REPORT NUMBER: 114-CAL-08-04

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

CHRYSLER LLC
2008 JEEP COMMANDER MPV

NHTSA NUMBER: C80308

CALSPAN TEST NUMBER: 8858-F114-04

CALSPAN CORPORATION
P.O. BOX 400
BUFFALO, NEW YORK 14225

April 28, 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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15. Supplementary Notes			
16. Abstract Compliance tests were conducted on the subject 2008 Jeep Commander MPV in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-114-03 for the determination of FMVSS 114 compliance. Test failures were identified as follows: None			
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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 General Dynamics Advanced Information Engineering Services under Contract No. DTNH22-06-C-00031. The purpose of this test was to determine if the subject vehicle, a 2008 Jeep Commander 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 2, 2008.

SECTION 2

TEST PROCEDURE AND DISCUSSION OF RESULTS

A 2008 Jeep Commander 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 General Dynamics Advanced Information Engineering Services on April 28, 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 engine was prevented with the key removed from the starting system. Both steering and forward self-mobility were also prevented.

AUDIBLE ALARM REQUIREMENT (S5.1.3):

With the key left 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 vehicle key in the ignition 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 transmission positions except "park".

ROLLAWAY PREVENTION REQUIREMENT (S5.2.1)

With the vehicle key in the ignition and the engine shut off, the starting system prevented key removal in all transmission positions other than "park". This vehicle was not equipped with an advanced key and the transmission could not be placed in locations between locking gear selector positions. The vehicle was not equipped with a mechanism that will lock the transmission in "park" as a result of removing the key in a transmission position other than "park."

GEAR SELECTION REQUIREMENT (S5.2.2):

With the vehicle ignition key removed, the gear control could not be moved from the "park" position. With the vehicle ignition key in the "ON" position and the vehicle engine running, the transmission could be moved to the "drive" position by depressing the brake pedal.

KEY REMOVAL OVERRRIDE REQUIREMENT (S5.2.3):

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

GEAR SELECTION CONTROL OVERRRIDE REQUIREMENT (S5.2.4):

The vehicle was equipped with a special device, which when activated, permitted movement of the transmission lever from "park" after the key was removed from the locking system (refer to Figure 7 and page 5-8). The device was operable by depressing a button covered by a non-transparent 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 10.3% grade. The parking brake was fully applied and the transmission lever was placed in "park". When the service and parking brakes were released the vehicle moved 60 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 10.3% grade. The parking brake was fully applied and the transmission lever was placed in "park". When the service and parking brakes were released the vehicle moved 73 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 key in the starting system, the vehicle transmission 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 28, 2008	LAB:	Calspan
CONTRACT:	DTNH22-06-C-00031	VEHICLE NHTSA NUMBER:	C80308
VIN:	1J8HG48K98C133130	BUILD DATE:	09-07
MY/MAKE/MODEL/BODY STYLE:	2008 Jeep Commander 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 ignition node is located to the right of the vehicle steering column on the dash panel.

Selectable settings: "LOCK", "ACCESSORY", "ON" and "START"

Activation of starting system: Place the vehicle key in the starting system and rotate the key clockwise like a conventional key.

KEY:

Description of key: The system consists of a fob with an integrated key that is inserted into a wireless ignition node and rotated like a conventional key.

STARTING SYSTEM ACTIVATION:

Insertion of key into starting system: The key fob inserts into the wireless ignition node with either side up.

Activation of starting system with key: The system operates like a conventional key and lock

Removal of key from starting system: The vehicle must be in "PARK" and the key turned to "LOCK"

GEAR SELECTION CONTROL:

Gear selection control: The gear selection control is located on the center console between the front seats.

Activation of gear selection control: The gear selector is operable when the engine is running. The driver must depress the brake pedal to move the gear selector out of "PARK"

Selectable settings: "PARK", "REVERSE", "NEUTRAL", "DRIVE" and electronic range select operation in the "DRIVE" position to select individual drive gears.

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: Sentry key immobilizer system disables the engine if there is unauthorized use. Operation is automatic. The vehicle computer must recognize the unique key code.

OPTIONAL RELEASE DEVICES:

Key Removal - Gear selection Control X None - Other -

If other, Explain: Not Applicable

TIRE PRESSURE:

Vehicle Manufacturer Recommended (kPa): Front 242 ; Rear 242

Measured (kPa): LF 242 ; LR 242 ; RF 242 ; RR 242

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

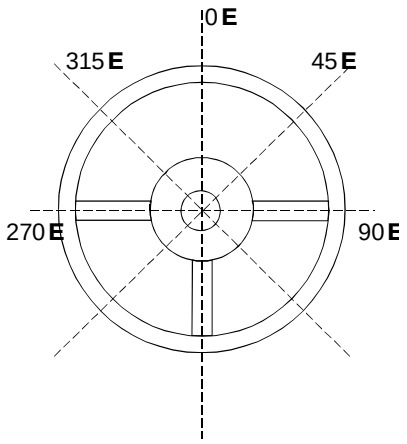
	LEFT SIDE (kg)	RIGHT SIDE (kg)	TOTAL (kg)	PERCENT
FRONT =	560.5	525.5	1086.0	51.2%
REAR=	530.0	505.0	1035.0	48.8%

TOTAL DELIVERED WEIGHT (UDW) : 2121.0 kg

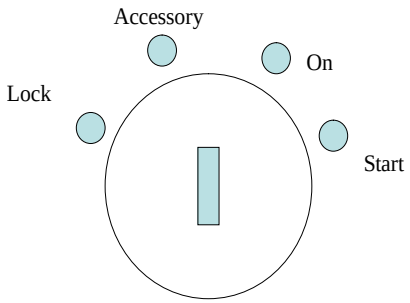
FMVSS 114, THEFT PROTECTION

DATA SHEET 2 – THEFT PROTECTION

TEST DATE:	April 28, 2008	LAB:	Calspan
CONTRACT:	DTNH22-06-C-00031	VEHICLE NHTSA NUMBER:	C80308
VIN:	1J8HG48K98C133130	BUILD DATE:	09-07
MY/MAKE/MODEL/BODY STYLE:	2008 Jeep Commander MPV		

REQUIREMENT S5.1.1	**PASS**	**FAIL**
Engine cannot be started without using the key. Yes X No _____	**X**	--
With key removed, steering locks: Yes - No X  Identify the steering wheel locking position(s) on the circle using arrows Clockwise: - (degrees) Counterclockwise: - (degrees)		
Key removal prevents forward self-mobility: Yes X No - If yes, describe: The vehicle is equipped with an engine immobilizer. The vehicle engine cannot be started without the key.	**X**	--
When the key is removed from the starting system, starting of the engine or motor and either steering or self mobility is prevented	**X**	--

DATA SHEET 2 – THEFT PROTECTION

REQUIREMENT S5.1.3	PASS	FAIL
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. Yes X No -	X	--
Identify ALL key/starting system position settings:  		

REQUIREMENT S5.1.4	PASS	FAIL
With the vehicle engine or motor shut down and the transmission gear selection control in any position other than "park"; The steering wheel can rotate without locking? Yes X No -	X	--
The vehicle is free to roll forward? Yes X No -	X	--

Remarks: None

RECORDED BY: Vincent M. Paolini DATE: April 28, 2008

APPROVED BY: David Travale

DATA SHEET 3 – ROLLAWAY PREVENTION
(For vehicles equipped with automatic transmission with a 'PARK' position)

TEST DATE:	April 28, 2008	LAB:	Calspan
CONTRACT:	DTNH22-06-C-00031	VEHICLE NHTSA NUMBER:	C80308
VIN:	1J8HG48K98C133130	BUILD DATE:	09-07
MY/MAKE/MODEL/BODY STYLE:	2008 Jeep Commander MPV		

REQUIREMENT S5.2.1	**PASS**	**FAIL**
The starting system prevents key removal in **ALL** gear selection control positions except "park". Yes X No - Can the gear selection control be placed between each gear selection position and will it remain there without assistance? Yes - No X If yes, can the key be removed from the starting system? Yes - No - 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, describe the mechanism and its function: Not Applicable	**X**	--

REQUIREMENT S5.2.2	**PASS**	**FAIL**
The gear selection control is locked in the "park" position when the key is removed from the starting system. Yes X No -	**X**	--

DATA SHEET 3 – ROLLAWAY PREVENTION
(For vehicles equipped with automatic transmission with a 'PARK' position)

REQUIREMENT S5.2.3	PASS	FAIL
ELECTRICAL FAILURE (Battery Discharge) 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 X No - 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 - No X If yes, select the type of override device that is equipped: Override operated with a: Opaque Cover -- No cover -- **FILL IN THE SECTION BELOW THAT APPLIES:**	X	---
OVERRIDE WITH AN OPAQUE COVER: The opaque surface cover prevents sight of and use of the override device Yes - No - The opaque surface cover can be removed only by using a screwdriver or other tool. Yes - No - As a direct result of removing the key from the starting system, the following is prevented: Steering - self mobility -	N/A	N/A
OVERRIDE WITH NO COVER: The override device requires the use of a tool to activate. Yes - No - Simultaneous activation of the override device and removal of the key from the starting system is required. Yes - No - As a direct result of removing the key from the starting system, the following is prevented: Steering - self mobility -	N/A	N/A

DATA SHEET 3 – ROLLAWAY PREVENTION
(For vehicles equipped with automatic transmission with a 'PARK' position)

REQUIREMENT S5.2.4	PASS	FAIL
GEAR SELECTION CONTROL OVERRIDE DEVICE 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 X No - If yes, select the type of override device that is equipped: Override operated with a: Key -- Opaque Cover **X** No cover -- Describe the device design and mode of activation (if equipped): The opaque cover is removed using a screwdriver or other flat blade device. The switch is depressed allowing the transmission to shift out of 'PARK'. **FILL IN THE SECTION BELOW THAT APPLIES:**		
OVERRIDE OPERATED WITH A KEY: 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 -- No **X**	N/A	N/A
OVERRIDE WITH AN OPAQUE COVER: The opaque surface cover prevents sight of and use of the override device Yes X No - The opaque surface cover can be removed only by using a screwdriver or other tool. Yes X No - As a direct result of removing the key from the starting system, the following is prevented: Steering X self mobility X	X	--
OVERRIDE WITH NO COVER: The override device requires the use of a tool to activate. Yes - No - Simultaneous activation of the override device and removal of the key from the starting system is required. Yes - No - As a direct result of removing the key from the starting system, the following is prevented: Steering - self mobility -	N/A	N/A

DATA SHEET 3 – ROLLAWAY PREVENTION
(For vehicles equipped with automatic transmission with a 'PARK' position)

REQUIREMENTS S5.2.5	PASS	FAIL
Vehicle facing uphill on 10% Grade: With the gear selection control in "park", measure movement of the vehicle down the slope upon releasing the service brake. Test grade: 10.3 % (9% to 15%) Measured movement: 60 mm (150mm maximum) **NOTE:** Repeat procedure if vehicle fails on grade in excess of 10%. Test grade: N/A % (9% to 10%) Measured movement: N/A mm (150 mm maximum)	X	--
Vehicle facing downhill on 10% Grade: With the gear selection control in "park", measure movement of the vehicle down the slope upon releasing the service brake. Test grade: 10.3 % (9% to 15%) Measured movement: 73 mm (150mm maximum) **NOTE:** Repeat procedure if vehicle fails on grade in excess of 10%. Test grade: N/A % (9% to 10%) Measured movement: N/A mm (150 mm maximum)		

Remarks: None

RECORDED BY: Vincent M. Paolini DATE: April 28, 2008

APPROVED BY: David Travale

FMVSS 114, ROLLAWAY PREVENTION
DATA SHEET 3 – ROLLAWAY PREVENTION
(For vehicles equipped with automatic transmission with a 'PARK' position)

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 X	X	-
With the key in the "acc" position, the transmission will shift out of "park" without the service brake being applied Yes - No X	X	-
With the key in the "on" position (*engine off*), the transmission will shift out of "park" without the service brake being applied Yes - No X	X	-
With the key in the "on" position (*engine running*), the transmission will shift out of "park" without the service brake being applied Yes - No X	X	-
With the key in the "start" position, the transmission will shift out of "park" without the service brake being applied Yes - No X	X	-
With the key in the "other" position (*please specify*), the transmission will shift out of "park" without the service brake being applied Yes - No X	X	-
Does the key stay between starting system positions without being held by operator? If so, please describe Key will stay between "LOCK" and "Accessory" and "Accessory" and "ON"	X	-
Brake force readings (force required to allow the transmission to shift out of "park"): Reading 1 6.0 lbf Reading 2 6.0 lbf Reading 3 6.0 lbf Reading 4 6.0 lbf Reading 5 6.0 lbf Average 6.0 lbf	N/A	N/A

Remarks: None

RECORDED BY: Vincent M. Paolini DATE: April 28, 2008

APPROVED BY: David Travale

SECTION 4

TEST EQUIPMENT LIST AND CALIBRATION DATES

Equipment	Manufacturer	Name	Range	Accuracy	Calibration Date	Calibration Due
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 Jeep Commander MPV
NHTSA No.: C80308

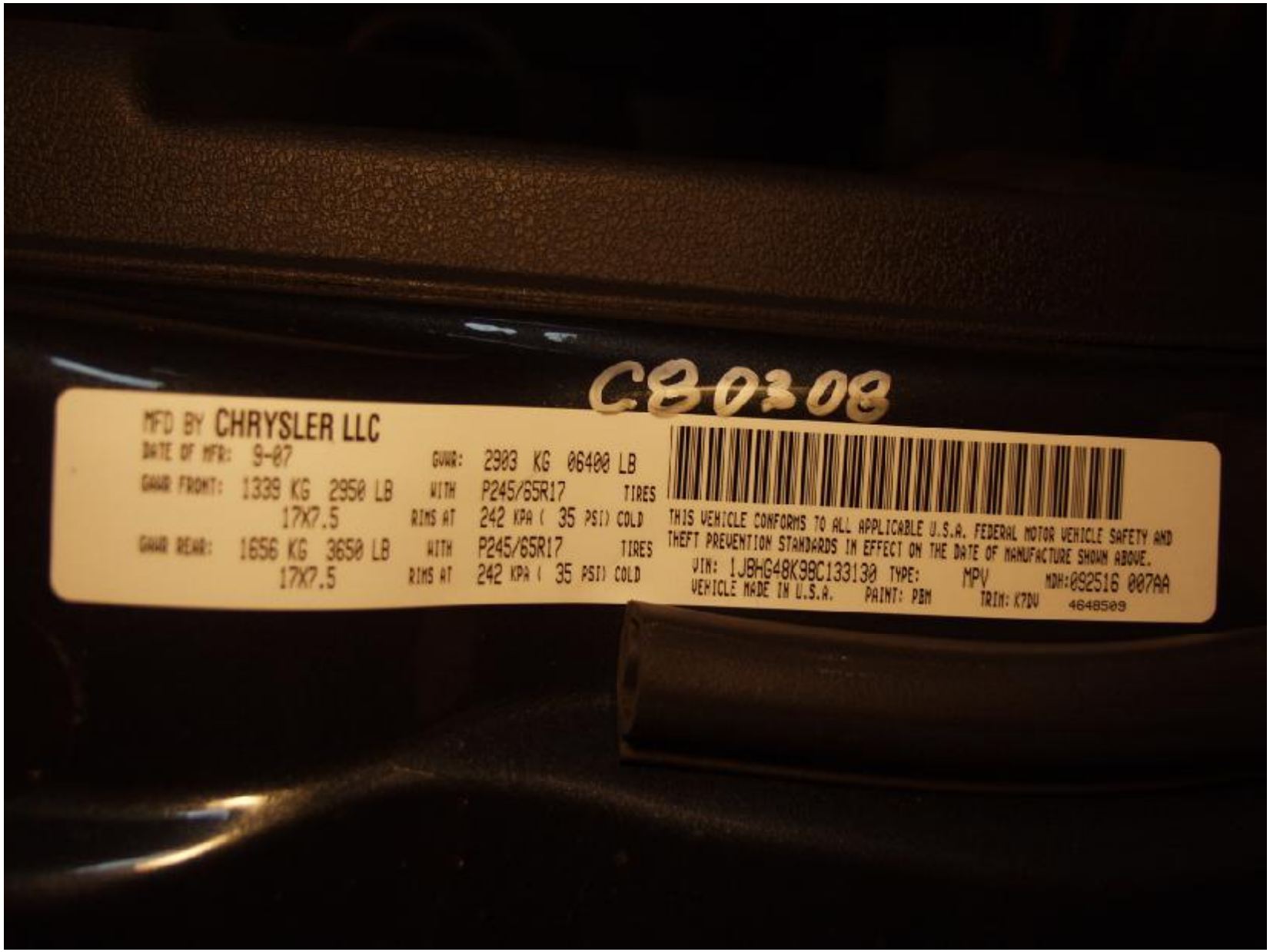


Figure 2: Vehicle Certification Placard

Figure 3: Vehicle Tire Placard

Figure 4: Close-Up of Ignition Switch

Figure 5: Close-Up of Transmission Shift Lever Mechanism

NOT APPLICABLE

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

2008 Jeep Commander MPV
NHTSA No.: C80308

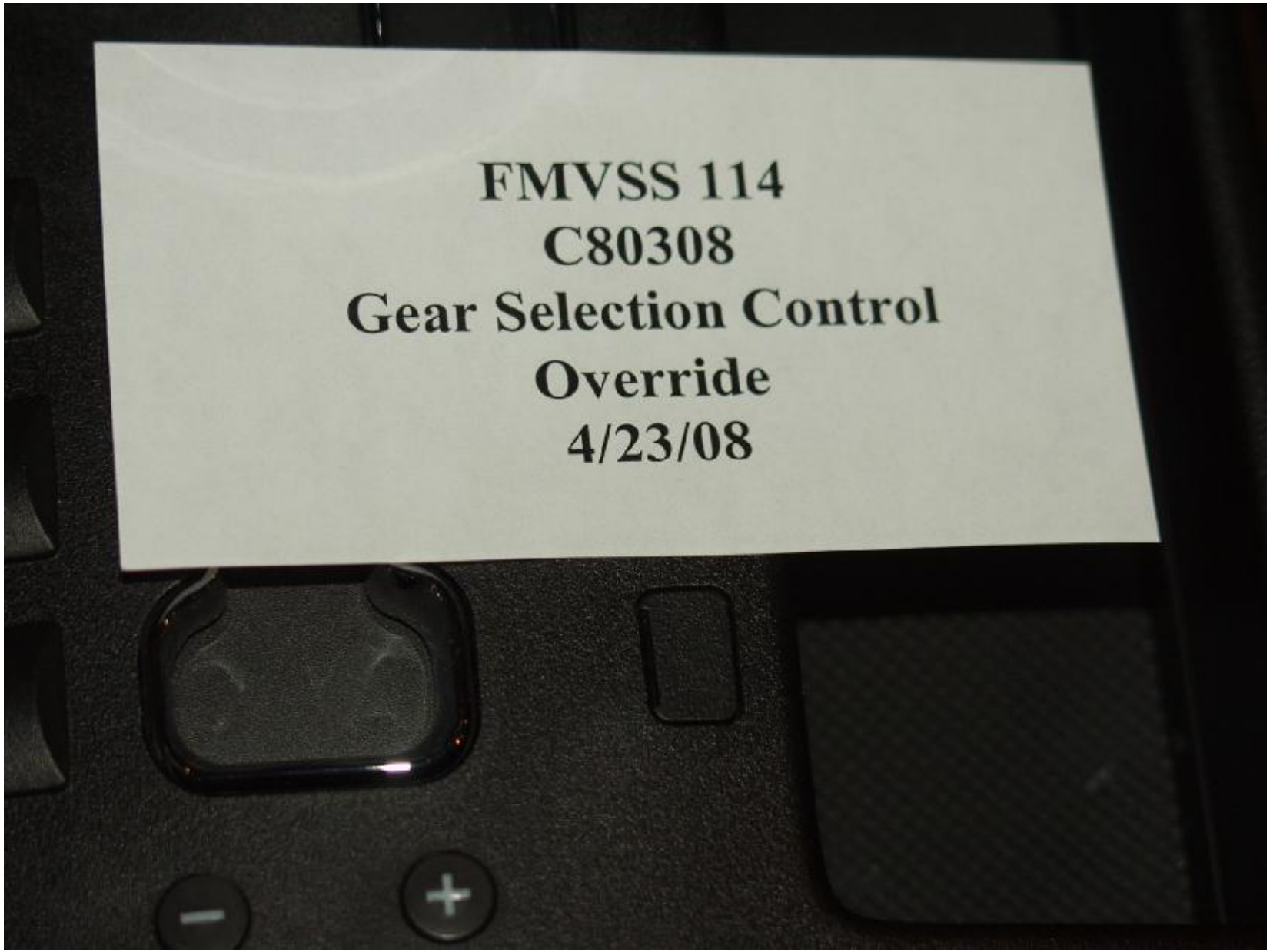


Figure 7: Close-Up of Special Device Which Allows Moving of Shift Lever

SECTION 6

VEHICLE OWNER'S MANUAL

2008 Jeep Commander MPV
NHTSA No.: C80308

2008 Owner's Manual

For your safety and comfort, read carefully and keep in the vehicle.

AVALON

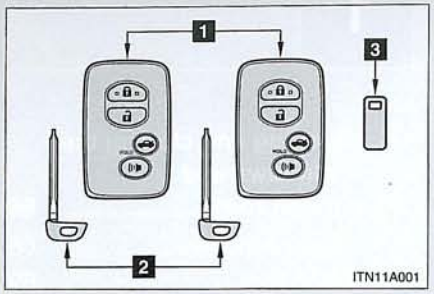
C85105

TOYOTA

Keys

The following keys are provided with the vehicle.

▶ Vehicles with smart key system

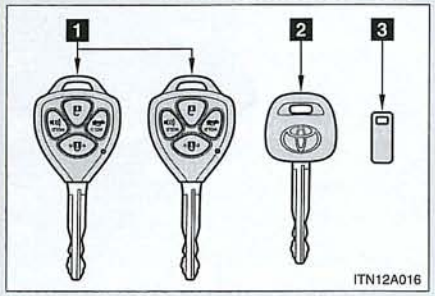


1 Electronic keys
- Operating the smart key system (→P. 24)
- Operating the wireless remote control function (→P. 35)

2 Mechanical keys

3 Key number plate

▶ Vehicles without smart key system



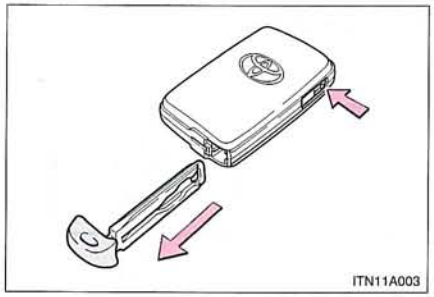
1 Master keys

Operating the wireless remote control function (→P. 35)

2 Valet key

3 Key number plate

Using the mechanical key (vehicles with smart key system)



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 smart key system does not operate properly, you will need the mechanical key.

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

Turn the trunk opener main switch OFF, lock the glove box and trunk storage extension door as circumstances demand. (→P. 44, 277)

- Vehicles with smart key system: Remove the mechanical key for your own use and provide the attendant with the electronic key only.
- Vehicles without smart key system: Provided the attendant with the valet key.

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 at your Toyota dealer using the key number plate. (→P. 394)

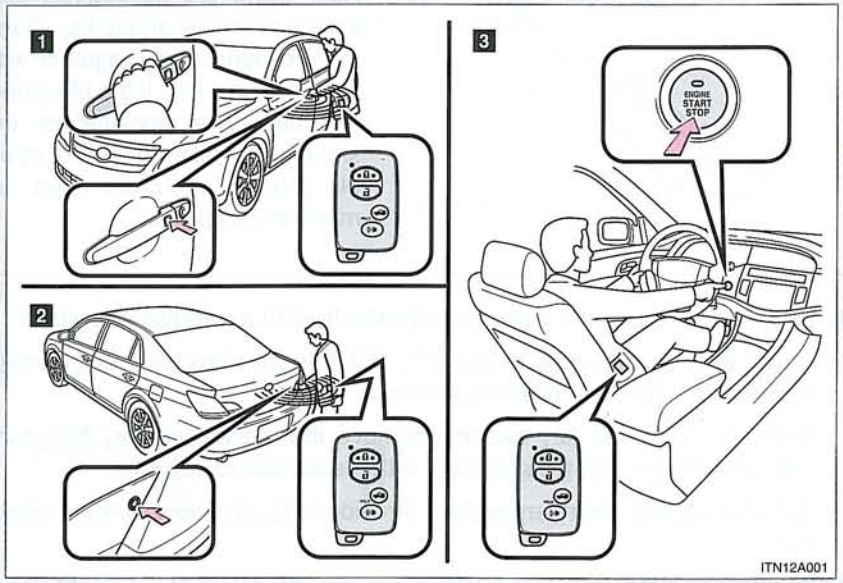
NOTICE

To prevent key damage

- Do not disassemble the key.
- 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.

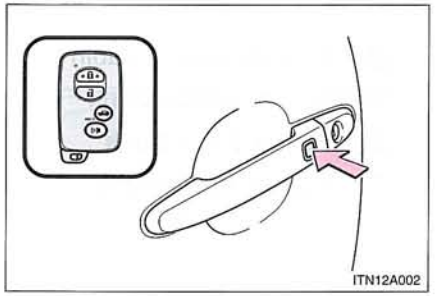
Smart key system (if equipped)

The following operations can be performed simply by carrying the electronic key on your person, for example in your pocket.
(The driver should always carry the electronic key.)

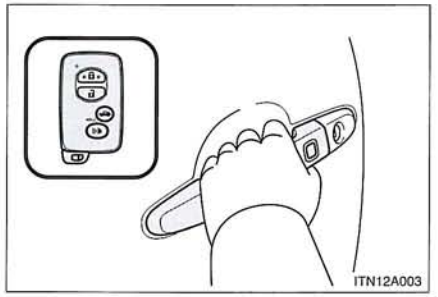


1 Locks and unlocks the doors (→P. 25)
2 Unlocks the trunk (→P. 25)
3 Starts and stops the engine (→P. 122)

Locking and unlocking the doors



Press the lock button to lock the door.

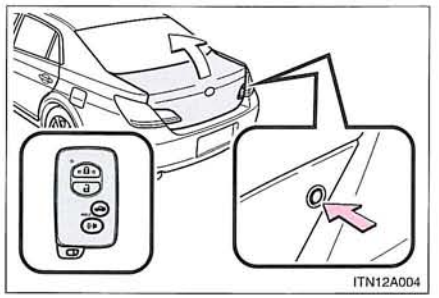


Grip the handle to unlock the door.

Make sure to touch the sensor on the back of the handle.

The door cannot be unlocked for 3 seconds after the door is locked.

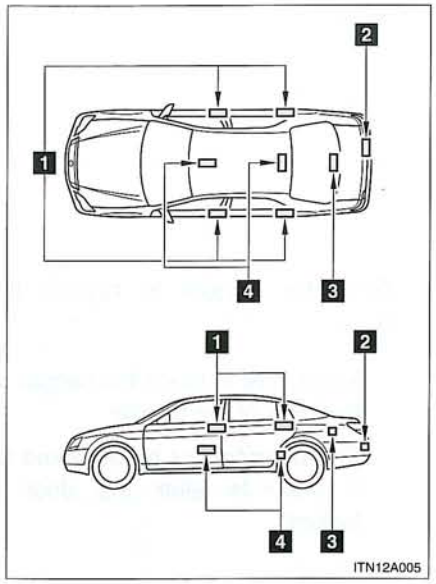
Unlocking the trunk



Press the button to unlock the trunk.

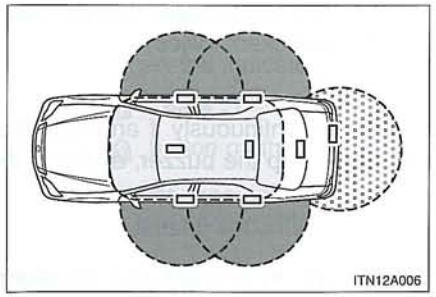
Antenna location and effective range

Antenna location



1 Antennas outside cabin
2 Antenna outside trunk
3 Antenna inside trunk
4 Antennas inside cabin

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 3 ft. (1 m) of an outside door handles. (Only the doors detecting the key can be operated.)

When starting the engine or changing "ENGINE START STOP" switch modes

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

When unlocking the trunk

The system can be operated when the electronic key is within about 3 ft. (1 m) of the trunk release button.

⚠ CAUTION

■ When refueling the vehicle

Observe the following precautions while refueling the vehicle. Failure to do so, may result in death or serious injury.

- Touch the vehicle or some other metal surface to discharge any static electricity.
  Sparks resulting from discharging static electricity may cause the fuel vapors to ignite.
- Always hold the grips on the fuel tank cap and turn it slowly to remove it.
  A whooshing sound may be heard when the fuel tank cap is loosened. Wait until the sound cannot be heard before fully removing the cap. In hot weather, pressurized fuel may spray out the filler neck and cause injury.
- Do not allow anyone that has not discharged static electricity from their bodies to come close to an open fuel tank.
- Do not inhale vaporized fuel.
  Fuel contains substances that are harmful if inhaled.
- Do not smoke while refueling the vehicle.
  Doing so may cause the fuel to ignite and cause a fire.
- Do not return to the vehicle or touch any person or object that is statically charged.
  This may cause static electricity to build up, resulting in a possible ignition hazard.

■ When replacing the fuel tank cap

Do not use anything but a genuine Toyota fuel tank cap designed for your vehicle. Failure to do so may cause a fire or other incident which may result in death or serious injury.

⚠ NOTICE

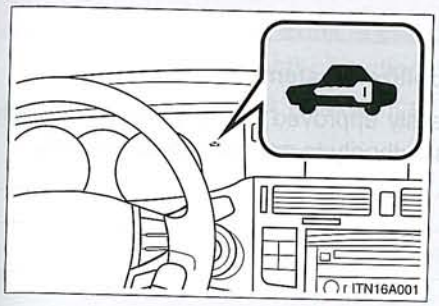
■ Refueling

Do not spill fuel during refueling.
Failing to do so may damage the vehicle, such as causing the exhaust systems to operate abnormally or damaging fuel system components or the vehicle's painted surface.

Engine immobilizer system

The vehicle's keys have built-in transponder chips that prevent the engine 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.



The indicator light flashes after the "ENGINE START STOP" switch or the engine switch has been turned off to indicate that the system is operating.

■ System maintenance

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

■ Conditions that may cause the system to malfunction

- If the grip portion of 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 engine immobilizer system

▶ For vehicles sold in the U.S.A.

FCC ID: MOZRI-21BTY
FCC ID: NI4TMIMB-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.

▶ For vehicles sold in 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.

⚠ CAUTION

■ Certifications for the engine immobilizer system

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

⚠ NOTICE

■ For proper system operation

Do not modify, remove or disable the engine immobilizer system. If any unauthorized changes or modifications are made, the proper operation of the system cannot be guaranteed.

Alarm (if equipped)

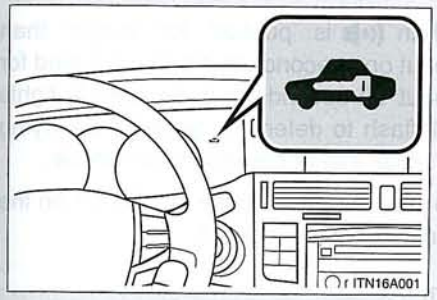
The system sounds the alarm and flashes lights when forcible entry is detected.

■ Triggering the alarm

The alarm is triggered in the following situations.

- A locked door or trunk is unlocked or opened in any way other than using the entry function, wireless remote door lock function or using the mechanical key. (The doors will lock again automatically.)
- The hood is opened while the vehicle is locked.
- Vehicles with the glass breakage sensor: The side windows are tapped or broken.

■ Setting the alarm system



Close the doors, trunk and hood, and lock all doors. 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

Do one of the following to deactivate or stop the alarm.

- Unlock the doors or trunk.
- Start the engine. (The alarm will be deactivated or stopped after a few seconds.)

Engine (ignition) switch (without smart key system)

Starting the engine

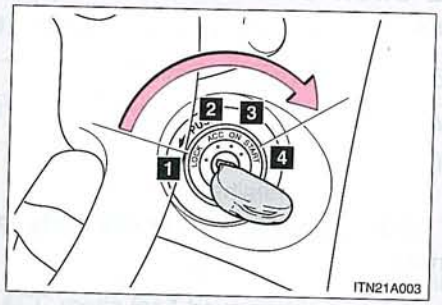
STEP 1 Check that the parking brake is set.

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.

STEP 4 Turn the engine switch to the "START" position and start the engine.

Engine (ignition) switch



1 "LOCK" (OFF)

The steering wheel is locked and the key can be removed.

2 "ACC" (ACC mode)

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

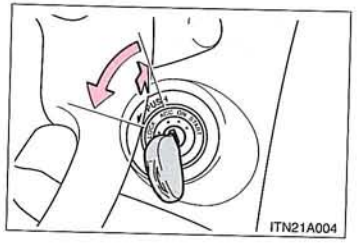
3 "ON" (ON mode)

All electrical components can be used.

4 "START"

For starting the engine.

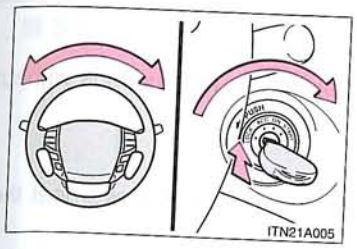
Turning the key from "ACC" to "LOCK"



STEP 1 Shift the shift lever to "P".

STEP 2 Push in the key and turn to the "LOCK" position.

When the steering lock cannot be released



When starting the engine, the engine switch may seem stuck in the "LOCK" position. To free it, turn the key while turning the steering wheel slightly in either direction.

If the engine does not start

The engine immobilizer system may not have been deactivated. (→P. 75)

Key reminder function

A buzzer sounds if the driver's door is opened, while the engine switch is in OFF or ACC mode to remind you to remove the key.

⚠ CAUTION

When starting the engine

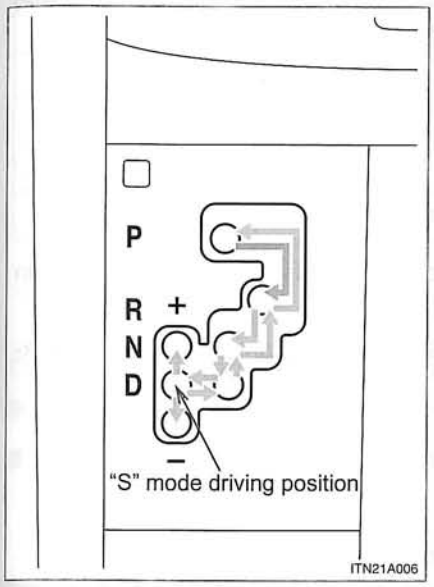
Always start the engine while sitting in the driver's seat. Do not press the accelerator pedal while starting the engine under any circumstances. Doing so may cause an accident resulting in death or serious injury.

While driving

Do not turn the engine switch to the "LOCK" position.
If in an emergency, you must turn the engine off while the vehicle is moving, turn the key only to the "ACC" position.

Select a shift position appropriate for the driving conditions.

Shifting the shift lever



While the "ENGINE START STOP" switch or the engine switch is in ON mode, depress the brake pedal and move the shift lever.

Shift position uses

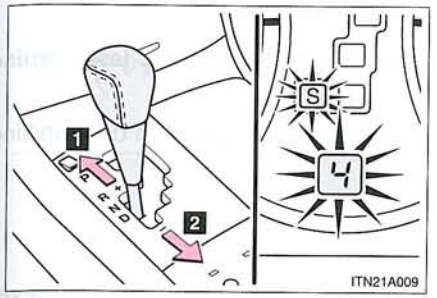
Shift position	Function
"P"	Parking the vehicle or starting the engine
"R"	Reversing
"N"	Neutral
"D"	Normal driving*1
	"S" mode driving*2 (→P. 131)

*1: To improve fuel consumption and reduce noises, set the shift lever in the "D" position for normal driving.

*2: By selecting shift ranges using "S" mode, you can control engine braking forces.

Changing shift ranges in "S" mode

Shift the shift lever to the "S" mode driving position and operate the shift lever.



1 Upshifting
2 Downshifting

The initial shift range in "S" mode is automatically set to "5" or "4" according to the vehicle's speed. (→P. 132)

Shift ranges and their functions

- You can choose from 6 levels of engine braking force.
- A lower shift range will provide greater engine braking force than a higher shift range, and the engine revolutions will also increase.

■ **The starter motor does not turn over (vehicles with smart key system).**

The engine starting system may be malfunctioning due to an electrical problem such as an open circuit or a blown fuse. However, an interim measure is available to start the engine. (→P. 122)

■ **The starter motor does not turn over, 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 battery terminals may be disconnected.
- The battery may be discharged. (→P. 397)
- There may be a malfunction in the steering lock system (vehicles with smart key system).

Contact your Toyota dealer if the problem cannot be repaired, or if repair procedures are unknown.

Emergency start function (vehicles with smart key system)

When the engine does not start, the following steps can be used as an interim measure to start the engine if the "ENGINE START STOP" switch is functioning normally.

STEP 1 Set the parking brake.

STEP 2 Shift the shift lever to "P".

STEP 3 Set the "ENGINE START STOP" switch to the ACC mode.

STEP 4 Push and hold the "ENGINE START STOP" switch about 15 seconds while depressing the brake pedal firmly.

Even if the engine 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 from P

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.

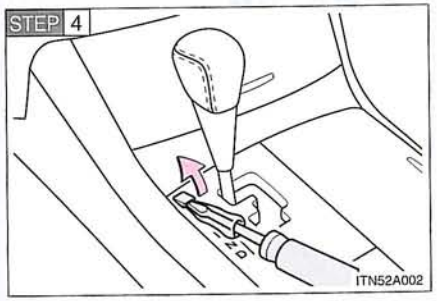
The following steps may be used as an emergency measure to ensure that the shift lever can be shifted.

STEP 1 Set the parking brake.

STEP 2 Turn the "ENGINE START STOP" switch or the engine switch to the ACC mode.

STEP 3 Depress the brake pedal.

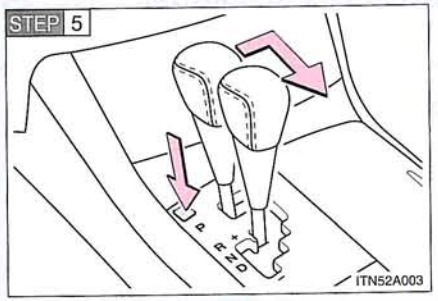
STEP 4



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

To prevent damage to the cover, cover the tip of the screwdriver with a rag.

STEP 5



Press the shift lever override button.

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