SAFETY COMPLIANCE TESTING FOR FMVSS 110 TIRE SELECTION AND RIMS

GENERAL MOTORS CORPORATION 2009 CHEVROLET IMPALA FOUR-DOOR PASSENGER CAR NHTSA NO. C90100

U.S. DOT SAN ANGELO TEST FACILITY 131 COMANCHE TRAIL, BUILDING 3527 GOODFELLOW AFB, TEXAS 76908



January 15, 2009

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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INTRODUCTION

1.1 PURPOSE OF COMPLIANCE TEST

A 2009 Chevrolet Impala passenger car was tested to determine if the vehicle was in compliance with the requirements of FMVSS No. 110. All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure TP-110P-03, dated August 31, 2007.

1.2 TEST VEHICLE

The test vehicle was a 2009 Chevrolet Impala four-door passenger car. Nomenclatures applicable to the test vehicle are:

A. Vehicle Identification Number: 2G1WB57K991103176

B. NHTSA Number: C90100

C. Manufacturer: General Motors Corporation

D. Manufacture Date: 07/2008

1.3 TEST DATE

The test vehicle was tested December 8 and 9, 2008.

TEST PROCEDURE AND SUMMARY OF RESULTS

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. The right front and left rear wheels were removed from the vehicle. Pertinent information on the tires and rims furnished with the vehicle were recorded and tires and rims were photographed.

The vehicle tire placard was photographed and checked for compliance to location, format, and information requirements. 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. Vehicle was ballasted to Normal Load weight, Full Occupant Load, and Maximum Vehicle Load weight. At each step of the ballasting procedure, data was recorded. Ballast was photographically documented for the Normal and Maximum Vehicle Load weights. The owner's manual was checked for all required information on placard, tire loading, and general tire and loading parameters.

2.2 <u>SUMMARY OF RESULTS</u>

The data indicate compliance of the Chevrolet Impala with all requirements tested.

TEST DATA

DATA SUMMARY SHEET

| VEHICLE MAKE/MODEL/BODY STYLE: 2009 Chevrolet Impala four-door page | ssenger car |
|--|-------------|
| VEHICLE NHTSA NUMBER: C90100 VIN: 2G1WB57K99 | 1103176 |
| VEHICLE TYPE: passenger car DATE OF MANUFACTURE: | 07/2008 |
| LABORATORY: US DOT San Angelo Test Facility | |
| PASSENGER CAR REQUIREMENTS | PASS/FAIL |
| General (Data Sheet 2) | |
| The vehicle is equipped with tires that meet the requirements of S139. (S110, S4.1) | PASS |
| Tire Load Limits (Data Sheet 5) | |
| The vehicle maximum load on the tire shall not be greater than the maximum load rating as marked on the sidewall of the tire. (S110, S4.2.1.1) | PASS |
| The vehicle normal load on the tire is not greater than the value of 94 percent of the load rating at the vehicle manufacturer's recommended cold inflation pressure for that tire. (S110, S4.2.1.2) | PASS |
| Placard and Tire Inflation Pressure Label (Data Sheets 4 and 5) | |
| The placard and tire inflation pressure label (if provided) are affixed and located correctly, and display the information and format required. (S110, S4.3) | PASS |
| No inflation pressure other than the maximum permissible inflation pressure may be shown on the placard and, if any, tire inflation pressure label unless as required. (S110, S4.3.4) | PASS |
| Rim (Data Sheet 3) | |
| Each rim is constructed to the dimensions of a rim specified for the application. (S110, S4.4.1(a)) | PASS |
| Owner's Manual (Data Sheet 6) | |
| Owner's manual or other document has discussion of Vehicle Placard Loading and Tires. (575.6 (a) (4)) | PASS |
| Owner's manual includes exact statement relating to "Steps for Determining Correct Load Limits." (575.6(a)(5)) | PASS |

DATA SHEET 1 TEST VEHICLE INFORMATION/RECEIVING INSPECTION

| VEHI | CLE MAKE/MODEL/BO | DY S | TYLE: 2009 Chevrole | t Impa | ala four-door passenger ca | | | |
|---|--|----------|----------------------------|---------|----------------------------|--|--|--|
| VEHIC | /EHICLE NHTSA NUMBER: C90100 TEST DATE: December 8, 2008 | | | | | | | |
| VIN: | 2G1WB57K9911031 | 76 | MANUFACTURE | DATE | E: 07/2008 | | | |
| | | | GAWR(front): | 1,118 | | | | |
| SEAT | ING POSITIONS: | FRON | NT <u>2</u> MID <u>N/A</u> | ١ | REAR 3 | | | |
| ODON | METER READING AT S | START | OF TEST:108.3 kr | m (67 | 7.3 mi) | | | |
| ENGII | NE DATA: 6 | 6 C | ylinders 3.5 Liter | rs | Cubic Inches | | | |
| TRAN | SMISSION DATA:> | <u> </u> | utomatic Mar | nual | 4 No. of Speeds | | | |
| FINAL | DRIVE DATA: | R | ear Drive <u>X</u> Fror | nt Driv | e 4 Wheel Drive | | | |
| INSTA | ALLED VEHICLE EQUII | PMEN | T: | | | | | |
| Х | Air Conditioning | Х | Traction Control | Х | Clock | | | |
| Х | Tinted Glass | | Tachometer | | Roof Rack | | | |
| Х | Power Steering | Х | Cruise Control | Х | Console | | | |
| Х | Power Windows | Х | Rear Window Defroster | Х | Driver Air Bag | | | |
| Х | Power Door Locks | | Sun Roof or T-Top | Х | Passenger Air Bag | | | |
| Х | Power Seat(s) | Х | Tilt Steering Wheel | Х | Side Curtain Air Bag(s) | | | |
| Х | Power Brakes | Х | Stereo | Х | Front Disc Brakes | | | |
| Х | Antilock Brake System | | Telephone | Х | Rear Disc Brakes | | | |
| | Navigation System | | Trailer Hitch | | Other - | | | |
| | ARKS: None | Stowar | t D | ΔΤΕ· | December 8, 2008 | | | |
| RECORDED BY:Jack R. Stewart DATE:December 8, 2008 | | | | | | | | |

APPROVED BY: Kenneth H. Yates

DATA SHEET 2 VEHICLE TIRE IDENTIFICATION

| VEHICLE MAKE | /MODEL/ | BOD, | Y STYLE: | 2009 Ch | evrolet Imp | ala fou | ır-door passenger car |
|---|----------|-------------------|-----------------|-------------|-----------------------------|---------|-------------------------------|
| VEHICLE NHTS/ | A NUMBE | ER: _ | C90100 | | VIN: | 2G1W | VB57K991103176 |
| LABORATORY: | US DO | T Sar | n Angelo Te | st Facility | _ TEST D | ATE: _ | December 8, 2008 |
| | | | | | | | |
| All tires on the vehicle (excluding the spare) are the same size: (X)YES ()NO | | | | | | | |
| Spare tire is the same size as all other tires: () YES (X) NO | | | | | | | |
| Tire Sidewall | | F | Right Front | | Left Rear (If different) | | Spare Tire (If different) |
| Manufacturer and M | odel | Good | dyear Integrity | <u>'</u> | | | Maxxis Temporary Use Spare |
| Tire Size Designatio | n | P225 | 5/60R16 | | | | T125/70D16 |
| Load Index/Speed S | ymbol | 97S | | | | | 96M |
| Maximum Inflation P | ressure | 300 kPa (44 psi) | | | | | 420 kPa (60 psi) |
| Maximum Load Rati | ng | 730 kg (1,609 lb) | | | | | 710 kg (1,565 lb) |
| Tread/Traction/Temp | perature | 460/A/B | | | | | N/A |
| Tires Have "DOT" M | arkings | Yes | | | | | Yes |
| Serial Number: | Right Fr | ont | M6XOE6 | DR2908 | Left Front | _M62 | XOE6DR2908_ |
| | Right Re | ear | M6XOE6 | DR2908 | Left Rear | _M62 | XOE6DR2908 |
| | Spare | | UYMYAE | 3C1708 | | | |
| DATA INDICATES COMPLIANCE: PASS/FAIL: PASS | | | | | | | |
| REMARKS: None | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| RECORDED BY:Jack R. Stewart DATE:December 8, 2008 | | | | | | | |
| APPROVED BY: Kenneth H. Yates | | | | | | | |

DATA SHEET 3 VEHICLE RIM IDENTIFICATION

| VEHICLE MAKE/MODEL/BODY STYLE: 2009 Chevrolet Impala four-door passenger car | | | | |
|--|--------------------------------------|---|--------------------------|--|
| VEHICLE NHTSA NI | JMBER: <u>C90100</u> |)VIN: | 2G1WB57K991103176 | |
| LABORATORY: US DOT San Angelo | | Test Facility TEST D | ATE: December 8, 2008 | |
| Rim Markings (if a | vailable): | Right Front | Left Rear | |
| Manufacturer's Name, S | Symbol or Trademark | Тору | Тору | |
| Rim Size | | 16X6½ J | 16X6½ J | |
| Date of Manufacture | | 6 19 08 | 6 19 08 | |
| Does Rim contain "DOT | " symbol? (YES/NO) | Yes | Yes | |
| Other Rim Markings | | See page 29 | See page 30 | |
| Rim Inspection Comments: | | None | | |
| Rim Size: | Tire Size | Measured Rim Width | Measured Rim Diameter | |
| Right Front Wheel | P225/60R16 | 6.5 in (16.5 cm) | 16.0 in (40.6 cm) | |
| Left Rear Wheel | P225/60R16 | 6.5 in (16.5 cm) | 16.0 in (40.6 cm) | |
| • | e (if available) agre (X)YES()NO | e with the measured rin Left rear rim: (| | |
| Installed rims are suitable for installed tires? (X)YES ()NO Reference document: 2008 Tire & Rim Association Yearbook | | | | |
| DATA INDICATES C | OMPLIANCE: | | PASS/FAIL: PASS | |
| REMARKS: None | | | | |
| | | | | |
| | | | | |

RECORDED BY: _Jack R. Stewart ____ DATE: __December 8, 2008

APPROVED BY: Kenneth H. Yates

DATA SHEET 4 (1 of 2) VEHICLE PLACARD, AND TIRE INFLATION PRESSURE LABEL

| VEHICLE MAKE/MODEL/BODY ST | YLE: 200 | 09 Chev | rolet Impala four | r-door pas | senger car |
|---|---------------|---------------|---------------------------------------|--|--------------|
| VEHICLE NHTSA NUMBER: C90 | 0100 | VIN: | 2G1WB | 57K99110 |)3176 |
| LABORATORY: US DOT San Ang | jelo Test Fa | cility | TEST DATE: _ | Decemb | er 8, 2008 |
| Identification of Vehicle Labeling | | | | | |
| | Yes/No | | Location | | PASS/FAIL |
| Certification Label | Yes | Drive | er's side door | | PASS |
| 2. Vehicle Placard | Yes | Drive | er's side B pillar | | PASS |
| 3. Tire Inflation Pressure Label | No | | | | |
| | | | | | |
| <u>Vehicle Placard</u> | Optional VIN | | Tire Inflation | Pressure | Label |
| Yellow Text on Black Background or Black Text on Yellow Background | or barcode | | | xt on Black Background ext on Yellow Background | |
| TIRE AND LOADING INFORMATION | <u>]</u> | 13mm x 14mm | | INFORMATION | |
| SEATING CAPACITY . TOTAL 5 , FRONT 2 , REAR 3 The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs.* | | (.51" x .55") | TIRE SIZE | INFORMATION COLD TIRE PRESS | E418503870 |
| The combined weight of occupants and cargo should never exceed XXX kg or XXX bs. * | | | FRONT P195/70R14 REAR P195/70R14 | 200KPA, 29PSI 200KPA, 29PSI | m |
| REAR P195/70R14 200KPA, 29PSI SPARE T125/70D15 420KPA, 60PSI INFORMATION S | | | SPARE T125/70D15 SEE OWNER'S MANUAL I | 420KPA, 60PSI | 3670 |
| Yellow Text on Black Background or | | | Vollous Toxel | on Black Background or | |
| Black Text on Yellow Background | | | | on Yellow Background | |
| FIGURE 1B (70 FR 14425) | | | | JRE 2B FR 14426) | |
| Vehicle Placard has the exact color language. | and format | as spec | cified in Figure 1 (X)YES () | | s in English |
| Vehicle Placard is permanently affix | ked. | | (X)YES () | NO | |
| Vehicle Placard Information: | | | | | |
| Combined weight of occu | ipants and o | cargo _ | 428 kg (944 lb | <u>o)</u> | |
| Seating Capacity: Total | 5 | Front _ | 2 Rear | 3_ | |
| Is the number of belted secapacity? | eating positi | ions the | same as the lab | | ing |
| Is the tire size and pressu | ure provided | l? | (X)YES () | NO | |

DATA SHEET 4 (2 of 2) VEHICLE PLACARD, AND TIRE INFLATION PRESSURE LABEL

Vehicle Placard Tire Information:

| | Tire size: | Front | P225/60R16 | Rear | P225/60R16 |
|----------|---|-------------|-------------------------------------|----------|---------------------|
| | Tire Inflation Pressure: | Front | _210 kPa (30 psi) | Rear | 210 kPa (30 psi) |
| | Are the sizes of the insta | illed tires | s the same as the sizes (X)YES | | |
| | Is the labeled cold tire in maximum cold tire inflation | • | • | s than t | he sidewall labeled |
| | Front axle: (X)YE | ES ()N | NO Rear axle: | (X |)YES ()NO |
| DATA IND | OICATES COMPLIANCE: | | | PA | SS/FAIL: PASS |
| REMARKS | S: None | | | | |

RECORDED BY: Jack R. Stewart DATE: December 8, 2008

APPROVED BY: Kenneth H. Yates

DATA SHEET 5 (1 of 4) CURB WEIGHT, NORMAL LOAD WEIGHT & MAXIMUM VEHICLE WEIGHT

| VEHICLE MAKE/M | ODEL/BODY STYLE: | 2009 Chevrolet Impa | la four-door passenger car |
|-------------------|--|-------------------------|-----------------------------|
| VEHICLE NHTSA N | NUMBER: <u>C90100</u> | VIN:2 | G1WB57K991103176 |
| LABORATORY: _U | US DOT San Angelo Te | est Facility TEST DA | TE: <u>December 9, 2008</u> |
| | Fuel <u>Full</u> Coolant shield washer, power stee | | |
| Tire Pressures: L | F 210.0 kPa (30.5 | psi) LR <u>210.1 k</u> | «Pa (30.5 psi) |
| R | RF 210.2 kPa (30.5 | psi) RR 210.1 k | (Pa (30.5 psi) |
| A. MEASURED C | URB WEIGHT WITH IN | STALLED OPTIONS A | AND ACCESSORIES |
| LF _ | 497 kg (1,095 lb) | LR <u>303</u> | kg (668 lb) |
| RF _ | 504 kg (1,112 lb) | RR <u>313</u> | kg (690 lb) |
| Front Axle _ | 1,001 kg (2,207 lb) | Rear Axle 616 | kg (1,358 lb) |
| | Total Vehicle1,6 | 17 kg (3,565 lb) | |
| B. MEASURED VE | EHICLE NORMAL LOA | D WEIGHT | |
| (1) Seatin | ng Capacity from Vehicle | e Placard = <u>5</u> | |
| (2) Norma | al Load Number of Occu | pants (Table in Section | n 10) = <u>3</u> |
| Occup | oant Distribution: From | ont Seat 2 Secon | d Seat <u>1</u> |
| • • | Normal Occupant Load: occupants x 68 KG per c | | _ |
| (4) Measu | ıred Normal Load on Ax | les: | |
| LF | 542 kg (1,195 lb) | LR <u>3</u> | 359 kg (792 lb) |
| RF | 552 kg (1,217 lb) | RR <u>3</u> | 867 kg (810 lb) |
| Front Axle _ | 1,094 kg (2,412 lb) | Rear Axle72 | 26 kg (1,602 lb) |
| | Total Vehicle 1.820 |) ka (4 014 lb) | |

DATA SHEET 5 (2 of 4) CURB WEIGHT, NORMAL LOAD WEIGHT & MAXIMUM VEHICLE WEIGHT

| (5) | Calcula | ed Vehicle Normal Load on the Tire: | | | | | |
|-----------|--|--|--|--|--|--|--|
| | | res [measured front axle normal load/2] = 547 kg (1,206 lb) res [measured rear axle normal load/2] = 363 kg (801 lb) | | | | | |
| (6) | Calcula | ed 94% of tire load rating at recommended cold inflation pressure: | | | | | |
| | Load ra | ring at recommend cold inflation pressure= 670 kg (1,477 lb) | | | | | |
| | 94% of | oad rating = 630 kg (1,388 lb) | | | | | |
| | Vehicle Normal Load on the Tire must not be greater than 94% of Load Rating Value. | | | | | | |
| | | PASS/FAIL | | | | | |
| | | [B.(5) <b.(6)] front="" pass<="" td="" tires=""><td></td></b.(6)]> | | | | | |
| | | Rear Tires PASS | | | | | |
| C. | MEASUR | ED VEHICLE WEIGHT WITH FULL OCCUPANT LOAD | | | | | |
| | (1) | Seating Capacity from Placard: | | | | | |
| | | Total 5 Front 2 Rear 3 | | | | | |
| | (2) | Full Occupant Load: 340 kg (750 lb) [# of total occupants from C.(1) x 68 KG per occupant] | | | | | |
| | (3) | Measured Vehicle Weight with Full Occupant Load: | | | | | |
| | | LF 555 kg (1,224 lb) LR 415 kg (915 lb) | | | | | |
| | | RF 561 kg (1,237 lb) RR 425 kg (936 lb) | | | | | |
| | Front A | Axle 1,116 kg (2,461 lb) Rear Axle 840 kg (1,851 lb) | | | | | |
| | | Total Vehicle 1.956 kg (4.312 lb) | | | | | |

DATA SHEET 5 (3 of 4) CURB WEIGHT, NORMAL LOAD WEIGHT & MAXIMUM VEHICLE WEIGHT

D. MEASURED MAXIMUM VEHICLE LOAD WEIGHT

[D.(5)<D.(6)]

| (1) | Vehicle Capacity Weight (from placard): 428 kg (944 lb) | | | |
|--|---|--|--|--|
| (2) | Full Occupant Load (from C.(2)): 340 kg (750 lb) | | | |
| (3) | Luggage/Cargo Load (subtract (2) from (1)): 88 kg (194 lb) | | | |
| (4) | Measured Vehicle Maximum Load on Axles: | | | |
| | LF 550 kg (1,213 lb) LR 462 kg (1,019 lb) RF 559 kg (1,233 lb) RR 474 kg (1,044 lb) | | | |
| | Front Axle 1,109 kg (2,446 lb) Rear Axle 936 kg (2,063 lb) | | | |
| | Total Vehicle 2,045 kg (4,509 lb) | | | |
| (5) | Calculated Vehicle Maximum Load on the Tire: | | | |
| | Front Tires [measured front axle maximum load/2]= 555 kg (1,223 lb) | | | |
| | Rear Tires [measured rear axle maximum load/2] = 468 kg (1,032 lb) | | | |
| (6) | Tire Sidewall Maximum Load Ratings: | | | |
| | Front Rear | | | |
| | Installed Tire Size P225/60R16 P225/60R16 | | | |
| | Max. Load Rating on Sidewall 730 kg (1,609 lb) 730 kg (1,609 lb) | | | |
| Vehicle Maximum Load on the tire must not be greater than the Maximum Load Rating Marked on the Tire Sidewall. | | | | |

Front Tires

Rear Tires

PASS/FAIL

PASS

PASS

DATA SHEET 5 (4 of 4) CURB WEIGHT, NORMAL LOAD WEIGHT & MAXIMUM VEHICLE WEIGHT

(7) Tire Load Ratings at Vehicle Placard or Tire Inflation Pressure Label Recommended Cold Tire Inflation Pressure.

| | Front Axle | Rear Axle | | | |
|---|-------------------|-------------------|--|--|--|
| Labeled Tire Size | P225/60R16 | P225/60R16 | | | |
| Labeled Cold Inflation Pressure | 210 kPa (30 psi) | 210 kPa (30 psi) | | | |
| Load Rating at This Pressure* | 670 kg (1,477 lb) | 670 kg (1,477 lb) | | | |
| *Reference used to obtain Load Rating: 2008 Tire & Rim Association Yearbook | | | | | |

Vehicle Normal Load on the Tire must not be greater than the Tire Load Rating at the Labeled Cold Tire Inflation Pressure.

| | | PASS/FAIL |
|---|-------------|-----------|
| [B.(5) <d.(7)]< td=""><td>Front Tires</td><td>_PASS_</td></d.(7)]<> | Front Tires | _PASS_ |
| | Rear Tires | PASS |

Vehicle Maximum Load on the tire must not be greater than the Tire Load Rating at the Labeled Cold Tire Inflation Pressure.

| | | PASS/FAIL |
|--|-------------|-----------------|
| [D.(5) <d.(7)]< td=""><td>Front Tires</td><td>PASS_</td></d.(7)]<> | Front Tires | PASS_ |
| | Rear Tires | PASS |
| DATA INDICATES COMPLIANCE: REMARKS: None | | PASS/FAIL: PASS |

APPROVED BY: Kenneth H. Yates

RECORDED BY: Jack R. Stewart

DATE: December 9, 2008

DATA SHEET 6 (1 of 2) OWNER'S MANUAL REQUIREMENTS

VEHICLE MAKE/MODEL/BODY STYLE: 2009 Chevrolet Impala four-door passenger car

VEHICLE NHTSA NUMBER: C90100 VIN: 2G1WB57K991103176

LABORATORY: US DOT San Angelo Test Facility TEST DATE: December 8, 2008

Owner's Manual Discusses:

| Part 575.6(a) Paragraph | Required Discussion Topic | Discussed in Manual? (YES/NO) | Page Numbers |
|----------------------------|---|-------------------------------------|-----------------------|
| (4)(i) | Tire labeling, including a description and explanation of each marking on the tires provided with the vehicle, and information about the location of the Tire Identification Number (TIN). | Yes | 5-54 to 5-56 |
| (4)(ii) | (A) Description and explanation of recommended cold tire inflation pressure. | Yes | 5-60, 5-61 |
| | (B) Description and explanation of FMVSS 110 Vehicle Placard and Tire Inflation Pressure Label and their location(s). | Yes | 5-60 |
| | (C) Description and explanation of adverse safety consequences of under-inflation including tire failure. | Yes | 5-60 |
| | (D) Description and explanation for measuring and adjusting air pressure to achieve proper inflation. | Yes | 5-61 |
| (4)(iii) | Glossary of tire terminology, including "cold tire pressure," maximum inflation pressure," and "recommended inflation pressure," and all non-technical terms defined in S3 of FMVSS 110 & 139. | Yes | 5-57 to 5-59 |
| (4)(iv) | Tire care, including maintenance and safety practices. | Yes | 5-66 to 5-69, 5-95 |
| (4)(v) | (A) Description and explanation of locating and understanding load limit information, total load capacity, seating capacity, towing capacity, and cargo capacity. | Yes | 4-9 to 4-24, 4-29 |
| | (B) Description and explanation for calculating total and cargo load capacities with varying seating configurations including quantitative examples showing/illustrating how the vehicle's cargo and luggage capacity decreases as the combined number and size of occupants increases. | Yes | 4-22, 4-23 |
| | (C) Description and explanation for determining compatibility of tire and vehicle load capabilities. | Yes | 4-23 |
| | (D) Description and explanation of adverse safety consequences of overloading on handling and stopping and on tires. | Yes | 4-24 |

DATA SHEET 6 (2 of 2) OWNER'S MANUAL REQUIREMENTS

The following statement, in the English language, is provided verbatim in the Owner's Manual. Reference Part 575.6(a)(5)

YES (X) NO ()

Steps for Determining Correct Load Limit --

DATA INDICATES COMPLIANCE:

REMARKS: None

- (1) Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on your vehicle's placard.
- (2) Determine the combined weight of the driver and passengers that will be riding in your vehicle.
- (3) Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
- (4) The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. (1400-750 (5x150) = 650 lbs.)
- (5) Determine the combined weight of the luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
- (6) If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

| ODDED DV. In als D. Channent | DATE: December 0 0000 |
|------------------------------|------------------------|
| ORDED BY: _Jack R. Stewart | DATE: December 8, 2008 |
| | |
| 201/ED DV Kannath II Vatas | |
| ROVED BY: Kenneth H. Yates | |

PASS/FAIL: PASS

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

| | | MODEL/ | | NEXT |
|--------------|-----------------|-------------------|------------|------------|
| EQUIPMENT | DESCRIPTION | SERIAL NO | CAL. DATE | CAL. DATE |
| PLATFORM | HOWE RICHARDSON | MODEL #6401 | 8/5/2008 | 8/5/2009 |
| SCALE | | SERIAL #0181- | | |
| (BALLAST) | | 5509-26 | | |
| AIR PRESSURE | ASHCROFT | MODEL #D1005PS | 11/20/2008 | 11/20/2009 |
| GAUGE | GENERAL PURPOSE | 02L 100 PSI | | |
| | DIGITAL GAUGE | SERIAL #20017398- | | |
| | | 01 | | |
| FLOOR SCALES | INTERCOMP SW | PART #100156 | 8/5/2008 | 8/5/2009 |
| (VEHICLE) | DELUXE SCALES | SERIAL #27032382 | | |

SECTION 5
PHOTOGRAPHS



2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110

FIGURE 5.1 % FRONTAL VIEW FROM LEFT SIDE OF VEHICLE



2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110

FIGURE 5.2 % REAR FROM RIGHT SIDE OF VEHICLE



2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110 FIGURE 5.3 VEHICLE CERTIFICATION LABEL



2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110 FIGURE 5.4 VEHICLE PLACARD



2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110

FIGURE 5.5 TIRE SHOWING BRAND



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FIGURE 5.6 TIRE SHOWING MODEL



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FIGURE 5.7 TIRE SHOWING SIZE, LOAD INDEX, AND SPEED SYMBOL



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FIGURE 5.8 TIRE SHOWING MAX LOAD RATING



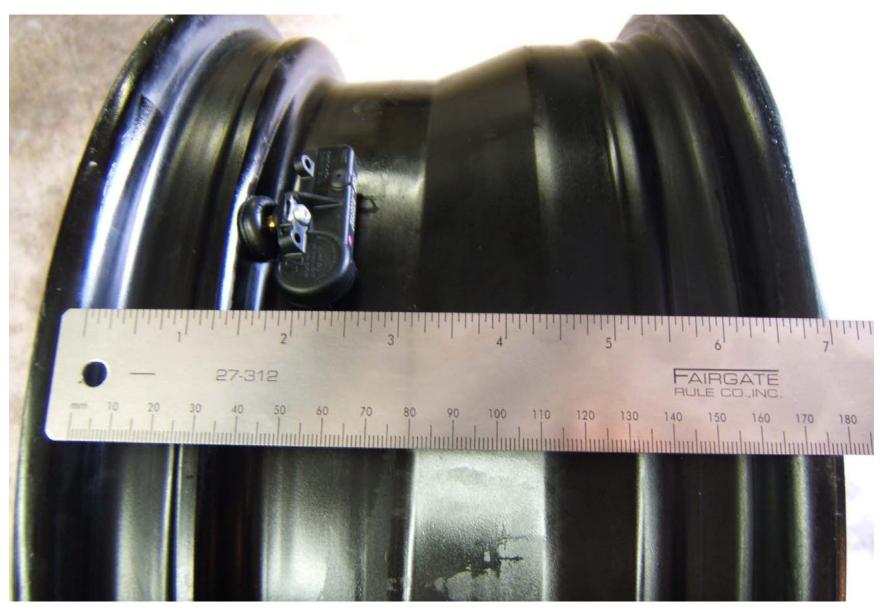
2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110

FIGURE 5.9 TIRE SHOWING MAX INFLATION PRESSURE



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FIGURE 5.10 TIRE SHOWING SERIAL NUMBER



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FIGURE 5.11 RIM CONTOUR FOR FULL WIDTH OF CROSS SECTION







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FIGURE 5.12 RIGHT FRONT RIM SHOWING LETTER DESIGNATION FOR SOURCE OF PUBLISHED DIMENSIONS, SIZE, DOT SYMBOL, MANUFACTURER'S SYMBOL, DATE OF MANUFACTURE, AND OTHER RIM MARKINGS







2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110

FIGURE 5.13 LEFT REAR RIM SHOWING LETTER DESIGNATION FOR SOURCE OF PUBLISHED DIMENSIONS, SIZE, DOT SYMBOL, MANUFACTURER'S SYMBOL, DATE OF MANUFACTURE, AND OTHER RIM MARKINGS



2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110

FIGURE 5.14 VEHICLE FRONT SEAT BALLASTED FOR NORMAL AND MAXIMUM LOADS



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FIGURE 5.15 VEHICLE REAR SEAT BALLASTED FOR NORMAL LOAD



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FIGURE 5.16 VEHICLE REAR SEAT BALLASTED FOR MAXIMUM LOAD



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FIGURE 5.17 VEHICLE TRUNK BALLASTED FOR MAXIMUM LOAD



2009 CHEVROLET IMPALA NHTSA NO. C90100 FMVSS 110

FIGURE 5.18 VEHICLE ON WEIGHT SCALES