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

FORD MOTOR CO. IN U.S.A.
2003 FORD EXPLORER, MPV
NHTSA NO. C30213

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

SEPTEMBER 11, 2003
FINAL REPORT

PREPARED FOR

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
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WASHINGTON, D.C. 20590
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NHTSA No. C30213

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June 03, 2003

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16. Abstract  
This test was conducted on the subject 2003 Ford Explorer MPV 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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<td></td>
</tr>
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<td></td>
</tr>
</tbody>
</table>

## APPENDIX – Normal Load Occupation Distribution
SECTION 1

INTRODUCTION

1.0 PURPOSE OF INDICANT TEST

A 2003 Ford Explorer MPV was subjected to a FMVSS No. 110 (Indicant) 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 Explorer MPV. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 1FMZU73K83UC29229

B. NHTSA No.: C30213

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

D. Manufacture Date: 05/03

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

Currently FMVSS 110 applies only to passenger cars. The subject Ford Explorer is a multipurpose passenger vehicle (MPV) and therefore it is not required to meet FMVSS 110 requirements. It was subjected to the normal load testing as executed for FMVSS 110 compliance verification for information only.
SECTION 3
TEST DATA
VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD EXPLORER MPV  
VEHICLE NHTSA NO.: C30213  
VIN: 1FMZU73K83UC29228  
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).  
N/A

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).  
YES

REMARKS:

RECORDED BY:  
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 YEAR/MAKE/MODEL/BODY STYLE: 2003 FORD EXPLORER MPV

MANUFACTURE DATE: 05/03 NHTSA NO.: C30213 BODY COLOR: WEDGEWOOD BLUE
VIN: 1FMZU73K83UC28228 VEHICLE TYPE: MPV

GVWR 2097 kg (5880 lbs) GAWR(Fr) 1240 kg (2735 lbs) GAWR(Rr) 1508 kg (3325 lbs)

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

ENGINE DATA: 6 Cylinders 4.0 Liters __ Cubic Inches

TRANSMISSION DATA: X Automatic Manual 5 No. of Speeds

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

INSTALLED TIRE DATA: Size: P235/70R16 Mfr: MICHELIN

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

<table>
<thead>
<tr>
<th></th>
<th>X Air Conditioning</th>
<th>Traction Control</th>
<th>X Clock</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Tinted Glass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X Power Steering</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>X Power Windows</td>
<td>X</td>
<td>X Rear Window Defroster</td>
<td>X Driver Air Bag</td>
</tr>
<tr>
<td>X Power Door Locks</td>
<td></td>
<td>Sun Roof or T-Top</td>
<td>X Passenger Air Bag</td>
</tr>
<tr>
<td>X Power Seat Driver Side</td>
<td>X</td>
<td>Tachometer</td>
<td>X Front Disc Brakes</td>
</tr>
<tr>
<td>X Power Brakes</td>
<td>X</td>
<td>Tilt Steering Wheel</td>
<td>X Rear Disc Brakes</td>
</tr>
<tr>
<td>X Antilock Brake System</td>
<td>X</td>
<td>AM/FM/CD</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: ____________ DATE: ____________ 06/03/03 ____________

APPROVED BY: ____________
DATA SHEET 3  
CURB WEIGHT WITH OPTIONS AND NORMAL LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD EXPLORER MPV
VEHICLE NHTSA NO.: C30213  VIN: 1FMTU73K83UC29228
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/03/03

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

Tire Pressure:  
LF: 205 KPA (30 psi)  LR: 240 KPA (35 psi)
RF: 205 KPA (30 psi)  RR: 240 KPA (35 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

<table>
<thead>
<tr>
<th></th>
<th>Weight</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LF</td>
<td>552 KG (1218 LB)</td>
<td>LR: 489 KG (1078 LB)</td>
</tr>
<tr>
<td>RF</td>
<td>552 KG (1217 LB)</td>
<td>RR: 519 KG (1144 LB)</td>
</tr>
<tr>
<td>Front Axle</td>
<td>1104 KG (2435 LB)</td>
<td>Rear Axle: 1008 KG (2222 LB)</td>
</tr>
</tbody>
</table>

Total Vehicle: 2112 KG (4657 LB)

B. MEASURED VEHICLE WEIGHT IN NORMAL LOAD CONDITION

1. Seating Capacity (from Tire Information Placard) = N/A
2. Seating Capacity (# of belted seating positions) = 7

2. Normal Load # of Occupants from Appendix
   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)
   (# of occupants x 68 KG per occupant)

4. Measured Normal Load on each Wheel and Axles (Sum)
   LF: 597 KG (1316 LB)  LR: 543 KG (1197 LB)
   RF: 501 KG (1325 LB)  RR: 574 KG (1265 LB)
   Frt Axle: 1198 KG (2641 LB)  Rr Axle: 1117 KG (2462 LB)

Total Vehicle: 2315 KG (5103 LB)
DATA SHEET 3 – CONTINUED

(5) Calculated Vehicle Normal Load on the Tire
Front Tires (measured front axle normal load/2) = 599 KG (1320 LB)
Rear Tires (measured front axle normal load/2) = 558 KG (1231 LB)

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

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Installed Tire Size</td>
<td>P235/70R16</td>
<td>P235/70R10</td>
</tr>
<tr>
<td>Max. Load Rating on Sidewall</td>
<td>900 KG (1984 LBS)</td>
<td>900 KG (1984 LBS)</td>
</tr>
<tr>
<td>Reduced Sidewall Load Rating (if applicable)*</td>
<td>818 KG (1804 LBS)</td>
<td>818 KG (1804 LBS)</td>
</tr>
<tr>
<td>High Speed Test Load (68% of sidewall max. load rating)</td>
<td>720 KG (1688 LBS)</td>
<td>720 KG (1688 LBS)</td>
</tr>
<tr>
<td>(b) Optional Tire Size(s)</td>
<td>NONE</td>
<td>NONE</td>
</tr>
</tbody>
</table>

* 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: D. MUSIC

DATE: 06/03/03

APPROVED BY: D. MUSIC
DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD EXPLORER MPV

VEHICLE NHTSA NO.: C30213 VIN: 1FMZU73K83UC29228
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/03/03

A. Vehicle Type from Certification Label: MPV

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 Door
Description of Label: Vinyl

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

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

Vehicle Capacity Weight - N/A(see remarks)

Designated Seating Capacity (DSC) - N/A(see remarks)
Expressed In—
(1) Total No. of Occupants ( ) Yes ( ) No
(2) Terms of Occupants for Each Seat Location ( ) Yes ( ) No

Manufacturer's Recommended Tire Size(s) and Cold Tire Inflation Pressure(s) for Maximum Load Vehicle Weight:

___ P235/70R16 ____________ FRONT - 205 kPa (30 psi) 
REAR - 240 kPa (35 psi)

Manufacturer's Recommended Tire Size(s) and Cold Tire Inflation Pressure(s) for Other Load Conditions: NONE

REMARKS: The vehicle labeling requirements of FMVSS 120 for an MPV do not include Vehicle Capacity Weight (VCW) or Designated Seating Capacity (DSP) as required by FMVSS 110 passenger car labeling.

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

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

VEHICLE MAKE/MODEL/BODY STYLE: 2003 FORD EXPLORER MPV
VEHICLE NHTSA NO.: C30213
VIN: 1FMZU73K83UC29228
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:

Right Front Tire

Tire Size Designation: P235/70R16
Tire Load Index/Speed Symbol: 104S
Maximum Inflation Pressure: 300 kPa (44 psi)
Maximum Load Rating: 900 KG (1984 LBS.)
Mfr. Name or Brand & Code: MICHELIN CROSS TERRAIN
Tube or Tubeless: TUBELESS
Treadwear/Traction/Temp. Grades: 420/A/B
Sidewall (Plies & Composition): 2 PLY POLYESTER
Tread (Plies & Composition): 2 PLY STEEL
Serial Number: Right Front - DOT-B37P DH8X 1503

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>
SECTION 5
PHOTOGRAPHS
MFD. BY FORD MOTOR CO. IN U.S.A.

DATE: 05/03
FRONT GAWR: 2735LB
1240KG
P235/70R16SL
16X7.0J
AT 205 kPa/30 PSI COLD

CVWR: 5880LB / 2667KG
REAR GAWR: 3325LB
WITH 1508KG
TIRES P235/70R16SL
RINS 16X7.0J
WITH PSI COLD

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: 1FMYU73K83UC29228
TYPE: MPV

EXT PNT: LD
WB BRK INT TR TP/PS RC 27 DSD
114 GT K 45 V DB F05
1200305120213 UTC 2USA-1520472-AA

F0083 T0181

FIGURE 5.2
VEHICLE'S CERTIFICATION AND TIRE INFORMATION LABEL
STANDARD EQUIPMENT INCLUDED AT NO EXTRA CHARGE

EXTERIOR
- POWER GLASS LOWL A/S TIRE
- 5-SPOKE ALUM WHEELS
- BLACK STAINLESS F/R BUMPERS
- F/R SENSITIVE INT WIPERS
- TILT/TELESCOPIC PWR MIRRORS
- REAR GATE W/FLIP-UP GLASS
- REAR INT WIPER/WASH/DEFFRST
- CLASS II TRAILER TOW PKG
- CHROME GRILLE
- ROOF RAILS
- FULL SIZE SPARE TIRE

INTERIOR
- SPORT CLOTH FRNT BKT SEATS
- RR SPLIT FOLD 60/40 BENCH
- MANUAL AIR CONDITIONING
- PWR WINDOWS & DOOR LOCKS
- PWR LIFTGATE LOCK/UNLOCK
- ELEC AM/FM STEREO/CASS
- OUTSIDE TEMP/COMPASS DISPLAY

Compare this vehicle to others at AUTOCAR.com

2003 FORD EXPLORER XLT
NHTSA NO. C30213
FMVSS NO. 110 (INDICANT)

FIGURE 5.3
VEHICLE'S MONRONEY LABEL (PART 1)
PRICE INFORMATION

STANDARD VEHICLE PRICE

$31,250.00

KEY STANDARD EQUIPMENT
ORDER CODE 220A
FLOOR MATS, C/K CARPET
LH/RH MIRRORS W/APPROACH
AIR CONDITIONING - CFC FREE
AUTO LAMP HEADLIGHTS
GLASS, PRIVACY

OPTIONAL EQUIPMENT
3.55 RATIO REGULAR AXLE
FRONT LICENSE PLATE BRACKET
RUNNING BOARDS
WHEELS, SILVER SPKL CAST ALUM
AUXILIARY CLIMATE CONTROL
3RD ROW SEAT PACKAGE
LTHR SPORT BUCKET W/PWR ORVR

TOTAL VEHICLE & OPTIONS $33,580.00
DESTINATION & DELIVERY $450.00

2003 FORD EXPLORER XLT
NHTSA NO. C30213
FMVSS NO. 110 (INDICANT)

FIGURE 5.5
VEHICLE’S MONRONEY LABEL (PART 3)
EXPLORER

10 EXTRA CHARGE
- SPEED CONTROL TILT WHEEL
- CARGO MANAGEMENT SYSTEM
- 12V AUXILIARY POWER POINT
- STANDARD
- 4.0L SOHC FFV V6 ENGINE
- 5-SPD AUTO O/D TRANS
- INDEPENDENT FRT/RR SUSPEN
- CONTROL - TRAC 4WD
- 4 WHEEL DISC BRAKES W/ABS
- REMOTE KEY ENTR W/2 KEYFOBS
- MAINT FREE BATTERY W/SAVER
- 22.5 GALLON FUEL TANK

2003 FORD EXPLORER XLT
NHTSA NO. C30213
FMVSS NO. 110 (INDICANT)

PRICE INFORMATION
- KEY STANDARD
- ORDER CODE 99
- FLOOR MATS, LH/RH
- AIR CONDITIONER
- AUTO LAMP HEIGHT
- GLASS, PRIVACY

FIGURE 5.6
VEHICLE'S MONROONEY LABEL (PART 4)
APPENDIX

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.