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

FORD MOTOR CO. IN U.S.A.
2003 FORD MUSTANG PASSENGER CAR
NHTSA NO. C30211

GENERAL TESTING LABORATORIES, INC.
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COLONIAL BEACH, VIRGINIA 22443

SEPTEMBER 22, 2003
FINAL REPORT

PREPARED FOR
U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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ROOM 6111 (NV8-226)
WASHINGTON, D.C. 20590
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   NHTSA No. C30211

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    June 03, 2003

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16. Abstract
   This test was conducted on the subject, 2003 Ford Mustang passenger car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-110-02 (partial), to gather data relating to the normal load requirements specified in FMVSS 110. NHTSA's Office of Safety Performance Standards requested this data to support the agency's TREAD tire rulemaking efforts.

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    FMVSS 110

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SECTION 1

INTRODUCTION

1.0 PURPOSE OF INDICANT TEST

A 2003 Ford Mustang passenger car was subjected to a FMVSS No. 110 (Incident) test intended to gather data relating to the normal load requirements specified in FMVSS 110. NHTSA's Office of Safety Performance Standards requested this data to support the agency's TREAD tire rulemaking efforts.

1.1 TEST VEHICLE

The test vehicle was a 2003 Ford Mustang. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 1FAFP40493F313166

B. NHTSA No.: C30211

C. Manufacturer: FORD MOTOR CO. IN U.S.A.

D. Manufacture Date: 08/02

1.2 TEST DATE

The test vehicle was subjected to testing on June 03, 2003.
SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 TEST PROCEDURE

The vehicle was inspected, photographed and filled with fuel. It was then weighed to establish total curb weight and the weights of all wheels were measured and recorded. The vehicle was then ballasted to its normal load condition (refer to appendix) and the weights of all wheels were measured and recorded. Tire information labeling data and tire sidewall data were recorded.

This indicant test did not include any other requirements in FMVSS 110.

2.1 SUMMARY OF RESULTS

Test results are provided in Section 3.
SECTION 3
TEST DATA
DATA SHEET 1
SUMMARY

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG PASSENGER CAR
VEHICLE NHTSA NO.: C30211; VIN: 1FAFP40493F313166
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/03/03

REQUIREMENT

The vehicle is equipped with tires that meet the requirements of FMVSS 109 or FMVSS 119.

YES

The vehicle normal load on the tire is not greater than the high speed performance test load specified in FMVSS 109 paragraph S5.5 or FMVSS 119 paragraph S7.4.

YES

For passenger cars, the tire information placard is permanently affixed to the glove compartment door or equally accessible location; and displays the required information (FMVSS 110, S4.3).

YES

For vehicles other than passenger cars, a combined certification/tire information label or separate tire information label is permanently affixed to either the hinge pillar, door-latch post or to the inward-facing surface of the door next to the driver's seating position (FMVSS 120, S5.3).

N/A

REMARKS:

RECORDED BY: [Signature] DATE: 06/03/03
APPROVED BY: [Signature]
DATA SHEET 2
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES
DATE: 06/03/03

VEHICLE MODEL/MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG

MANUFACTURE DATE: 08/02
NHTSA NO.: C30211
BODY COLOR: RED

VIN: 1FAFP40493F313166
VEHICLE TYPE: PASSENGER CAR

GVWR 1979 kg (4365 lbs)
GAWR(Fr) 1045 kg (2306 lbs)
GAWR(Rr) 960 kg (2117 lbs)

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

ENGINE DATA:
6 Cylinders 3.8 Liters __ Cubic Inches

TRANSMISSION DATA:
X Automatic ___ Manual 4 No. of Speeds

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

INSTALLED TIRE DATA: Size - P225/55R16 Mfr. - GOODYEAR

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

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

ARE ALL OPTIONS LISTED ON "WINDOW STICKER" PRESENT ON THE TEST VEHICLE: (YES/NO) Yes

REMARKS:

RECORDED BY: [Signature] DATE: 06/03/03

APPROVED BY: [Signature]
DATA SHEET 3
CURB WEIGHT WITH OPTIONS AND NORMAL LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG PASSENGER CAR
VEHICLE NHTSA NO.: C30211 VIN: 1FAFP40493F313166
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/03/03

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

Tire Pressure:
LF 241 KPA (35 psi) LR 241 KPA (35 psi)
RF 241 KPA (35 psi) RR 241 KPA (35 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

<table>
<thead>
<tr>
<th></th>
<th>LF 415 KG (916 LB)</th>
<th>LR 310 KG (684 LB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RF 416 KG (917 LB)</td>
<td>RR 320 KG (705 LB)</td>
</tr>
</tbody>
</table>

Front Axle 831 KG (1833 LB) Rear Axle 630 KG (1380 LB)

Total Vehicle 1461 KG (3222 LB)

B. MEASURED VEHICLE WEIGHT IN NORMAL LOAD CONDITION

1) Seating Capacity (from Tire Information Placard) = 4
   Seating Capacity (# of belted seating positions) = 4

2) Normal Load # of Occupants from Appendix
   Occupant Distribution: Front Seat - 2, Second Seat - N/A, Third Seat - N/A, Fourth Seat - N/A

3) Total Normal Occupant Load 136 KG (300 LB)
   (# of occupants x 68 KG per occupant)

4) Measured Normal Load on Each Wheel and Axles (Sum)
   LF 450 KG (991 LB) LR 341 KG (752 LB)
   RF 456 KG (1005 LB) RR 351 KG (774 LB)
   Frl Axle 905 KG (1996 LB) Rr Axle 692 KG (1526 LB)

Total Vehicle 1598 KG (3522 LB)
DATA SHEET 3 – CONTINUED

(5) Calculated Vehicle Normal Load on the Tire
Front Tires (measured front axle normal load/2) = 453 KG (998 LB)
Rear Tires (measured front axle normal load/2) = 346 KG (763 LB)

(6) High Speed Test Load from (X) FMVSS 109 (S5.5), or ( ) FMVSS 119 (S7.4)

### Front

**(a) Installed Tire Size**
P225/55R16

**Max. Load Rating on Sidewall**
670 KG (1477 LBS)

**Reduced Sidewall Load Rating**
N/A

**High Speed Test Load**
590 KG (1300 LBS)

**(b) Optional Tire Size(s)**
NONE

### Rear

**(a) Installed Tire Size**
P225/55R16

**Max. Load Rating on Sidewall**
670 KG (1477 LBS)

**Reduced Sidewall Load Rating**
N/A

**High Speed Test Load**
590 KG (1300 LBS)

**(b) Optional Tire Size(s)**
NONE

* If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating shall be reduced by dividing by 1.10.

**REMARKS:** The Vehicle Normal Load on the Tire is not greater than the High Speed Test Load

**RECORDED BY:** [Signature]

**DATE:** 08/03/03

**APPROVED BY:** [Signature]
DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG PASSENGER CAR
VEHICLE NHTSA NO.: C30211; VIN: 1FAFP40483F313166
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/03/03

A. Vehicle Type from Certification Label: Passenger Car

B. Identify Vehicle Labeling:

Vehicle has a combined Certification Tire Information Label. (X) Yes ( ) No
Is Label Permanently Affixed: (X) Yes ( ) No
Label Location: Driver’s Side “B” Pillar
Description of Label: Vinyl

Vehicle has a separate Tire Information Label or Placard ( ) Yes (X) No
Is Label Permanently Affixed: ( ) Yes ( ) No
Label Location:
Description of Label:

C. Enter Information from Combined or Separate Tire Information Label/Placard

Vehicle Capacity Weight: "MAXIMUM LOAD" 317 KG (700 LBS)

Designated Seating Capacity (DSC) - 4
Expressed In—
(1) Total No. of Occupants (X) Yes ( ) No
(2) Terms of Occupants for Each Seat Location (X) Yes ( ) No

Manufacturer’s Recommended Tire Size and Cold Tire Inflation Pressure For Maximum Load Vehicle Weight:

P225/55R16
FRONT - 241 kPa (35 psi)
REAR - 241 kPa (35 psi)

Manufacturer’s Recommended Tire Size and Cold Tire Inflation Pressure For Other Load Conditions: NONE

REMARKS:

RECORDED BY: ______________________ DATE: 05/03/03
APPROVED BY: ______________________
DATA SHEET 5
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD MUSTANG PASSENGER CAR
VEHICLE NHTSA NO.: C30211; VIN: 1FAFP40493F313166
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/03/03

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

INFORMATION FROM TIRE SIDEWALL:

Left Front Tire

Tire Size Designation: P225/55R16
Tire Load Index/Speed Symbol: 94T
Maximum Inflation Pressure: 300 kPa (44 psi)
Maximum Load Rating: 670 KG (1477 LBS)
Mfr. Name or Brand & Code: GOODYEAR EAGLE
Tube or Tubeless: TUBELESS
Treadwear/Traction/Temp. Grades: 360/A/B
Sidewall (Plies & Composition): 1 PLY POLYESTER
Tread (Plies & Composition): 1 PLY POLYESTER
2 PLY STEEL
Serial Number: Right Front - DOT M614 HMER 3202

Tire has “DOT” markings: (X) YES ( ) NO ( ) UNDETERMINED

REMARKS:

RECORDED BY: [Signature] DATE: 06/03/03
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>
</tr>
</thead>
<tbody>
<tr>
<td>PAD SCALES</td>
<td>#1 199744LF</td>
<td>199744LF</td>
<td>06/02</td>
<td>06/20/03</td>
</tr>
<tr>
<td></td>
<td>#2 199744RF</td>
<td>199744RF</td>
<td>06/02</td>
<td>06/20/03</td>
</tr>
<tr>
<td></td>
<td>#3 199744LR</td>
<td>199744LR</td>
<td>06/02</td>
<td>06/20/03</td>
</tr>
<tr>
<td></td>
<td>#4 199744RR</td>
<td>199744RR</td>
<td>06/02</td>
<td>06/20/03</td>
</tr>
<tr>
<td>PRESSURE GAGE</td>
<td>WESKLER</td>
<td>0-100</td>
<td>05/03</td>
<td>05/04</td>
</tr>
<tr>
<td>SURFACE LEVEL</td>
<td>GTL</td>
<td>N/A</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
</tbody>
</table>
### Table 1 – Occupant Loading and Distribution for Vehicle Normal Load for Various Designated Seating Capacities

<table>
<thead>
<tr>
<th>Designated Seating Capacities, numbers of Occupants</th>
<th>Vehicle normal load, number of occupants</th>
<th>Occupant distribution in a normally loaded vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 through 4</td>
<td>2</td>
<td>2 in front</td>
</tr>
<tr>
<td>5 through 10</td>
<td>3</td>
<td>2 in front, 1 in second seat</td>
</tr>
<tr>
<td>11 through 15</td>
<td>5</td>
<td>2 in front, 1 in second seat, 1 in third seat, 1 in fourth seat</td>
</tr>
<tr>
<td>16 through 22</td>
<td>7</td>
<td>2 in front, 2 in second seat, 2 in third seat, 1 in fourth seat</td>
</tr>
</tbody>
</table>

**NOTE:** For the indicant test each seat was adjusted to its full down and mid forward to aft position with the seat back adjusted to a 25° reclined angle. Each designated seat position was ballasted with 54 KG (120 LBS) in the seat and 14 KG (30 LBS) on the floor directly in front of the respective seat position.