REPORT NUMBER 110-STF-10-006

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

FUJI HEAVY INDUSTRIES, LTD.
2010 SUBARU OUTBACK
FOUR-DOOR MPV
NHTSA NO. CA5502

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

March 31, 2010

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
NVS-220
OFFICE OF VEHICLE SAFETY COMPLIANCE
1200 NEW JERSEY AVENUE, SE
WASHINGTON, D.C. 20590

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16. Abstract Compliance tests were conducted on the subject 2010 Subaru Outback four-door MPV in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-110T-02 for the determination of FMVSS 110 compliance. Test failures identified were as follows: None.		
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SECTION 1

INTRODUCTION

1.1 PURPOSE OF COMPLIANCE TEST

A 2010 Subaru Outback four-door MPV was tested to determine if the vehicle was in compliance with the requirements of FMVSS 110. All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure, TP-110T-02, dated August 31, 2007.

This standard establishes requirements to ensure that applicable vehicles are equipped with tires of adequate size and load rating and rims of appropriate size and type designation. This standard also establishes location, content, and format requirements for the Vehicle Placard and optional Tire Inflation Pressure Label.

1.2 TEST VEHICLE

The test vehicle was a 2010 Subaru Outback four-door MPV. Nomenclatures applicable to the test vehicle are:

A. Vehicle Identification Number: 4S4BRCACXA1324198

B. NHTSA Number: CA5502

C. Manufacturer: Fuji Heavy Industries, Ltd.

D. Manufacture Date: 08/2009

1.3 TEST DATE

The test vehicle was tested March 2 through March 8, 2010.

SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.1 TEST PROCEDURE

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 NHTSA/OVSC Test Procedure. Tire sidewall information was recorded. The owner's manual was reviewed. Pertinent information from the tire was photographed.

Subsequent events included weighing the vehicle to establish delivered Unloaded Vehicle Weight and the distribution of weight on the front and rear axles and each wheel position. The vehicle was ballasted to its Normal Load, Full Occupant Load, and Maximum Vehicle Load weight. At each step of the ballasting procedure, data was recorded. Ballast was photographically documented for Normal, Full, and Maximum Vehicle Load weight. The vehicle maximum load on each wheel was measured. Data from each tire furnished with the vehicle were recorded. Tire size information was taken from vehicle certification label and vehicle placard. The right front wheel was removed from the vehicle and the tire was dismounted from the rim. The rim was measured from flange to flange, and rim markings were photographically documented. The owner's manual was checked for all required information on tire loading, and on general tire and loading parameters.

2.2 SUMMARY OF RESULTS

The Subaru Outback test vehicle appears to be in compliance with all FMVSS 110 requirements tested.

SECTION 3

TEST DATA

DATA SUMMARY SHEET (1 of 2)

VEHICLE MAKE/MODEL/BODY STYLE: 2010 Subaru Outback four-door MPV

VEHICLE NHTSA NUMBER: CA5502 VIN: 4S4BRCACXA1324198

VEHICLE TYPE: MPV DATE OF MANUFACTURE: 08/2009

LABORATORY: US DOT San Angelo Test Facility

LIGHT TRUCK TYPE 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 2)	
The sum of the maximum load ratings of the tires fitted to an axle is not less than the gross axle weight rating (GAWR) of the axle system as specified on the certification label. When passenger car tires are installed, each tire's load rating is reduced by dividing it by 1.10 before determining the sum of the maximum load ratings of the tires fitted to an axle. (S110, S4.2.2.1, S4.2.2.2)	**PASS**
When passenger car tires are installed, the vehicle normal load on the tire is not greater than the value of 94 percent of the de-rated load rating at the vehicle manufacturer's recommended cold inflation pressure for that tire. When LT tires are installed, 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, S4.2.2.3(a), (b))	**PASS**
Rim (Data Sheet 3)	
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**
Each rim is properly marked. (S110, S4.4.2)	**PASS**
Vehicle rims retain deflated tires during a controlled braking application. (S110, S4.4.1(b))	**See Remarks**

DATA SUMMARY SHEET (2 of 2)

Certification, Placard, and Tire Inflation Pressure Labels (Data Sheet 4)

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**

The Part 567 certification label shows the size designation of the tires and and rims appropriate for the vehicle including the tire size(s) listed on the vehicle placard and, if provided, tire inflation pressure label. (S110, S4.3.3) **PASS**

No inflation pressure other than the maximum permissible inflation pressure is shown on the placard and, if any, tire inflation pressure label unless as required. (S110, S4.3.4) **PASS**

Vehicle Weight Distribution (Data Sheet 5)

The Gross Vehicle Weight Rating (GVWR) is not less than the sum of the unloaded vehicle weight, rated cargo load, and 68 kg times the vehicle's designated seating capacity. However, for school buses, the minimum occupant weight allowance is 54 kg. (49 CFR 567, *Certification*) **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**

REMARKS: The rim retention test required by FMVSS No.110, paragraph S4.4.1(b) was not executed on the subject Subaru Outback.

RECORDED BY: Todd P. Groghan DATE: March 8, 2010

APPROVED BY: Kenneth H. Yates

DATA SHEET 1
TEST VEHICLE INFORMATION / RECEIVING INSPECTION

VEHICLE MAKE/MODEL/BODY STYLE: 2010 Subaru Outback four-door MPV

VEHICLE NHTSA NUMBER: CA5502 TEST DATE: March 2, 2010

VIN: 4S4BRCACXA1324198 MANUFACTURE DATE: 08/2009

GVWR: 2,080 kg (4,585 lbs) GAWR (front): 1,070 kg (2,360 lbs)
GAWR (rear): 1,060 kg (2,340 lbs)

SEATING POSITIONS: FRONT 2 REAR 3

ODOMETER READING AT START OF TEST: 103 km (64 mi)

ENGINE DATA: 4 Cylinders 2.5 Liters ____ Cubic Inches

TRANSMISSION DATA: ____ Automatic X Manual 6 No. of Speeds

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

CHECK APPROPRIATE BOXES FOR INSTALLED VEHICLE EQUIPMENT:

X	Air Conditioning	X	Traction Control	X	Clock
	Tinted Glass	X	Tachometer	X	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)	X	Tilt Steering Wheel	X	Side Curtain Air Bag(s)
X	Power Brakes	X	Stereo	X	Front Disc Brakes
X	Antilock Brake System		Telephone	X	Rear Disc Brakes
	Navigation System		Trailer Hitch		Other -

REMARKS: None

RECORDED BY: Todd P. Groghan DATE: March 2, 2010

APPROVED BY: Kenneth H. Yates

DATA SHEET 2 (1 of 2)
VEHICLE TIRE IDENTIFICATION AND LOAD LIMITS

VEHICLE MAKE/MODEL/BODY STYLE: 2010 Subaru Outback four-door MPV

VEHICLE NHTSA NUMBER: CA5502 VIN: 4S4BRCACXA1324198

LABORATORY: US DOT San Angelo Test Facility TEST DATE: March 3, 2010

All tires on the vehicle (excluding the spare) are the same make and model: (X) YES ( ) NO

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	**Right Front**	**Left Rear** (If different)	**Spare Tire** (If different)
Manufacturer and Model	Continental ContiProContact		Firestone Radial Tempa Spare
Tire Size Designation	P215/70R16		T145/80D17
Load Index/Speed Symbol	99S		97M
Maximum Inflation Pressure	300 kPa (44 psi)		420 kPa (60 psi)
Maximum Load Rating	775 kg (1,709 lbs)		730 kg (1,609 lbs)
Tread/Traction/Temperature	540/A/A		N/A
Tires Have “DOT” Markings	Yes		Yes

Serial Number: Right Front A3093PK2809 Left Front A3093PK2809

Right Rear A3093PK2809 Left Rear A3093PK2809

Spare WB31H5F1709

DATA SHEET 2 (2 of 2)
VEHICLE TIRE IDENTIFICATION AND LOAD LIMITS

MOUNTED TIRE VS. AXLE RATING COMPARISON (at sidewall maximum inflation pressure)		
	FRONT AXLE	REAR AXLE
A. GAWR from certification label	1,070 kg (2,360 lbs)	1,060 kg (2,340 lbs)
B. Tire Maximum Load Rating from above	775 kg (1,709 lbs)	775 kg (1,709 lbs)
C. Reduced tire load rating if applicable*	704.5 kg (1,553.6 lbs)	704.5 kg (1,553.6 lbs)
D. (No. of tires) x (Tire load rating, de-rated if appropriate)	1,409.0 kg (3,107.2 lbs)	1,409.0 kg (3,107.2 lbs)
Is "D" equal to or greater than "A"? (Yes/No)	Yes	Yes

* If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating is reduced by dividing by 1.10.

DATA INDICATES COMPLIANCE: PASS/FAIL: PASS

REMARKS: None

RECORDED BY: Todd P. Groghan DATE: March 3, 2010

APPROVED BY: Kenneth H. Yates

DATA SHEET 3
VEHICLE RIM IDENTIFICATION

VEHICLE MAKE/MODEL/BODY STYLE: 2010 Subaru Outback four-door MPV

VEHICLE NHTSA NUMBER: CA5502 VIN: 4S4BRCACXA1324198

LABORATORY: US DOT San Angelo Test Facility TEST DATE: March 3, 2010

Rim Markings	RIGHT FRONT	LEFT REAR (if different)
A. Source of published dimensions (letter designation)	J	
B. Rim Size Designation	16X6½ JJ	
C. Does rim contain DOT symbol? (Yes/No)	Yes	
D. Manufacturer's name, symbol or trademark (copy format)		
E. Date of manufacture or symbol (copy format)		
F. Letter height (not less than 3 mm)	4 mm	
G. Lettering (impressed or embossed)	Impressed	
H. Are all rim markings legible? (Yes/No)	Yes	
Do items A-C appear on weather side of rim (Yes/No)	Yes	
Do all markings comply with requirements (Yes/No)	Yes	

Rim Measurements	RIGHT FRONT	LEFT REAR (If different)
Rim width	16.5 cm (6.5 in)	
Rim diameter	40.6 cm (16 in)	
Rim measurements same as rim markings?	Yes	

Rims are suitable for tires on vehicle? (X)YES ( ) NO

Reference source used for tire/rim match verification:

2009 Tire and Rim Association Yearbook and 2010 Japan Automobile Tyre Manufacturers Association Yearbook

DATA INDICATES COMPLIANCE: PASS/FAIL: PASS

REMARKS: None

RECORDED BY: Todd P. Groghan DATE: March 3, 2010

APPROVED BY: Kenneth H. Yates

DATA SHEET 4 (1 of 3)
VEHICLE PLACARD AND TIRE INFLATION PRESSURE LABEL

VEHICLE MAKE/MODEL/BODY STYLE: 2010 Subaru Outback four-door MPV

VEHICLE NHTSA NUMBER: CA5502 VIN: 4S4BRCACXA1324198

LABORATORY: US DOT San Angelo Test Facility TEST DATE: March 3, 2010

Identification of Vehicle Labeling

	(Yes/No)	Location	PASS/FAIL
1. Certification Label*	Yes	Driver's side B pillar	PASS
2. Vehicle Placard*	Yes	Driver's side B pillar	PASS
3. Tire Inflation Pressure Label*	N/A		

* Labels must be located as specified in section 12.4 of test procedure.

Vehicle Placard

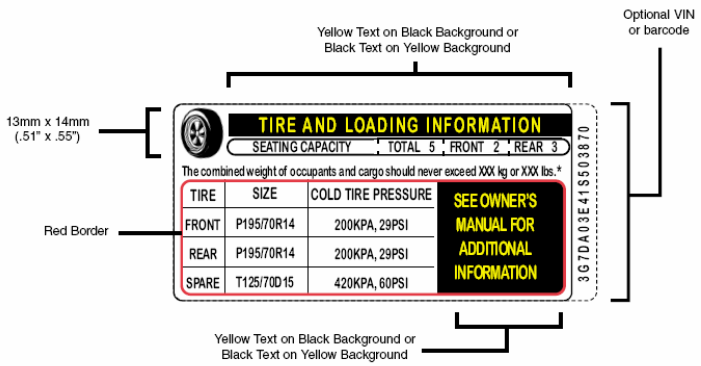


FIGURE 1
(70 FR 14425)

Vehicle Placard has the exact color and format as specified in the above Figure 1 and text is in English language. (X) YES ( ) NO

Vehicle Placard and, if provided, **Tire Inflation Pressure Label** are permanently affixed.
(X) YES ( ) NO

DATA SHEET 4 (2 of 3)
VEHICLE PLACARD AND TIRE INFLATION PRESSURE LABEL

Vehicle Placard Information:

Combined weight of occupants and cargo 408 kg (900 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

Is the tire size and pressure provided? (X) YES ( ) NO

Tire Information:

Tire Size: Front P215/70R16 ; Rear P215/70R16

Tire Inflation Pressure: Front 220 kPa (32 psi) ; Rear 210 kPa (30 psi)

Are the sizes of the installed tires the same as the sizes of the labeled tires? (X) YES ( ) NO

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

Vehicle Certification Label information:

	Tire Size	Rim Size Designation	Rim Suitable for Tire?*
Front Axle	P215/70R16	16x6½ JJ	Yes
Rear Axle	P215/70R16	16x6½ JJ	Yes

*Reference source used for tire/rim match verification:

2009 Tire and Rim Association Yearbook and 2010 Japan Automobile Tyre Manufacturers Association Yearbook

DATA SHEET 4 (3 of 3)
VEHICLE PLACARD AND TIRE INFLATION PRESSURE LABEL

Is (Are) tire size(s) listed on the vehicle placard and/or tire inflation pressure label also listed on the certification label with suitable rim size? (X) YES ( ) NO

LABELED TIRE CAPACITY AT SPECIFIED PRESSURE		
GVWR 2,080 kg (4,585 lbs)	FRONT AXLE	REAR AXLE
A. GAWR from certification label	1,070 kg (2,360 lbs)	1,060 kg (2,340 lbs)
B. Tire load rating of labeled tire size at labeled inflation pressure*	735 kg (1,620 lbs)	720 kg (1,587 lbs)
C. Reduced tire load rating if applicable**	668.2 kg (1,472.7 lbs)	654.5 kg (1,442.7 lbs)
D. (No. of tires) x (Tire load rating de-rated if appropriate)	1,336.4 kg (2,945.4 lbs)	1,309.0 kg (2,885.4 lbs)
Is "D" equal to or greater than "A"?	Yes	Yes

*Reference source used for determining load rating:

2009 Tire and Rim Association Yearbook

** If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating is reduced by dividing by 1.10.

DATA INDICATES COMPLIANCE: PASS/FAIL: PASS

REMARKS: None

RECORDED BY: Todd P. Groghan DATE: March 3, 2010

APPROVED BY: Kenneth H. Yates

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

VEHICLE MAKE/MODEL/BODY STYLE: 2010 Subaru Outback four-door MPV

VEHICLE NHTSA NUMBER: CA5502 VIN: 4S4BRCACXA1324198

LABORATORY: US DOT San Angelo Test Facility TEST DATE: March 4, 2010

Full Fluid Levels: Fuel Full Coolant Full Other Fluids* Full
*Windshield washer fluid, brake fluid, power steering fluid, clutch fluid, manual transmission oil, rear differential gear oil, and engine oil

Tire Pressures: (cold, prior to loading vehicle)
LF 220 kPa (32 psi) LR 210 kPa (30 psi)
RF 220 kPa (32 psi) RR 210 kPa (30 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

Measured Unloaded Vehicle Weight

LF 434 kg (956 lb) LR 352 kg (777 lb)
RF 417 kg (919 lb) RR 336 kg (740 lb)
Front Axle 851 kg (1,875 lb) Rear Axle 688 kg (1,517 lb)
Total Vehicle Weight 1,539 kg (3,392 lb)

B. MEASURED VEHICLE NORMAL LOAD WEIGHT

(1) Seating Capacity from Vehicle Placard = 5

(2) Normal Load Number of Occupants 3

Occupant Distribution: Front Seat 2 Rear 1

(3) Total Normal Occupant Load 204 kg (450 lb)
[# of occupants x 68 KG per occupant]

(4) Measured Normal Load on Axles

LF 478 kg (1,054 lb) LR 411 kg (906 lb)
RF 460 kg (1,015 lb) RR 393 kg (867 lb)
Front Axle 938 kg (2,069 lb) Rear Axle 804 kg (1,773 lb)
Total Vehicle Weight 1,742 kg (3,842 lb)

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

(5) Calculated Vehicle Normal Load on the Tire

Front Tires [measured front axle normal load/2] = 469.0 kg (1,034.5 lbs)

Rear Tires [measured rear axle normal load/2] = 402.0 kg (886.5 lbs)

(6) Measured Normal Load on Tire vs. Value of 94% of Load Rating for that Tire at Specified Pressure

MEASURED NORMAL LOAD ON TIRE VS. VALUE OF 94% OF LOAD RATING FOR THAT TIRE AT SPECIFIED PRESSURE		
	FRONT AXLE	REAR AXLE
A. Calculated Vehicle Normal Load on the Tire from (5)	469.0 kg (1,034.5 lbs)	402.0 kg (886.5 lbs)
B. Tire load rating of installed tire size at recommended inflation pressure*	735 kg (1,620 lbs)	720 kg (1,587 lbs)
C. Reduced tire load rating if applicable**	668.2 kg (1,472.7 lbs)	654.5 kg (1,442.7 lbs)
D. 94% of tire load rating, (de-rated if appropriate)	628.1 kg (1,384.3 lbs)	615.2 kg (1,356.1 lbs)
Is "D" equal to or greater than "A"?	Yes	Yes

*Reference source used for tire/rim match verification:
2009 Tire and Rim Association Yearbook

** If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating is reduced by dividing by 1.10.

Vehicle Normal Load on the tire is not greater than 94% of the Recommended Cold Inflation Load Rating.

	PASS/FAIL
Front Tires	PASS
Rear Tires	PASS

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

C. MEASURED VEHICLE WEIGHT WITH FULL OCCUPANT LOAD

Seating Capacity: Total 5 ; Front 2 ; Rear 3

Full Occupant Load 340 kg (750 lbs)
[# of occupants x 68 KG per adult occupant and 54 KG per student occupant]

LF	492 kg (1,084 lb)	LR	466 kg (1,028 lb)
RF	473 kg (1,042 lb)	RR	448 kg (988 lb)
Front Axle	965 kg (2,126 lb)	Rear Axle	914 kg (2,016 lb)

Total Vehicle Weight 1,879 kg (4,142 lb)

D. MEASURED MAXIMUM VEHICLE LOAD WEIGHT

(1)	Vehicle Capacity Weight (from placard)	408 kg (900 lbs)
(2)	Full Occupant Load (from above)	340 kg (750 lbs)
(3)	Luggage/Cargo Load (subtract (2) from (1))	68 kg (150 lbs)
(4)	Measured Vehicle Maximum Load on Axles	

LF	484 kg (1,066 lb)	LR	505 kg (1,113 lb)
RF	474 kg (1,044 lb)	RR	485 kg (1,069 lb)
Front Axle	958 kg (2,110 lb)	Rear Axle	990 kg (2,182 lb)

Total Vehicle Weight 1,948 kg (4,292 lb)

DATA SHEET 5 (4 of 4)
VEHICLE WEIGHT DISTRIBUTION

ITEM	Tire or Vehicle Rating*	Unloaded Vehicle Weight		Vehicle Weight with Normal Occupant Load		Vehicle Weight with Full Occupant Load		Vehicle Maximum Weight with Occupants and Cargo	
		Measured	Over-load	Measured	Over-load	Measured	Over-load	Measured	Over-load
Left Front Tire	668.2 kg (1,472.7 lbs)	434 kg (956 lbs)	no	478 kg (1,054 lbs)	no	492 kg (1,084 lbs)	no	484 kg (1,066 lbs)	no
Right Front Tire	668.2 kg (1,472.7 lbs)	417 kg (919 lbs)	no	460 kg (1,015 lbs)	no	473 kg (1,042 lbs)	no	474 kg (1,044 lbs)	no
Front Axle (GAWR)	1,070 kg (2,360 lbs)	851 kg (1,875 lbs)	no	938 kg (2,069 lbs)	no	965 kg (2,126 lbs)	no	958 kg (2,110 lbs)	no
Left Rear Tire	654.5 kg (1,442.7 lbs)	352 kg (777 lbs)	no	411 kg (906 lbs)	no	466 kg (1,028 lbs)	no	505 kg (1,113 lbs)	no
Right Rear Tire	654.5 kg (1,442.7 lbs)	336 kg (740 lbs)	no	393 kg (867 lbs)	no	448 kg (988 lbs)	no	485 kg (1,069 lbs)	no
Rear Axle (GAWR)	1,060 kg (2,340 lbs)	688 kg (1,517 lbs)	no	804 kg (1,773 lbs)	no	914 kg (2,016 lbs)	no	990 kg (2,182 lbs)	no
Total Vehicle (GVWR)	2,080 kg (4,585 lbs)	1,539 kg (3,392 lbs)	no	1,742 kg (3,842 lbs)	no	1,879 kg (4,142 lbs)	no	1,948 kg (4,292 lbs)	no

*Vehicle and axle weight ratings (GVWR & GAWR) are located on the vehicle certification label. Vehicle tire load ratings are based upon the inflation pressure specified on the Vehicle Placard or Tire Inflation Pressure Label for each respective axle, as determined from the appropriate Tire and Rim reference manual. If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck, or bus, the tire's load rating is reduced by dividing by 1.10.

DATA INDICATES COMPLIANCE: PASS/FAIL: PASS

REMARKS: None

RECORDED BY: Todd P. Groghan DATE: March 4, 2010

APPROVED BY: Kenneth H. Yates

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

VEHICLE MAKE/MODEL/BODY STYLE: 2010 Subaru Outback four-door MPV

VEHICLE NHTSA NO. CA5502 VIN: 4S4BRCACXA1324198

LABORATORY: US DOT San Angelo Test Facility TEST DATE: March 2, 2010

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	13-2, 13-3, 13-4
(4)(ii)	(A) Description and explanation of recommended cold tire inflation pressure.	YES	13-5
	(B) Description and explanation of FMVSS 110 Vehicle Placard and Tire Inflation Pressure Label and their location(s).	YES	11-37
	(C) Description and explanation of adverse safety consequences of under-inflation including tire failure.	YES	13-6
	(D) Description and explanation for measuring and adjusting air pressure to achieve proper inflation.	YES	11-37, 11-38, 13-6
(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	13-7, 13-8, 13-9, 13-10
(4)(iv)	Tire care, including maintenance and safety practices.	YES	11-37, 11-38, 11-39, 11-40, 11-41, 13-11
(4)(v)	(A) Description and explanation of locating and understanding load limit information, total load capacity, seating capacity, towing capacity, and cargo capacity.	YES	13-11
	(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	13-12, 13-3, 13-14
	(C) Description and explanation for determining compatibility of tire and vehicle load capabilities.	YES	13-4
	(D) Description and explanation of adverse safety consequences of overloading on handling and stopping and on tires.	YES	13-14, 13-15

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

(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.

DATA INDICATES COMPLIANCE: PASS/FAIL: PASS

REMARKS: None

RECORDED BY: Todd P. Groghan DATE: March 2, 2010

APPROVED BY: Kenneth H. Yates

SECTION 4

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

EQUIPMENT	DESCRIPTION	MODEL/ SERIAL NO	CAL. DATE	NEXT CAL. DATE
PLATFORM SCALE (BALLAST)	HOWE RICHARDSON	MODEL #6401 SERIAL #0181-5509-26	7/28/2009	7/28/2010
AIR PRESSURE GAUGE	ASHCROFT GENERAL PURPOSE DIGITAL GAUGE	MODEL #D1005PS 02L 100 PSI SERIAL #20017398-01	12/9/2009	12/9/2010
FLOOR SCALES (VEHICLE)	INTERCOMP SW DELUXE SCALES	PART #100156 SERIAL #27032382	7/28/2009	7/28/2010

SECTION 5

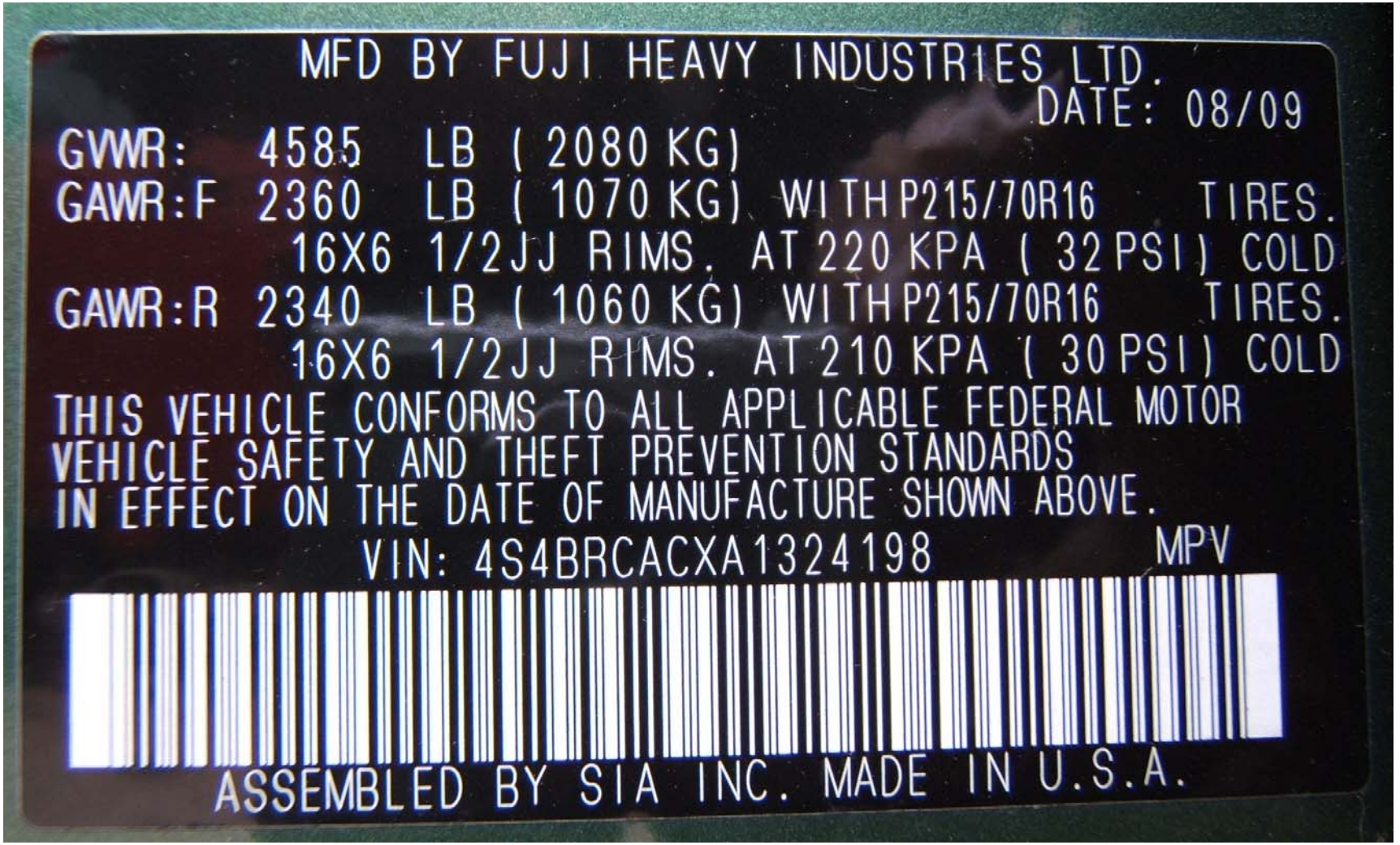
PHOTOGRAPHS

2010 SUBARU OUTBACK
NHTSA NO. CA5502
FMVSS NO. 110

FIGURE 5.1
¾ FRONT VIEW FROM LEFT SIDE OF VEHICLE

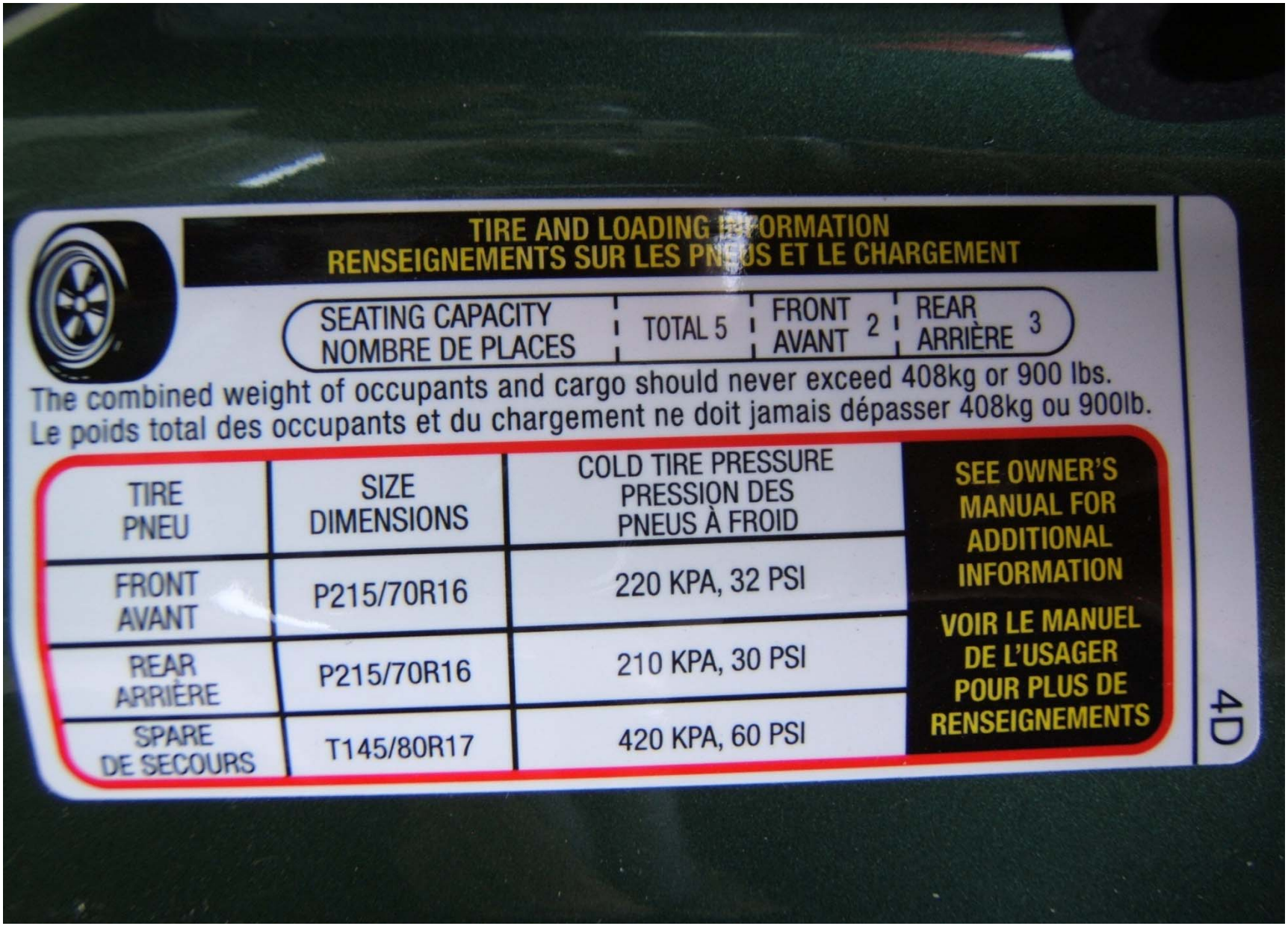
2010 SUBARU OUTBACK
NHTSA NO. CA5502
FMVSS NO. 110

FIGURE 5.2
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE



2010 SUBARU OUTBACK
NHTSA NO. CA5502
FMVSS NO.110

FIGURE 5.3
VEHICLE CERTIFICATION LABEL



2010 SUBARU OUTBACK
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FIGURE 5.4
VEHICLE PLACARD

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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 INFLATION PRESSURE AND MAX LOAD RATING

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FIGURE 5.9
TIRE SHOWING SERIAL NUMBER

2010 SUBARU OUTBACK
NHTSA NO. CA5502
FMVSS NO. 110

FIGURE 5.10
RIM MARKINGS INCLUDING LETTER DESIGNATION FOR SOURCE OF PUBLISHED DIMENSIONS, RIM SIZE, DOT SYMBOL, MANUFACTURER'S SYMBOL, MANUFACTURE DATE, AND OTHER RIM MARKINGS

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FIGURE 5.11
RIM CONTOUR FOR FULL WIDTH OF CROSS SECTION

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FIGURE 5.12
VEHICLE FRONT SEAT BALLASTED
FOR NORMAL, FULL, AND MAXIMUM LOADS

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FIGURE 5.13
VEHICLE REAR SEAT
BALLASTED FOR NORMAL LOAD

2010 SUBARU OUTBACK
NHTSA NO. CA5502
FMVSS NO. 110

FIGURE 5.14
VEHICLE REAR SEAT BALLASTED
FOR FULL AND MAXIMUM LOADS

2010 SUBARU OUTBACK
NHTSA NO. CA5502
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FIGURE 5.15
REAR OF VEHICLE SHOWN BALLASTED FOR MAXIMUM LOAD

2010 SUBARU OUTBACK
NHTSA NO. CA5502
FMVSS NO. 110

FIGURE 5.16
VEHICLE ON WEIGHT SCALES