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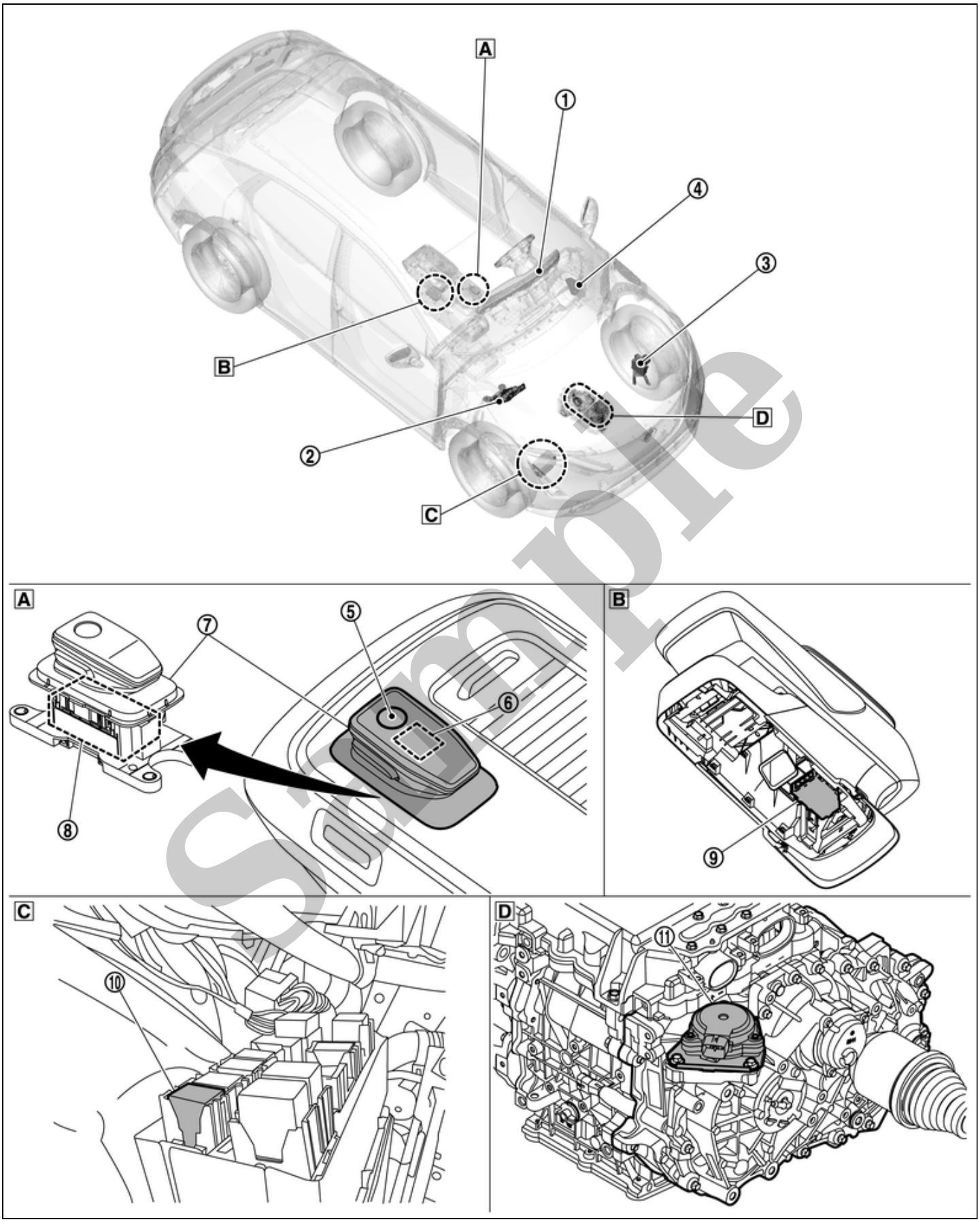
2015 NISSAN Patrol OEM Service and Repair Workshop Manual

Go to manual page

Component Parts Location

LHD models

SIEMD-7198692



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1	Combination meter For detailed installation location, Refer to Component Parts Location.	2	VCM For detailed installation location, Refer to Component Parts Location.	3	ABS actuator and electronic unit (control unit) For detailed installation location, Refer to Component Parts Location.

④	BCM For detailed installation location, Refer to Component Parts Location.	⑤	P position switch (Integral with electric shift selector)	⑥	Selector indicator (Integral with electric shift selector)
⑦	Electric shift selector	⑧	Electric shift sensor (Incorporated in electric shift selector)	⑨	Electric shift control module
⑩	Parking actuator relay	⑪	Parking actuator		
A	Center console part	B	Inside of center console	C	Inside the front bumper on the right side
D	Reduction gear				

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FUNCTIONS WITHIN THE SYSTEM

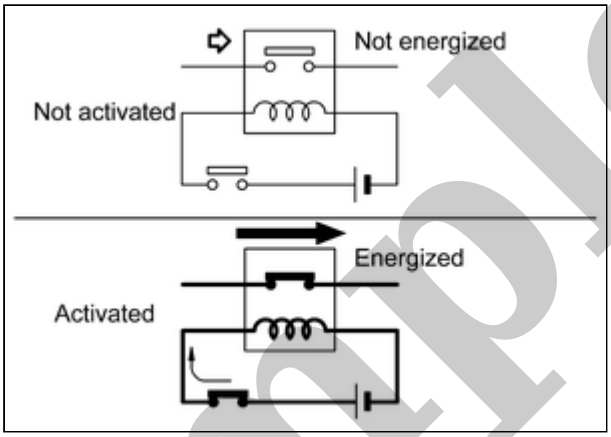
Parking actuator relay is controlled by the electric shift control module and it connects/disconnects the motor coil circuit in the parking actuator.

INDIVIDUAL FUNCTION WITHIN SYSTEM

Parking actuator relay is turned ON by the electric shift control module when the power switch is switched ON and supplies power to motor coil located in the parking actuator.

INDIVIDUAL OPERATION

The normally open type is adopted for the parking actuator relay.



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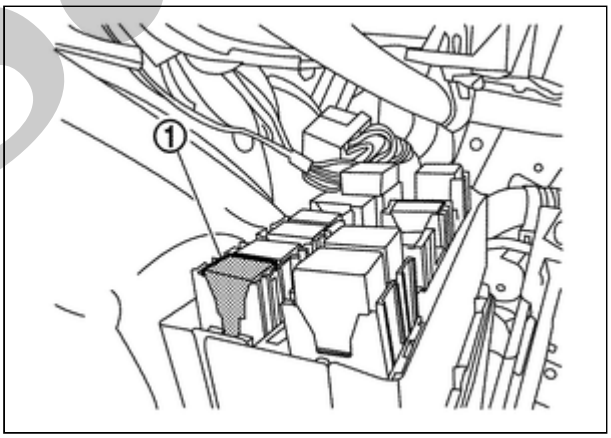
COMPONENT PARTS LOCATION

Parking actuator relay ① is installed inside the front bumper on the right side.



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FUNCTIONS WITHIN THE SYSTEM

When the selector lever and the P position switch are operated, sends a signal to the electric shift control module, and shifts to the requested shift position.

INDIVIDUAL FUNCTION WITHIN SYSTEM

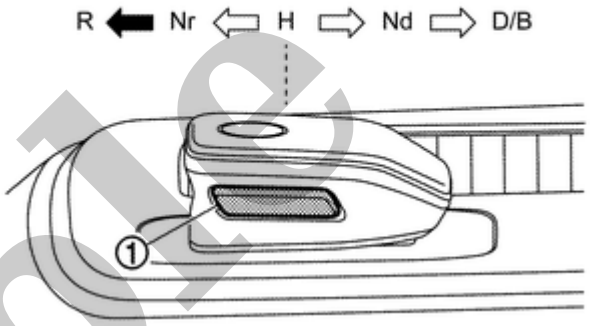
<table>
<tr><th colspan="2">Shift position</th><th>Operation/Function</th></tr>
<tr><td colspan="2">H

(Home position)</td><td>Returns to home position automatically after the selector lever was operated.</td></tr>
<tr><td colspan="2">P

(P position switch)</td><td>Stop the vehicle completely and, with the brake pedal depressed, press the P position switch. Refer to Component Description.</td></tr>
<tr><td colspan="2">R</td><td>With the brake pedal depressed, press the selector knob button and slide the selector lever 2 steps forward (toward the “R” indication) to shift to the R position.</td></tr>
<tr><td rowspan="2">N</td><td>Nr</td><td>When in the D or B position, with the brake pedal depressed, slide the selector lever 1 step forward and hold it there for approximately 1 second to shift to the N position.

NOTE:
When in the R position, even if the selector lever is moved forward (in the Nr direction), the shift position warning buzzer sounds, and the position does not shift to the N position.</td></tr>
<tr><td>Nd</td><td>When in the R position, with the brake pedal depressed, slide the selector lever 1 step rearward and hold it there for approximately 1 second to shift to the N position.

NOTE:
When in the D or B position, even if the selector lever is moved rearward (In the Nd direction), the shift position warning buzzer sounds, and the position does not shift to the N position.</td></tr>
</table>



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➡: Operate after pressing the select button ①

⇨: Operated without pressing the select button ①

Shift position	Operation/Function	
D or B	• With the brake pedal depressed, slide the selector lever 2 steps rearward (toward the “D/B” indication) to shift to the D position. • While driving in the D position, again slide the selector lever 2 steps rearward (toward the “D/B” indication) to change to the B position. • To shift from the B position to the D position, again slide the selector lever 2 steps rearward (toward the “D/B” indication). • For the B position functions, Refer to System Description.	

■: Shift position retention, ●: Current shift position, ○: Shift operable position

Shift Operable Condition

Power switch	Operation	Driving condition	Stop lamp switch	Shift position					Remarks
				P	R	N	D	B	
OFF/ACC	Selector lever	—	—	■	Shifting is invalid				—
	P position switch	—	—	■	Shifting is invalid				—
ON (Driving is not possible)	Selector lever	—	ON	●	—	○	—	—	When shifting into the R or D position: • Holds the current shift position. • The shift position warning buzzer beeps.
		—	OFF	■	Shifting is invalid				The shift position warning buzzer beeps.
	P position switch	Stopped	—	○	—	●	—	—	—
		During running	—	—	—	■	—	—	When shift position switching is not available due to the detection of a low-speed vehicle etc., shift position warning buzzer beeps.
READY	Selector lever	—	ON	●	○	○	○	○*	—
		—	OFF	■	Shifting is invalid				The shift position warning buzzer beeps.
		Approx. 10 - 11 km/h (Approx. 6 – 7 MPH) or less (During running)	—	—	●	○	○	—	—
				—	○	○	●	○	—
				—	○	●	○	—	—
				—	○	○	○	●	—
		Approx. 10 - 11 km/h (Approx. 6 – 7 MPH) or more (Reversing)	—	—	●	○	—	—	When shifting into the D position while reversing: • Shifts to the N position. • The shift position warning buzzer beeps.

Power switch	Operation	Driving condition	Stop lamp switch	Shift position					Remarks
				P	R	N	D	B	
				—	○	●	—	—	When shifting into the D position while reversing, the shift position warning buzzer beeps.
		Approx. 10 - 11 km/h (Approx. 6 – 7 MPH) or more (Driving forward)		—	—	○	●	○	When shifting into the R position while driving forward: • Shifts to the N position. • The shift position warning buzzer beeps.
				—	—	●	○	○ *	When shifting into the R position while driving forward, the shift position warning buzzer beeps.
				—	—	○	○	●	When shifting into the R position while driving forward: • Shifts to the N position. • The shift position warning buzzer beeps.
	P position switch	Stopped	—	○	●	●	●	●	—
		During running	—	—	■	■	■	■	The shift position warning buzzer beeps.

*: Direct shifting to the B position from the P, R, and N position is not possible.

INDIVIDUAL OPERATION

When the selector lever is operated, sends a signal to the electric shift control module.

COMPONENT PARTS LOCATION

The electric shift selector is installed to the center console.

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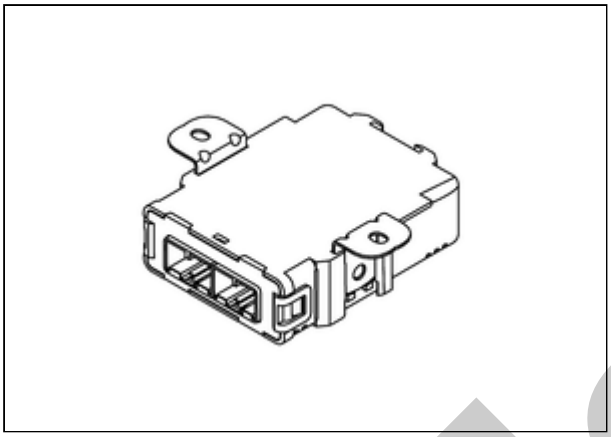
FUNCTIONS WITHIN THE SYSTEM

The electric shift control module determines the shift position by the shift position information (ON/OFF signal) from the electric shift sensor and transmits the information to the VCM.



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INDIVIDUAL FUNCTION WITHIN SYSTEM

The electric shift control module operates the parking actuator based on the range switching signal from VCM.

INDIVIDUAL OPERATION

The electric shift control module starts by power switch signal.

COMPONENT PARTS LOCATION

Electric shift control module is installed inside of center console.

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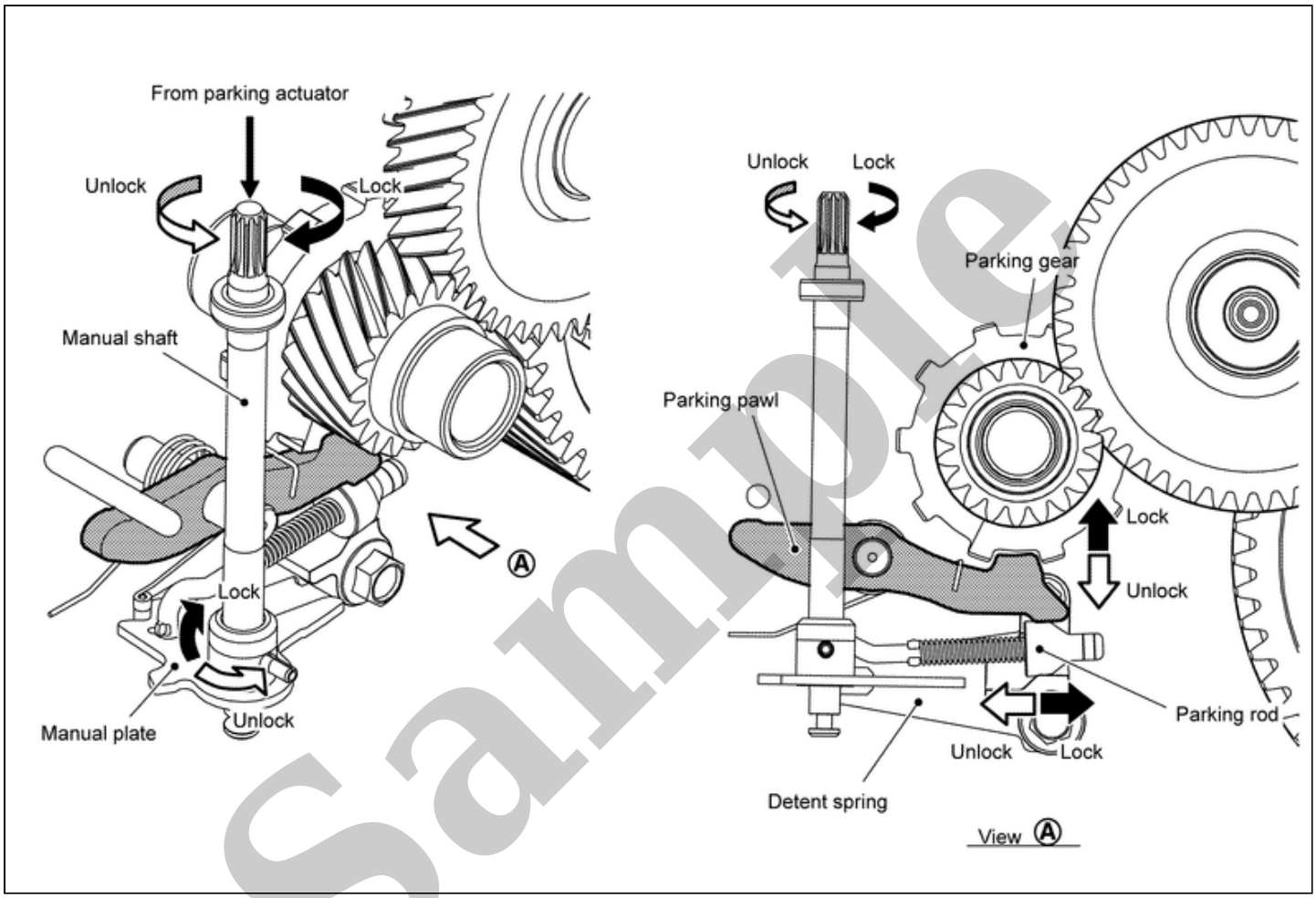
Parking Mechanism

- The parking mechanism is composed of the manual shaft, manual plate, detent spring, parking rod, parking pawl, and parking gear. It locks/unlocks the parking mechanism by operation of the parking actuator.
- When the parking actuator operates by the signal from the electric shift control module, the manual shaft and the manual plate connected mechanically with the parking actuator rotates and the parking rod slides.

  The parking pawl is pushed by sliding the parking rod and it meshes with the parking gear to lock the parking mechanism.



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APPLICATION ITEMS

CONSULT can display each diagnostic item using the diagnostic test modes as follows.

Diagnostic test mode	Function
Self Diagnostic Result	Display DTC which electric shift control module memorizes. **NOTE:** **Self-diagnostic results and freeze frame data can be read and erased quickly.***
Data Monitor	Input/Output data in the electric shift control module can be read.
Work support	This mode enable a technician to adjust some devices faster and more accurately by following the indication on the CONSULT.
ECU Identification	Part number of electric shift control module can be read.

*: The following diagnosis information is erased by erasing.

- DTC
- Freeze frame data (FFD)

SELF DIAGNOSTIC RESULT

Refer to DTC Index.

When “Current DTC” is displayed on self-diagnosis result.

- The system is presently malfunctioning.

When “Past DTC” is displayed on self-diagnosis result.

- System malfunction in the past is detected, but the system is presently normal.

FREEZE FRAME DATA (FFD)

Records the following vehicle conditions when DTC is detected and displays them on CONSULT.

Monitor item (Unit)		Remarks
ODO/TRIP METER	(km or mile)	Displays the total mileage (odometer value) when the DTC was detected.
DTC count	(count)	Displays the DTC detection count.
System error type		Displays the malfunction type when a malfunction occurred in the system. Type 1: Shift input system error Type 2: Parking actuator system error Type 3: Internal error of electric shift control module Type 4: P position switch input error Type 5: Parking actuator heating protection state Type 6: —