SAFETY COMPLIANCE TESTING FOR
FMVSS NO. 110
TIRE SELECTION AND RIMS

TOYOTA MOTOR MANUFACTURING,
KENTUCKY, INC.
2005 TOYOTA AVALON, 4-DOOR PASSENGER CAR
NHTSA NO. C55104

GENERAL TESTING LABORATORIES, INC.
1623 LEEDSTOWN ROAD
COLONIAL BEACH, VIRGINIA 22443

JUNE 21, 2005

FINAL REPORT

PREPARED FOR
U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
ROOM 9114 (NVS-320)
WASHINGTON, D.C. 20590
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NHTSA No. C55104

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May 23-May 31, 2005

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16. Abstract
Compliance tests were conducted on the subject 2005 Toyota Avalon passenger car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-110-02 for the determination of FMVSS 110 compliance. Test failures identified were as follows:
NONE

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SECTION 1

INTRODUCTION

1.0 PURPOSE OF COMPLIANCE TEST

A 2005 Toyota Avalon 4-door passenger car was subjected to FMVSS No. 110 testing to determine if the vehicle was in compliance with the requirements of the standard. All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure, TP-110-02 dated 14 December 1989 and General Testing Laboratories, Inc (GTL) Test Procedure, TP-110-02 dated 22 May 2002.

1.1 TEST VEHICLE

The test vehicle was a 2005 Toyota Avalon 4-door passenger car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 4T1BK36B75U024813

B. NHTSA No.: C55104

C. Manufacturer: TOYOTA MOTOR MANUFACTURING, KENTUCKY, INC.

D. Manufacture Date: 03/05

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 110 testing during the time period May 23 through May 31, 2005.
SECTION 2
TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 GENERAL

The 2005 Toyota Avalon 4-door passenger car, NHTSA No. C55104, was subjected to FMVSS No. 110 testing during the time period May 23 through May 31, 2005.

2.1 TEST PROCEDURE

Prior to test, the test vehicle was inspected for completeness, systems operability and appropriate fuel and liquid levels, i.e., oil and coolant. The vehicle was then photographically documented as required by the DOT/NHTSA and GTL test procedures. Subsequent events included weighing the vehicle to establish delivered curb weight and the distribution of weight on the front and rear axles and each wheel position. The vehicle normal load as well as the maximum load on each wheel were measured. Data from each tire furnished with the vehicle were recorded. The vehicle tire placard was surveyed and photographed. Required dimensional data and other identifying data for the left front and right rear rims were obtained. The contour of the aforementioned rims was documented photographically.

In preparation for the deflated tire retention test, test instrumentation was installed in the vehicle. With the driver aboard, the vehicle was ballasted to equal the "vehicle maximum load on the tire" on the front and rear axle, as previously established. The tire pressure of all tires was adjusted to placard specifications for cold tire inflation at maximum loaded vehicle weight. The deflated tire retention test was then conducted on the left front tire followed by the right rear tire. The tests were conducted with the vehicle traveling in a straight line at 96.6 kph (60 mph). The respective tire was blown by an explosive charge on the tire’s sidewall. Test data collected during the test included vehicle speed, deceleration, stopping distance, distance of uncontrolled deviation from a straight line and tire pressure. After the vehicle was stopped, any tire bead separation from the rim flange was documented photographically.

2.2 SUMMARY OF RESULTS

The test vehicle appears to be in compliance with the requirements of FMVSS No. 110.
SECTION 3
TEST DATA
DATA SHEET 1
SUMMARY

VEHICLE MAKE/MODEL/BODY STYLE: 2005 TOYOTA AVALON PASSENGER CAR
VEHICLE NHTSA NO.: C55104 ; VINO: 4T1BK36B75U024613
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 05/31/05

REQUIREMENT

TIRE LOAD LIMITS AND PLACARD

The vehicle is equipped with tires that meet the requirements of FMVSS 109. (FMVSS 110, S4.1)

PASS

The vehicle maximum load on the tire shall not be greater than the applicable maximum load rating as marked on the sidewall of the tire. (FMVSS 110, S4.2.1)

PASS

The vehicle normal load on the tire shall not be greater than the high speed performance test load specified in FMVSS 109 paragraph S5.5. (FMVSS 110, S4.2.2)

PASS

The placard must be permanently affixed to the glove compartment door or equally accessible location; and display the required information. (FMVSS 110, S4.3)

PASS

No inflation pressure other than the maximum permissible Inflation pressure is specified unless as required. (FMVSS 110, S4.3.1)

PASS

RIM DIMENSIONS

Each rim shall be constructed to the dimensions of a rim or alternate specified for the tire size. (FMVSS No. 110, S4.4.1 (a))

PASS

DEFLATED TIRE RETENTION

Each rim shall retain the deflated tire until the vehicle can be stopped. (FMVSS 110, S4.4.1(b))

PASS

Statement of indication of compliance or noncompliance to FMVSS 110 end data reference:

THE TOYOTA AVALON APPEARS TO COMPLY WITH THE REQUIREMENTS OF FMVSS 110.

REMARKS:

RECORDED BY: DATE: 05/31/05
APPROVED BY:
DATA SHEET 2
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES         DATE: 05/23/05

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2005 TOYOTA AVALON

MANUFACTURE DATE: 03/05   NHTSA NO.: C55104   BODY COLOR: SAND MICA

VIN: 4T1BK3BB75U024613       VEHICLE TYPE: PASSENGER CAR

GVWR 2071 kg (4565 lbs)     GAWR(Fr) 1209 kg (2665 lbs)   GAWR(Rr) 1136 kg (2505 lbs)

BELTED SEATING POSITIONS: FRONT 2      MID N/A      REAR 3      OTHER N/A

ENGINE DATA: 6 Cylinders 3.6 Liters ___ Cubic Inches

TRANSMISSION DATA: X Automatic ___ Manual 5 No. of Speeds

FINAL DRIVE DATA: ___ Rear Drive X Front Drive ___ 4 Wheel Drive

INSTALLED TIRE DATA: Size - P215/60R16 Mfr. - BRIDGESTONE

CHECK APPROPRIATE BOXES FOR VEHICLE EQUIPMENT/MAKE SURE ALL OPTIONS ON WINDOW STICKER ARE LISTED:

<table>
<thead>
<tr>
<th></th>
<th>Traction Control</th>
<th>X Clock</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Air Conditioning</td>
<td>Traction Control</td>
<td>X Clock</td>
</tr>
<tr>
<td>X Tinted Glass</td>
<td>All Wheel Drive</td>
<td>Roof Rack</td>
</tr>
<tr>
<td>X Power Steering</td>
<td>X Cruise Control</td>
<td>X Console</td>
</tr>
<tr>
<td>X Power Windows</td>
<td>X Rear Window Defroster</td>
<td>X Driver Air Bag</td>
</tr>
<tr>
<td>X Power Door Locks</td>
<td>X Sun Roof or T-Tap</td>
<td>X Passenger Air Bag</td>
</tr>
<tr>
<td>X Power Seat(s)</td>
<td>X Tachometer</td>
<td>X Front Disc Brakes</td>
</tr>
<tr>
<td>X Power Brakes</td>
<td>X Tilt Steering Wheel</td>
<td>X Rear Disc Brakes</td>
</tr>
<tr>
<td>X Anti-lock Brake System</td>
<td>X AIM/FM/CD</td>
<td>Other</td>
</tr>
</tbody>
</table>

REMARKS:

RECORDED BY:  [Signature]        DATE: 05/23/05

APPROVED BY:  [Signature]
DATA SHEET 3
CURB WEIGHT WITH OPTIONS, NORMAL LOAD, VEHICLE MAXIMUM LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2005 TOYOTA AVALON PASSENGER CAR
VEHICLE NHTSA NO.: C55104; VIN: 4T1BK36B75U024613
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 05/23/05

Full Fluid Levels:
Fuel: Full; Coolant: Full; Other Fluids: Full

Tire Pressure:
LF: 200 KPA (29 psi)  LR: 200 KPA (29 psi)
RF: 200 KPA (29 psi)  RR: 200 KPA (29 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LF</td>
<td>492 KG</td>
<td>1085 LB</td>
</tr>
<tr>
<td>RF</td>
<td>488 KG</td>
<td>1072 LB</td>
</tr>
<tr>
<td></td>
<td>978 KG</td>
<td>2157 LB</td>
</tr>
<tr>
<td></td>
<td>615 KG</td>
<td>1355 LB</td>
</tr>
<tr>
<td>Front Axle</td>
<td>978 KG (2157 LB)</td>
<td>Rear Axle</td>
</tr>
<tr>
<td>Total Vehicle</td>
<td>1593 KG (3512 LB)</td>
<td></td>
</tr>
</tbody>
</table>

B. VEHICLE NORMAL LOAD ON THE TIRE

(1) Seating Capacity (from Tire Information Placard) = 5

(2) Normal Load # of Occupants from FMVSS 110, Table 1 = 3

Occupant Distribution:
Front Seat: 2
Second Seat: 1
Third Seat: N/A
Fourth Seat: N/A

(3) Total Normal Occupant Load = 204 KG (450 LB)

(4) Measured Normal Load on Axles

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LF</td>
<td>538 KG</td>
<td>1187 LB</td>
</tr>
<tr>
<td>RF</td>
<td>535 KG</td>
<td>1179 LB</td>
</tr>
<tr>
<td></td>
<td>1073 KG</td>
<td>2366 LB</td>
</tr>
<tr>
<td></td>
<td>724 KG</td>
<td>1596 LB</td>
</tr>
<tr>
<td>Frt Axle</td>
<td>1073 KG (2366 LB)</td>
<td>Rr Axle</td>
</tr>
<tr>
<td>Total Vehicle</td>
<td>1797 KG (3982 LB)</td>
<td></td>
</tr>
</tbody>
</table>
### DATA SHEET 3 – CONTINUED

(5) Calculated Vehicle Normal Load on the Tire

- **Front Tires (measured front axle normal load/2):** 537 KG (1183 LB)
- **Rear Tires (measured rear axle normal load/2):** 362 KG (796 LB)

(6) High Speed Test Load from FMVSS 109 (S5.5)

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Installed Tire Size</strong></td>
<td>P215/60R16</td>
<td>P215/60R16</td>
</tr>
<tr>
<td><strong>Max. Load Rating on Sidewall</strong></td>
<td>670 KG (1477 LBS)</td>
<td>670 KG (1477 LBS)</td>
</tr>
<tr>
<td><strong>High Speed Test Load</strong> (88% of sidewall max. load rating)</td>
<td>590 KG (1300 LBS)</td>
<td>590 KG (1300 LBS)</td>
</tr>
<tr>
<td><strong>Optional Tire Size(s)</strong></td>
<td>P215/55R17</td>
<td>P215/55R17</td>
</tr>
<tr>
<td><strong>Max. Load Rating on Sidewall</strong> (Obtain from approved reference manual)</td>
<td>650 KG (1433 LBS)</td>
<td>650 KG (1433 LBS)</td>
</tr>
<tr>
<td><strong>High Speed Test Load</strong> (88% of sidewall max. load rating)</td>
<td>572 KG (1261 LBS)</td>
<td>572 KG (1261 LBS)</td>
</tr>
</tbody>
</table>

Vehicle Normal Load on the Tire is not greater than the High Speed Test Load

- Installed Tires; Front Tires
- Rear Tires
  - [(5) < (6)]
  - **PASS/FAIL**
  - **PASS**

- Optional Tires; Front Tires
- Rear Tires
  - [(5) < (6)]
  - **PASS/FAIL**
  - **PASS**

### C. MEASURED VEHICLE WITH FULL OCCUPANT LOAD

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LF</td>
<td>553</td>
<td>KG</td>
</tr>
<tr>
<td>RF</td>
<td>548</td>
<td>KG</td>
</tr>
<tr>
<td>LR</td>
<td>419</td>
<td>KG</td>
</tr>
<tr>
<td>RR</td>
<td>413</td>
<td>KG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Axle</td>
<td>1102</td>
<td>KG</td>
</tr>
<tr>
<td>Rear Axle</td>
<td>831</td>
<td>KG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Vehicle</td>
<td>1933</td>
<td>KG</td>
</tr>
</tbody>
</table>
D. VEHICLE MAXIMUM LOAD ON THE TIRE

(1) Vehicle Capacity Weight (from Placard) 397 KG (875 LB)

(2) Seating Capacity (from Placard) 5

(3) Total Occupant Load (seating capacity x 68 KG) 340 KG (750 LB)

(4) Luggage/Cargo Load (Subtract (3) from (1)) 57 KG (125 LB)

(5) Measured Maximum Load on Axles
   LF  549 KG (1211 LB)  LR  452 KG (996 LB)
   RF  545 KG (1201 LB)  RR  444 KG (979 LB)
   Frt Axle  1094 KG (2412 LB)  Rr Axle  896 KG (1975 LB)
   Total Vehicle  1990 KG (4387 LB)

(6) Calculated Vehicle Maximum Load on the Tire
   Front Tires (measured front axle max. load/2) = 547 KG (1208 LB)
   Rear Tires (measured rear axle max. load/2) = 448 KG (988 LB)

(7) Maximum Load Rating on Tire Sidewall (obtain data from B.(6))

   Front                      Rear
   Installed Tire Size        P215/60R18    P215/60R18
   Max. Load Rating on Sidewall 670 KG (1477 LBS)  670 KG (1477 LBS)
   Optional Tire Size(s)      P215/55R17    P215/55R17
   Max Load Rating on Sidewall 850 KG (1433 LBS)  650 KG (1433 LBS)
   (obtain from approved reference manual)

Vehicle Maximum Load on the Tire is not greater than the Maximum Load Rating Marked on the Tire Sidewall

   Installed Tires;
   ([6] < [7])                                      PASS/FAIL
   Front Tires                                      PASS
   Rear Tires                                       PASS

   Optional Tires;
   ([6] < [7])                                      PASS/FAIL
   Front Tires                                      PASS
   Rear Tires                                       PASS
E. VEHICLE LOAD ON THE TIRE FOR OTHER DISPLAYED LOAD AND TIRE INFLATION PRESSURE CONDITIONS

(1) Condition Description (Load, Tire Size, Inflation Pressure)
Vehicle at maximum load of 1990 kg (4387 lbs) with P215/60R16 tire at 200 kPa (29 psi) on tire label.

(2) Condition Load on Tire/Axle – Maximum Load

<table>
<thead>
<tr>
<th></th>
<th>LF 549 KG (1211 LB)</th>
<th>LR 452 KG (996 LB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RF 545 KG (1201 LB)</td>
<td>RR 444 KG (979 LB)</td>
</tr>
</tbody>
</table>

Front Axle 1084 KG (2412 LB)  Rear Axle 896 KG (1975 LB)

Total Vehicle 1990 KG (4387 LB)

(3) Load Rating of Tire at Recommended Inflation Pressure

Front                               Rear

<table>
<thead>
<tr>
<th>Displayed Tire Size</th>
<th>P215/60R16</th>
<th>P215/60R16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Inflation Pressure</td>
<td>200 kPa (29 psi)</td>
<td>200 kPa (29 psi)</td>
</tr>
<tr>
<td>Tire Load Rating</td>
<td>610 KG (1345 LBS)</td>
<td>610 KG (1345 LBS)</td>
</tr>
</tbody>
</table>

(obtained from 2005 Tire and Rim Association Yearbook)

Vehicle Load on the Tire is not greater than the Tire Load Rating at the Tire Recommended Inflation Pressure

Front Tires [(2) < (3)]  PASS/FAIL
Rear Tires [(2) < (3)]  PASS

NOTE: Section E should be repeated for every different load/tire inflation pressure condition displayed.

REMARKS:

RECORDED BY:  DATE: 05/23/06
APPROVED BY:
E. VEHICLE LOAD ON THE TIRE FOR OTHER DISPLAYED LOAD AND TIRE INFLATION PRESSURE CONDITIONS

(1) Condition Description (Load, Tire Size, Inflation Pressure)

High Speed operation above 99 mph inflation pressure should be 240 kPa (35 psi) for all loads.

(2) Condition Load on Tire/Axle – Maximum Load

<table>
<thead>
<tr>
<th>LF</th>
<th>549 KG (1211 LB)</th>
<th>LR</th>
<th>452 KG (996 LB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF</td>
<td>545 KG (1201 LB)</td>
<td>RR</td>
<td>444 KG (979 LB)</td>
</tr>
<tr>
<td>Frt Axle</td>
<td>1084 KG (2412 LB)</td>
<td>Rr Axle</td>
<td>896 KG (1975 LB)</td>
</tr>
</tbody>
</table>

Total Vehicle 1990 KG (4387 LB)

(3) Load Rating of Tire at Recommended Inflation Pressure

<table>
<thead>
<tr>
<th>Front</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displayed Tire Size</td>
<td>P215/60R16</td>
</tr>
<tr>
<td>Recommended Inflation Pressure</td>
<td>240 kPa (35 psi)</td>
</tr>
<tr>
<td>Tire Load Rating (obtained from 2005 Tire and Rim Association Yearbook)</td>
<td>670 KG (1477 LBS)</td>
</tr>
</tbody>
</table>

Vehicle Load on the Tire is not greater than the Tire Load Rating at the Tire Recommended Inflation Pressure

Front Tires [(2) < (3)] PASS/FAIL
Rear Tires [(2) < (3)] PASS

NOTE: Section E should be repeated for every different load/tire inflation pressure condition displayed.

REMARKS:

RECORDED BY: [Signature] DATE: 05/23/05
APPROVED BY: [Signature]
DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2005 TOYOTA AVALON PASSENGER CAR
VEHICLE NHTSA NO.: 055104
VIN: 4T1BK36B75U024813
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 05/31/05

A. Description of Placard: Self Adhesive decal - Red, Black
   Yellow and White
   PASS/FAIL
   Pass

B. Description of Placard Location: Driver's "B" piller
   Permanently Affixed
   (X) YES ( ) NO
   PASS

C. Enter Information from Placard:
   Vehicle Capacity Weight - 397 KG (875 LBS)
   Designated Seating Capacity (DSC) - 5
   Expressed In—
   (1) Total No. of Occupants
       (X) Yes ( ) No
   (2) Terms of Occupants for Each Seat Location
       (X) YES ( ) NO
   MANUFACTURER'S RECOMMENDED COLD TIRE INFLATION PRESSURE
   FOR MAXIMUM LOAD VEHICLE WEIGHT:
   FRONT - 200 kPa (29 psi)
   REAR - 200 kPa (29 psi)
   ALL OTHER RECOMMENDED INFLATION PRESSURES:
   None
   ALL OTHER RECOMMENDED LOADING CONDITIONS:
   None
   MANUFACTURER'S RECOMMENDED SIZE DESIGNATION:
   P215/60R16
   ALL OTHER MANUFACTURER'S RECOMMENDED SIZE DESIGNATION:
   P215/55R17
   DATA CORRECTLY DISPLAYED
   PASS
D. For Every Inflation Pressure Listed Above Indicate:

(1) Less than Maximum? (YES/NO) Yes Pass
(2) Loading Condition Stated? (YES/NO) Yes Pass

DATA INDICATES COMPLIANCE (X) YES ( ) NO

REMARKS:

RECORDED BY: [Signature] DATE: 05/23/05

APPROVED BY: [Signature]
**DATA SHEET 5**  
**VEHICLE TIRE DATA**

**VEHICLE MAKE/MODEL/BODY STYLE:** 2005 TOYOTA AVALON PASSENGER CAR  
**VEHICLE NHTSA NO.:** C55104  
**VIN:** 4T1BK36B75U024613  
**LABORATORY:** GENERAL TESTING LABORATORIES  
**TEST DATE:** 05/23/05

All tires on the vehicle are the same size: (Yes/No) **Yes**

**INFORMATION FROM TIRE SIDEWALL:**

<table>
<thead>
<tr>
<th>Detailed Information</th>
<th>Front Axle (R.F. Tire)</th>
<th>Rear Axle (L.R. Tire)</th>
<th>Spare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Size Designation</td>
<td>P215/60R16</td>
<td>P215/60R16</td>
<td>P215/60R16</td>
</tr>
<tr>
<td>Tire Load Index/Speed Symbol</td>
<td>94V</td>
<td>94V</td>
<td>94V</td>
</tr>
<tr>
<td>Maximum Inflation Pressure</td>
<td>300 kPa (44 psi)</td>
<td>300 kPa (44 psi)</td>
<td>300 kPa (44 psi)</td>
</tr>
<tr>
<td>Maximum Load Rating</td>
<td>670 KG (1477 LBS)</td>
<td>670 KG (1477 LBS)</td>
<td>670 KG (1477 LBS)</td>
</tr>
<tr>
<td>Mfr. Name or Brand &amp; Code</td>
<td>BRIDGESTONE</td>
<td>BRIDGESTONE</td>
<td>BRIDGESTONE</td>
</tr>
<tr>
<td>Tube or Tubeless</td>
<td>Tubeless</td>
<td>Tubeless</td>
<td>Tubeless</td>
</tr>
<tr>
<td>Sidewall (Plies &amp; Composition)</td>
<td>2 polyester</td>
<td>2 polyester</td>
<td>2 polyester</td>
</tr>
<tr>
<td>Tread (Plies &amp; Composition)</td>
<td>2 steel</td>
<td>2 steel</td>
<td>2 steel</td>
</tr>
<tr>
<td></td>
<td>2 polyester</td>
<td>2 polyester</td>
<td>2 polyester</td>
</tr>
</tbody>
</table>

**Serial Number:**  
- Left Front: DOT OBX8 PFA 1205  
- Right Front: DOT OBX8 PFA 1205   
- Left Rear: DOT OBX8 PFA 1205  
- Right Rear: DOT OBX8 PFA 1205  
- Spare: DOT OBX8 PFA 1205

Tires have "DOT" markings: (X) **YES** ( ) **NO**

**REMARKS:**

**RECORDED BY:**  
**APPROVED BY:**

**DATE:** 05/23/05
DATA SHEET 6
RIM DIMENSIONS

VEHICLE MAKE/MODEL/BODY STYLE: 2005 TOYOTA AVALON PASSENGER CAR
VEHICLE NHTSA NO.: C55104 VIN: 4T1BK36B75U024613
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 05/23/05

A. Rim Size & Flange

<table>
<thead>
<tr>
<th>Rim Size</th>
<th>Spec'd. Rims</th>
<th>Measured Width of Rims</th>
<th>Measured Height of Rims</th>
<th>PASS/FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Front: P215/60R16</td>
<td>16 x 6.5</td>
<td>6.5&quot;</td>
<td>16&quot;</td>
<td>Pass</td>
</tr>
<tr>
<td>Left Rear: P215/60R16</td>
<td>16 x 6.5</td>
<td>6.5&quot;</td>
<td>16&quot;</td>
<td>Pass</td>
</tr>
</tbody>
</table>

REFERENCE USED: 2005 Tire and Rim Association Yearbook

B. Trade Stamps, Marks, Symbols: 02/05, J, DOT, TOYOTA

Rim Manufacturer's Name or Label: TOYOTA

Other Rim/Wheel Marking: CLA, 45, K2, 16 x 6.5 JJ

Rim Inspection Comments: None

Tire Inspection Comments: None

Wheel/Rim Construction (i.e., welded, one piece, cast, deep dish, etc.): One piece cast aluminum

DATA INDICATES COMPLIANCE: (X) YES ( ) NO

REMARKS:

RECORDED BY: [Signature] DATE: 05/23/05

APPROVED BY: [Signature]
DATA SHEET 7
DEFLATED TIRE RETENTION

VEHICLE MAKE/MODEL/BODY STYLE: 2005 TOYOTA AVALON PASSENGER CAR
VEHICLE NHTSA NO.: C55104  VIN: 4T1BK36B75U024813
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 05/26/05

Tire Pressures: LF 200 kPa (29 psi) LR 200 kPa (29 psi)
(cold) RF 200 kPa (29 psi) RR 200 kPa (29 psi)

Test Weight (should be the same weight and distribution recorded on Data Sheet 3 Section D.5.)

LF 554 kg (1222 lb) LR 448 kg (987 lb)
RF 547 kg (1207 lb) RR 441 kg (972 lb)
Front Axle 1102 kg (2429 lb) Rear Axle 889 kg (1959 lb)

TOTAL VEHICLE 1980 kg (4388 lb)

Description of Weight Distribution: Salt bags in front passenger seat, rear seat and trunk.

A. Retention Test Left Front:

Odometer (START): 251 km (156 miles) Fuel Level: Full

Tire Pressure: 200 kPa (29 psi)

Ambient Temperature: 25.6 degrees C (78 F)

Wind Speed: 4.8 kmph (3.0 mph)

Size of Deflation Opening: 2.5 cm (1.0 in.) in diameter

Speed: 96.4 kmph (59.9 mph)

Deceleration Rate: 2.13 mpsps avg. (7 fpsps)

Distance Traveled After Initial Release of Air: 296 m (970 ft)

Distance of Deviation: < .3 m (<1 ft)

Description of Bead Separation, Outboard: None

Description of Bead Separation, Inboard: None
DATA SHEET 7 continued
DEFLATED TIRE RETENTION

B. Retention Test Right Rear:

Odometer (START): 256 km (158 miles)  Fuel Level: Full

Tire Pressure: 200 kPa (29 psi)

Ambient Temperature: 25.6 degrees C (78 F)

Wind Speed: 4.6 kmph (3 mph)

Size of Deflation Opening: 2.5 cm (1.0 in.) in diameter

Speed: 96.8 kmph (60.2 mph)

Deceleration Rate: 2.44 mps² avg. (8 fps²)

Distance Traveled After Initial Release of Air: 143 m (470 ft)

Distance of Deviation: < 3 m (<1 ft)

Description of Bead Separation, Outboard: None

Description of Bead Separation, Inboard: None

NOTE: No rotation of tire on rim

C. REMARKS: (Stability, Control, Suspension, etc.)

Good control, normal stopping

PASS/FAIL

Left Front  Right Rear

Pass  Pass

DATA INDICATES COMPLIANCE: (X) YES  ( ) NO

REMARKS:

RECORDED BY: [Signature]  DATE: 05/31/05

APPROVED BY: [Signature]
### TABLE 1 - INSTRUMENTATION & EQUIPMENT LIST

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>DESCRIPTION</th>
<th>MODEL/ SERIAL NO.</th>
<th>CAL. DATE</th>
<th>NEXT CAL. DATE</th>
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<tbody>
<tr>
<td>PAD SCALES</td>
<td>#1 199744LF</td>
<td>109744LF</td>
<td>07/04</td>
<td>07/05</td>
</tr>
<tr>
<td></td>
<td>#2 199744RF</td>
<td>199744RF</td>
<td>07/04</td>
<td>07/05</td>
</tr>
<tr>
<td></td>
<td>#3 199744LR</td>
<td>199744LR</td>
<td>07/04</td>
<td>07/05</td>
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<td></td>
<td>#4 199744RR</td>
<td>19974RR</td>
<td>07/04</td>
<td>07/05</td>
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<td>PRESSURE TRANSDUCER</td>
<td>BLH</td>
<td>D-HF #85409</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>SURFACE LEVEL</td>
<td>STANLEY</td>
<td>641186</td>
<td>05/05</td>
<td>05/06</td>
</tr>
<tr>
<td>DATA ACQUISITION</td>
<td>GEO1</td>
<td>N/A</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>COMPUTER</td>
<td>HASTINGS</td>
<td>RM-1</td>
<td>05/05</td>
<td>05/06</td>
</tr>
<tr>
<td>ANEMOMETER</td>
<td>GTL</td>
<td>N/A</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>SLIP RING ASSEMBLY</td>
<td>STARRETT</td>
<td>002</td>
<td>05/05</td>
<td>05/06</td>
</tr>
<tr>
<td>INCLINOMETER</td>
<td>RACELOGIC</td>
<td>VB2 #004337</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
</tbody>
</table>
SECTION 5
PHOTOGRAPHS
2005 TOYOTA AVALON
NHTSA NO. C55104
FMVSS NO. 110

FIGURE 5.4
3/4 REAR VIEW FROM RIGHT SIDE OF VEHICLE
MAX LOAD 670 kg (1477 lbs)
300 kPa (44 PSI) MAX BIAS ply
FIGURE 5.25
VEHICLE ON SCALES, BALLASTED FOR
MAXIMUM LOAD
SECTION 6
TEST PLOTS
**Toyota Avion, C35104, Right Rear 110 Blow-out**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value</th>
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<tbody>
<tr>
<td>Run Time</td>
<td>0 minute 51.25 sec</td>
</tr>
<tr>
<td>Gear (Post)</td>
<td>1370.39</td>
</tr>
<tr>
<td>Speed (MPH)</td>
<td>60.21</td>
</tr>
<tr>
<td>Longitudinal Acceleration (g)</td>
<td>-0.016</td>
</tr>
<tr>
<td>0</td>
<td>0.000</td>
</tr>
<tr>
<td>0</td>
<td>0.000</td>
</tr>
<tr>
<td>Tire Pressure (PSI)</td>
<td>29.49</td>
</tr>
<tr>
<td>Brake Trigger (ON/OFF)</td>
<td>ON</td>
</tr>
<tr>
<td>Satellites (Number of)</td>
<td>9</td>
</tr>
</tbody>
</table>
Toyota Avalon, CSS184, Left Front 110 Blow-out

Run Time: 0 minutes 80.10 secs
Speed (MPH): 59.9
Longitudinal Acceleration (g): -0.041
0: 0.000
0: 0.000
Tire Pressure (PSI): 29.248
Brake, Throttle ON/OFF: 0
Saturates (Number of): 0

Graph showing speed and tire pressure changes over distance.