REPORT NUMBER 110-GTL-11-002

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

NISSAN MOTOR CO., LTD.
2011 NISSAN LEAF, PASSENGER CAR
NHTSA NO. CB5200

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

July 07, 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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15. Supplementary Notes

16. Abstract

Compliance tests were conducted on the subject 2011 Nissan Leaf 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 Nissan Leaf, 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 Nissan Leaf 4-door passenger car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: JN1AZ0CPXBT002457

B. NHTSA No.: CB5200

C. Manufacturer: NISSAN MOTOR CO., LTD.

D. Manufacture Date: 04/11

E. Color: Super Black

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 110 testing on June 14-15, 2011.

SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 GENERAL

The 2011 Nissan Leaf 4-door passenger car, NHTSA No. CB5200, was subjected to FMVSS No. 110 testing on June 14-15, 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 NISSAN LEAF PASSENGER CAR
VEHICLE NHTSA NO: CB5200 VIN: JN1AZ0CPXBT002457
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 04/11
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: June 14-15, 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: 06/16/11
APPROVED BY: D. Messick

DATA SHEET 1
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

VEHICLE MODEL YEAR/MAKE/BODY STYLE: 2011 NISSAN LEAF PASSENGER CAR
NHTSA NO.: CB5200 TEST DATE: 06/14/11
VIN.: JN1AZ0CPXBT002457 MANUFACTURE DATE: 04/11

GVWR 1960 KG (4322 LBS) GAWR(Fr) 999 KG (2203 LBS) GAWR(Rr) 966 KG (2129 LBS)

SEATING POSITIONS: FRONT 2 MID ____ REAR 3 OTHER ___

BODY COLOR: Super Black

ODOMETER READINGS: ARRIVAL - 10 KILOMETERS (6 MILES)

ENGINE DATA: * Cylinders * Liters * Cubic Inches
* All Electric

TRANSMISSION DATA: ____ 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	X	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	X	Tilt Steering Wheel	X	Front Disc Brakes
X	Antilock Brake System	X	Stereo	X	Rear Disc Brakes
X	Navigation System		Trailer Hitch	X	Other –TPMS

REMARKS:

RECORDED BY: J. Latane ; DATE: 06/14/11
APPROVED BY: D. Messick

DATA SHEET 2
VEHICLE TIRE IDENTIFICATION

VEHICLE MAKE/MODEL/BODY STYLE: 2011 NISSAN LEAF PASSENGER CAR
VEHICLE NHTSA NO: CB5200 VIN: JN1AZ0CPXBT002457
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 04/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/14/11

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	Bridgestone Ecopia	Bridgestone Ecopia	N/A
Tire Size Designation	P205/55R16	P205/55R16	N/A
Load Index/Speed Symbol	89H	89H	N/A
Maximum Inflation Pressure	300 KPA (44 psi)	300 KPA (44 psi)	N/A
Maximum Load Rating	580 KG (1279 lbs)	580 KG (1279 lbs)	N/A
Tread/Traction/ Temperature	400/A/A	400/A/A	N/A
Tires have “DOT” Symbol	YES	YES	N/A

Serial Number: Right Front JBC 1011 Left Front JBC 1011

Right Rear JBC 1011 Left Rear JBC 1011

Spare N/A

DATA INDICATES COMPLIANCE: PASS/FAIL PASS

REMARKS:

RECORDED BY: G. Farrand ; DATE: 06/14/11
APPROVED BY: D. Messick

DATA SHEET 3
VEHICLE RIM IDENTIFICATION

VEHICLE MAKE/MODEL/BODY STYLE: 2011 NISSAN LEAF PASSENGER CAR
VEHICLE NHTSA NO: CB5200 VIN: JN1AZ0CPXBT002457
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 04/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/15/11

RIM MARKINGS (if available)	Right Front	Left Rear
Manufacturer's Name, Symbol or Trademark	ENKE 1	ENKE 1
Rim Size	16 x 6.5 J	16 x 6.5 J
Load Rating and Max Inflation Pressure	665	665
Date of Manufacture	1/11	1/11
Does Rim contain "DOT" Symbol (Yes/No)	YES	YES
Other Rim Markings	See Photograph 5.17	See Photograph 5.17

Rim Inspection Comments:

Tire Inspection Comments:

RIM SIZE:	Tire Size	Measured Rim Width	Measured Rim Diameter
RIGHT FRONT	205/55R16	6.5"	16"
LEFT REAR	205/55R16	6.5"	16"

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: 06/14/11
APPROVED BY: D. Messick

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

VEHICLE MAKE/MODEL/BODY STYLE: 2011 NISSAN LEAF PASSENGER CAR
VEHICLE NHTSA NO: CB5200 VIN: JN1AZ0CPXBT002457
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 04/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/14/11

IDENTIFICATION OF VEHICLE LABELING

	(Yes/No)	Location	Pass/Fail
1. Certification Label	YES	Lower "B" Pillar	Pass
2. Vehicle Placard*	YES	Mid "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.

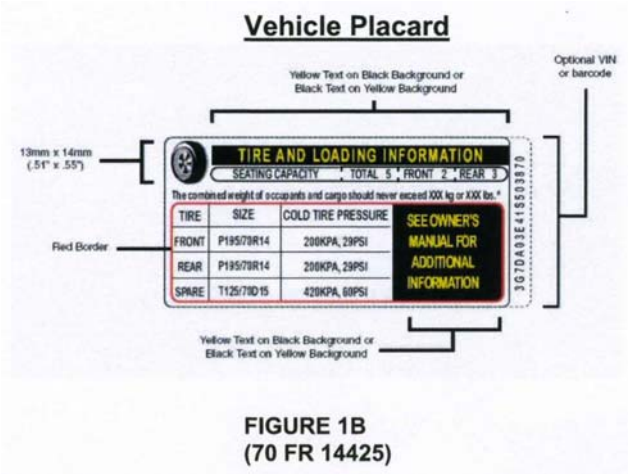


FIGURE 1B
(70 FR 14425)

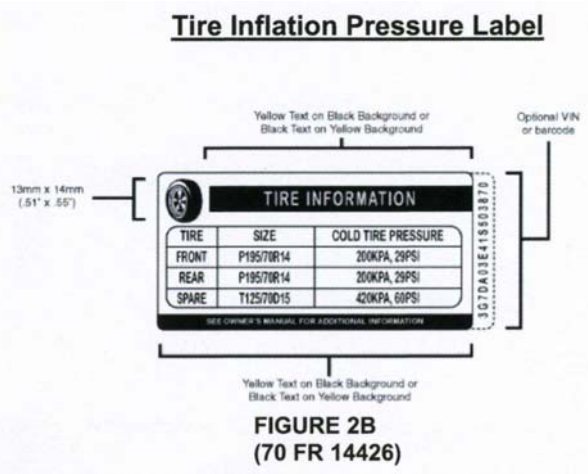


FIGURE 2B
(70 FR 14426)

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 390 kg (860 lbs)
Seating capacity: Total 5 Front 2 Rear 3
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 205/55R16 Rear 205/55R16
Tire Inflation Pressure Front 250KPA (36psi) Rear 250KPA (36psi)
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: 06/14/11
APPROVED BY: D. Messick

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

VEHICLE MAKE/MODEL/BODY STYLE: 2011 NISSAN LEAF PASSENGER CAR
VEHICLE NHTSA NO: CB5200 VIN: JN1AZ0CPXBT002457
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 04/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/15/11

Full Fluid Levels: Fuel N/A Coolant Full Other Fluids Full

Tire Pressures: LF 250 KPA (36 psi) LR 250 KPA (36 psi)
RF 250 KPA (36 psi) RR 250 KPA (36 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

LF 439 KG (968 lbs) LR 330 KG (728 lbs)
RF 425 KG (937 lbs) RR 334 KG (736 lbs)

Front Axle 863 KG (1903 lbs) Rear Axle 664 KG (1464 lbs)

Total Vehicle 1527 KG (3366 lbs)

B. MEASURED VEHICLE NORMAL LOAD WEIGHT

1. Seating Capacity from Vehicle Placard 5

2. Normal Load Number of Occupants(from table in Section 10) 3
Occupant Distribution: Front Seat 2 Second Seat 1
Third Seat Fourth Seat

3. Total Normal Occupant Load 204 KG (450 lbs)
(# of occupants x 68 KG per occupant)

4. Measured Normal Load on Axles
LF 490 KG (1080 lbs) LR 389 KG (858 lbs)
RF 467 KG (1030 lbs) RR 386 KG (851 lbs)

Front Axle 957 KG (2110 lbs) Rear Axle 775 KG (1709 lbs)

Total Vehicle 1732 KG (3818 lbs)

5. Calculated Vehicle Normal Load on the Tire
Front Tires (Measured front axle normal load/2) 478 KG (1054 lbs)
Rear Tires (Measured rear axle normal load/2) 387 KG (853 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	205/55R16	205/55R16
Load Rating at recommended cold inflation pressure	580 KG (1279 lbs)	580 KG (1279 lbs)
94% of load rating	545 KG (1202 lbs)	545 KG (1202 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 5 Front 2 Rear 3

2. Full Occupant Load 340 KG (750 lbs)
(# of occupants x 68 KG per occupant)

3. Measured Vehicle Weight with Full Occupant Load

LF 498 KG (1098 lbs) LR 439 KG (968 lbs)
RF 489 KG (1078 lbs) RR 441 KG (972 lbs)

Front Axle 987 KG (2176 lbs) Rear Axle 880 KG (1940 lbs)

Total Vehicle 1867 KG (4116 lbs)

D. MEASURED VEHICLE WEIGHT WITH MAXIMUM LOAD (PLACARD)

1. Vehicle Capacity Weight (from placard) 390 KG (860 lbs)

2. Full Occupant Load (from C.2 above) 340 KG (750 lbs)

3. Luggage/Cargo Load (subtract 2 from 1) 50 KG (110 lbs)

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

4. Measured Vehicle Maximum Load on Axles

LF 495 KG (1091 lbs) LR 467 KG (1030 lbs)
RF 489 KG (1078 lbs) RR 466 KG (1027 lbs)

Front Axle 984 KG (2169 lbs) Rear Axle 933 KG (2057 lbs)

Total Vehicle 1917 KG (4226 lbs)

5. Calculated Vehicle Maximum Load on the Tire
Front Tires (Measured front axle maximum load/2) 492 KG (1085 lbs)
Rear Tires (Measured rear axle maximum load/2) 467 KG (1030 lbs)

6. Tire Sidewall Maximum Load Ratings

	Front	Rear
Installed Tire Size	205/55R16	215/55R17
Max. Load Rating on Sidewall	580 KG (1279 lbs)	580 KG (1279 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	205/55R16	205/55R16
Labeled Cold Inflation Pressure	250 KPA (36psi)	250 KPA (36 psi)
Load Rating at this Pressure*	580 KG (1279 lbs)	580 KG (1279 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:

RECORDED BY: J. Latane ; DATE: 06/15/11
APPROVED BY: D. Messick

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

VEHICLE MAKE/MODEL/BODY STYLE: 2011 NISSAN LEAF PASSENGER CAR
VEHICLE NHTSA NO: CB5200 VIN: JN1AZ0CPXBT002457
VEHICLE TYPE: PASSENGER CAR DATE OF MANUFACTURE: 04/11
LABORATORY: GENERAL TESTING LABORATORIES TEST DATE: 06/15/11

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: Statement #6 above is not shown in owner's manual, but manual states "Do not tow a trailer with your vehicle."

RECORDED BY: G. Farrand ; DATE: 06/15/11
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 NISSAN LEAF PASSENGER CAR
NHTSA NO. CB5200
FMVSS NO. 110

FIGURE 5.1
LEFT SIDE VIEW OF VEHICLE

2011 NISSAN LEAF PASSENGER CAR
NHTSA NO. CB5200
FMVSS NO. 110

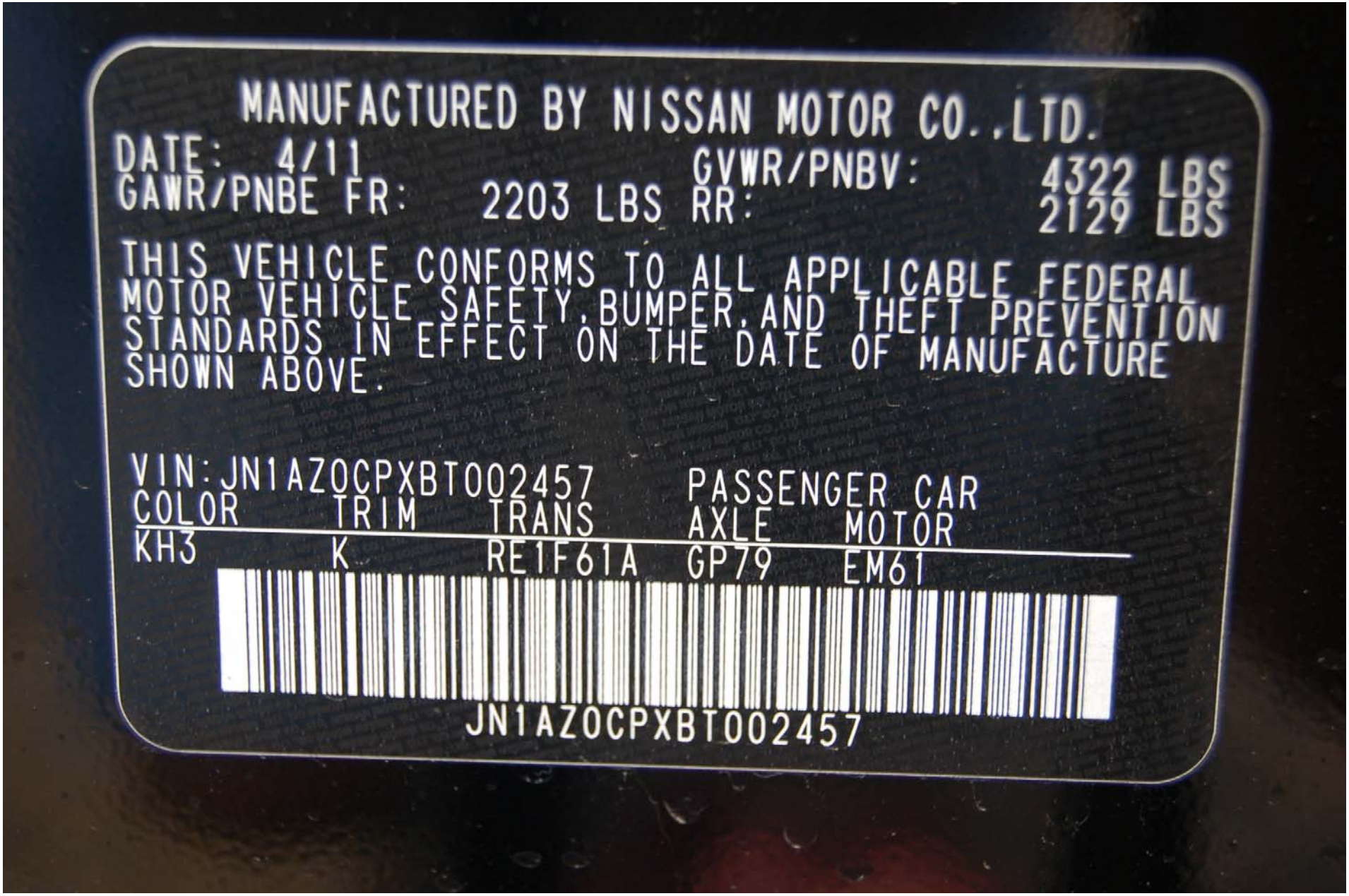
FIGURE 5.2
RIGHT SIDE VIEW OF VEHICLE

2011 NISSAN LEAF PASSENGER CAR
NHTSA NO. CB5200
FMVSS NO. 110

FIGURE 5.3
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE

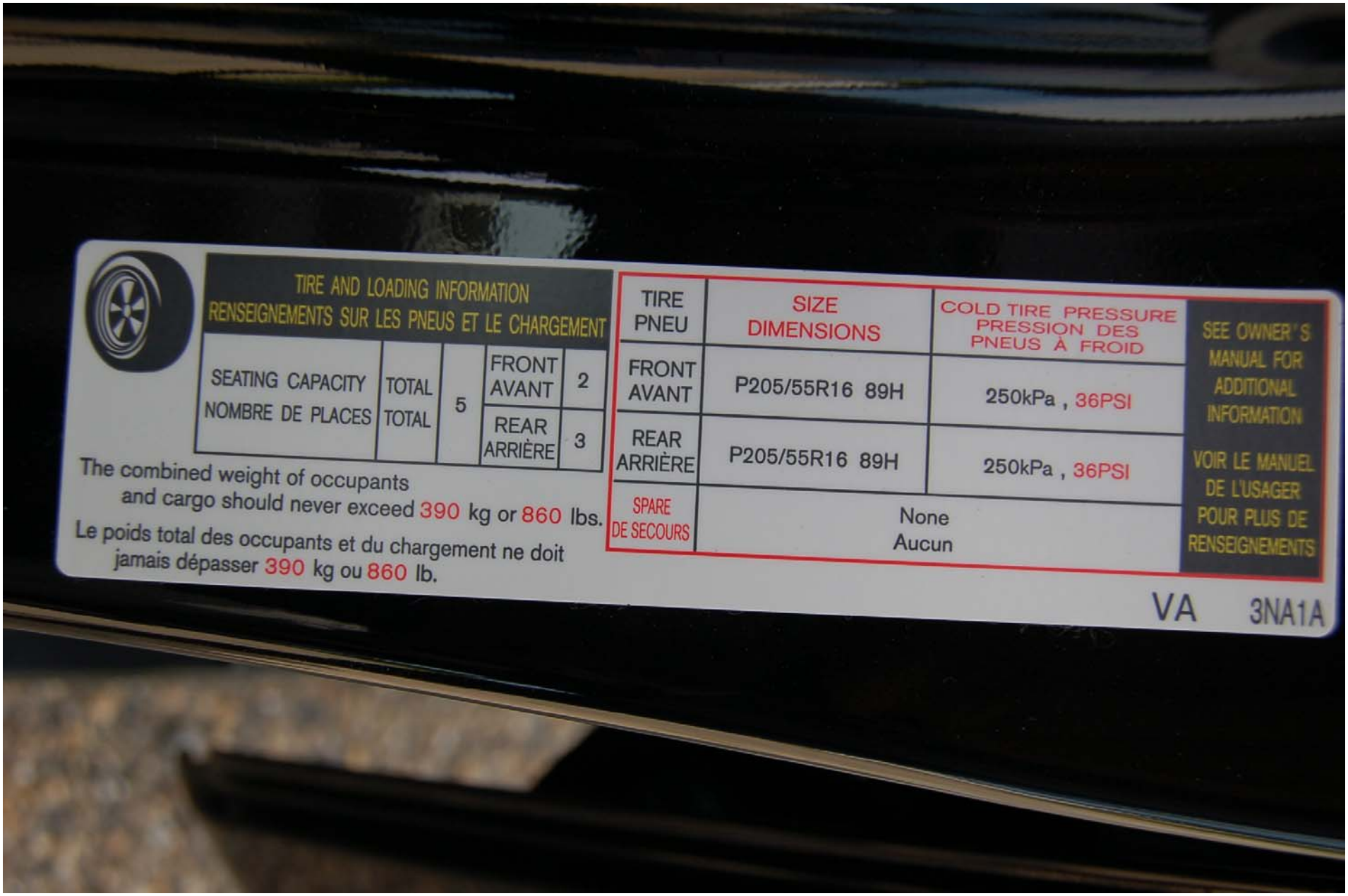
2011 NISSAN LEAF PASSENGER CAR
NHTSA NO. CB5200
FMVSS NO. 110

FIGURE 5.4
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE



2011 NISSAN LEAF PASSENGER CAR
NHTSA NO. CB5200
FMVSS NO. 110

FIGURE 5.5
VEHICLE CERTIFICATION LABEL



2011 NISSAN LEAF PASSENGER CAR
NHTSA NO. CB5200
FMVSS NO. 110

FIGURE 5.6
VEHICLE TIRE INFORMATION LABEL

2011 NISSAN LEAF PASSENGER CAR
NHTSA NO. CB5200
FMVSS NO. 110

FIGURE 5.7
OVERALL VIEW OF TIRE AND RIM

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FIGURE 5.8
TIRE SHOWING PRESSURE AND LOADING

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FIGURE 5.9
TIRE SHOWING SIZE AND RATING

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FIGURE 5.10
TIRE SHOWING MODEL

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FIGURE 5.11
TIRE SHOWING SERIAL NUMBER AND DOT MARKING

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FIGURE 5.12
TIRE SHOWING MAKE AND PLIES

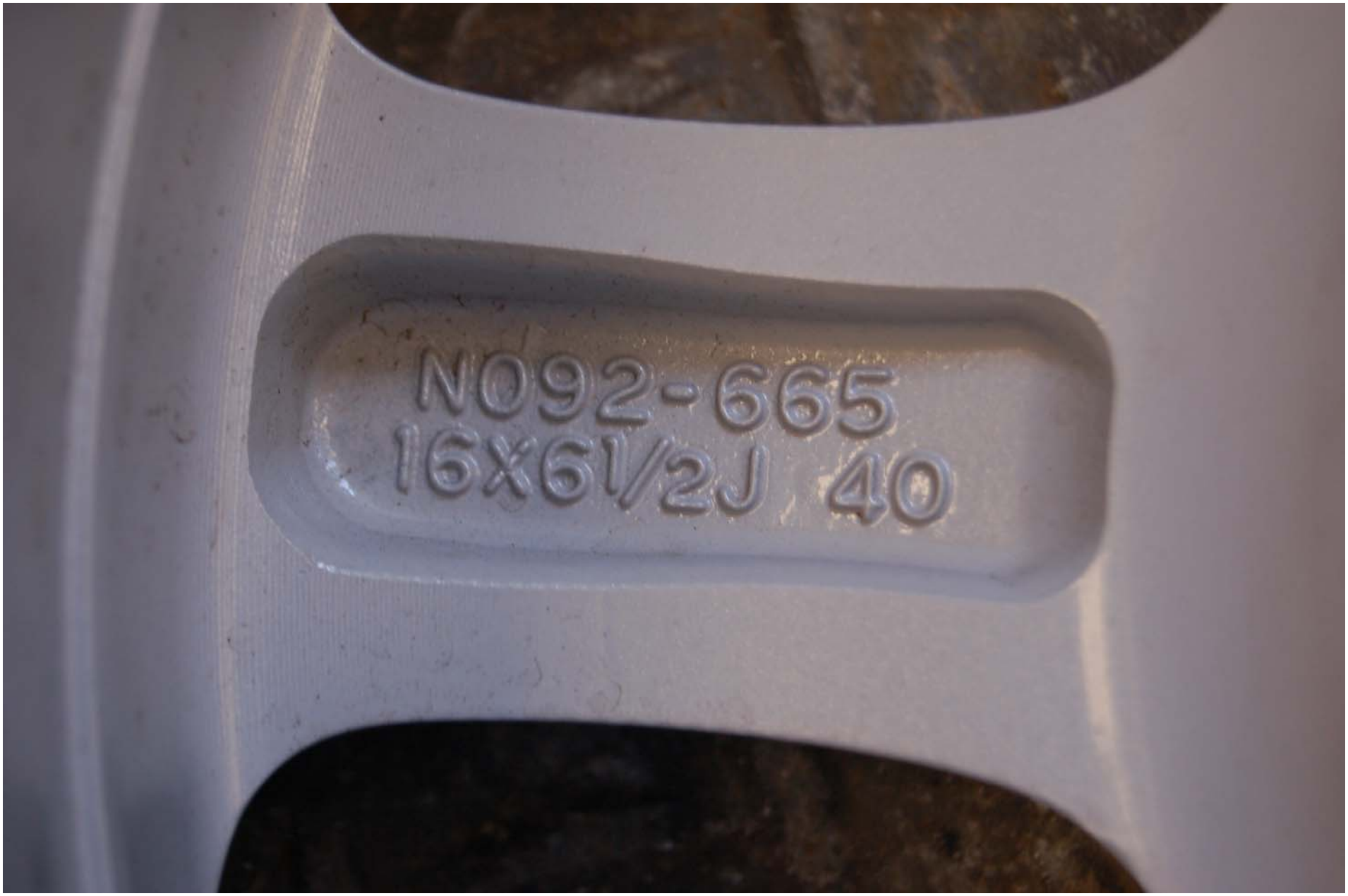

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FIGURE 5.13
RIM SHOWING SIZE

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FIGURE 5.14
RIM SHOWING MANUFACTURER

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FIGURE 5.15
RIM SHOWING DATE CODE

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FIGURE 5.16
RIM SHOWING DOT MARKING

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FIGURE 5.17
RIM MARKINGS

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FIGURE 5.18
RIM MARKINGS

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FIGURE 5.19
RIM MARKINGS

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FIGURE 5.20
RIM SHOWING CONTOUR

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FIGURE 5.21
RIM SHOWING TIRE PRESSURE SENSOR

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FIGURE 5.22
VIEW OF VEHICLE ON SCALES

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FIGURE 5.23
VEHICLE BALLASTED FOR NORMAL LOAD

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FIGURE 5.24
VEHICLE BALLASTED FOR FULL LOAD

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FIGURE 5.25
VEHICLE BALLASTED FOR CARGO

SECTION 6
OWNER'S MANUAL INFORMATION

VEHICLE LOADING INFORMATION

⚠ WARNING

- **It is extremely dangerous to ride in the cargo area inside the vehicle. In a collision, people riding in these areas are more likely to be seriously injured or killed.**
- **Do not allow people to ride in any area of your vehicle that is not equipped with seats and seat belts.**
- **Be sure everyone in your vehicle is in a seat and using a seat belt properly.**

TERMS

It is important to familiarize yourself with the following terms before loading your vehicle:

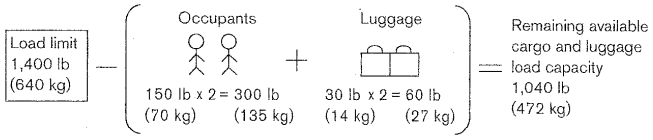
- Curb Weight (actual weight of your vehicle) - vehicle weight including: standard and optional equipment, fluids, emergency tools, and spare tire assembly. This weight **does not** include passengers and cargo.
- GVW (Gross Vehicle Weight) - curb weight plus the combined weight of passengers and cargo.
- GVWR (Gross Vehicle Weight Rating) - maximum total combined weight of the unloaded vehicle, passengers, luggage, hitch, trailer tongue load and any other optional equipment. This information is located on the F.M.V.S.S./C.M.V.S.S. label.
- GAWR (Gross Axle Weight Rating) - maximum weight (load) limit specified for the front or rear axle. This information is located on the F.M.V.S.S./C.M.V.S.S. label.
- GCWR (Gross Combined Weight Rating) - The maximum total weight rating of the vehicle, passengers, cargo, and trailer.
- Vehicle Capacity Weight, Load limit, Total load capacity - maximum total weight limit specified of the load (passengers and cargo) for the vehicle. This is the maximum combined weight of occupants and cargo that can be loaded into the vehicle. If the vehicle is used to tow a trailer, the trailer tongue weight must be included as part of the cargo load. This information is located on the Tire and Loading Information label.
- Cargo capacity - permissible weight of cargo, the subtracted weight of occupants from the load limit.

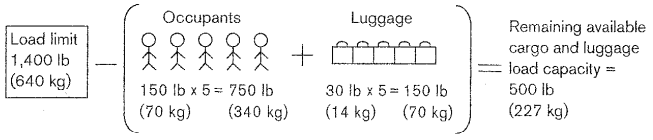
VEHICLE LOAD CAPACITY

Do not exceed the load limit of your vehicle shown as "The combined weight of occupants and cargo" on the Tire and Loading Information label. Do not exceed the number of occupants shown as "Seating Capacity" on the Tire and Loading Information label.

To get "the combined weight of occupants and cargo", add the weight of all occupants, then add the total luggage weight. Examples are shown in the following illustration.

Example





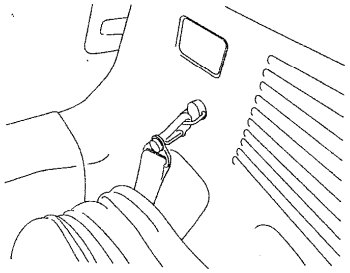
Steps for determining correct load limit

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) or (640 – 340 (5 x 70) = 300 kg.)
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.

Before driving a loaded vehicle, confirm that you do not exceed the Gross Vehicle Weight Rating (GVWR) or the Gross Axle Weight Rating (GAWR) for your vehicle. (See "Measurement of weights" later in this section.)

Also check tires for proper inflation pressures. See the Tire and Loading Information label.



SECURING THE LOAD

There are tie down hooks located in the cargo area as shown. The tie down hooks can be used to secure cargo with ropes or other types of straps.

Do not apply a total load of more than 4 lb (2 kg) to a single hook when securing cargo.

⚠ WARNING

- **Properly secure all cargo with ropes or straps to help prevent it from sliding or shifting. Do not place cargo higher than the seatbacks. In a sudden stop or collision, unsecured cargo could cause personal injury.**
- **The child restraint top tether strap may be damaged by contact with items in the cargo area. Secure any items in the cargo area. Your child could be seriously injured or killed in a collision if the top tether strap is damaged.**
- **Do not load your vehicle any heavier than the GVWR or the maximum front and rear GAWRs. If you do, parts of your vehicle can break, tire damage could occur, or it can change the way your vehicle handles. This could result in loss of control and cause personal injury.**

LOADING TIPS

- The GVW must not exceed the GVWR or GAWR as specified on the F.M.V.S.S./C.M.V.S.S. certification label.
- Do not load the front and rear axle to the GAWR. Doing so will exceed the GVWR.

⚠ WARNING

- **Properly secure all cargo with ropes or straps to help prevent it from sliding or shifting. Do not place cargo higher than the seatbacks. In a sudden stop or collision, unsecured cargo could cause personal injury.**
- **Do not load your vehicle any heavier than the GVWR or the maximum front and rear GAWRs. If you do, parts of your vehicle can break, tire damage could occur, or it can change the way your vehicle handles. This could result in loss of control and cause personal injury.**
- **Overloading not only can shorten the life of your vehicle and the tire, but can cause unsafe vehicle handling and longer braking distances. This may cause a premature tire failure, which could result in a serious accident and personal injury. Failures caused by overloading are not covered by the vehicle's warranty.**

MEASUREMENT OF WEIGHTS

Secure loose items to prevent weight shifts that could affect the balance of your vehicle. When the vehicle is loaded, drive to a scale and weigh the front and the rear wheels separately to determine axle loads. Individual axle loads should not exceed either of the Gross Axle Weight Ratings (GAWR). The total of the axle loads should not exceed the Gross Vehicle Weight Rating (GVWR). These ratings are given on the vehicle certification label. If weight ratings are exceeded, move or remove items to bring all weights below the ratings.

TOWING A TRAILER

Do not tow a trailer with your vehicle.