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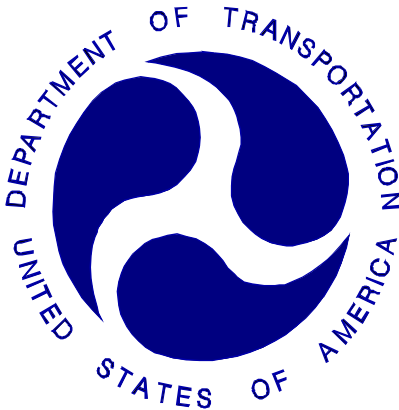
**SAFETY COMPLIANCE TESTING FOR  
FMVSS No. 114  
THEFT PROTECTION AND ROLLOVER PREVENTION**

TOYOTA MOTOR CORPORATION  
2008 TOYOTA HIGHLANDER HYBRID MPV

NHTSA NUMBER: C85106

CALSPAN TEST NUMBER: 8858-F114-01

CALSPAN CORPORATION  
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April 24, 2008

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
ENFORCEMENT  
Office of Vehicle Safety Compliance  
Room W43-481, NVS-220  
1200 New Jersey Avenue, SE  
Washington, DC 20590

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Acceptance Date: \_\_\_\_\_

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## **SECTION 1**

### **PURPOSE OF COMPLIANCE TEST**

This test is part of the Federal Motor Vehicle Safety Standard (FMVSS) 114 Compliance Test Program conducted for the National Highway Traffic Safety Administration (NHTSA) by Calspan under Contract No. DTNH22-06-C-00031. The purpose of this test was to determine if the subject vehicle, a 2008 Toyota Highlander Hybrid MPV, was in compliance with FMVSS No. 114, Theft Protection and Rollaway Prevention. The purpose of this standard is to reduce the incidence of crashes resulting from unauthorized operation of vehicles by specifying requirements for theft protection. Additionally, FMVSS No. 114 specifies requirements to reduce the incidents of crashes from rollaway of parked vehicles with automatic transmissions as a result of children moving the shift mechanism out of the “park” position. This standard applies to passenger cars, trucks and multipurpose passenger vehicles having a Gross Vehicle Weight Rating (GVWR) of 4536 kilograms or less. This compliance test was conducted using the requirements found in the OVSC Laboratory Test Procedure No. TP-114-03, dated May 02, 2008.

## SECTION 2

### TEST PROCEDURE AND DISCUSSION OF RESULTS

A 2008 Toyota Highlander Hybrid MPV with an automatic transmission was subjected to FMVSS No. 114 testing in accordance with the NHTSA Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure TP-114-03, dated May 2, 2008. This test was performed by Calspan on April 24, 2008.

The test equipment used for this test included a standard metric tape ruler, a digital inclinometer with digital clinometer function, weight scales and a digital manometer. Testing was performed in the following sequence:

#### **STARTING SYSTEM REQUIREMENT (S5.1.1):**

Normal activation of the vehicle's engine was prevented with the key removed from the starting system. Both steering and forward self mobility were also prevented.

#### **AUDIBLE WARNING REQUIREMENT (S5.1.3):**

With the key in the vehicle starting system and the driver's door opened, an audible alarm was activated. This "warning to the driver" was verified in all ignition switch positions except "on" and "start".

#### **"PARK" POSITION REQUIREMENT (S5.1.4)**

With the key in the vehicle starting system and the engine shut off, the steering wheel was able to rotate in both directions without locking and the vehicle was free to roll forward in all gear selection positions except "park" and "reverse".

#### **ROLLAWAY PREVENTION REQUIREMENT (S5.2.1)**

Key removal from the vehicle starting system is prevented in all gear selection control positions except for "park." The vehicle transmission could not be placed in locations between locking gear selector positions. The vehicle is not equipped with a mechanism that will lock the gear selection control in "park" as a result of removing the key from the starting system when the gear selection control is in a position other than "park."

#### **GEAR SELECTION REQUIREMENT (S5.2.2):**

With the vehicle smart key device outside the minimum effective range of the vehicle starting system, the gear selection control could not be moved from the "park" position. With the vehicle smart key device within the minimum effective range of the vehicle starting system and the vehicle engine running, the gear selection control could move from the "park" position while depressing the brake pedal.

#### **KEY REMOVAL OVERRRIDE REQUIREMENT (S5.2.3):**

This vehicle is not equipped with a key removal override option.

#### **GEAR SELECTION CONTROL OVERRRIDE REQUIREMENT (S5.2.4):**

The vehicle is equipped with a special device, which when activated, permits movement of the gear selection control from the "park" position after the key is removed from the starting system (refer to Figure 7 and page 5-8). The device is operable by depressing a button covered by an opaque surface, which, when installed, prevented sight and activation of the device. A screwdriver or similar tool was required to remove the device cover. Upon device activation, the steering wheel remained locked.

### **TEN PERCENT GRADE “PARK” REQUIREMENT (S5.2.5)**

The vehicle was driven forward and stopped with the service brakes on a 10.5% grade. The parking brake was fully applied and the gear selection lever was placed in “park”. When the service and parking brakes were released the vehicle moved 22 mm (150 mm maximum is allowed on a 10% grade). Since the available test grade was more stringent than the specified condition, the subject vehicle appeared to perform within the safety performance requirements.

The vehicle was driven in reverse and stopped with the service brakes on a 10.5% grade. The parking brake was fully applied and the gear selection lever was placed in “park”. When the service and parking brakes were released the vehicle moved 61 mm (150 mm maximum is allowed on a 10% grade). Since the available test grade was more stringent than the specified condition, the subject vehicle appeared to perform within the safety performance requirements.

### **BRAKE TRANSMISSION SHIFT INTERLOCK REQUIREMENT (S5.3)**

With the vehicle smart key device within the minimum effective range of the vehicle starting system, the vehicle gear selection control was unable to be shifted from the “park” position without depressing the brake pedal for each of the starting system key positions..

**SECTION 3**

**TEST DATA**



## FMVSS 114, THEFT PROTECTION

### DATA SHEET 1 – ALL VEHICLES

TEST DATE: April 24, 2008 LAB: Calspan  
CONTRACT: DTNH22-06-C-00031 VEHICLE NHTSA NUMBER: C85106  
VIN: JTEEW41A182001348 BUILD DATE: 09/07  
MY/MAKE/MODEL/BODY STYLE: 2008 Toyota Highlander Hybrid MPV

#### TRANSMISSION TYPE:

Automatic X ; Manual - ; Other (describe: Not applicable) )

#### DRIVE TRAIN TYPE:

Front Wheel - ; Rear Wheel - ; Four Wheel X

#### OPTIONAL RELEASE DEVICES:

Key - ; Transmission X ; None -

#### VEHICLE STARTING SYSTEM:

Location of the starting system: The starting system includes a smart key device and a power button located on the dash panel to the right of the steering column. See owner's manual in section 6 pages 174-175 for more information

Selectable settings: There are three positions for the starting system: "OFF", "ACCESSORY" and "ON"; see owner's manual page 175

Activation of starting system: With the smart key device within minimum operating range of the starting system check that the gear selection control is in "Park", depress the brake pedal and press the "POWER" button switch. The "POWER" indicator should turn green. See page 174 of the owner's manual

#### KEY:

Description of key: The key consist of a smart key device that transmits an electronic key code signal. See pages 42- 45 of the owner's manual.

#### STARTING SYSTEM ACTIVATION: (Advanced Key Code)

Insertion of key into starting system: The smart key device must be within the interior portion (cabin) of vehicle.

Activation of starting system with key: The smart key device must be inside the interior portion (cabin) of vehicle for the starting system to detect the electronic key code. Once the electronic key code is detected, the "POWER" button switch indicator must be pressed to activate the starting system.

Removal of key from starting system: With the gear selection control in the "park" position and the vehicle "POWER" button in the 'OFF' position, the smart key device must be moved outside the range of detection. (Outside the interior portion of vehicle) from the starting system thus removing the electronic key code from the vehicle starting system.

#### GEAR SELECTION CONTROL:

Gear selection control: The gear selection control is located in the center console between the front driver and passenger seats.

Activation of gear selection control: With the "POWER" switch in the "ON" mode and the brake pedal depressed The gear selection control can be moved from the "PARK" position.

Selectable settings: The shift positions include: P- “PARK”, R- “REVERSE”, N-“NEUTRAL”, D- “DRIVE”, and B- “ENGINE BRAKING”. See owner’s manual page 180.

**FMVSS 114, THEFT PROTECTION**

DATA SHEET 1 (Continued)

**IMMOBILIZER:**

Is the vehicle equipped with an immobilizer: Yes     X     No     -    

Description of Immobilizer and how it prevents vehicle theft: The smart key device has a built in transponder chip that transmits an electronic key code to the starting system. If the smart key device is outside the minimum range of detection from the vehicle starting system or if the electronic key code is not recognized by the starting system, then the immobilizer will prevent the vehicle from starting.

**OPTIONAL RELEASE DEVICES:**

Key Removal     -     Gear selection Control     X     None     -     Other     -    

If other, Explain: Not applicable

**TIRE PRESSURE:**

Vehicle Manufacturer Recommended (kPa): Front     230     ; Rear     230    

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

**TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:**

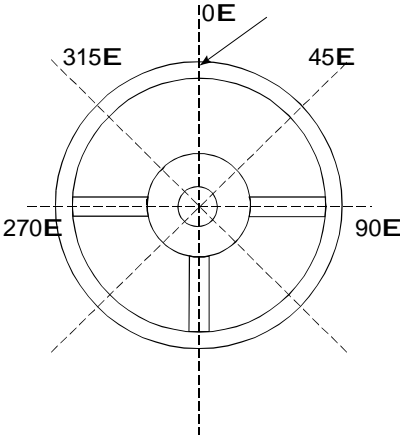
	LEFT SIDE (kg)	RIGHT SIDE (kg)	TOTAL (kg)	PERCENT
<b>FRONT =</b>	589.0	578.0	1167.0	54.6%
<b>REAR =</b>	498.0	473.0	971.0	45.4%

**TOTAL DELIVERED WEIGHT (UDW) :**     2138.0     kg

FMVSS 114, THEFT PROTECTION

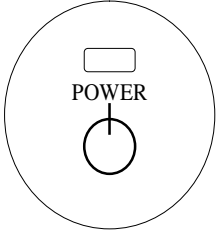
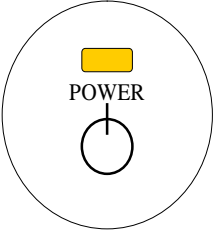
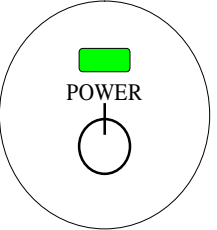
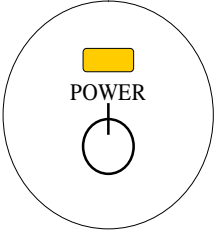
DATA SHEET 2 – THEFT PROTECTION

TEST DATE: April 24, 2008 LAB: Calspan  
 CONTRACT: DTNH22-06-C-00031 VEHICLE NHTSA NUMBER: C85106  
 VIN: JTEEW41A182001348 BUILD DATE: 09/07  
 MY/MAKE/MODEL/BODY STYLE: 2008 Toyota Highlander Hybrid MPV

REQUIREMENT S5.1.1	PASS	FAIL
Engine cannot be started without using the key. Yes <u>X</u> No <u>    </u>	<u>X</u>	<u>--</u>
With key removed, steering locks: Yes <u>X</u> No <u>--</u> <div style="text-align: center;">  </div> Identify the steering wheel locking position(s) on the circle using arrows Clockwise: <u>  0  </u> degrees) Counterclockwise: <u>  0  </u> (degrees)		
Key removal prevents forward self-mobility: Yes <u>X</u> No <u>--</u> If <u>yes</u> , describe: The engine immobilizer prevents the engine from starting when the smart key device is outside the minimum operation range of the vehicle starting system.	<u>X</u>	<u>--</u>
When the key is removed from the starting system, starting of the engine or motor and either steering or self mobility is prevented	<u>X</u>	<u>--</u>

FMVSS 114, THEFT PROTECTION

DATA SHEET 2 – THEFT PROTECTION

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>Yes <u> X </u> No <u> -- </u></p> <p>Identify ALL key/starting system position settings:</p> <div style="display: flex; justify-content: space-around; text-align: center;"> <div data-bbox="253 667 467 926"> <p>OFF</p>  <p>POWER</p> </div> <div data-bbox="472 667 686 926"> <p>ACCESSORY</p>  <p>POWER</p> </div> <div data-bbox="691 667 906 926"> <p>START</p>  <p>POWER</p> </div> <div data-bbox="911 667 1125 926"> <p>ON</p>  <p>POWER</p> </div> </div>	<p><u> X </u></p>	<p><u> -- </u></p>

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?</p> <p>Yes <u> X </u> No <u> -- </u></p>	<p><u> X </u></p>	<p><u> -- </u></p>
<p>The vehicle is free to roll forward?</p> <p>Yes <u> X </u> No <u> -- </u></p>	<p><u> X </u></p>	<p><u> -- </u></p>

Remarks: None

RECORDED BY:  Vincent M. Paolini  DATE:  April 24, 2008   
 APPROVED BY:  David Travale

FMVSS 114, ROLLAWAY PREVENTION

DATA SHEET 3 – ROLLAWAY PREVENTION

(For vehicles equipped with automatic transmission with a 'PARK' position)

TEST DATE: April 24, 2008 LAB: Calspan  
 CONTRACT: DTNH22-06-C-00031 VEHICLE NHTSA NUMBER: C85106  
 VIN: JTEEW41A182001348 BUILD DATE: 09/07  
 MY/MAKE/MODEL/BODY STYLE: 2008 Toyota Highlander Hybrid MPV

REQUIREMENT S5.2.1	PASS	FAIL
<p>The starting system prevents key removal in <b>ALL</b> gear selection control positions except "park".                      Yes <u>  X  </u> No <u>  --  </u></p> <p>Can the gear selection control be placed between each gear selection position and will it remain there without assistance?                      Yes <u>  --  </u> No <u>  X  </u></p> <p>If <u>yes</u>, can the key be removed from the starting system?                      Yes <u>  --  </u> No <u>  --  </u></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's transmission or gear selection control shall become locked in "park" as the direct result of removing the key. If such a mechanism exists, <u>describe the mechanism and its function</u>: <b>Not applicable</b></p>	<p><u>  X  </u></p>	<p><u>  --  </u></p>

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 <u>  --  </u></p>	<p><u>  X  </u></p>	<p><u>  --  </u></p>

FMVSS 114, ROLLAWAY PREVENTION

DATA SHEET 3 – ROLLAWAY PREVENTION

(For vehicles equipped with automatic transmission with a 'PARK' position)

REQUIREMENT S5.2.3	PASS	FAIL
<p><b><u>ELECTRICAL FAILURE (Battery Discharge)</u></b></p> <p>In the event of an electrical failure, key removal from the starting system when the transmission or gear selection control is not locked in "park" is permitted.                      Yes <u> X </u> No <u> -- </u></p> <p>The vehicle is equipped with an override device that permits key removal from the starting system when the transmission or gear selection control is not locked in "park".                      Yes <u> -- </u> No <u> X </u></p> <p>If <u>yes</u>, select the type of override device that is equipped:                      Override operated with a:                      Opaque Cover <u> -- </u> No cover <u> -- </u></p> <p><b><u>FILL IN THE SECTION BELOW THAT APPLIES:</u></b></p>	<p><u> X </u></p> <p><u> -- </u></p>	<p><u> -- </u></p>
<p><b><u>OVERRIDE WITH AN OPAQUE COVER:</u></b></p> <p>The opaque surface cover prevents sight of and use of the override device                      Yes <u> -- </u> No <u> -- </u></p> <p>The opaque surface cover can be removed only by using a screwdriver or other tool.                      Yes <u> -- </u> No <u> -- </u></p> <p>As a direct result of removing the key from the starting system, the following is prevented:                      steering <u> -- </u> or self-mobility <u> -- </u></p>	<p>N/A</p>	<p>N/A</p>
<p><b><u>OVERRIDE WITH NO COVER:</u></b></p> <p>The override device requires the use of a tool to activate.                      Yes <u> -- </u> No <u> -- </u></p> <p>Simultaneous activation of the override device and removal of the key from the starting system is required.                      Yes <u> -- </u> No <u> -- </u></p> <p>As a direct result of removing the key from the starting system, the following is prevented:                      steering <u> -- </u> or self-mobility <u> -- </u></p>	<p>N/A</p>	<p>N/A</p>

FMVSS 114, ROLLAWAY PREVENTION

DATA SHEET 3 – ROLLAWAY PREVENTION

(For vehicles equipped with automatic transmission with a 'PARK' position)

REQUIREMENT S5.2.4	PASS	FAIL
<p><b><u>GEAR SELECTION CONTROL OVERRIDE DEVICE</u></b></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 <u>  X  </u> No <u>  --  </u></p> <p>If <u>yes</u>, select the type of override device that is equipped:                      Override operated with a:                      Key <u>  --  </u> Opaque Cover <u>  X  </u> No cover <u>  --  </u></p> <p>Describe the device design and mode of activation:</p> <p>A non-transparent cover is located in the center console near the indicator that must be removed by a screwdriver or flat blade tool. An object can then be inserted which activates a switch allowing the shift indicator to be moved out of “Park”. The vehicle is then permitted to roll but the steering mechanism remains locked.</p>		
<p><b><u>FILL IN THE SECTION BELOW THAT APPLIES:</u></b></p> <p><b><u>OVERRIDE OPERATED WITH A KEY:</u></b></p> <p>A 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 <u>  --  </u> No <u>  --  </u></p>	<p><u>  N/A  </u></p>	<p><u>  N/A  </u></p>
<p><b><u>OVERRIDE WITH AN OPAQUE COVER:</u></b></p> <p>The opaque surface cover prevents sight of and use of the override device                      Yes <u>  X  </u> No <u>  --  </u></p> <p>The opaque surface cover can be removed only by using a screwdriver or other tool.                      Yes <u>  X  </u> No <u>  --  </u></p> <p>As a direct result of removing the key from the starting system, the following is prevented:                      steering <u>  X  </u> or self-mobility <u>  --  </u></p>	<p><u>  X  </u></p>	<p><u>  --  </u></p>
<p><b><u>OVERRIDE WITH NO COVER:</u></b></p> <p>The override device requires the use of a tool to operate                      Yes <u>  --  </u> No <u>  --  </u></p> <p>Simultaneous activation of the override device and removal of the key from the starting system is required                      Yes <u>  --  </u> No <u>  --  </u></p> <p>As a direct result of removing the key from the starting system, the following is prevented:                      steering <u>  --  </u> or self-mobility <u>  --  </u></p>	<p>N/A</p>	<p>N/A</p>



FMVSS 114, ROLLAWAY PREVENTION

DATA SHEET 3 – ROLLAWAY PREVENTION

(For vehicles equipped with automatic transmission with a 'PARK' position)

REQUIREMENTS S5.2.5	PASS	FAIL
<p><u>Vehicle facing uphill on 10% Grade:</u>                      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>10.5</u> % (9% to 15%)                      Measured movement: <u>22</u> mm (150mm maximum)</p> <p><b>NOTE:</b> Repeat procedure if vehicle fails on grade in excess of 10%.</p> <p>Test grade: <u>N/A</u> % (9% to 10%)                      Measured movement: <u>N/A</u> mm (150 mm maximum)</p> <p><u>Vehicle facing downhill on 10% Grade:</u>                      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>10.5</u> % (9% to 15%)                      Measured movement: <u>61</u> mm (150mm maximum)</p> <p><b>NOTE:</b> Repeat procedure if vehicle fails on grade in excess of 10%.</p> <p>Test grade: <u>N/A</u> % (9% to 10%)                      Measured movement: <u>N/A</u> mm (150 mm maximum)</p>	<p><u>X</u></p>	<p><u>--</u></p>

Remarks: None

RECORDED BY: Vincent M. Paolini

DATE: April 24, 2008

APPROVED BY: David Travale



## SECTION 4

### TEST EQUIPMENT LIST AND CALIBRATION DATES

<b>Equipment</b>	<b>Manufacturer</b>	<b>Name</b>	<b>Range</b>	<b>Accuracy</b>	<b>Calibration Date</b>	<b>Calibration Due</b>
Clinometer	MD	Smart Level	0-100%	0.1%	04/2008	04/2009
Steel Tape	Stanley	Stanley 3137	3 meters	0.5mm	N/A	N/A
Weight Scales	Long Acre	Computer Scales 2000	0-12,000lbs.	0.2%	03/2008	03/2009
Manometer	Meriam Instrument Co.	350 Smart Manometer	0-200 psi.	0.05%	02/2008	02/2009
Plumb Bob	Stanley	Plumb bob	N/A	N/A	N/A	N/A

## SECTION 5

### PHOTOGRAPHS

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Figure 1: Vehicle Left Front Three-Quarter View

2008 Toyota Highlander Hybrid MPV  
NHTSA No.: C85106



MFD. BY: TOYOTA MOTOR CORPORATION  
 GVWR: 2785KG (6150LB)  
 GAWR: FRT. 1340KG (2955LB) WITH P245/55R19 TIRES.  
 19X7 1/2J RIMS, AT 230KPA (33PSI) COLD.  
 RR. 1550KG (3420LB) WITH P245/55R19 TIRES.  
 19X7 1/2J RIMS, AT 230KPA (33PSI) COLD.  
 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR  
 VEHICLE SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON  
 THE DATE OF MANUFACTURE SHOWN ABOVE.  
 JTEEW41A182001348 MPV  
 C/TR: 6T7/FD10 MHU48L-BRXNKA  
 A/TM: -02A/P310 MADE IN JAPAN 735

C85106

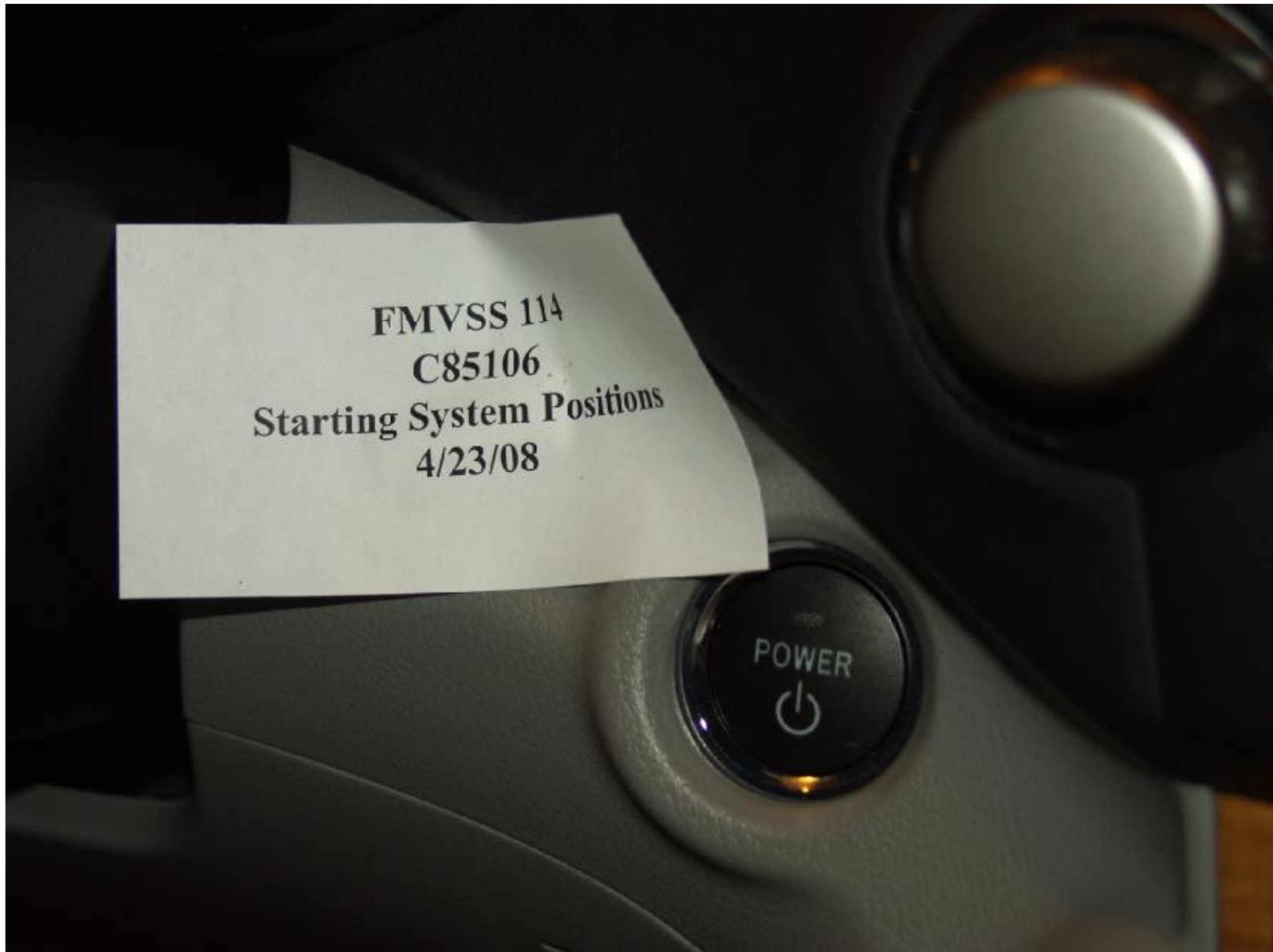
Figure 2: Vehicle Certification Placard

2008 Toyota Highlander Hybrid MPV  
 NHTSA No.: C85106



Figure 3: Vehicle Tire Placard

2008 Toyota Highlander Hybrid MPV  
NHTSA No.: C85106



5-5

8858-F114-01

Figure 4: Close-Up of Ignition Switch

2008 Toyota Highlander Hybrid MPV  
NHTSA No.: C85106



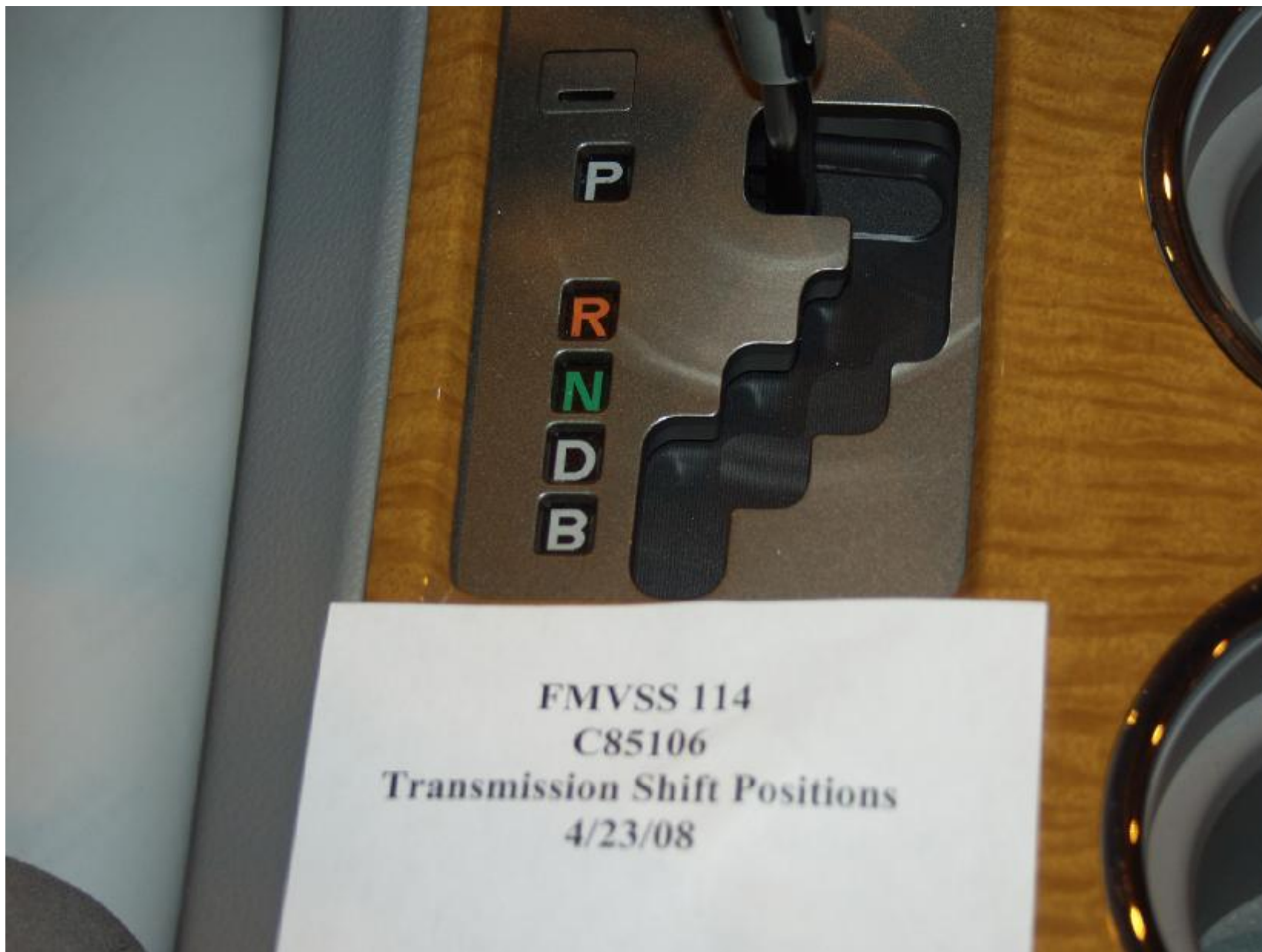


Figure 5: Close-Up of Gear selection Shift Lever Mechanism

2008 Toyota Highlander Hybrid MPV  
NHTSA No.: C85106

NOT APPLICABLE

5-7

8858-F114-01

Figure 6: Close-Up of Special Device Which Allows For Key Removal

2008 Toyota Highlander Hybrid MPV  
NHTSA No.: C85106

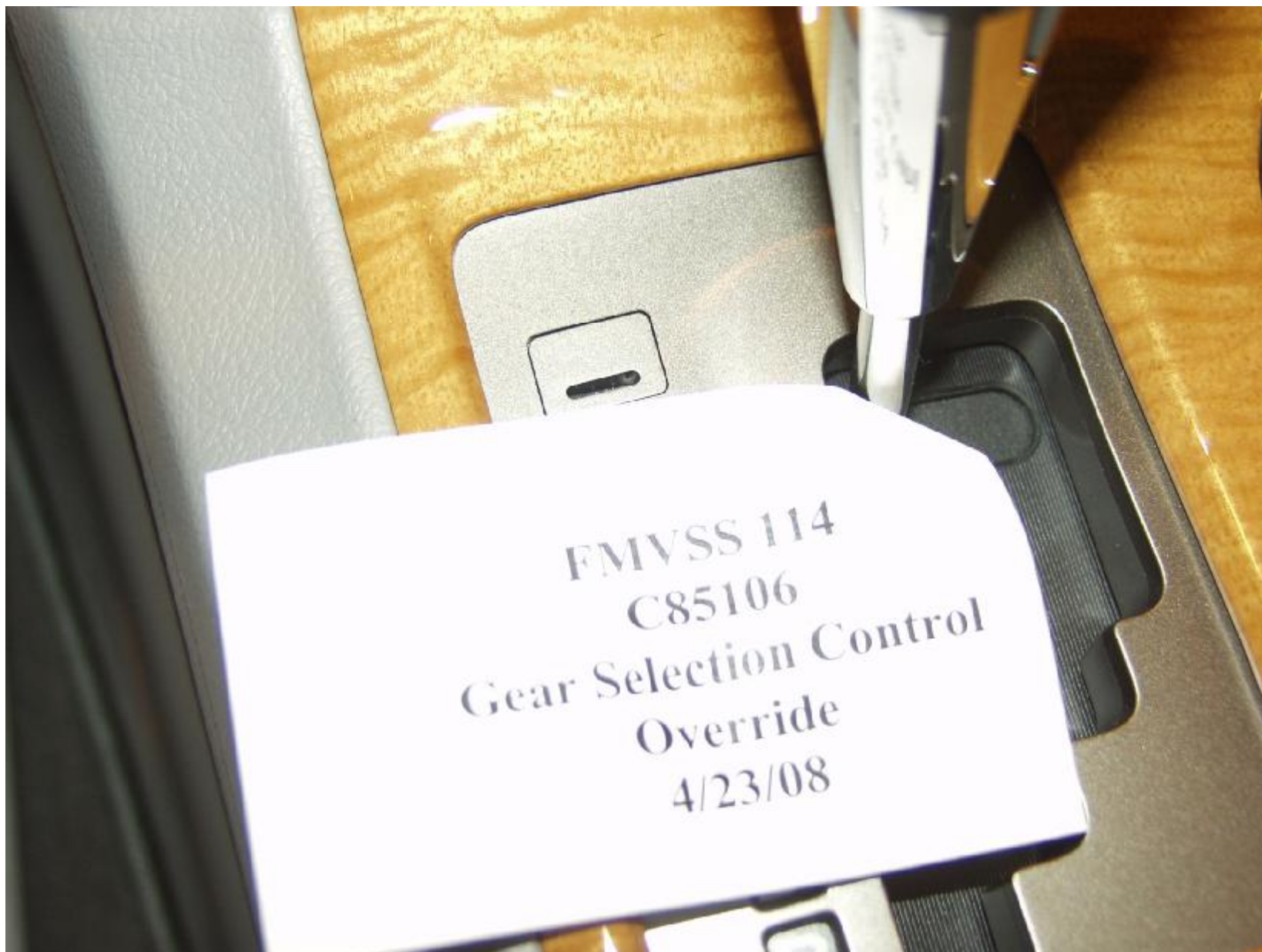


Figure 7: Close-Up of Special Device Which Allows Moving of Shift Lever

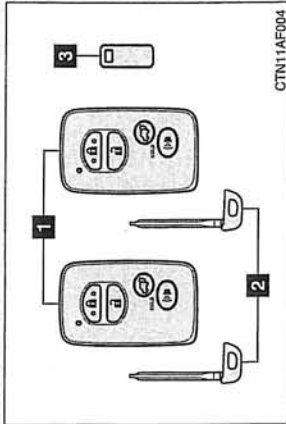
2008 Toyota Highlander Hybrid MPV  
NHTSA No.: C85106

**SECTION 6**

**VEHICLE OWNER'S MANUAL**

2008 Toyota Highlander Hybrid MPV  
NHTSA No.: C85106

The following keys are provided with the vehicle.



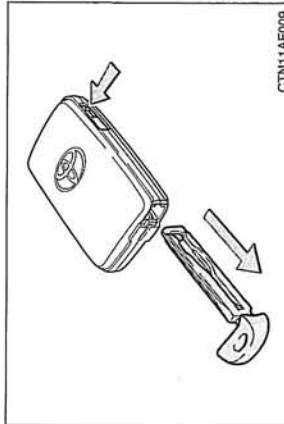
**1 Electronic keys**

- Operating the smart key system (→P. 44)
- Operating the wireless remote control function (→P. 65)

**2 Mechanical keys**

**3 Key number plate**

**Using the mechanical key**



Take out the mechanical key.

After using the mechanical key, store it in the electronic key. Carry the mechanical key together with the electronic key. If the electronic key battery is depleted or the entry function does not operate properly, you will need the mechanical key. (→P. 517)

**When required to leave a key to the vehicle with a parking attendant**

Lock the glove box as circumstances demand. (→P. 365)  
Remove the mechanical key for your own use and provide the attendant with the electronic key only.

**Key number plate**

Keep the plate in a safe place such as your wallet, not in the vehicle. In the event that a key is lost, a new key can be made by your Toyota dealer using the key number plate. (→P. 516)

**NOTICE**

**To prevent key damage**

- Do not subject the keys to strong shocks, expose them to high temperatures by placing them in direct sunlight, or get them wet.
- Do not expose the keys to electromagnetic materials or attach any material that blocks electromagnetic waves to the key surface.
- Do not disassemble the electronic key.

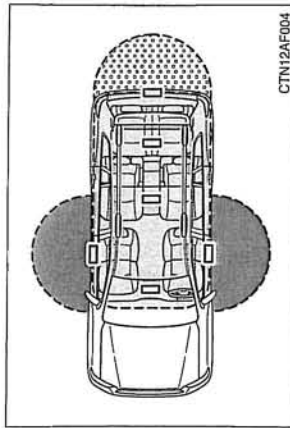
1

Before driving

IMMOBILIZER



■ **Effective range (areas within which the electronic key is detected)**



- When locking or unlocking the doors

The system can be operated when the electronic key is within about 2.3 ft. (0.7 m) of either of the outside front door handles.

- When starting the hybrid system or changing "POWER" switch modes

The system can be operated when the electronic key is inside the vehicle.

- When opening the glass hatch and locking or unlocking the doors

This system can be operated when the electronic key is within about 2.3 ft. (0.7 m) of the back door handle.

■ **Operation signals**

A buzzer sounds and the emergency flashers flash to indicate that the doors have been locked/unlocked. (Locked: Once; Unlocked: Twice)

■ **Conditions affecting operation**





The smart key system uses weak radio waves. In the following situations, the communication between the electronic key and the vehicle may be affected, preventing the smart key system and wireless remote control from operating properly. (Ways of coping: →P. 517)

- When the electronic key battery is depleted
- Near a TV tower, electronic power plant, gas station, radio station, large display, airport or other facility that generates strong radio waves or electrical noise
- When carrying a portable radio, cellular phone, cordless phone or other wireless communication devices
- When the electronic key has come into contact with, or is covered by a metallic object
- When multiple electronic keys are in the vicinity
- When carrying or using the electronic key together with the following devices that emit radio waves
  - Another vehicle's electronic key
  - A wireless key that emits radio waves
  - Personal computer
- If window tint with a metallic content or metallic objects are attached to the rear window

■ **Switching the door unlock function**

It is possible to set which doors the entry function unlocks.

**STEP 1** Turn the "POWER" switch to OFF.

**STEP 2** When the indicator on the key surface is turned off, push and hold  ,  , or  for approximately 5 seconds while pushing  on the key.

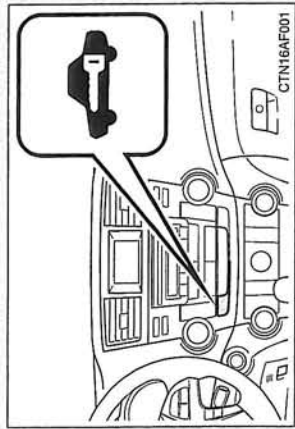
C85106

## 1-7. Theft deterrent system Immobilizer system

The vehicle's keys have built-in transponder chips that prevent the hybrid system from starting if the key has not been previously registered in the vehicle's on-board computer.

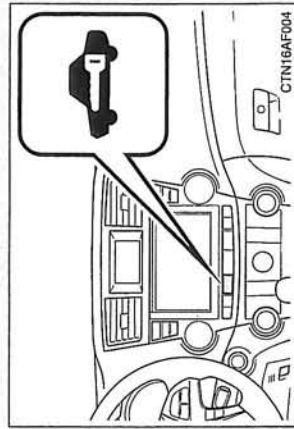
Never leave the keys inside the vehicle when you leave the vehicle.

### ▲ Vehicles without navigation system



The indicator light flashes after the "POWER" switch has been turned to OFF to indicate that the system is operating.

### ▲ Vehicles with navigation system



The indicator light flashes after the "POWER" switch has been turned to OFF to indicate that the system is operating.

### ■ System maintenance

The vehicle has a maintenance-free type of immobilizer system.

### ■ Conditions that may cause the system to malfunction

- If the key is in contact with a metallic object
- If the key is in close proximity to or touching a key to the security system (key with a built-in transponder chip) of another vehicle

### ■ Certifications for the immobilizer system

- For vehicles sold in the U.S.A.

FCC ID: N14TMMB-1

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### FCC WARNING:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- For vehicles sold in Canada

This device complied with RSS-210 of Industry Canada.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Before driving

Gear shift



The system sounds the alarm and flashes lights when forcible entry is detected.

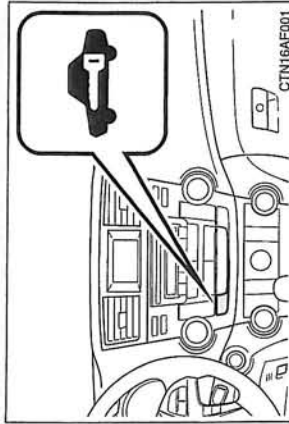
■ **Triggering of the alarm**

The alarm is triggered in the following situations.

- A locked door is unlocked or opened in any way other than using the wireless remote control door lock function or entry function. The doors will lock again automatically.
- The hood is opened while the vehicle is locked.
- The locked glass hatch is opened in any way other than using the entry function.
- The battery is reconnected.

■ **Setting the alarm system**

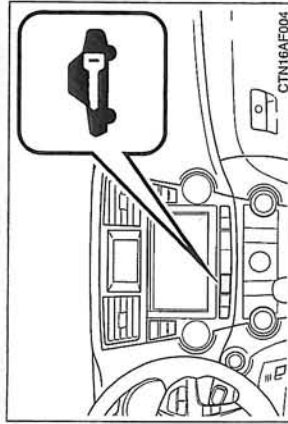
▶ **Vehicles without navigation system**



Close the doors and hood, and lock all doors using the wireless remote control door lock function or entry function. The system will be set automatically after 30 seconds.

The indicator light changes from being on to flashing when the system is set.

▶ **Vehicles with navigation system**



Close the doors and hood, and lock all doors using the wireless remote control door lock function or entry function. The system will be set automatically after 30 seconds.

The indicator light changes from being on to flashing when the system is set.

■ **Deactivating or stopping the alarm**

Unlock the doors using the wireless remote control door lock function or the entry function.

1

Before driving

Clear 2/1/24

C85106

■ **Items to check before locking the vehicle**

To prevent unexpected triggering of the alarm and vehicle theft, make sure of the following.

- Nobody is in the vehicle.
- The windows and moon roof are closed before the alarm is set.
- No valuables or other personal items are left in the vehicle.

■ **Panic mode**

→P. 65

■ **When the battery is disconnected**

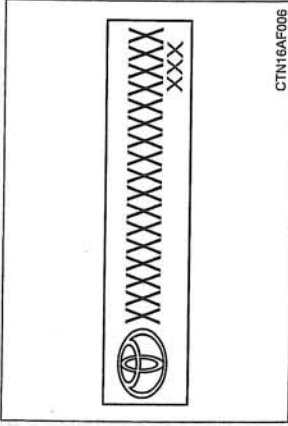
Be sure to cancel the alarm system.

If the battery is discharged before canceling the alarm, the system may be triggered when the battery is reconnected.

■ **When using the mechanical key to unlock the doors**

Deactivate the alarm.

These labels are attached to the vehicle to reduce vehicle theft by facilitating the tracing and recovery of parts from stolen vehicles. Do not remove under penalty of law.



XXXXXXXXXXXXXXXXXXXX  
XXX

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1 Before driving

### Power (ignition) switch

#### Starting the hybrid system

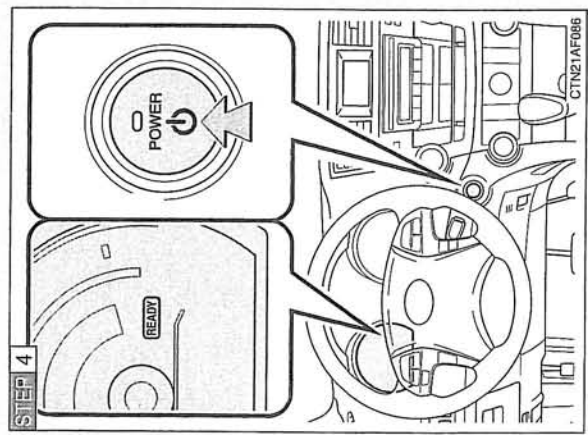
The hybrid system can be started in any mode by operating the "POWER" switch at the same time as depressing the brake pedal.

- STEP 1** Check that the parking brake is set.
- STEP 2** Check that the shift lever is set in P.
- STEP 3** Sit in the driver's seat and firmly depress the brake pedal. The "POWER" switch indicator turns green. If the indicator does not turn green, the hybrid system cannot be started.

Press the "POWER" switch.

After a while, the "READY" indicator comes on with a beep sound.

The vehicle can move when the "READY" indicator is on even if the engine is stopped.



#### Changing "POWER" switch mode

Modes can be switched by pressing the "POWER" switch when carrying the electronic key on your person. (The hybrid system can be started in any mode by operating the switch at the same time as depressing the brake pedal.)

##### 1 OFF\*

Emergency flashers can be used.

##### 2 ACCESSORY mode

Some electrical components such as the audio system can be used.

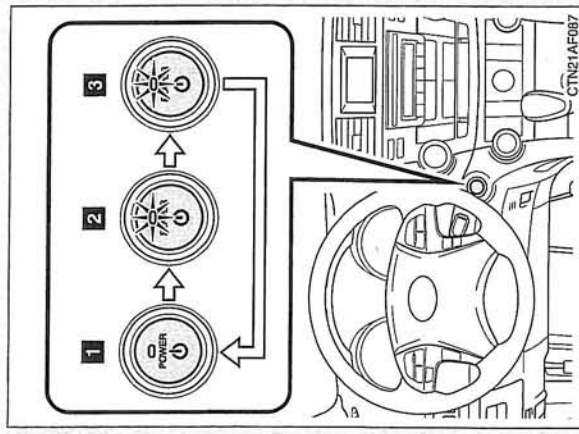
The "POWER" switch indicator turns amber.

##### 3 ON mode

All electrical components can be used.

The "POWER" switch indicator turns amber.

\*: If the shift lever is in a position other than P when turning off the hybrid system, the "POWER" switch will be turned to ACCESSORY mode, not to OFF.



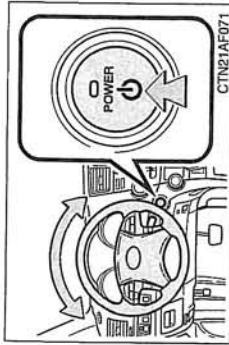
*Gear shift*

2

When driving

C85106

### Steering lock release



Make sure that the steering wheel lock is released.

To release the steering wheel lock, gently turn the wheel left or right while pressing the "POWER" switch.

When the steering wheel lock does not release, the "POWER" switch indicator will flash green.

### If the hybrid system does not start

The immobilizer system may not have been deactivated. (→P. 120)

### When the "POWER" switch indicator flashes in amber

The system may be malfunctioning. Have the vehicle inspected by your Toyota dealer immediately.

### If the "READY" indicator does not come on

If the "READY" indicator does not come on when you press the "POWER" switch with the shift lever in P and the brake pedal depressed, contact your Toyota dealer immediately.

### Auto power off function

If the vehicle is left in ACCESSORY mode for more than an hour with the shift lever in P, the "POWER" switch will automatically turn OFF.

### When the ambient temperature is low, such as during winter driving conditions

It may take time until the "READY" indicator comes on.

### Sounds and vibrations specific to a hybrid vehicle

→P. 32

### When the hybrid system is malfunctioning

→P. 492

### Electronic key battery depletion

→P. 51

### When the electronic key battery is discharged

→P. 517

### Conditions affecting operation

→P. 49

### Note for the entry function

→P. 51

### CAUTION

#### When starting the hybrid system

Always start the hybrid system while sitting in the driver's seat. Do not depress the accelerator pedal while starting the hybrid system under any circumstances.

Doing so may cause an accident resulting in death or serious injury.

#### Caution when driving

Do not touch the "POWER" switch while driving.

Pressing and holding the "POWER" switch will stop the hybrid system, which may lead to an unexpected accident.

### NOTICE

#### To prevent 12-volt battery from being discharge

Do not leave the "POWER" switch in ACCESSORY or ON mode for long periods without the hybrid system on.

#### When starting the hybrid system

Do not race a cold hybrid system.

If the hybrid system becomes difficult to start, have the hybrid system checked immediately by your Toyota dealer.

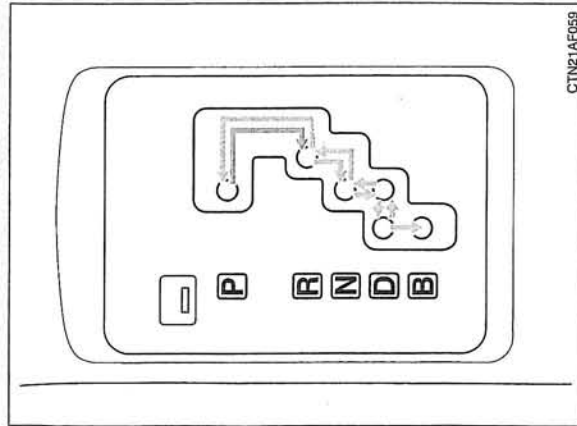
Gear shift

2

When driving

Select a shift position appropriate for the driving conditions.

■ **Shifting the shift lever**



While the "POWER" switch is in ON mode, depress the brake pedal and move the shift lever.

■ **Shift position uses**

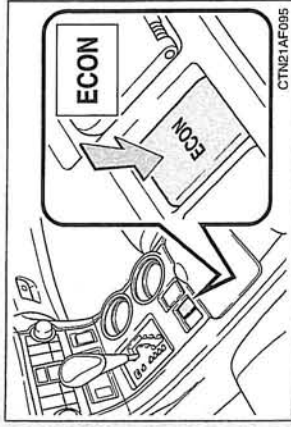
Shift position	Function
P	Parking the vehicle or starting the hybrid system
R	Reversing
N	Neutral
D	Normal driving
B	Engine braking

2

When driving

■ **Selecting the Eco Driving Mode**

Use Eco Driving Mode to help achieve low fuel consumption driving trips that involve frequent accelerating and braking.



On/off

When Eco Driving Mode is turned on, the "ECON" indicator will come on.

Press the switch once more to cancel the Eco Driving Mode.

Eco Driving Mode helps you to drive within the variable economy zone. (→P. 166)

■ **When in heavy traffic**

If the shift lever is in N, the hybrid battery (traction battery) will not be charged. To help prevent the battery from discharging, avoid putting the shift lever in N for an extended period of time.

■ **Eco Driving Mode**

When the accelerator pedal is depressed in Eco Driving Mode, it may take more time to accelerate than usual. This is normal operation.

■ **If the shift lever cannot be shifted from P**

→P. 515

### ■ The interior lights and headlights do not turn on, or the horn does not sound.

One of the following may be the cause of the problem.

- One or both of the 12-volt battery terminals may be disconnected.
  - The 12-volt battery may be discharged. (→P. 519)
- Contact your Toyota dealer if the problem cannot be repaired, or if repair procedures are unknown.

### ■ Emergency start function

When the hybrid system does not start, the following steps can be used as an interim measure to start the hybrid system if the "POWER" switch is functioning normally.

- STEP 1** Set the parking brake.
- STEP 2** Shift the shift lever to P.
- STEP 3** Turn the "POWER" switch to the ACCESSORY mode.
- STEP 4** Push and hold the "POWER" switch about 15 seconds while depressing the brake pedal firmly.

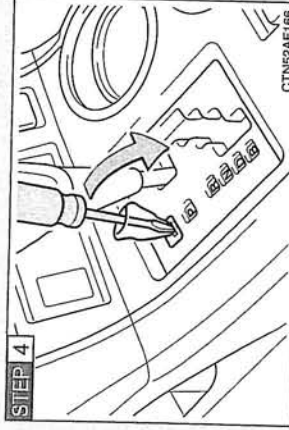
Even if the hybrid system can be started using the above steps, the system may be malfunctioning. Have the vehicle checked by your Toyota dealer.

### ■ If the shift lever cannot be shifted

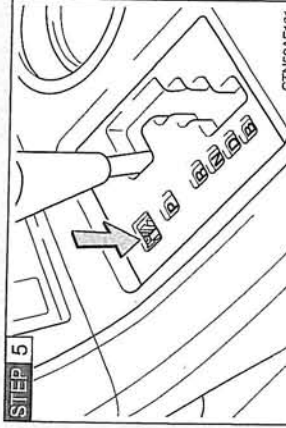
If the shift lever cannot be shifted with your foot on the brake, there may be a problem with the shift lock system (a system to prevent accidental operation of the shift lever). Have the vehicle inspected by your Toyota dealer immediately.

The following steps may be used as an emergency measure to ensure that the shift lever can be shifted.

- STEP 1** Set the parking brake.
- STEP 2** Turn the "POWER" switch to the ACCESSORY mode.
- STEP 3** Depress the brake pedal.



Pry the cover up with a flat-head screwdriver or equivalent.



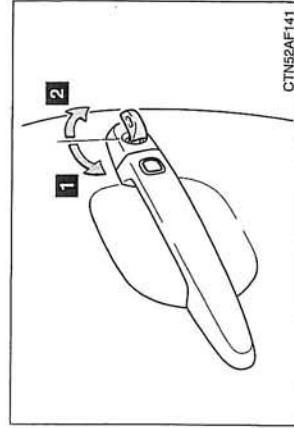
Press the shift lock override button.

The shift lever can be shifted while the button is pressed.

New genuine keys can be made by your Toyota dealer. Bring the key and the key number stamped on the key number plate.

If communication between the electronic key and vehicle is interrupted (→P. 49) or the electronic key cannot be used because the battery is depleted, the smart key system and wireless remote control cannot be used. In such cases, the doors can be opened or the hybrid system can be started by following the procedure below.

#### Locking and unlocking the doors, and mechanical key linked functions

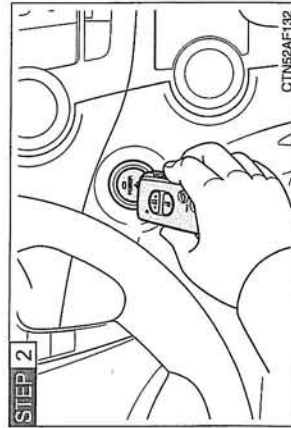


- 1 Locks all doors
- 2 Unlocks all doors

Turning the key rearward unlocks the driver's door. Turning the key once again unlocks the other doors.

#### Changing "POWER" switch modes and starting the hybrid system

**STEP 1** Shift the shift lever to P and apply the brakes.



Touch the Toyota emblem side of the electronic key to the "POWER" switch.

An alarm will sound to indicate that the start function cannot detect the electronic key that is touched to the "POWER" switch if any of the doors is opened and closed while the key is touched to the switch.

**STEP 3** To change "POWER" switch modes: Within 5 seconds of the buzzer sounding, release the brake pedal and press the "POWER" switch. Modes can be changed each time the switch is pressed. (→P. 175)

To start the hybrid system: Press the "POWER" switch within 5 seconds after the buzzer sounds, keeping the brake pedal depressed.

In the event that the hybrid system still cannot be operated, contact your Toyota dealer.

#### ■ Stopping the hybrid system

Shift the shift lever to P and press the "POWER" switch as you normally do when stopping the hybrid system.

#### ■ Replacing the key battery

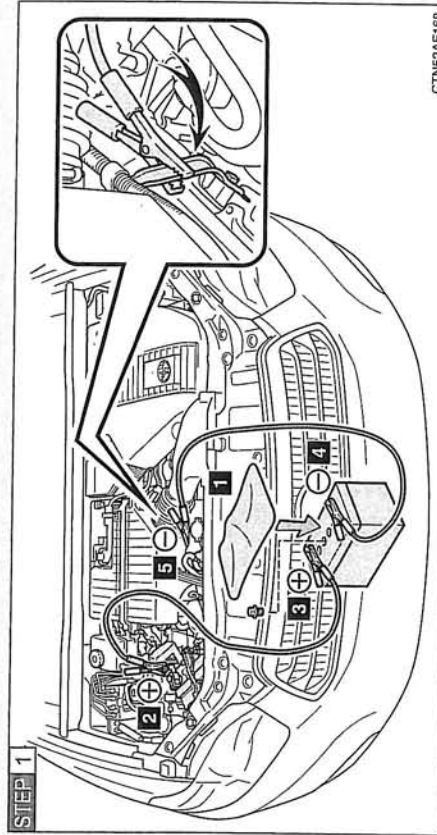
As the above procedure is the temporary measure, it is recommended that the electronic key battery be replaced immediately when the battery depletes. (→P. 456)

## If the vehicle 12-volt battery is discharged

The following procedures may be used to start the hybrid system if the vehicle's 12-volt battery is discharged.

You can call your Toyota dealer or qualified repair shop.

If you have a set of jumper (or booster) cables and a second vehicle with a 12-volt battery, you can jump start your Toyota following the steps below.



#### Connecting the jumper cables

- 1** If required, remove all vent plugs from the booster battery. Lay a cloth over the open vents on the booster battery. (This helps reduce the explosion hazard, personal injuries and burns.)
- 2** Positive (+) battery terminal on your vehicle
- 3** Positive (+) battery terminal on the second vehicle
- 4** Negative (-) battery terminal on the second vehicle
- 5** Connect the jumper cable to ground on your vehicle as shown in the illustration.