

REPORT NUMBER 114-GTL-11-005

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 114 THEFT PROTECTION

TOYOTA MOTOR CORPORATION
2011 TOYOTA PRIUS, PASSENGER CAR
NHTSA NO. CB5103

GENERAL TESTING LABORATORIES, INC.
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April 18, 2011

FINAL REPORT

PREPARED FOR

**U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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16. Abstract Compliance tests were conducted on the subject 2011 Toyota Prius Passenger Car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-114-04 for the determination of FMVSS 114 compliance. Test failures identified were as follows: None		
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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF TEST

A model year 2011 Toyota Prius Passenger Car was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 114 testing to determine if the vehicle was in compliance with the requirements of the standard. FMVSS 114 specifies requirements to decrease the likelihood that a vehicle is stolen, or accidentally set in motion.

1.1 The test vehicle was a 2011 Toyota Prius Passenger Car. The vehicle was identified as follows:

A. Vehicle Identification Number: JTDKN3DU1B0264629

B. NHTSA No.: CB5103

C. Manufacturer: TOYOTA MOTOR CORPORATION

D. Manufacture Date: 12/10

E. Color: Winter Gray

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 114 testing on March 23, 2011.

SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 TEST PROCEDURE

All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure TP-114-04 and General Testing Laboratories, Inc. (GTL) Test Procedure, TP-114-04, "Theft Protection and Rollaway Prevention".

2.1 SUMMARY OF RESULTS

Test data indicate the FMVSS 114 requirements appear to have been satisfied. All test data resulting from the tests were recorded on test data sheets in Section 3.

SECTION 3

TEST DATA

3.0 TEST RESULTS

The following data sheets document the results of FMVSS 114 testing on the 2011 Toyota Prius.

FMVSS 114, THEFT PROTECTION
DATA SHEET 1 continued

GEAR SELECTION CONTROL

Describe the gear selection control:

Electronic Gear Selection Lever located on center console with a separate push button park switch.

Describe how the gear selection control is activated:

By momentarily moving the gear selector to the desired position while depressing the brake pedal. There is a separate button near the gear selector to select Park "P".

Describe all of the selectable settings:

Reverse, Neutral, Drive, Engine Braking

IMMOBILIZER

Is the vehicle equipped with an immobilizer YES X NO

Describe the immobilizer device and how it prevents vehicle theft (if equipped):

The system compares the keys ID codes and the vehicle's pre-registered code. If the ID codes do not match, the immobilizer system is activated and the Hybrid system cannot be started.

OPTIONAL RELEASE DEVICES

Describe if the vehicle is equipped with optional release devices:

NO

OPTIONAL RELEASE DEVICES:

Key Removal Gear Selection Control None X Other

VEHICLE FLUIDS

Check all vehicle fluids and adjust to the proper levels for operation: Full

VEHICLE TIRE PLACARD INFORMATION

Vehicle Mfg. Recommended Tire Inflation Pressure

(kPa): Front 240 Rear 230

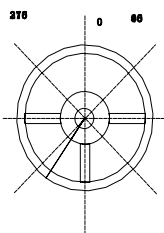
TIRE INFLATION PRESSURES:

Measured (kPa): LF 240 LR 230 RF 240 RR 230

WEIGHT

Vehicle Curb Weight(kg): 1387 Weight of Driver (kg): 91 (target = 91kg)

FMVSS 114, THEFT PROTECTION
DATA SHEET 2

REQUIREMENT S5.1.1	PASS	FAIL
Engine cannot be started without using the key ____Yes __X__No	X	
<p>With key removed, steering wheel locks: Yes: ____ No: <u>X</u></p> <p>Note:</p> <p>Identify locking position(s) on wheel using arrow(s)</p> <p>Clockwise: _____ (degrees) Counterclockwise: _____ (degrees)</p> <div style="text-align: right; margin-top: 20px;">  </div>		
<p>Key removal prevents forward self-mobility: Yes: <u>X</u> No: _____</p> <p>If yes describe: Hybrid system will not activate without correct Key Code.</p>		
When key is removed from the starting system, starting of the engine or motor and either steering or self mobility is prevented. YES	X	

REMARKS:

FMVSS 114, THEFT PROTECTION
DATA SHEET 2 continued

REQUIREMENT S5.1.3	PASS	FAIL
<p>An audible warning is activated whenever the key is in any starting system position with the exception of "on" and "start" and the door closest to the driver's designated seating position is opened.</p> <p style="text-align: right;">Yes <u> X </u> No <u> </u></p> <p>Identify ALL key/starting system position setting: <u> OFF, ACCESSORY, ON MODE, READY ON </u></p>	X	

REQUIREMENT S5.1.4	PASS	FAIL
<p>With the vehicle engine or motor shut down and the transmission gear selection control in any position other than "park";</p> <p>The steering wheel can rotate without locking? Yes <u> X </u> No <u> </u></p> <p>NOTE: The transmission gear selector automatically shifts to park "P" when the hybrid propulsion system is shut down.</p>	X	
<p>The vehicle is free to roll forward? Yes <u> * </u> No <u> </u></p>	*	

REMARKS: *If power is turned off while vehicle is in motion, the vehicle is free to roll. If power button is turned off below 1 mph the vehicle goes into park.

RECORDED BY: G. Farrand
APPROVED BY: D. Messick

DATE: 03/23/11

FMVSS 114, ROLLAWAY PREVENTION
DATA SHEET 3
(for vehicles equipped with transmission with a "park" position)

VEH. NHTSA NO.: CB5103

TEST DATE: 03/23/11

REQUIREMENT S5.2.1	PASS	FAIL
<p>The starting system prevents key removal in ALL gear selection control positions except "park". Yes <u>X*</u> No ___</p> <p>Can the gear selection control be placed between each gear selection position and will it remain there without assistance? Yes ___ No <u>X</u></p> <p>If yes, can the key be removed from the starting system? Yes ___ No ___</p> <p>If the key can be removed from the vehicle starting system when the gear selection control is not locked in "park", a mechanism shall exist which, upon key removal, the vehicle transmission or gear selection control shall become locked in "park" as the direct result of removing the key. If such a mechanism exists, describe the mechanism and its function: *When the power is turned off, the transmission automatically defaults to the park "P" position and the electronic key code is removed from the starting system. (Only when vehicle is not moving)</p>	X	

REQUIREMENT S5.2.2	PASS	FAIL
<p>The gear selection control is locked in the "park" position when the key is removed from the starting system. Yes <u>X</u> No ___</p>	X	

REMARKS: *Hybrid Vehicle

DATA SHEET 3 continued

REQUIREMENT S5.2.4	PASS	FAIL
<p><u>GEAR SELECTION CONTROL OVERRIDE DEVICE</u></p> <p>The vehicle is equipped with an override device that allows the user to move the gear selection control from “park” after the key has been removed from the starting system. Yes_____ No__<u>X</u></p> <p>If yes, select the type of override device used: Key_____ Opaque Cover_____ No Cover_____</p> <p>Describe the override device design and mode of activation (if equipped): It is located in the center console storage tray and is accessed by removing rubber mat which allows a key to be inserted to release shifter.</p> <p>FILL IN THE SECTION BELOW THAT APPLIES:</p> <p><u>OVERRIDE OPERATED WITH KEY:</u></p> <p>The key is required to operate the override device that allows the user to move the gear selection control from “park” after the key has been removed from the starting system. Yes_____ No_____</p> <p><u>OVERRIDE DEVICE WITH NO COVER</u></p> <p>As a direct result of removing the key from the starting system, the following is prevented: Steering_____ Self-Mobility_____</p> <p>The override device requires the use of a tool to operate. Yes_____ No_____</p> <p>Simultaneous activation of the override device and movement of the gear selection control from “park” is required Yes_____ No_____</p> <p><u>OVERRIDE DEVICE WITH AN OPAQUE COVER</u></p> <p>As a direct result of removing the key from the starting system, the following is prevented: Steering_____ Self-Mobility _____</p> <p>The opaque surface cover prevents sight of and use of the device: Yes_____ No_____</p> <p>The opaque surface cover can only be removed by using a screwdriver or other tool: Yes_____ No _____</p>	<p>X</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>	

DATA SHEET 3 continued

REQUIREMENTS S5.2.5	PASS	FAIL
<p><u>VEHICLE FACING UPHILL ON 10% GRADE</u></p> <p>With the gear selection control in "park" measure movement of the vehicle down the slope upon releasing the service brake.</p> <p>Test grade: <u>15</u> % (9% to 15%) Measured movement: <u>33</u> mm (150mm maximum)</p> <p>NOTE: Repeat procedure if vehicle fails on grade in excess of 10%.</p> <p>Test grade: _____ % (9% to 10%) Measured movement: _____ mm (150 mm maximum)</p> <p><u>VEHICLE FACING DOWNHILL ON 10% GRADE</u></p> <p>With the gear selection control in "park" measure movement of the vehicle down the slope upon releasing the service brake.</p> <p>Test grade: <u>15</u> % (9% to 15%) Measured movement: <u>49</u> mm (150mm maximum)</p> <p>NOTE: Repeat procedure if vehicle fails on grade in excess of 10%.</p> <p>Test grade: _____ % (9% to 10%) Measured movement: _____ mm (150 mm maximum)</p>	<p style="text-align: center;">X</p> <p style="text-align: center;">X</p>	

REMARKS: *Hybrid Vehicle

DATA SHEET 3 continued

REQUIREMENTS S5.3	PASS	FAIL
With the key in the "OFF" position, the transmission will shift out of "PARK" without the service brake being applied. Yes___ No_ <u>X</u>	<u>X</u>	
With the key in the "ACC" position, the transmission will shift out of "PARK" without the service brake being applied. Yes___ No_ <u>X</u>	<u>X</u>	
With the key in the "ON" position (engine off), the transmission will shift out of "PARK" without the service brake being applied. Yes___ No_ <u>X</u>	<u>X</u>	
With the key in the "START" position, the transmission will shift out of "PARK" without the service brake being applied. Yes___ No_ <u>X</u>	<u>X</u>	
With the key in the "OTHER" position (please specify), the transmission will shift out of "PARK" without the service brake being applied. Yes___ No___	<u>N/A</u>	
Does the key stay between starting system positions without being held by operator? Yes___ No_ <u>X</u> If so, please describe.	<u>X</u>	
With the vehicle battery disconnected, the gear selection control is locked in the "PARK" position. Yes_ <u>X</u> No___	<u>X</u>	
Brake force readings (force required to allow the transmission to shift out of "park"):		
The vehicle is equipped with adjustable pedals: Yes___ No_ <u>X</u>		
Fore Position:		
Reading 1 <u>26.7 N</u>		
Reading 2 <u>25.8 N</u>		
Reading 3 <u>24.9 N</u>		
Reading 4 <u>25.8 N</u>		
Reading 5 <u>25.8 N</u>		
Avg. <u>25.8 N</u>		
Aft Position (if applicable)		
Reading 1 <u>N/A</u>		
Reading 2 <u>N/A</u>		
Reading 3 <u>N/A</u>		
Reading 4 <u>N/A</u>		
Reading 5 <u>N/A</u>		
Avg. <u>N/A</u>	<u>X</u>	
*For vehicles equipped with adjustable pedals, record readings for both the Fore and Aft positions. For non-adjustable pedal vehicles, use the Fore position column to record values.		

REMARKS:*Hybrid Vehicle

RECORDED BY: G. FarrandDATE: 03/23/11APPROVED BY: D. Messick

SECTION 4
TEST EQUIPMENT LIST

ITEM	MFR	MODEL	S/N	CAL. PERIOD	DATE OF NEXT CALIB.	REMARKS
SLR DIGITAL CAMERA	NIKON	D50	N/A	N/A	N/A	
TIRE PRESSURE GAUGE	WESKLER	45-0/100	107	12 MO.	04/11	
INCLINOMETER	MITUTOYO	PRO 360	950-315	N/A	BEFORE USE	
STEEL TAPE	STANLEY	FAT MAX	33-890	12 MO.	01/12	
WHEEL SCALES	INTERCOMP	SERIES 94	199744	12 MO.	03/12	
WHEEL SCALES	INTERCOMP	SERIES 94	199744	12 MO.	03/12	
WHEEL SCALES	INTERCOMP	SERIES 94	199744	12 MO.	03/12	
WHEEL SCALES	INTERCOMP	SERIES 94	199744	12 MO.	03/12	
SPRING SCALE	CHATILLON	DPP-10	4729	12 MO.	BEFORE USE	

SECTION 5
PHOTOGRAPHS



2011 TOYOTA PRIUS
NHTSA NO. CB5103
FMVSS NO. 114

FIGURE 5.1
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE

MFD. BY: TOYOTA MOTOR CORPORATION 12/10
 GVWR 3980LB GAWR FR 2270LB RR 2175LB
 THIS VEHICLE CONFORMS TO ALL APPLICABLE
 FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND
 THEFT PREVENTION STANDARDS IN EFFECT ON
 THE DATE OF MANUFACTURE SHOWN ABOVE.
 JTDKN3DU1B0264629 PASS. CAR

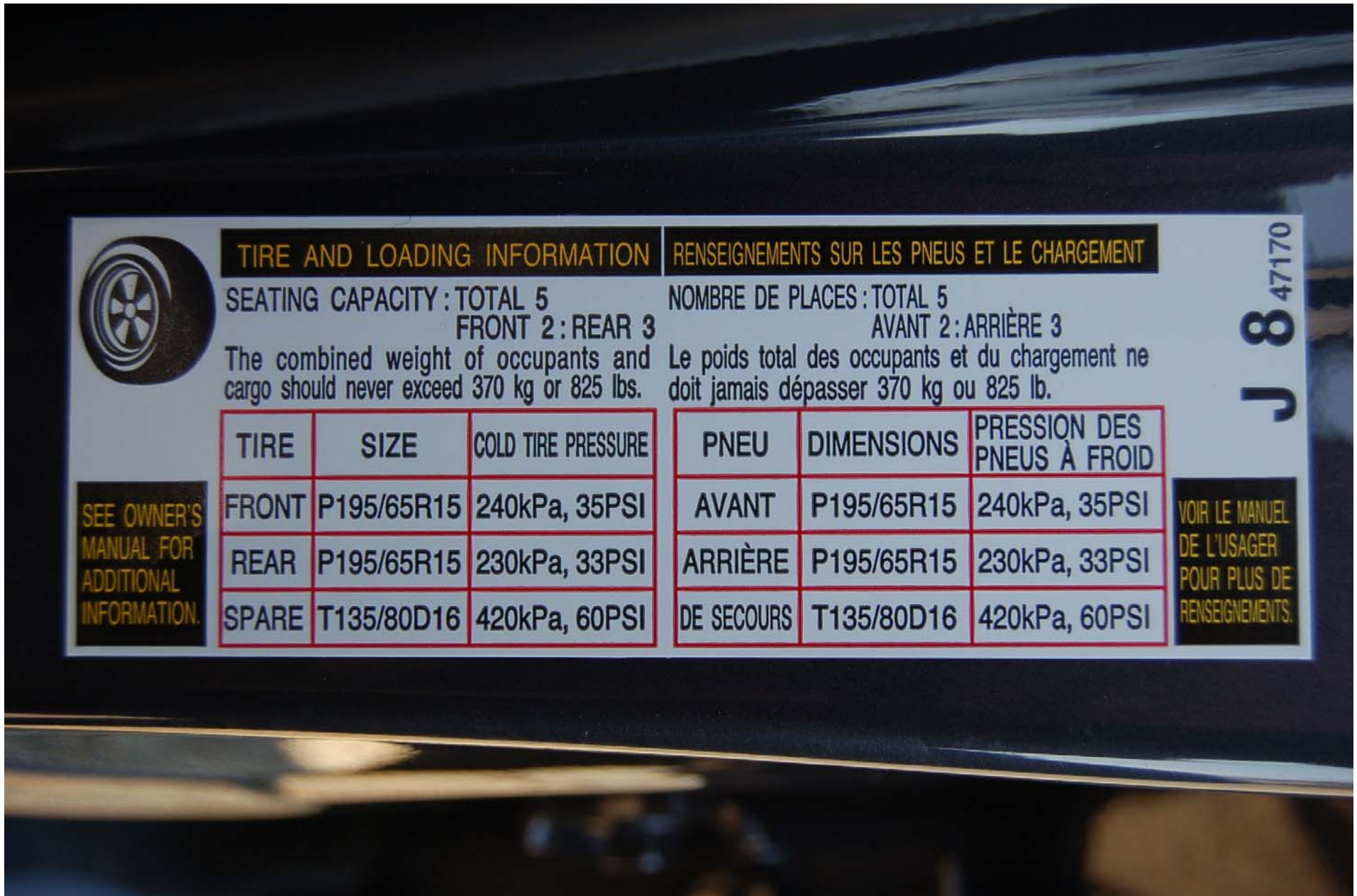


C/TR: 8V1/FB10 ZVW30L - AHXEBA
 A/TM: -01A/P410 MADE IN JAPAN 957 A

CB5103

2011 TOYOTA PRIUS
 NHTSA NO. CB5103
 FMVSS NO. 114

FIGURE 5.2
 VEHICLE CERTIFICATION LABEL



TIRE AND LOADING INFORMATION

SEATING CAPACITY : TOTAL 5
 FRONT 2 : REAR 3
 The combined weight of occupants and cargo should never exceed 370 kg or 825 lbs.

TIRE	SIZE	COLD TIRE PRESSURE
FRONT	P195/65R15	240kPa, 35PSI
REAR	P195/65R15	230kPa, 33PSI
SPARE	T135/80D16	420kPa, 60PSI

SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION.

RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT

NOMBRE DE PLACES : TOTAL 5
 AVANT 2 : ARRIÈRE 3
 Le poids total des occupants et du chargement ne doit jamais dépasser 370 kg ou 825 lb.

PNEU	DIMENSIONS	PRESSION DES PNEUS À FROID
AVANT	P195/65R15	240kPa, 35PSI
ARRIÈRE	P195/65R15	230kPa, 33PSI
DE SECOURS	T135/80D16	420kPa, 60PSI

VOIR LE MANUEL DE L'USAGER POUR PLUS DE RENSEIGNEMENTS.

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FIGURE 5.3
 VEHICLE TIRE INFORMATION LABEL



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FIGURE 5.4
CLOSE-UP VIEW OF KEY FOB



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FIGURE 5.5
POWER BUTTON



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FIGURE 5.6
KEY NOT DETECTED WARNING



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FIGURE 5.7
TRANSMISSION GEAR SELECTOR CONTROL



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FIGURE 5.8
TRANSMISSION PARK SWITCH



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FMVSS NO. 114

FIGURE 5.9
PARK RELEASE WARNING