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

DAIMLERCHRYSLER CORPORATION
2003 DODGE NEON PASSENGER CAR
NHTSA NO. C30313

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

SEPTEMBER 25, 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
ROOM 6111 (NVS-220)
WASHINGTON, D.C. 20590
This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared By: Deliah Nisich

Approved By: M. C. Chen

Approval Date: 09/25/03

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: Joe Finneran

Acceptance Date: 9/30/03
1. Report No. 110(IND)-GTL-03-029

2. Government Accession No.

3. Recipient's Catalog No.

4. Title and Subtitle
Final Report of FMVSS 110 (Indicant) Test of 2003 DODGE NEON PASSENGER CAR
NHTSA No. C30313

5. Report Date
September 25, 2003

GTL

7. Author(s)
Grant Farrand, Project Engineer
Debbie Messick, Project Manager

8. Performing Organ. Rep# GTL-DOT-03-110(INDICANT)-029

9. Performing Organization Name and Address
General Testing Laboratories, Inc.
1623 Leedstown Road
Colonial Beach, Va 22443

10. Work Unit No. (TRAIS)

11. Contract or Grant No.
DTNH22-01-C-11025

12. Sponsoring Agency Name and Address
U.S. Department of Transportation
Safety Enforcement
Office of Vehicle Safety Compliance (NVS-220)
400 7th Street, S.W., Room 6111
Washington, DC 20590

13. Type of Report and Period Covered
Final Test Report
June 02, 2003

NVS-120 & NVS 220

15. Supplementary Notes

16. Abstract
This test was conducted on the subject, 2003 Dodge Neon 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.

17. Key Words
Vehicle Testing
Safety Engineering
FMVSS 110

18. Distribution Statement
Copies of this report are available from NHTSA NHTSA Technical Reference Div., Rm. 5108 (NPO-230)
400 7th St., S.W. Washington, DC 20590
Telephone No. (202) 366-4046

19. Security Classif. (of this report) UNCLASSIFIED

20. Security Classif. (of this page) UNCLASSIFIED

21. No. of Pages
26

22. Price

Form DOT F 1700.7 (8-72)
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Test Procedure and Summary of Results</td>
</tr>
<tr>
<td>3</td>
<td>Test Data</td>
</tr>
<tr>
<td>4</td>
<td>Test Equipment List</td>
</tr>
<tr>
<td>5</td>
<td>Photographs</td>
</tr>
<tr>
<td></td>
<td>5.1 ¾ Frontal View of Vehicle</td>
</tr>
<tr>
<td></td>
<td>5.2 Vehicle’s Certification</td>
</tr>
<tr>
<td></td>
<td>5.3 Vehicle’s Tire Information Label</td>
</tr>
<tr>
<td></td>
<td>5.4 Tire Showing Brand</td>
</tr>
<tr>
<td></td>
<td>5.5 Tire Showing Model</td>
</tr>
<tr>
<td></td>
<td>5.6 Tire Showing Size, Load Index and Speed Symbol</td>
</tr>
<tr>
<td></td>
<td>5.7 Tire Showing Max Load Rating</td>
</tr>
<tr>
<td></td>
<td>5.8 Tire Showing Max Inflation Pressure</td>
</tr>
<tr>
<td></td>
<td>5.9 Tire Showing Serial Number</td>
</tr>
<tr>
<td></td>
<td>5.10 Vehicle Ballasted to Simulate Normal Load Condition</td>
</tr>
</tbody>
</table>

APPENDIX – Normal Load Occupation Distribution
SECTION 1

INTRODUCTION

1.0 PURPOSE OF INDICANT TEST

A 2003 Dodge Neon passenger car 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 Dodge Neon. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 1B3ES55C73D205344

B. NHTSA No.: C30313

C. Manufacturer: DAIMLERCHRYSLER CORPORATION

D. Manufacture Date: 03/03

1.2 TEST DATE

The test vehicle was subjected to testing on June 02, 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 indicative 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
VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE NEON PASSENGER CAR
VEHICLE NHTSA NO.: C30313; VIN: 1B3ES56C73D205344
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/02/03

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: 06/02/03
APPROVED BY: [Signature]
DATA SHEET 2
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES       DATE: 06/02/03

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003 DODGE NEON

MANUFACTURE DATE: 03/03      NHTSA NO.: C30313      BODY COLOR: BLAZE RED

VIN: 1B3ES66C73D205344       VEHICLE TYPE: PASSENGER CAR

GVWR 1679 kg (3700 lbs)   GAWR(Fr) 923 kg (2034 lbs)   GAWR(Rr) 779 kg (1716 lbs)

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

ENGINE DATA:       4 Cylinders 2.0 Liters   ___ Cubic Inches

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

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

INSTALLED TIRE DATA: Size - P185/60R15       Mfr. - GOODYEAR EAGLE

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>X</td>
<td>Tintec Glass</td>
<td>All Wheel Drive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Power Steering</td>
<td>X Cruise Control</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Power Windows</td>
<td>Rear Window Defroster</td>
<td>X</td>
<td>Driver Air Bag</td>
</tr>
<tr>
<td>X</td>
<td>Power Door Locks</td>
<td>X Sun Roof or T-Top</td>
<td>X</td>
<td>Passenger Air Bag</td>
</tr>
<tr>
<td></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>Tilt Steering Wheel</td>
<td>X</td>
<td>Rear Disc Brakes</td>
</tr>
<tr>
<td></td>
<td>Antilock Brake System</td>
<td>X</td>
<td>AM/FM/CD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></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:  DATE: 06/02/03

APPROVED BY:  

(Handwritten Signature)
DATA SHEET 3
CURB WEIGHT WITH OPTIONS AND NORMAL LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE NEON PASSENGER CAR
VEHICLE NHTSA NO.: C30313; VIN: 1B3ES56C73D205344
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/02/03

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

Tire Pressure:
LF 220 KPA (32 psi) LR 220 KPA (32 psi)
RF 220 KPA (32 psi) RR 220 KPA (32 psi)

A. MEASUREMENT CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

<table>
<thead>
<tr>
<th></th>
<th>LF</th>
<th>KG (LB)</th>
<th>LR</th>
<th>KG (LB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FK</td>
<td>396</td>
<td>873 (1722)</td>
<td>217</td>
<td>479 (997)</td>
</tr>
<tr>
<td>RK</td>
<td>385</td>
<td>849 (1722)</td>
<td>235</td>
<td>518 (1036)</td>
</tr>
</tbody>
</table>

Front Axle 781 KG (1722 LB) Rear Axle 452 KG (997 LB)
Total Vehicle 1233 KG (2719 LB)

B. MEASURED VEHICLE WEIGHT IN NORMAL LOAD CONDITION

(1) Seating Capacity (from Tire Information Placard) = 5
Seating Capacity (# of belted seating positions) = 5

(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)

<table>
<thead>
<tr>
<th></th>
<th>LF</th>
<th>KG (LB)</th>
<th>LR</th>
<th>KG (LB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FK</td>
<td>440</td>
<td>969 (2042)</td>
<td>274</td>
<td>605 (1266)</td>
</tr>
<tr>
<td>RK</td>
<td>432</td>
<td>953 (2042)</td>
<td>289</td>
<td>637 (1362)</td>
</tr>
</tbody>
</table>

Frt Axle 872 KG (1922 LB) Rr Axle 563 KG (1242 LB)
Total Vehicle 1435 KG (3164 LB)
(5) Calculated Vehicle Normal Load on the Tire
Front Tires (measured front axle normal load/2) = 436 KG (961 LB)
Rear Tires (measured front axle normal load/2) = 282 KG (621 LB)

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

<table>
<thead>
<tr>
<th>Front</th>
<th></th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Installed Tire Size

<table>
<thead>
<tr>
<th>Max. Load Rating on Sidewall</th>
<th>500 KG (1102 LBS)</th>
<th>500 KG (1102 LBS)</th>
</tr>
</thead>
</table>

Reduced Sidewall Load Rating (if applicable)*

| N/A | N/A |

High Speed Test Load (88% of sidewall max. load rating)

<table>
<thead>
<tr>
<th>440 KG (970 LBS)</th>
<th>440 KG (970 LBS)</th>
</tr>
</thead>
</table>

(b) Optional Tire Size(s)

<table>
<thead>
<tr>
<th>Max. Load Rating on Sidewall (From 2003 Tire &amp; Rim Association Yearbook)</th>
<th>500 KG (1102 LBS)</th>
<th>500 KG (1102 LBS)</th>
</tr>
</thead>
</table>

Reduced Sidewall Load Rating (if applicable)*

| N/A | N/A |

High Speed Test Load (88% of sidewall max. load rating)

<table>
<thead>
<tr>
<th>440 KG (970 LBS)</th>
<th>440 KG (970 LBS)</th>
</tr>
</thead>
</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: [Signature]  DATE: 06/02/03

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

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE NEON PASSENGER CAR
VEHICLE NHTSA NO.: C30313; VIN: 1B3ES56C73D205344
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/02/03

A. Vehicle Type from Certification Label: Passenger Car

B. Identify Vehicle Labeling:

Vehicle has a combined Certification Tire Information Label ( ) Yes (X) No
Is Label Permanently Affixed: ( ) Yes ( ) No
Label Location: ______________________________
Description of Label: ______________________________

Vehicle has a separate Tire Information Label or Placard (X) Yes ( ) No
Is Label Permanently Affixed: (X) Yes ( ) No
Label Location: Driver’s Door
Description of Label: Paper, Vinyl Coated

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

Vehicle Capacity Weight - 392 KG (865 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 Tire Size and Cold Tire Inflation Pressure For Maximum Load Vehicle Weight:

P185/60R15 FRONT - 220 kPa (32 psi)
REAR - 220 kPa (32 psi)
P175/70R14 FRONT - 220 kPa (32 psi)
REAR - 220 kPa (32 psi)

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

REMARKS: ____________________________

RECORDED BY: ____________________________ DATE: 06/02/03
APPROVED BY: ____________________________
DATA SHEET 5
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 DODGE NEON PASSENGER CAR
VEHICLE NHTSA NO.: C30313 VIN: 1B3ES56C73D205344
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/02/03

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

INFORMATION FROM TIRE SIDEWALL:

<table>
<thead>
<tr>
<th>Left Front Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tire Size Designation</strong></td>
</tr>
<tr>
<td><strong>Tire Load Index/Speed Symbol</strong></td>
</tr>
<tr>
<td><strong>Maximum Inflation Pressure</strong></td>
</tr>
<tr>
<td><strong>Maximum Load Rating</strong></td>
</tr>
<tr>
<td><strong>Mfr. Name or Brand &amp; Code</strong></td>
</tr>
<tr>
<td><strong>Tube or Tubeless</strong></td>
</tr>
<tr>
<td><strong>Treadwear/Traction/Temp. Grades</strong></td>
</tr>
<tr>
<td><strong>Sidewall (Plies &amp; Composition)</strong></td>
</tr>
<tr>
<td><strong>Tread (Plies &amp; Composition)</strong></td>
</tr>
<tr>
<td><strong>Serial Number:</strong> Right Front -</td>
</tr>
</tbody>
</table>

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

REMARKS:

RECORDED BY: [Signature] DATE: 06/02/03
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 GAUGE</td>
<td>WESKLER 0-100</td>
<td></td>
<td>05/03</td>
<td>05/04</td>
</tr>
<tr>
<td>SURFACE LEVEL</td>
<td>GTL N/A</td>
<td></td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
</tbody>
</table>


SECTION 5
PHOTOGRAPHS
## 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.