<tr>
<th>TIRE SIZE</th>
<th>FRONT</th>
<th>REAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>P205/75R15</td>
<td>97S (29)</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>96T (29)</td>
<td>200</td>
</tr>
<tr>
<td>P235/55R16</td>
<td>96T (29)</td>
<td>220</td>
</tr>
</tbody>
</table>

See Owner's Manual for additional information.
Voir le Manuel du Propriétaire pour de plus amples informations.
Appendix B

Data Plots
Appendix C

Manufacturer's Vehicle Information
Seat belts—
Seat belt precautions

Toyota strongly urges that the driver and passengers in the vehicle be properly restrained at all times with the seat belts provided. Failure to do so could increase the chance of injury and/or the severity of injury in accidents.

The seat belts provided for your vehicle are designed for people of adult size, large enough to properly wear them.

Child. Use a child restraint system appropriate for the child until the child becomes large enough to properly wear the vehicle’s seat belts. See “Child restraint” for details.

REGULAR CAB MODELS—
If a child is too large for a child restraint system, the child should sit in the seat and must be restrained using the vehicle’s seat belt.

XTRA-CAB and DOUBLE CAB MODELS—
If a child is too large for a child restraint system, the child should sit in the rear seat and must be restrained using the vehicle’s seat belt. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.

If a child must sit in the front seat, the seat belts should be worn properly. If an accident occurs and the seat belts are not worn properly, the force of the rapid inflation of the airbag may cause death or serious injury to the child.

Do not allow the child to stand up or kneel on either rear or front seats. An unrestrained child could suffer serious injury or death during emergency braking or a collision. Also, do not let the child sit on your lap. It does not provide sufficient restraint.

Small-framed person or youth in a 3-point type seat belt. On models with a bench seat, have a small-framed person or youth sit slightly closer to the center of the vehicle (so the shoulder belt does not cross over the neck). On models with separate seats, move the seat fully backward.

Pregnant woman. Toyota recommends the use of a seat belt. Ask your doctor for specific recommendations. The lap belt should be worn securely and as low as possible over the hips and not on the waist.

To use the armrest, do this.

To lower: Pull the lock release strap and down the armrest.
To raise: Push down the lock release strap and up the armrest.

NOTICE
To prevent damage to the armrest, avoid putting heavy loads on it.
Injured person. Toyota recommends the use of a seat belt. Depending on the injury, first check with your doctor for specific recommendations.

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
</table>
| Persons should ride in their seats properly wearing their seat belts whenever the vehicle is moving. Otherwise, they are much more likely to suffer serious bodily injury or death in the event of sudden braking or a collision. 

When using the seat belts, observe the following:  
- Use the belt for only one person at a time. Do not use a single belt for two or more people—even children.  
- Avoid reclining the seatbacks too much. The seat belts provide maximum protection when the seatbacks are in the upright position. (Refer to the seat adjustment instructions.)  
- Be careful not to damage the belt webbing or hardware. Take care that they do not get caught or pinched in the seat or side doors. |

- Inspect the belt system periodically. Check for cuts, fraying, and loose parts. Damaged parts should be replaced. Do not disassemble or modify the system.
- Keep the belts clean and dry. If they need cleaning, use a mild soap solution or lukewarm water. Never use bleach, dye, or abrasive cleaners—they may severely weaken the belts. (See "Cleaning the Interior" in Section 5.)
- Replace the belt assembly (including bolts) if it has been used in a severe impact. The entire assembly should be replaced even if damage is not obvious.

---

-Front and rear outside seat belts

Adjust the seat as needed (front seats only) and sit up straight and well back in the seat. To fasten your belt, pull it out of the retractor and insert the tab into the buckle.

You will hear a click when the tab locks into the buckle.

The seat belt length automatically adjusts to your size and the seat position.

The retractor will lock the belt during a sudden stop or on impact. It also may lock if you lean forward too quickly. A slow, easy motion will allow the belt to extend, and you can move around freely.
If the seat belt cannot be pulled out of the retractor, firmly pull the belt and release it. You will then be able to smoothly pull the belt out of the retractor.

When a passenger's shoulder belt is completely extended and is then retracted even slightly, the belt is locked in that position and cannot be extended. This feature is used to hold the child restraint system securely. (For details, see "Child restraint" in this section.) To free the belt again, fully retract the belt and then pull the belt out once more.

---

**CAUTION**

- After inserting the tab, make sure the tab and buckle are locked and that the belt is not twisted.
- Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.
- If the seat belt does not function normally, immediately contact your Toyota dealer. Do not use the seat until the seat belt is fixed. It cannot protect an adult occupant or your child from injury.

---

**CAUTION**

Always make sure the shoulder belt is positioned across the center of your shoulder. The belt should be kept away from your neck, but not falling off your shoulder. Failure to do so could reduce the amount of protection in an accident and cause severe injuries in a collision.

Seat belts with an adjustable shoulder anchor—

Adjust the shoulder anchor position to your size.

To raise: Slide the anchor up.
To lower: Push in the lock release button and slide the anchor down.

After adjustment, make sure the anchor is locked in position.
Adjust the position of the lap and shoulder belts.

Position the lap belt as low as possible on your hips— not on your waist. Then adjust it for a snug fit by pulling the shoulder portion upward through the latch plate.

**CAUTION**

- Both high-positioned lap belts and loose-fitting belts could cause serious injuries due to sliding under the lap belt during a collision or other unintended result. Keep the lap belt positioned as low on hips as possible.
- For your safety, do not place the shoulder belt under your arm.

To release the belt, press the buckle-release button and allow the belt to retract.

If the belt does not retract smoothly, pull it out and check for kinks or twists. Then make sure it remains untwisted as it retracts.
---Front and rear center seat belt---

**CAUTION**
- After inserting the tab, make sure the tab and buckle are locked and that the belt is not twisted.
- Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.
- If the seat belt does not function normally, immediately contact your Toyota dealer. Do not use the seat until the seat belt is fixed. It cannot protect an adult occupant or your child from injury.

Sit up straight and well back in the seat. To fasten your belt, insert the tab into the buckle.

You will hear a click when the tab locks into the buckle.

If the belt is not long enough for you, hold the tab at a right angle to the belt and pull on the tab.

---End of page---

**CAUTION**
Both high-positioned and loose-fitting lap belts could cause serious injuries due to sliding under the lap belt during a collision or other unintended result. Keep the lap belt positioned as low on hips as possible.

---End of page---

---End of page---

---End of page---
To release the belt, press the buckle-release button.

---Stowing the rear seat buckles (xtra-cab models)---

The buckles can be fixed when not in use.

When taking out the buckle from the holder, pull on the belt webbing to remove the buckle from the lower portion.

---Seat belt extender---

If your seat belts cannot be fastened securely because they are not long enough, a personalized seat belt extender is available from your Toyota dealer free of charge.

Please contact your local Toyota dealer so that the dealer can order the proper required length for the extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Toyota dealer.

⚠️ **CAUTION**

When using the seat belt extender, observe the following precautions. Failure to follow these instructions could reduce the effectiveness of the seat belt restraint system in case of vehicle accident, increasing the chance of personal injury.

- Never use the seat belt extender if you can fasten the seat belt without it.
• Remember that the extender provided for you may not be safe when used on a different vehicle, for another person, or at a different seating position than the one originally intended.

To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the "PRESS" signs on the buckle-release buttons of the extender and the seat belt are both facing outward as shown.

You will hear a click when the tab locks into the buckle.

When releasing the seat belt, press on the buckle-release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store it in the vehicle for future use.

⚠️ CAUTION

• After inserting the tab, make sure the tab and buckle are locked and that the seat belt extender is not twisted.

• Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.

• If the seat belt does not function normally, immediately contact your Toyota dealer. Do not use the seat until the seat belt is fixed. It cannot protect an adult occupant or your child from injury.
Front seat belt pretensioners

The driver and front passenger's seat belt pretensioners are designed to be activated in response to a severe frontal impact.

When the airbag sensor detects the shock of a severe frontal impact, the front seat belts are quickly drawn back in by the retractors so that the belts snugly restrain the front seat occupants.

The front seat belt pretensioners are activated even with no passenger in the front seat.

This indicator comes on when the ignition key is turned to the "ON" position. It goes off after about 6 seconds. This means the front seat belt pretensioners are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, front seat belt pretensioner assemblies, inflators, warning light, interconnecting wiring and power sources. (For details, see "Service reminder indicators and warning buzzers" in Section 1-5.)

The front seat belt pretensioner system mainly consists of the following components and their locations are shown in the illustration.

1. Front airbag sensors
2. SRS warning light
3. Front seat belt pretensioner assemblies
4. Airbag sensor assembly

The front seat belt pretensioners are controlled by the airbag sensor assembly. The airbag sensor assembly consists of a safing sensor and airbag sensor.
When the front seat belt pretensioners are activated, an operating noise may be heard and a small amount of smoke-like gas may be released. This gas is harmless and does not indicate that a fire is occurring.

Once the front seat belt pretensioners have been activated, the seat belt retractors remain locked.

---

**CAUTION**

Do not modify, remove, strike or open the front seat belt pretensioner assemblies, airbag sensor or surrounding area or wiring. Doing any of these may cause sudden operation of the front seat belt pretensioners or disable the system, which could result in death or serious injury.

Failure to follow these instructions can result in death or serious injuries. Consult your Toyota dealer about any repairs and modifications.

---

**NOTICE**

Do not perform any of the following changes without consulting your Toyota dealer. Such changes can interfere with proper operation of the front seat belt pretensioners in some cases.

- Installation of electronic devices such as a mobile two-way radio, cassette tape player or compact disc player
- Repairs on or near the front seat belt pretensioner assemblies
- Modification of the suspension system
- Modification of the front end structure
- Attachment of a grille guard (bull bar, kangaroo bar, etc.), snowplow, winches or any other equipment to the front end
- Repairs made on or near the front fenders, front end structure or console

---

This front seat belt pretensioner system has a service reminder indicator to inform the driver of operating problems. If any of the following conditions occurs, this indicates a malfunction of the airbags or pretensioners. Contact your Toyota dealer as soon as possible to service the vehicle.

- The light does not come on when the ignition key is turned to the "ON" position, or the light remains on.
- The light comes on or flashes while driving.
- If either front seat belt does not retract or can not be pulled out due to a malfunction or activation of the relevant front seat belt pretensioner.
SRS driver airbag and front passenger airbag
(vehicles with passenger airbag manual on-off switch)

In response to a severe frontal impact, the SRS airbags work together with the seat belts to help prevent or reduce injury by inflating. The SRS airbags help to reduce injuries mainly to the driver's or front passenger's head or chest directly hitting the steering wheel or dashboard. When the passenger airbag manual on-off switch is in the "ON" position, the front passenger airbag is activated even with no passenger in the front seat.

Be sure to wear your seat belt properly.

Your vehicle is equipped with a crash sensing and diagnostic module, which will record the use of the seat belt restraint system by the driver when the SRS airbags are inflated.

In the following cases, contact your Toyota dealer as soon as possible:

- The front part of the vehicle (shaded in the illustration) was involved in an accident that was not severe enough to cause the front seat belt pretensioners to operate.
- Either front seat belt pretensioner assembly or surrounding area is scratched, cracked, or otherwise damaged.

The SRS (Supplemental Restraint System) airbags are designed to provide further protection for occupants in the following seats in addition to the primary safety protection provided by the seat belts.

- Models with separate front seats—The SRS airbags are designed to protect the driver and front passenger.
- Models with bench front seats—The SRS airbags are designed to protect the driver and right-front passenger. They are not designed to protect occupants in the center position.
**CAUTION**

The driver or front passenger who is too close to the steering wheel or dashboard during airbag deployment can be killed or seriously injured. Toyota strongly recommends that:

- The driver sit as far back as possible from the steering wheel while still maintaining control of the vehicle.
- The front passenger sit as far back as possible from the dashboard.
- All vehicle occupants be properly restrained using the available seat belts.

The passenger airbag system is equipped with a manual on-off switch and indicator light. Turning the passenger airbag manual on-off switch clockwise to the "ON" position makes the front passenger airbag system operational. Turning the passenger airbag manual on-off switch counterclockwise to the "OFF" position disables the front passenger airbag system. The indicator light on the passenger airbag manual on-off switch will come on when the front passenger airbag system has been disabled.

See "Passenger airbag manual on-off switch" in this section for detail.
<table>
<thead>
<tr>
<th><strong>TABLE 1: A PASSENGER RISK GROUP</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infant.</strong> An infant (less than 1 year old) who must ride in the front seat because:</td>
</tr>
<tr>
<td>• Vehicle has no rear seat;</td>
</tr>
<tr>
<td>• Vehicle has a rear seat too small to accommodate a rear-facing infant seat; or</td>
</tr>
<tr>
<td>• The infant has a medical condition which, according to the infant’s physician, makes it necessary for the infant to ride in the front seat so that the driver can constantly monitor the child’s condition.</td>
</tr>
<tr>
<td><strong>Child age 1 to 12.</strong> A child age 1 to 12 must ride in the front seat because:</td>
</tr>
<tr>
<td>• Vehicle has no rear seat;</td>
</tr>
<tr>
<td>• Although children ages 1 to 12 ride in the rear seat(s) whenever possible, children ages 1 to 12 sometimes must ride in the front because no space is available in the rear seat(s) of vehicle; or</td>
</tr>
<tr>
<td>• The child has a medical condition which, according to the child’s physician, makes it necessary for the child to ride in the front seat so that the driver can constantly monitor the child’s condition.</td>
</tr>
<tr>
<td><strong>Medical condition.</strong> A passenger has a medical condition which according to his or her physician:</td>
</tr>
<tr>
<td>• Causes the passenger airbag to pose a special risk for the passenger; and</td>
</tr>
<tr>
<td>• Makes the potential harm from the passenger airbag in a crash greater than the potential harm from turning off the airbag and allowing the passenger, even if belted, to hit the dashboard, or windshield, in a crash.</td>
</tr>
</tbody>
</table>

For more detailed information concerning the passenger risk group, please contact NHTSA at 1-800-424-9393 or Transport Canada at 1-800-333-0371.

This indicator comes on when the ignition key is turned to the “ON” position. It goes off after about 6 seconds. This means the SRS airbags are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, front seat belt pretensioner assemblies, inflators, warning light, interconnecting wiring and power sources. (For details, see “Service remainder indicators and warning buzzers” in Section 1-5.)
The SRS airbag system is designed to activate in response to a severe frontal impact within the shaded area between the arrows in the illustration.

The SRS airbags will deploy if the severity of the impact is above the designed threshold level, comparable to an approximate 25 km/h (15 mph) collision when impacting straight into a fixed barrier that does not move or deform.

If the severity of the impact is below the above threshold level, the SRS airbags may not deploy.

However, this threshold velocity will be considerably higher if the vehicle strikes an object, such as a parked vehicle or sign pole, which can move or deform on impact, or if it is involved in an underride collision (e.g., a collision in which the nose of the vehicle "underrides," or goes under, the bed of a truck, etc.).

It is possible that in some collisions at the lower zone of airbag sensor detection and activation the SRS airbags and seat belt pretensioners will not operate all together. For the safety of all occupants, always wear your seat belts properly.

The SRS airbags are not designed to inflate if the vehicle is involved in a side or rear collision, if it rolls over, or if it is involved in a low-speed frontal collision.
The SRS airbags may deploy if a serious impact occurs to the underside of your vehicle. Some examples are shown in the illustration.

In a severe frontal impact, the sensors detect deceleration and the system triggers the airbag inflators. Then a chemical reaction in the inflators quickly fills the airbags with non-toxic gas to help restrain the forward motion of the occupants.

When the airbags inflate, they produce a fairly loud noise and release some smoke and residue along with non-toxic gas. This does not indicate a fire. This gas is normally harmless, however, for those who have delicate skin, it may cause a minor skin irritation. Be sure to wash off any residue as soon as possible to prevent any potential skin irritation.

Deployment of the airbags happens in a fraction of a second, so the airbags must inflate with considerable force. While the system is designed to reduce serious injuries, it may also cause minor burns or abrasions and swelling.

Parts of the airbag module (steering wheel, dashboard) may be hot for several minutes, but the airbags themselves will not be hot. The airbags are designed to inflate only once.

The SRS airbag system consists mainly of the following components, and their locations are shown in the illustration:

1. Front airbag sensors
2. Airbag module for driver (airbag and inflator)
3. Passenger airbag manual on-off switch
4. Airbag module for front passenger (airbag and inflator)
5. Airbag sensor assembly
6. SRS warning light

The airbag sensor assembly consists of a safety sensor and airbag sensor.
A crash severe enough to inflate the airbags may break the windshield as the vehicle buckles. In vehicles with a passenger airbag, the windshield may also be damaged by absorbing some of the force of the inflating airbag.

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The SAS airbag system is designed only as a supplement to the primary protection of the driver side and front passenger side seat belt systems. The front seat occupants can be killed or seriously injured by the inflating airbags if they do not wear the available seat belts properly. During sudden braking just before a collision, an unrestrained driver or front passenger can move forward into direct contact with or close proximity to the airbag which may then deploy during the collision. To ensure maximum protection in an accident, the driver and all passengers in the vehicle must wear their seat belts properly. Wearing a seat belt properly during an accident reduces the chances of death or serious injury or being thrown out of the vehicle. For instructions and precautions concerning the seat belt system, see &quot;Seat belts&quot; in this section.</td>
</tr>
</tbody>
</table>

- Improperly seated and/or restrained infants and children can be killed or seriously injured by the deploying airbags. An infant or child who is too small to use a seat belt should be properly secured using a child restraint system. As to Xtra-cab models, Toyota recommends that all infants and children be placed in the rear seat of the vehicle and properly restrained. The rear seat is the safest for infants and children. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.
A member of a passenger risk group should never sit or be occupied in the right front passenger seat with airbag manual on-off switch in the “ON” position. (For details, see “SRS driver and front passenger airbags” in this section.)

**CAUTION**

Never install a rear-facing child restraint system on the right front seat with the passenger airbag manual on-off switch in the “ON” position. In the event of an accident, the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.

**CAUTION**

A forward-facing child restraint system which belongs to a passenger risk group should never be installed on the right front seat with the passenger airbag manual on-off switch in the “ON” position, because the force of the deploying airbag could cause death or serious injury to the child in forward seating position. For instructions concerning the installation of a child restraint system, see “Child restraint” in this section.
- Do not sit on the edge of the seat or lean over the dashboard when the vehicle is in use, since the airbags inflate with considerable speed and force. Otherwise you may be killed or seriously injured. Sit up straight and well back in the seat, and always use your seat belt properly.

- Do not allow a child to stand up or to kneel on the front passenger seat, since the airbag inflates with considerable speed and force. Otherwise, the child may be killed or seriously injured.

- Do not hold a child on your lap or in your arms. Use a child restraint system in the rear seat. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.

- Do not put objects or your pets on or in front of the dashboard or steering wheel pad that houses the airbag system. They might restrict inflation or cause death or serious injury as they are projected rearward by the force of the deploying airbags. Likewise, the driver and front passenger should not hold objects in their arms or on their knees.
- Do not modify or remove any wiring. Do not modify, remove, strike or open any components such as the steering wheel pad, steering wheel, column cover, front passenger airbag cover, front passenger airbag or airbag sensor assembly. Doing so may cause sudden SRS airbag inflation or disable the system, which could result in death or serious injury.

Failure to follow these instructions can result in death or serious injury. Consult your Toyota dealer about any repairs and modifications.

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### NOTICE

Do not perform any of the following changes without consulting your Toyota dealer. Such changes can interfere with proper operation of the SRS airbag system in some cases.

- Installation of electronic devices such as a mobile two-way radio, cassette tape player or compact disc player
- Modification of the suspension system
- Modification of the front end structure
- Attachment of a grille guard (bull bar, kangaroo bar, etc.), snowplow, winches or any other equipment to the front end
- Repairs made on or near the front fenders, front end structure, console, steering column, steering wheel or dashboard near the front passenger airbag

---

This SRS airbag system has a service reminder indicator to inform the driver of operating problems. If either of the following conditions occurs, this indicates a malfunction of the airbags. Contact your Toyota dealer as soon as possible to service the vehicle.

- The light does not come on when the ignition key is turned to the “ON” position, or the light remains on.
- The light comes on while driving.
**NOTICE**

Do not disconnect the battery cables before contacting your Toyota dealer.

---

In the following cases, contact your Toyota dealer as soon as possible:

- The SRS front airbags have been inflated.
- The front of the vehicle (shaded in the illustration) was involved in an accident that was not severe enough to cause the SRS airbags to inflate.
- The pad section of the steering wheel or front passenger airbag cover (shaded in the illustration) is scratched, cracked, or otherwise damaged.

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The SRS (Supplemental Restraint System) airbags are designed to provide further protection for the driver and front passenger in addition to the primary safety protection provided by the seat belts.

In response to a severe frontal impact, the SRS airbags work together with the seat belts to help reduce injury by inflating. The SRS airbags help to reduce injuries mainly to the driver's or front passenger's head or chest caused by directly hitting the steering wheel or dashboard. The front passenger airbag is activated even with no passenger in the front seat. Be sure to wear your seat belt properly.
Your vehicle is equipped with a crash sensing and diagnostic module, which will record the use of the seat belt restraint system by the driver when the SRS airbags are inflated.

⚠️ CAUTION

The driver or front passenger who is too close to the steering wheel or dashboard during airbag deployment can be killed or seriously injured. Toyota strongly recommends that:

- The driver sit as far back as possible from the steering wheel while still maintaining control of the vehicle.
- The front passenger sit as far back as possible from the dashboard.
- All vehicle occupants be properly restrained using the available seat belts.

This indicator comes on when the ignition key is turned to the "ON" position. It goes off after about 5 seconds. This means the SRS airbags are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, front seat belt pretensioner assemblies, inflators, warning light, interconnecting wiring and power sources. (For details, see: "Service reminder indicators and warning buzzers" in Section 1-5.)

The SRS airbag system is designed to activate in response to a severe frontal impact within the shaded area between the arrows in the illustration. The SRS airbags will deploy if the severity of the impact is above the designed threshold level, comparable to an approximate 25 km/h (15 mph) collision when impacting straight into a fixed barrier that does not move or deform.

If the severity of the impact is below the above threshold level, the SRS airbags may not deploy.
However, this threshold velocity will be considerably higher if the vehicle strikes an object, such as a parked vehicle or sign pole, which can move or deform on impact, or if it is involved in an underride collision (e.g., a collision in which the nose of the vehicle "underrides" or goes under the bed of a truck, etc.).

It is possible that in some collisions at the lower zone of airbag sensor detection and activation the SRS airbags and seat belt pretensioners will not operate at all together.

For the safety of all occupants, always wear your seat belts properly.

The SRS airbags are not designed to inflate if the vehicle is involved in a side or rear collision, if it rolls over, or if it is involved in a low-speed frontal collision.

The SRS airbags may deploy if a serious impact occurs to the underside of your vehicle. Some examples are shown in the illustration.
The SRS airbag system consists mainly of the following components, and their locations are shown in the illustration.

1. Front airbag sensors
2. Airbag module for driver
   (airbag and inflator)
3. Airbag module for front passenger
   (airbag and inflator)
4. Airbag sensor assembly
5. SRS warning light

The airbag sensor assembly consists of a safing sensor and airbag sensor.

In a severe frontal impact, the sensors detect deceleration and the system triggers the airbag inflators. Then a chemical reaction in the inflators quickly fills the airbags with non-toxic gas to help restrain the forward motion of the occupants.

When the airbags inflate, they produce a fairly loud noise and release some smoke and residue along with non-toxic gas. This does not indicate a fire. This gas is normally harmless; however, for those who have delicate skin, it may cause a minor skin irritation. Be sure to wash off any residue as soon as possible to prevent any potential skin irritation.

Deployment of the airbag happens in a fraction of a second, so the airbags must inflate with considerable force. While the system is designed to reduce serious injuries, it may also cause minor burns or abrasions and swelling.

Parts of the airbag module (steering wheel, dashboard) may be hot for several minutes, but the airbags themselves will not be hot. The airbags are designed to inflate only once.

A crash severe enough to inflate the airbags may break the windshield as the vehicle buckles. In vehicles with a passenger airbag, the windshield may also be damaged by absorbing some of the force of the inflating airbag.
**CAUTION**

- The SRS airbag system is designed only as a supplement to the primary protection of the driver side and front passenger side seat belt systems. The front seat occupants can be killed or seriously injured by the inflating airbags if they do not wear the available seat belts properly. During sudden braking just before a collision, an unrestrained driver or front passenger can move forward into direct contact with or close proximity to the airbag which may then deploy during the collision. To ensure maximum protection in an accident, the driver and all passengers in the vehicle must wear their seat belts properly. Wearing a seat belt properly during an accident reduces the chances of death or serious injury or being thrown out of the vehicle. For instructions and precautions concerning the seat belt system, see "Seat belts" in this section.

- Improperly seated and/or restrained infants and children can be killed or seriously injured by the deploying airbags. An infant or child who is too small to use a seat belt should be properly secured using a child restraint system. Toyota strongly recommends that all infants and children be placed in the rear seat of the vehicle and properly restrained. The rear seat is the safest for infants and children. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.

- Never install a rear-facing child restraint system on the front passenger seat because the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.
- A forward-facing child restraint system should be allowed to be installed on the front passenger seat only when it is unavoidable. Always move the seat as far back as possible, because the force of the deploying front passenger airbag could cause death or serious injury to the child. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.

- Do not sit on the edge of the seat or lean over the dashboard when the vehicle is in use, since the airbags inflate with considerable speed and force. Otherwise you may be killed or seriously injured. Sit up straight and well back in the seat, and always use your seat belt properly.

- Do not allow a child to stand up or to kneel on the front passenger seat, since the airbag inflates with considerable speed and force. Otherwise, the child may be killed or seriously injured.

- Do not hold a child on your lap or in your arms. Use a child restraint system in the rear seat. For instructions concerning the installation of a child restraint system, see "Child restraint" in this section.
• Do not modify or remove any wiring. Do not modify, remove, strike or open any components such as the steering wheel pad, steering wheel, column cover, front passenger airbag cover, front passenger airbag or airbag sensor assembly. Doing so may cause sudden SRS airbag inflation or disable the system, which could result in death or serious injury.

Failure to follow these instructions can result in death or serious injury.

NOTICE
Do not perform any of the following changes without consulting your Toyota dealer. Such changes can interfere with proper operation of the SRS airbag system in some cases.

◆ Installation of electronic devices such as a mobile two-way radio, cassette tape player or compact disc player
◆ Modification of the suspension system
◆ Modification of the front end structure
◆ Attachment of a grille guard (bull bar, kangaroo bar, etc.), snowplow, winches or any other equipment to the front end
◆ Repairs made on or near the front fenders, front and structure, console, steering column, steering wheel or dashboard near the front passenger airbag
This SRS airbag system has a service reminder indicator to inform the driver of operating problems. If either of the following conditions occurs, this indicates a malfunction of the airbags. Contact your Toyota dealer as soon as possible to service the vehicle.

- The light does not come on when the ignition key is turned to the "ON" position, or the light remains on.
- The light comes on while driving.

In the following cases, contact your Toyota dealer as soon as possible:

- The SRS front airbags have been inflated.
- The front of the vehicle (shaded in the illustration) was involved in an accident that was not severe enough to cause the SRS airbags to inflate.
- The pad section of the steering wheel or front passenger airbag cover (shaded in the illustration) is scratched, cracked, or otherwise damaged.

**NOTICE**
Do not disconnect the battery cables before contacting your Toyota dealer.
Passenger airbag manual on-off switch
(on some models)

The indicator light comes on when the front passenger airbag system is off.

CAUTION

- Make sure that the indicator light is off.
- Do not turn off the passenger airbag manual on-off switch except when a member of a passenger risk group identified in TABLE 1 is occupying the right front passenger seating position.
- When the passenger airbag manual on-off switch is turned off, the front passenger airbag will not inflate in a collision and turning off the front passenger airbag can reduce the occupant protection which your vehicle safety systems can provide to you in certain accidents and increase the likelihood of serious personal injuries.

For details, see "SRS driver airbag and front passenger airbag" in this section.

Child restraint—
Child restraint precautions

Toyota strongly urges the use of child restraint systems for children small enough to use them.

The laws of all 50 states in the U.S.A. and Canada now require the use of a child restraint system.

Your vehicle conforms to SAEJ1819. If a child is too large for a child restraint system, the child should sit in the seat and must be restrained using the vehicle's seat belt. See "Seat belts" for details.

CAUTION

- For effective protection in automobile accidents and sudden stops, a child must be properly restrained, using a seat belt or child restraint system depending on the age and size of the child. Holding a child in your arms is not a substitute for a child restraint system. In an accident, the child can be crushed against the windshield or between you and the vehicle's interior.
Vehicles with passenger airbag manual on-off switch—

- **REGULAR CAB MODELS**—
  Toyota strongly urges use of a proper child restraint system which conforms to the size of the child.

- **XTRA-CAB MODELS**—
  Toyota strongly urges use of a proper child restraint system which conforms to the size of the child, installed on the rear seat. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.

- **Never put infant or child age 1 to 12 in a passenger risk group on the right front seat** with the passenger airbag manual on-off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the passenger airbag can cause death or serious injury to the child.

If you must put infant or child age 1 to 12 in a passenger risk group on the right front seat, make sure the passenger airbag manual on-off switch is in the "OFF" position and that the indicator light is on. (For details, see "SRS driver airbag and front passenger airbag" in this section.)

- Make sure that you have complied with all installation instructions provided by the child restraint manufacturer; and that the system is properly secured.

Vehicles without passenger airbag manual on-off switch—

- **Toyota strongly urges use of a proper child restraint system which conforms to the size of the child, installed on the rear seat. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.**

- **Never install a rear-facing child restraint system on the front seat.** In the event of an accident, the force of the rapid inflation of the airbag can cause death or serious injury if a rear-facing child restraint system is installed on the front seat.

- **Unless it is unavoidable, do not install a forward-facing child restraint system on the front seat.**

- **A forward-facing child restraint system should be allowed to be installed on the front passenger seat only when it is unavoidable. Always move the seat as far back as possible, because the force of the deploying front passenger airbag could cause death or serious injury to the child.**
- Child restraint system

A child restraint system for a small child or baby must itself be properly restrained on the seat with either the lap belt or the lap portion of the lap/shoulder belt. You must carefully consult the manufacturer's instructions which accompany the child restraint system.

To provide proper restraint, use a child restraint system following the manufacturer's instructions about the appropriate age and size of the child for the child restraint system.

Install the child restraint system correctly following the instructions provided by its manufacturer. General directions are also provided under the following illustrations. The child restraint system should be installed in the rear seat if your vehicle is equipped with rear seats. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.

[CAUTION]

- Never put infant or child age 1 to 12 in a passenger seat with the passenger airbag manual on-off switch in the "ON" position. In the event of an accident, the force of the rapid inflation of the passenger airbag can cause death or serious injury to the child.

If you must put infant or child age 1 to 12 in a passenger seat, make sure the passenger airbag manual on-off switch is in the "OFF" position and that the indicator light is on. (For details, see "SRS driver airbag and front passenger airbag" in this section.)

- After installing the child restraint system, make sure it is secured in place according to the manufacturer's instructions. If it is not restrained securely, it may cause death or serious injury to the child in the event of a sudden stop or accident.
Types of child restraint system

Child restraint systems are classified into the following 3 types depending on the child's age and size.

(A) Infant seat
(B) Convertible seat
(C) Booster seat

For instructions on how to use the anchor harness, see using a top strap in this section.

The child restraint lower anchors or proved for your vehicle may also be used.

The child restraint has anchors for securing the top strap of a child restraint system.

When not using the child restraint system:

Keep it secured with the seat belt or place it somewhere other than the passenger compartment. This will prevent the child from injuring passengers in the event of a sudden stop or accident.

Your vehicle has anchors for securing the top strap of a child restraint system.

Never install a rear-facing child restraint system on the front seat. In the event of an accident, the force of the rapid inflation of the airbag can cause death or serious injury.

A forward-facing child restraint system should be installed on the front seat.

Unless it is unavoidable, do not install a forward-facing child restraint system on the rear seat. In the event of an accident, the force of the rapid inflation of the airbag can cause death or serious injury.

Never install a rear-facing child restraint system on the rear seat. In the event of an accident, the force of the rapid inflation of the airbag can cause death or serious injury.

Always use the seat belt as far back as possible. Airbag deployment is affected by the position of the passenger.

Installing the child restraint system according to the manufacturer's instructions, it is not required to be installed in the event of a sudden stop or accident.
(g) **ABS** Warning Light

The light comes on when the ignition key is turned to the "ON" position. If the anti-lock brake system works properly, the light turns off after a few seconds. Thereafter, if the system malfunctions, the light comes on again.

When the "ABS" warning light is on (and the brake system warning light is off), the anti-lock brake system does not operate, but the brake system still operates conventionally.

When the "ABS" warning light is on (and the brake system warning light is off), the anti-lock brake system does not operate so that the wheels could lock up during a sudden braking or braking on slippery road surfaces.

If either of the following conditions occurs, this indicates a malfunction somewhere in the parts monitored by the warning light system. Contact your Toyota dealer as soon as possible to service the vehicle.

- The light does not come on when the ignition key is turned to the "ON" position, or the light remains on.
- The light comes on while you are driving.

A warning light turning on briefly during operation does not indicate a problem. With rear differential lock: However, it is a normal operation for the light to be on with rear differential locked. At this time, the anti-lock brake system does not operate.

(h) SRS Warning Light

This light will come on when the ignition key is turned to the "ON" position. After about 5 seconds, the light will go off. This means the system of the airbag and front seat belt pretensioners are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, front seat belt pretensioner assemblies, inflators, warning light, interconnecting wiring and power sources.

If either of the following conditions occurs, this indicates a malfunction somewhere in the parts monitored by the warning light system. Contact your Toyota dealer as soon as possible to service the vehicle.

- The light does not come on when the ignition key is turned to the "ON" position or remains on.
- The light comes on or flashes while driving.

(i) Unengaged "Park" Warning Light

(vehicles with automatic transmission)

This light warns that the transmission "Park" mechanism is not engaged. If the front drive control lever is in the "N" position while the selector lever is in the "P" position, the transmission will disengage and the wheels will not lock.

To restore the park function, shift the front drive control lever out of "N", or the vehicle can move.
Appendix D

Miscellaneous Test Information
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- 2430-902: 3034, Right Femur Force Z: Kne 13360.965 N, Date 11/14/2002, OK 229
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- P25523: 3036, Right Body @ Rear Seat (front): Fwd 200.07893 g, Date 01/22/2003, OK 1
- P26422: 3037, Top of Engine Block: Fwd 199.69989 g, Date 03/20/2003, OK 1
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C35106 / TEMPERATURE AND HUMIDITY CHART

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