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

HONDA OF CANADA MFG.
2003 HONDA CIVIC EX PASSENGER CAR
NHTSA NO. C35311

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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
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Prepared By: [Signature]
Approved By: [Signature]
Approval Date: 09/25/03

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: [Signature]
Acceptance Date: 9/30/03
## Abstract

This test was conducted on the subject, 2003 Honda Civic EX 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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</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
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<tr>
<td>4</td>
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</tr>
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<td>11</td>
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**APPENDIX – Normal Load Occupation Distribution**
SECTION 1

INTRODUCTION

1.0 PURPOSE OF INDICANT TEST

A 2003 Honda Civic EX 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 Honda Civic EX. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 2HGES25703H577405

B. NHTSA No.: C35311

C. Manufacturer: HONDA OF CANADA MFG.

D. Manufacture Date: 04/03

1.2 TEST DATE

The test vehicle was subjected to testing on June 05, 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 HONDA CIVIC EX PASSENGER CAR
VEHICLE NHTSA NO.: C35311; VIN: 2HGES257031F577405
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/05/03

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: 06/05/03
APPROVED BY: [Signature]
DATA SHEET 2
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES
DATE: 06/05/03

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003 HONDA CIVIC EX

MANUFACTURE DATE: 04/03  NHTSA NO.: C35311  BODY COLOR: RED

VIN: 2HGCE5703H577405  VEHICLE TYPE: PASSENGER CAR

GVWR 1610 kg (3550 lbs)  GAWR(Fr) 830 kg (1830 lbs)  GAWR(Rr) 780 kg (1720 lbs)

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

ENGINE DATA: 4 Cylinders  1.7 Liters  ___ Cubic inches

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

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

INSTALLED TIRE DATA: Size - P185/65R15  Mfr. - FIRESTONE

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></td>
<td></td>
<td>Console</td>
</tr>
<tr>
<td>X</td>
<td>Power Windows</td>
<td>X</td>
<td>X</td>
<td>Driver Air Bag</td>
</tr>
<tr>
<td>X</td>
<td>Power Door Locks</td>
<td></td>
<td></td>
<td>Passenger Air Bag</td>
</tr>
<tr>
<td></td>
<td>Power Seat(s)</td>
<td>X</td>
<td></td>
<td>Front Disc Brakes</td>
</tr>
<tr>
<td>X</td>
<td>Power Brakes</td>
<td>X</td>
<td></td>
<td>Rear Disc Brakes</td>
</tr>
<tr>
<td>X</td>
<td>Antilock Brake System</td>
<td>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: 06/05/03

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

VEHICLE MAKE/MODEL/BODY STYLE: 2003 HONDA CIVIC EX PASSENGER CAR
VEHICLE NHTSA NO.: C35311; VIN: 2HGES25703H577405
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/05/03

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

Tire Pressure:
LF 210 KPA (30 psi)   LR 210 KPA (30 psi)
RF 210 KPA (30 psi)   RR 210 KPA (30 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>360 KG</td>
<td>(793 LB)</td>
</tr>
<tr>
<td>RF</td>
<td>337 KG</td>
<td>(744 LB)</td>
</tr>
<tr>
<td>LR</td>
<td>244 KG</td>
<td>(537 LB)</td>
</tr>
<tr>
<td>RR</td>
<td>234 KG</td>
<td>(515 LB)</td>
</tr>
</tbody>
</table>

Front Axle 697 KG (1537 LB)   Rear Axle 477 KG (1052 LB)

Total Vehicle 1174 KG (2589 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)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LF</td>
<td>407 KG</td>
<td>(898 LB)</td>
</tr>
<tr>
<td>RF</td>
<td>383 KG</td>
<td>(845 LB)</td>
</tr>
<tr>
<td>LR</td>
<td>299 KG</td>
<td>(659 LB)</td>
</tr>
<tr>
<td>RR</td>
<td>290 KG</td>
<td>(639 LB)</td>
</tr>
</tbody>
</table>

Frt Axle 791 KG (1743 LB)   Rr Axle 589 KG (1298 LB)

Total Vehicle 1379 KG (3041 LB)
DATA SHEET 3 – CONTINUED

(5) Calculated Vehicle Normal Load on the Tire
Front Tires (measured front axle normal load/2) = 396 KG (872 LB)
Rear Tires (measured front axle normal load/2) = 294 KG (649 LB)

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

Front                  Rear
(a) Installed Tire Size P185/65R15          P185/65R15
Max. Load Rating on Sidewall 530 KG(1168 LBS)  530 KG(1168 LBS)
Reduced Sidewall Load Rating (if applicable)* N/A N/A
High Speed Test Load (88% of sidewall max. load rating) 466 KG(1028 LBS)  466 KG(1028 LBS)
(b) Optional Tire Size(s) NONE 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: 06/05/03
APPROVED BY: [Signature]
DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 HONDA CIVIC EX PASSENGER CAR
VEHICLE NHTSA NO.: C35311; VIN: 2HGES25703H577405
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/05/03

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 “B” Pillar
Description of Label: Vinyl

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

Vehicle Capacity Weight - 386 KG (850 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:

P185/65R15
FRONT - 210 kPa (30 psi)
REAR - 210 kPa (30 psi)

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

REMARKS:

RECORDED BY: [Signature] DATE: 06/05/03
APPROVED BY: [Signature]
DATA SHEET 5
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 HONDA CIVIC EX PASSENGER CAR
VEHICLE NHTSA NO.: C35311; VIN: 2HGES25703H577405
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/05/03

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

INFORMATION FROM TIRE SIDEWALL:

Left Front Tire

Tire Size Designation: P185/65R15
Tire Load Index/Speed Symbol: 86H
Maximum Inflation Pressure: 300 kPa (44 psi)
Maximum Load Rating: 530 KG (1168 LBS.)
Mfr. Name or Brand & Code: FIRESTONE FR690
Tube or Tubeless: TUBELESS
Treadwear/Traction/Temp. Grades: 440/A/B
Sidewall (Plies & Composition): 1 PLY POLYESTER
Tread (Plies & Composition): 1 PLY POLYESTER, 2 PLY STEEL
Serial Number: Right Front - DOT VNFP F9H 1403

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

REMARKS:

RECORDED BY: DATE: 06/05/03
APPROVED BY:
# 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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</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
<table>
<thead>
<tr>
<th>Seating Capacity</th>
<th>Total Weight Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3,860 lbs</td>
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</table>

**Recommended Tire Size**

<table>
<thead>
<tr>
<th>Size</th>
<th>Front</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>P185/65R15</td>
<td>210xPS</td>
<td>215xPS</td>
</tr>
</tbody>
</table>

**Compact Spare Tire**

<table>
<thead>
<tr>
<th>Size</th>
<th>Load Capacity</th>
</tr>
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<tbody>
<tr>
<td>T125/70D15</td>
<td>420 P.s.</td>
</tr>
</tbody>
</table>

**Figure 5.3**

Vehicle's Tire Information Label
2003 HONDA CIVIC EX
NHTSA NO. C35311
FMVSS NO. 110 (INDICANT)

FIGURE 5.9
VEHICLE BALLASTED TO SIMULATE NORMAL LOAD CONDITION
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 indicated 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.