



## Troubleshooting

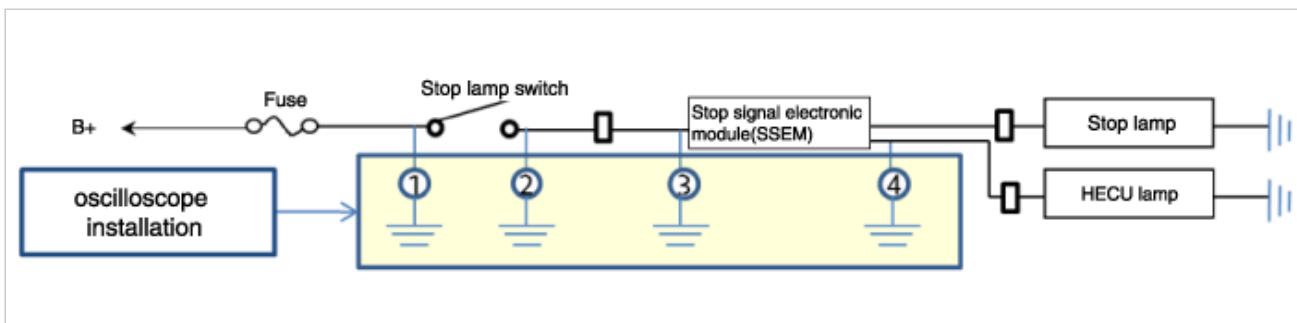
### 1. Part diagnosis

Items	Cause	Symptom	
Switch fuse	Faulty fuse connection, Damaged fuse	<ul style="list-style-type: none"> <li>– DTC Code : P0504</li> <li>– Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble, ESP OFF light illuminated.</li> </ul>	<p>① A waveform inspection is performed using an oscilloscope on each part during vehicle acceleration/braking. (Refer to stop lamp switch circuit inspection procedures)</p> <p>② Refer to the relevant repair procedures of the part when something abnormal is discovered in the waveform (Refer to the repair procedures of the relevant part and if necessary replace it)</p>
Relay fuse	Faulty fuse connection, Damaged fuse	<ul style="list-style-type: none"> <li>– DTC Code : P0504</li> <li>– Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated.</li> </ul>	
Stop lamp switch	<ul style="list-style-type: none"> <li>• Damaged wiring of each part</li> <li>• Faulty connection to connector</li> <li>• Each part is defective</li> </ul>	<ul style="list-style-type: none"> <li>– DTC Code : P0504</li> <li>– Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated.</li> </ul>	
Stop signal electronic module (If it applies)		<ul style="list-style-type: none"> <li>– DTC Code : P0504, C2130, C2131</li> <li>– Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated.</li> </ul>	
Engine control module(ECM)		<ul style="list-style-type: none"> <li>– DTC Code : P0504</li> <li>– Symptom :Shifting gear trouble,Cruise control function cancelation trouble</li> </ul>	
Body control module (BCM)		– Shifting gear trouble	
Shift-lock solenoid		– Shifting gear trouble	
Inhibitor switch		<ul style="list-style-type: none"> <li>– Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble</li> </ul>	
Smart Key Unit(SMK)		– Starting failure	
Electronic parking brake		<ul style="list-style-type: none"> <li>– Symptom : EPB function cancelation trouble , ESP OFF light illuminated.</li> </ul>	
ABS/VDC control module (Pressure sensor)		– Symptom : ESP OFF light illuminated.	

### 2. Symptom diagnosis

Symptom	Part that could be the cause	
Trouble starting	Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, ABS/VDC control module, Each wire, Connector	<p>① Inspect waveform using an oscilloscope on each part during vehicle acceleration/braking. (Refer to stop lamp switch circuit inspection Procedures)</p> <p>② Refer to the relevant repair procedures of the part when something abnormal is discovered in the waveform (Refer to the repair procedures of the relevant part and if necessary replace it)</p>
Trouble shifting gears	Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, BCM, ECM, Inhibitor switch, Each wire, Connector	
ESP OFF light illuminated	Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, ABS/VDC control module, Each wire, Connector	
P0504	Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, ECM, Each wire, Connector	<p>① Inspect waveform using an oscilloscope on each part during vehicle acceleration/braking. (Refer to stop lamp switch circuit inspection Procedures)</p> <p>② Refer to the relevant repair procedures of the part when something abnormal is discovered in the waveform (Refer to the repair procedures of the relevant part and if necessary replace it)</p>
Stop lamp not working	Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, Wire/Connector disconnected	
Stop lamp always turned on	Stop lamp switch, Stop signal electronic module, Wiring short circuit, Damaged fuse	

### 3. Stop lamp switch system diagnosis



Symptom (When the ESP OFF lamp illuminated)	System				Remedy
	① Power Supply(B+)	② End of the Stop Lamp Switch	③ SSEM Input	④ SSEM Output	
Switch internal open	●	X	X	X	Replace with a new one and check it.
Switch internal short	●	●	●	●	Check the stop lamp switch after removing it ① Switch failure : Replace with a new one. ② Wiring failure : Check the suspected part.
SSEM internal short	●	○	○	● or X	Check the SSEM after removing it ① SSEM failure : Replace with a new one. ② Wiring failure : Check the suspected part.
SSEM Internal open	●	○	○	X	Check the SSEM after removing it
Power supply open	X	X	X	X	Check the power supply connector or the fuse
Power supply short (Current reduction)	●	○	○	● or X	If the power supply line is shorted, SSEM ON-OFF may not be operating well due to the amount of current reduction Check for fuse damage.
Failure between SSEM and output	●	○	X	X	Check the connector and the wiring
Failure between SSEM and Stop lamp (Not operating the stop lamp No signals on GDS)	●	○	○	○	Check the connector and the wiring

SSEM : Stop Signal Electronic Module

4. Refer to DTC guide when the related DTC codes are displayed.