REPORT NUMBER 110-GTL-11-001

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 110 TIRE SELECTION AND RIMS FOR MOTOR VEHICLES WITH A GVWR OF 4536 KILOGRAMS OR LESS

GENERAL MOTORS LLC.
2011 CHEVROLET VOLT, PASSENGER CAR
NHTSA NO. CB0102

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

May 18, 2011

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
1200 NEW JERSEY AVE., SE
WASHINGTON, D.C. 20590

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16. Abstract Compliance tests were conducted on the subject 2011 Chevrolet Volt 4-door passenger car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-110P-03 for the determination of FMVSS 110 compliance. Test failures identified were as follows: None		
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SECTION 1

INTRODUCTION

1.0 PURPOSE OF COMPLIANCE TEST

A 2011 Chevrolet Volt, 4-door passenger car was subjected to FMVSS No. 110 testing to determine if the vehicle was in compliance with the requirements of the standard. All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure, TP-110P-03 dated 31 August 2007 and General Testing Laboratories, Inc (GTL) Test Procedure, TP-110-03A dated 13 May 2008.

1.1 TEST VEHICLE

The test vehicle was a 2011 Chevrolet Volt 4-door passenger car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 1G1RC6E48BU101109

B. NHTSA No.: CB0102

C. Manufacturer: GENERAL MOTORS LLC.

D. Manufacture Date: 01/11

E. Color: Silver Ice Metallic

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 110 testing on May 5-6, 2011.

SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 GENERAL

The 2011 Chevrolet Volt 4-door passenger car, NHTSA No. CB0102, was subjected to FMVSS No. 110 testing on May 5-6, 2011.

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 as required by the DOT/NHTSA and GTL test procedures. 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. The vehicle normal load as well as the maximum load on each wheel were measured. Data from each tire furnished with the vehicle were recorded. The vehicle tire placard was surveyed and photographed. Required dimensional data and other identifying data for the left front and right rear rims were obtained. The contour of the aforementioned rims was documented photographically.

2.2 SUMMARY OF RESULTS

The test vehicle appears to be in compliance with the requirements of FMVSS No. 110.

SECTION 3

TEST DATA

DATA SUMMARY SHEET (1 of 2)

VEHICLE MAKE/MODEL/BODY STYLE: 2011 CHEVROLET VOLT PASSENGER CAR
VEHICLE NHTSA NO: CB0102 VIN: 1G1RC6E48BU101109
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 01/11
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: May 5-6, 2011

PASSENGER CAR REQUIREMENTS	PASS/FAIL
GENERAL (DATA SHEET 2)	
The vehicle must be 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 is not 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
RIMS (DATA SHEETS 3 AND 6)	
Each rim is constructed to the dimensions of a rim referred to in FMVSS 139 that is listed by the manufacturer of the tires as suitable for use with those tires. (S110, S4.4.1(a)).	Pass

DATA SUMMARY SHEET (2 of 2)

PASSENGER CAR REQUIREMENTS	PASS/FAIL
Vehicle rims retain deflated tires during a controlled braking application (S110, S4.4.1(b)).	N/A
OWNER'S MANUAL (DATA SHEET 7)	
Owner's manual or other documentation has discussion of Vehicle Placard, Loading and Tires (575.6 (a)(4)).	Pass
Owner's manual includes exact statement to "Steps for Determining Correct Load Limits." (575.6(a)(5))	Pass

REMARKS:

RECORDED BY: G. Farrand ; DATE: 05/06/11
APPROVED BY: D. Messick

DATA SHEET 1
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

VEHICLE MODEL YEAR/MAKE/BODY STYLE: 2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO.: CB0102 TEST DATE: 05/05/11
VIN.: 1G1RC6E48BU101109 MANUFACTURE DATE: 01/11

GVWR 2062 KG (4545 LBS) GAWR(Fr) 1139 KG (2511 LBS) GAWR(Rr) 923 KG (2034 LBS)

SEATING POSITIONS: FRONT 2 MID ____ REAR 2 OTHER ___

BODY COLOR: Silver Ice Metallic

ODOMETER READINGS: ARRIVAL - 109 KILOMETERS (68 MILES)

ENGINE DATA: ____ Cylinders 1.4 Liters ____ Cubic Inches

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

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

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

X	Air Conditioning		Traction Control	X	Clock
X	Tinted Glass		Telephone		Roof Rack
X	Power Steering	X	Cruise Control	X	Console
X	Power Windows	X	Rear Window Defroster	X	Driver Air Bag
X	Power Door Locks		Sun Roof or T-Top	X	Passenger Air Bag
	Power Seat(s)		Tachometer	X	Side Curtain Air Bag(s)
X	Power Brakes		Tilt Steering Wheel	X	Front Disc Brakes
X	Antilock Brake System	X	Stereo	X	Rear Disc Brakes
	Navigation System		Trailer Hitch	X	Other –TPM

REMARKS:

RECORDED BY: G. Farrand ; DATE: 05/05/11
APPROVED BY: D. Messick

DATA SHEET 2
VEHICLE TIRE IDENTIFICATION

VEHICLE MAKE/MODEL/BODY STYLE: 2011 CHEVROLET VOLT PASSENGER CAR
VEHICLE NHTSA NO: CB0102 VIN: 1G1RC6E48BU101109
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 01/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/05/11

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 ( ) No (X) N/A

TIRE SIDEWALL	Right Front	Left Rear	Spare Tire
Manufacture and Model	Goodyear Assurance	Goodyear Assurance	N/A
Tire Size Designation	P215/55R17	P215/55R17	N/A
Load Index/Speed Symbol	93H	93H	N/A
Maximum Inflation Pressure	350 KPA (51 psi)	350 KPA (51 psi)	N/A
Maximum Load Rating	650 KG (1433 lbs)	650 KG (1433 lbs)	N/A
Tread/Traction/ Temperature	580/A/A	580/A/A	N/A
Tires have “DOT” Symbol	YES	YES	N/A

Serial Number: Right Front 4BPJKA1R 5010 Left Front 4BPJKA1R 5010

Right Rear 4BPJKA1R 5010 Left Rear 4BPJKA1R 5010

Spare N/A

DATA INDICATES COMPLIANCE: PASS/FAIL PASS

REMARKS:

RECORDED BY: G. Farrand ; DATE: 05/05/11
APPROVED BY: D. Messick

DATA SHEET 3
VEHICLE RIM IDENTIFICATION

VEHICLE MAKE/MODEL/BODY STYLE: 2011 CHEVROLET VOLT PASSENGER CAR
VEHICLE NHTSA NO: CB0102 VIN: 1G1RC6E48BU101109
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 01/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/05/11

RIM MARKINGS (if available)	Right Front	Left Rear
Manufacturer's Name, Symbol or Trademark	ALCOA	ALCOA
Rim Size	17 x 7 J	17 x 7 J
Load Rating and Max Inflation Pressure	N/A	N/A
Date of Manufacture	12-7-10	12-7-10
Does Rim contain "DOT" Symbol (Yes/No)	YES	YES
Other Rim Markings	See Photograph 5.12	See Photograph 5.12

Rim Inspection Comments:

Tire Inspection Comments:

RIM SIZE:	Tire Size	Measured Rim Width	Measured Rim Diameter
RIGHT FRONT	215/55R17	7.0"	17"
LEFT REAR	215/55R17	7.0"	17"

Does stamped rim size (if available) agree with the measured rim size?
Right Front Rim (X) Yes ( ) No Left Rear Rim (X) Yes ( ) No ( ) Not Applicable

Installed rims are suitable for installed tires? (X) Yes ( ) No

REFERENCE USED: TIRE AND RIM ASSOCIATION YEARBOOK

DATA INDICATED COMPLIANCE: PASS/FAIL PASS

RECORDED BY: G. Farrand ; DATE: 05/05/11
APPROVED BY: D. Messick

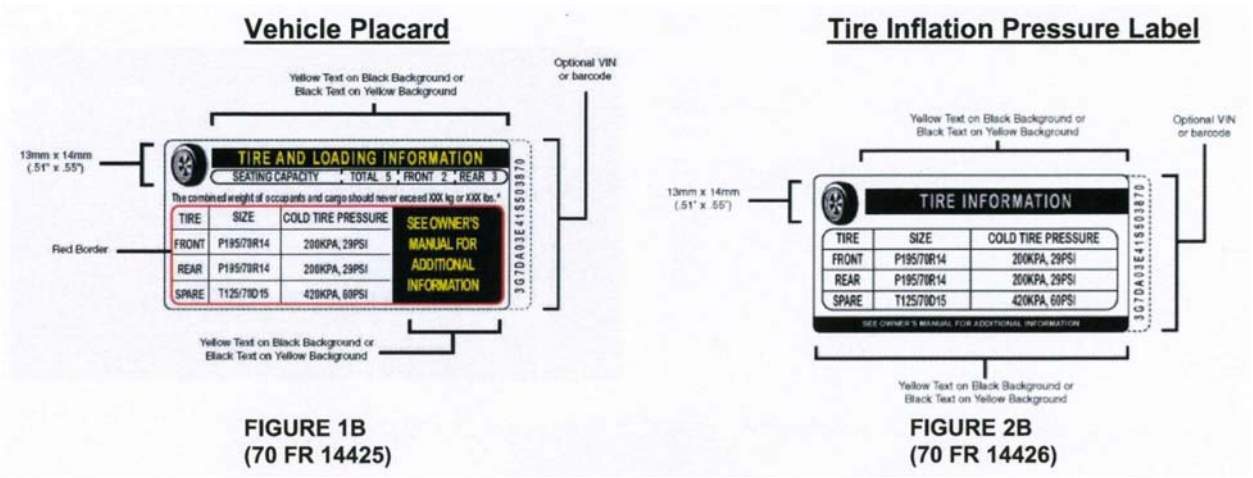
DATA SHEET 4 (1 of 2)
VEHICLE PLACARD, AND TIRE INFLATION PRESSURE LABEL

VEHICLE MAKE/MODEL/BODY STYLE: 2011 CHEVROLET VOLT PASSENGER CAR
VEHICLE NHTSA NO: CB0102 VIN: 1G1RC6E48BU101109
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 01/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/05/11

IDENTIFICATION OF VEHICLE LABELING

	(Yes/No)	Location	Pass/Fail
1. Certification Label	YES	Driver "B" Pillar	Pass
2. Vehicle Placard*	YES	Driver "B" Pillar	Pass
3. Tire Inflation Pressure Label*	NO		N/A

* Labels are to be affixed to the driver's side B-pillar otherwise refer to FMVSS 110 requirements.



Labeling Notes:
1. Tire size and pressure can be omitted from Vehicle Placard if same data is displayed on a Tire Inflation Pressure Label.
2. The Alphanumeric Identifier or Barcode, is optional. It can be located vertically, along the right edge or the left edge of the placard or label, or horizontally, along the bottom edge of the placard or label.
3. Tire size can include the tire load range identification symbol("XL" or "reinforced", "B", "C", "D", "E", or "F"), the load index number, and speed rating symbol, located immediately to the right of the tire size designation.
4. The tire "SIZE" heading can be replaced with "ORIGINAL TIRE SIZE" or "ORIGINAL SIZE"
5. The "SPARE" tire heading can be replaced with "SPARE TIRE."
6. For full size spare tires, the recommended cold tire inflation pressure can be replaced with "SEE ABOVE."
7. If no spare tire is provided, the word "NONE" is to replace the manufacturer's cold tire inflation pressure.

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

Vehicle Placard has the exact color and format as specified in the above Figure 1B and text is in English. (X) Yes ( ) No
If no, explain:_____

Tire Inflation Pressure Label, if provided, has the exact color and format as specified in the above Figure 2B and text is in English. ( ) Yes ( ) No (X) N/A
If no, explain:_____

Vehicle Placard and, if provided, Tire Inflation Pressure Label are permanently affixed.
(X) Yes ( ) No

Vehicle Placard information:

Combined weight of occupants and cargo 340 kg (750 lbs)
Seating capacity: Total 4 Front 2 Rear 2
Is the number of belted seating positions the same as the labeled seating capacity?
(X) Yes ( ) No
If no, explain_____

Is the tire size and pressure provided? (X) Yes ( ) No
If no, is the tire size and pressure provided on a Tire Inflation Pressure Label?
( ) Yes ( ) No

Vehicle Placard or Tire Inflation Pressure Label tire information:

Tire size Front 215/55R17 Rear 215/55R17
Tire Inflation Pressure Front 240KPA (35psi) Rear 240KPA (35psi)
Are the sizes of the installed tires the same as the sizes of the labeled tires?
(X) Yes ( ) No
If no, explain_____

Is the labeled cold tire inflation pressure equal to or less than the sidewall labeled maximum cold tire inflation pressure?
Front axle: (X) Yes ( ) No Rear axle: (X) Yes ( ) No

DATA INDICATED COMPLIANCE: PASS/FAIL PASS

RECORDED BY: G. Farrand ; DATE: 05/05/11
APPROVED BY: D. Messick

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

VEHICLE MAKE/MODEL/BODY STYLE: 2011 CHEVROLET VOLT PASSENGER CAR
VEHICLE NHTSA NO: CB0102 VIN: 1G1RC6E48BU101109
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 01/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/05/11

Full Fluid Levels: Fuel Full Coolant Full Other Fluids Full

Tire Pressures: LF 240 KPA (35 psi) LR 240 KPA (35 psi)
RF 240 KPA (35 psi) RR 240 KPA (35 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

LF 520 KG (1147 lbs) LR 343 KG (757 lbs)
RF 521 KG (1148 lbs) RR 281 KG (687 lbs)

Front Axle 1041 KG (2295 lbs) Rear Axle 655 KG (1444 lbs)

Total Vehicle 1696 KG (3739 lbs)

B. MEASURED VEHICLE NORMAL LOAD WEIGHT

1. Seating Capacity from Vehicle Placard 4

2. Normal Load Number of Occupants(from table in Section 10) 2
Occupant Distribution: Front Seat 2 Second Seat
Third Seat Fourth Seat

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

4. Measured Normal Load on Axles
LF 562 KG (1238 lbs) LR 370 KG (816 lbs)
RF 562 KG (1238 lbs) RR 338 KG (746 lbs)

Front Axle 1124 KG (2477 lbs) Rear Axle 708 KG (1562 lbs)

Total Vehicle 1832 KG (4039 lbs)

5. Calculated Vehicle Normal Load on the Tire
Front Tires (Measured front axle normal load/2) 562 KG (1238 lbs)
Rear Tires (Measured rear axle normal load/2) 354 KG (780 lbs)

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

6. Value of 94 percent of the load rating at the vehicle manufacturer's recommended cold inflation pressure for that tire

	Front Axle	Rear Axle
Installed Tire Size	215/55R17	215/55R17
Load Rating at recommended cold inflation pressure	650 KG (1433 lbs)	650 KG (1433 lbs)
94% of load rating	611 KG (1347 lbs)	611 KG (1347 lbs)

Vehicle Normal Load on the Tire should not be greater than the Value of 94% of the load rating at the vehicle manufacturer's recommended cold inflation pressure.

		PASS/FAIL
[(5) < (6)]	Front Tires	PASS
	Rear Tires	PASS

C. MEASURED VEHICLE WEIGHT WITH FULL OCCUPANT LOAD

1 Seating Capacity from Placard:
Total 4 Front 2 Rear 2

2. Full Occupant Load 272 KG (600 lbs)
(# of occupants x 68 KG per occupant)

3. Measured Vehicle Weight with Full Occupant Load

LF 579.5 KG (1278 lbs) LR 422 KG (930 lbs)
RF 579.5 KG (1278 lbs) RR 387 KG (853 lbs)

Front Axle 1159 KG (2556 lbs) Rear Axle 809 KG (1783 lbs)

Total Vehicle 1968 KG (4339 lbs)

D. MEASURED VEHICLE WEIGHT WITH MAXIMUM LOAD (PLACARD)

1. Vehicle Capacity Weight (from placard) 340 KG (750 lbs)

2. Full Occupant Load (from C.2 above) 272 KG (600 lbs)

3. Luggage/Cargo Load (subtract 2 from 1) 68 KG (150 lbs)

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

4. Measured Vehicle Maximum Load on Axles

LF 575 KG (1268 lbs) LR 458 KG (1010 lbs)
RF 579 KG (1277 lbs) RR 424 KG (934 lbs)

Front Axle 1154 KG (2545 lbs) Rear Axle 882 KG (1944 lbs)

Total Vehicle 2036 KG (4489 lbs)

5. Calculated Vehicle Maximum Load on the Tire
Front Tires (Measured front axle maximum load/2) 577 KG (1272 lbs)
Rear Tires (Measured rear axle maximum load/2) 441 KG (972 lbs)

6. Tire Sidewall Maximum Load Ratings

	Front	Rear
Installed Tire Size	215/55R17	215/55R17
Max. Load Rating on Sidewall	650 KG (1433 lbs)	650 KG (1433 lbs)

Vehicle Maximum Load on the Tire should not be greater than the Maximum load rating marked on the Tire Sidewall.

		PASS/FAIL
[(5) < (6)]	Front Tires	PASS
	Rear Tires	PASS

7. Tire Load Ratings at Vehicle Placard and Tire Inflation Pressure Label Recommended Cold Tire Inflation Pressure.

	Front Axle	Rear Axle
Labeled Tire Size	215/55R17	215/55R17
Labeled Cold Inflation Pressure	240 KPA (35psi)	240 KPA (35 psi)
Load Rating at this Pressure*	650 KG (1433 lbs)	650 KG (1433 lbs)

*Reference used to obtain Load Rating: TIRE & RIM ASSOCIATION MANUAL

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

		PASS/FAIL
[B (5) < D (7)]	Front Tires	PASS
	Rear Tires	PASS

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

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

		PASS/FAIL
[D (5) < D (7)]	Front Tires	PASS
	Rear Tires	PASS

DATA INDICATES COMPLIANCE: PASS/FAIL PASS

REMARKS: At vehicle capacity weight, the vehicle's front axle load (1154 kg) exceeded its GAWR (1139 kg). Axle weights are affected by placement of ballast used to simulate occupants and cargo. Furthermore, the vehicle total weight (2036 kg) did not exceed its GVWR (2062 kg) and the rear axle weight (882 kg) was less than the vehicle's GAWR (923 kg).

RECORDED BY: G. Farrand ; DATE: 05/06/11

APPROVED BY: D. Messick

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

VEHICLE MAKE/MODEL/BODY STYLE: 2011 CHEVROLET VOLT PASSENGER CAR
VEHICLE NHTSA NO: CB0102 VIN: 1G1RC6E48BU101109
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 01/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 05/06/11

Owner's Manual Discusses:

Part 575.6(a) Paragraph	Required Discussion Topic	Discussed in Manual? (Yes/No)
(4) (i)	Tire labeling, including a description and explanation of each marking on the tire provided with the vehicle, and information about the location of the Tire Identification Number (TIN)	YES
(4) (ii)	A. Description and explanation of recommended cold tire inflation pressure.	YES
	B. Description and explanation of FMVSS 110 Vehicle Placard and Tire Inflation Pressure Label and their location(s)	YES
	C. Description and explanation of adverse safety consequences of under-inflation including tire failure	YES
	D. Description and explanation for measuring and adjusting air pressure to achieve proper inflation	YES
(4) (iii)	Glossary of tire terminology, including "cold tire pressure", "maximum inflation pressure", and all non-technical terms defined in S3 of FMVSS 110 and 139	YES
(4) (iv)	Tire care, including maintenance and safety practices	YES
(4) (v)	A. Description and explanation of locating and understanding load limit information, total load capacity, seating capacity, towing capacity and cargo capacity.	YES
	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
	C. Description and explanation for determining compatibility of tire and vehicle load capabilities	YES
	D. Description and explanation of adverse safety consequences of overloading on handling and stopping and on tires	YES

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

The following verbatim statement, in the English language, is provided in the Owner's Manual.
Reference Part 575.6 (a)(5) (X)Yes ( ) No

Steps for Determining Correct Load Limit:

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 passenger that will be riding in your vehicle
3. Subtract the combined weight of the driver and passenger 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 passenger in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. (1400 –750 (5 x 150) = 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 you vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult the manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

DATA INDICATES COMPLIANCE PASS/FAIL PASS

REMARKS:

RECORDED BY: G. Farrand ; DATE: 05/06/11
APPROVED BY: D. Messick

SECTION 4
TEST EQUIPMENT LIST

TABLE 1 – TEST AND EQUIPMENT LIST

EQUIPMENT	DESCRIPTION	MODEL/ SERIAL NO.	CAL. DATE	NEXT CAL. DATE
PAD SCALES	#1 199744LF #2 199744RF #3 199744LR #4 199744RR	199744LF 199744RF 199744LR 19974RR	03/11 03/11 03/11 03/11	03/12 03/12 03/12 03/12
PRESSURE TRANSDUCER	BLH	D-HF #65409	BEFORE USE	BEFORE USE
DATA ACQUISITION COMPUTER	GEO1	N/A	BEFORE USE	BEFORE USE
ANEMOMETER	OMEGA	HHF616	05/11	05/12
SLIP RING ASSEMBLY	GTL	N/A	BEFORE USE	BEFORE USE
DECELEROMETER	GTL	N/A	BEFORE USE	BEFORE USE
INCLINOMETER	MITUTOYO	PRO 360	BEFORE USE	BEFORE USE

SECTION 5
PHOTOGRAPHS

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.1
LEFT SIDE VIEW OF VEHICLE

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

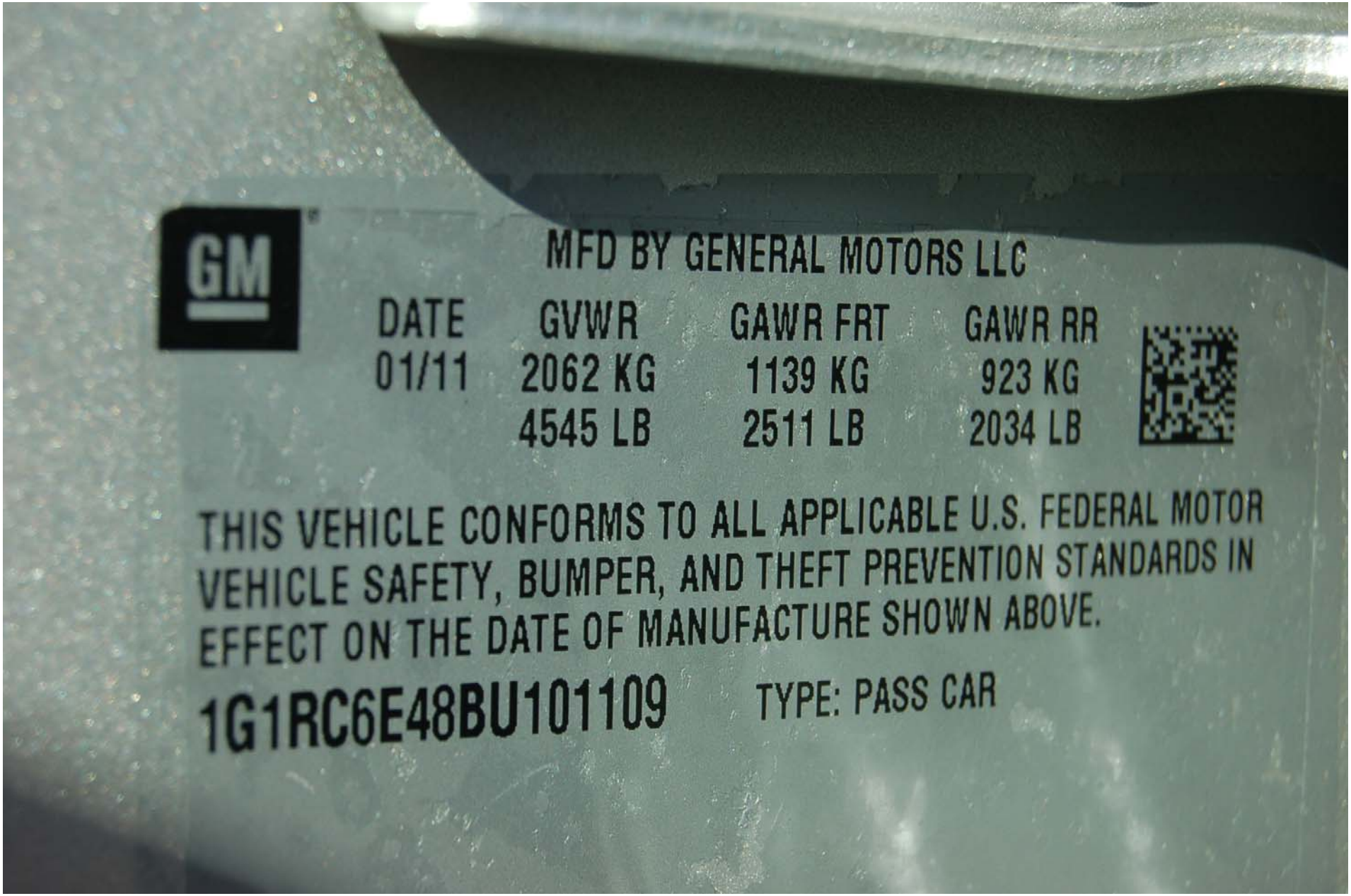
FIGURE 5.2
RIGHT SIDE VIEW OF VEHICLE

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.3
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.4
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE



2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.5
VEHICLE CERTIFICATION LABEL

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.6
VEHICLE TIRE INFORMATION LABEL

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.7
OVERALL VIEW OF TIRE AND RIM

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.8
TIRE SHOWING BRAND, PRESSURE AND LOADING

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.9
TIRE SHOWING SIZE AND LOAD/SPEED INDEX

2011 CHEVROLET VOLT PASSENGER CAR
NHTSA NO. CB0102
FMVSS NO. 110

FIGURE 5.10
TIRE SHOWING MODEL AND RATINGS

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FMVSS NO. 110

FIGURE 5.11
TIRE SHOWING SERIAL NUMBER AND DOT MARKING

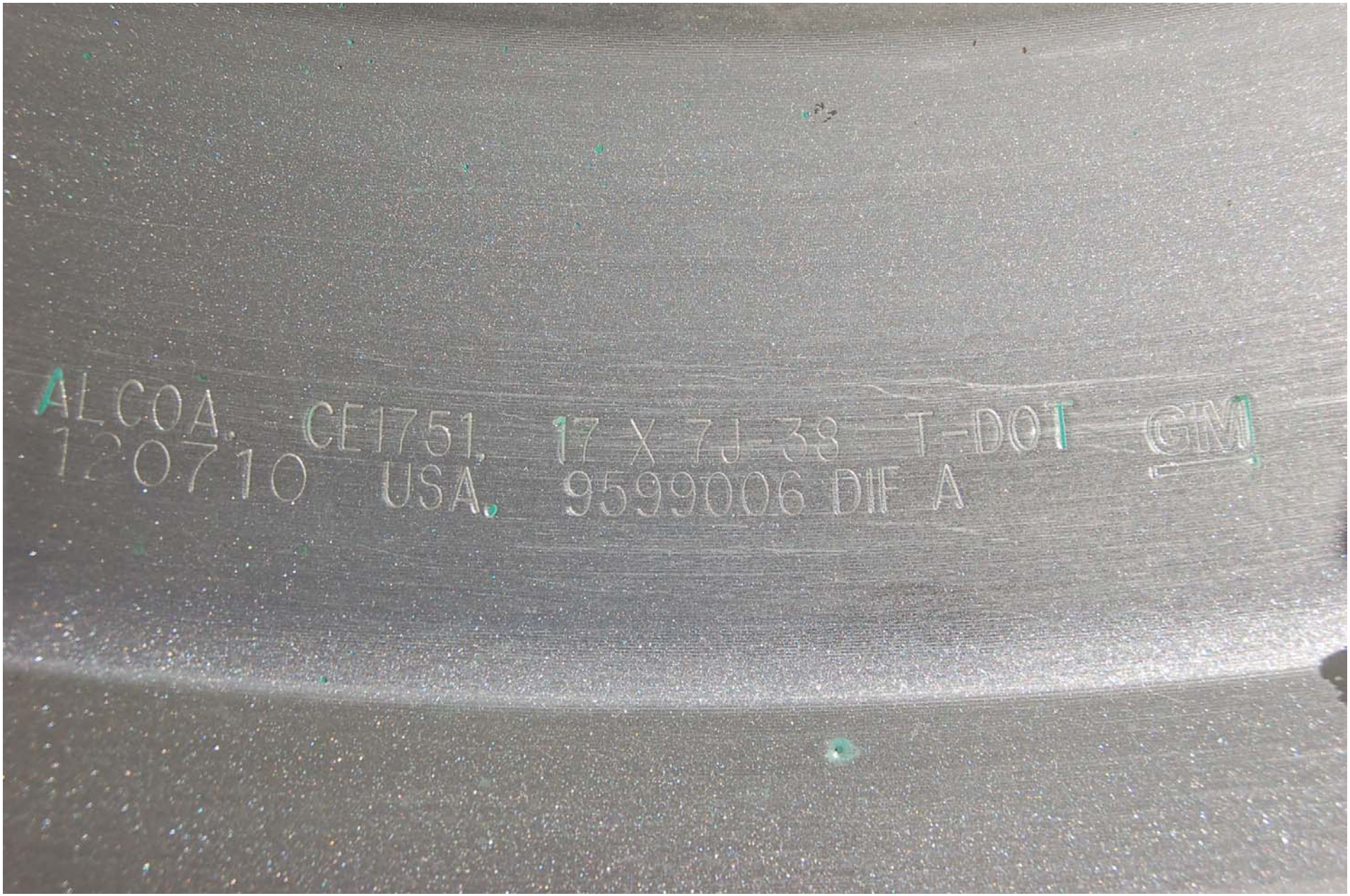

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FIGURE 5.12
RIM SHOWING SIZE, DATE AND OTHER MARKINGS

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FIGURE 5.13
RIM CONTOUR

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FIGURE 5.14
VIEW OF VEHICLE ON SCALES

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FIGURE 5.15
VEHICLE BALLASTED FOR NORMAL LOAD

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FIGURE 5.16
VEHICLE BALLASTED FOR FULL LOAD

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FIGURE 5.17
VEHICLE BALLASTED FOR CARGO

SECTION 6
OWNER'S MANUAL INFORMATION

If the Vehicle is Stuck

Slowly and cautiously spin the wheels to free the vehicle when stuck in sand, mud, ice, or snow.

Shifting the vehicle into L will allow the driver to achieve more wheel spin. The wheel spin will still be limited by the traction control system to prevent any driveline damage. The increase in allowable wheel spin is only active at low speeds.

⚠ WARNING

If the vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 55 km/h (35 mph).

For information about using tire chains on the vehicle, see *Tire Chains on page 10-61*.

Rocking the Vehicle to Get it Out

Turn the steering wheel left and right to clear the area around the front wheels. Shift back and forth between R (Reverse) and a forward gear, spinning the wheels as little as possible. The Traction Control System prevents the tires from spinning at high speeds. To prevent electric drive unit wear, wait until the wheels stop spinning before shifting gears. Release the accelerator pedal while shifting, and press lightly on the accelerator pedal when the electric drive unit is in gear. Slowly spinning the wheels in the forward and reverse directions causes a rocking motion that could free the vehicle. If that does not get the vehicle out after a few tries, it might need to be towed out. If the vehicle does need to be towed out, see *Towing the Vehicle on page 10-77*.

Vehicle Load Limits

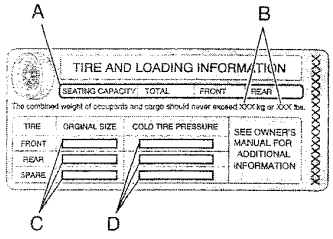
It is very important to know how much weight the vehicle can carry. This weight is called the vehicle capacity weight and includes the weight of all occupants, cargo, and all nonfactory-installed options.

Two labels on the vehicle show how much weight it was designed to carry, the Tire and Loading Information label and the Certification label.

⚠ WARNING

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

Tire and Loading Information Label



Label Example

A vehicle-specific Tire and Loading Information label is attached to the center pillar (B-pillar). With the driver door open, the label is attached below the door lock post.

The Tire and Loading Information label shows the number of occupant seating positions (A), and the maximum vehicle capacity weight (B) in kilograms and pounds.

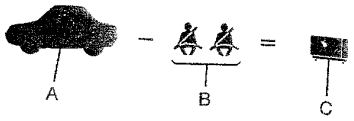
The Tire and Loading Information label also shows the tire size of the original equipment tires (C) and the recommended cold tire inflation pressures (D). For more information on tires and inflation see *Tires on page 10-42* and *Tire Pressure on page 10-48*.

There is also important loading information on the Certification label. It tells you the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle; see "Certification Label" later in this section.

Steps for Determining Correct Load Limit

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 (5 x 150) = 650 lbs).
5. Determine the combined weight of 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, the 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.

The vehicle is neither designed nor intended to tow a trailer.

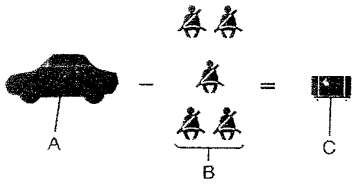


Example 1

A. Vehicle Capacity Weight for Example 1 = 453 kg (1,000 lbs).

B. Subtract Occupant Weight @ 68 kg (150 lbs) × 2 = 136 kg (300 lbs).

C. Available Occupant and Cargo Weight = 317 kg (700 lbs).

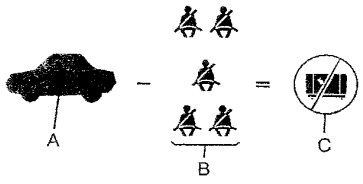


Example 2

A. Vehicle Capacity Weight for Example 2 = 453 kg (1,000 lbs).

B. Subtract Occupant Weight @ 68 kg (150 lbs) × 5 = 340 kg (750 lbs).

C. Available Cargo Weight = 113 kg (250 lbs).



Example 3

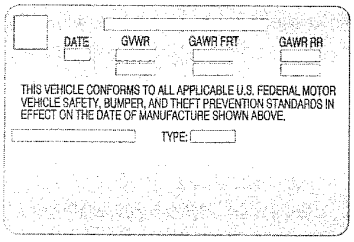
A. Vehicle Capacity Weight for Example 3 = 453 kg (1,000 lbs).

B. Subtract Occupant Weight @ 91 kg (200 lbs) × 5 = 453 kg (1,000 lbs).

C. Available Cargo Weight = 0 kg (0 lbs).

Refer to the vehicle's Tire and Loading Information label for specific information about the vehicle's capacity weight and seating positions. The combined weight of the driver, passengers, and cargo should never exceed the vehicle's capacity weight.

Certification Label



Label Example

A vehicle-specific Certification label is found on the center pillar (B-pillar). The label shows the gross weight capacity of the vehicle. This is the Gross Vehicle Weight Rating (GVWR) and includes the weight of the vehicle, all occupants, fuel, and

cargo. Never exceed the GVWR for the vehicle, or the Gross Axle Weight Rating (GAWR) for either the front or rear axle.

Spread out heavy loads equally on both sides of the vehicle. See "Steps for Determining Correct Load Limit" earlier in this section.

⚠ WARNING

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

If you put things inside the vehicle — like suitcases, tools, packages, or anything else — they will go as fast as the vehicle goes. If you have to stop or turn quickly, or if there is a crash, they will keep going.

⚠ WARNING

Things inside the vehicle can strike and injure people in a sudden stop or turn, or in a crash.

- Put things in the cargo area of the vehicle. In the cargo area, put them as far forward as possible. Try to spread the weight evenly.

(Continued)

WARNING (Continued)

- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.
- Do not leave an unsecured child restraint in the vehicle.
- Secure loose items in the vehicle.
- Do not leave a seat folded down unless needed.