

Component Procedures: Brake Light Switch

Table of Contents

1. Parts and Labor (itype_189)
2. Stop Lamp Switch - Components and Components Location (Article 45160)
3. Stop Lamp Switch - Repair Procedures (Article 45163)
4. Stop Lamp Switch - Troubleshooting (Article 45164)

Component Procedures: Brake Light Switch

Parts and Labor (itype_189)

Parts

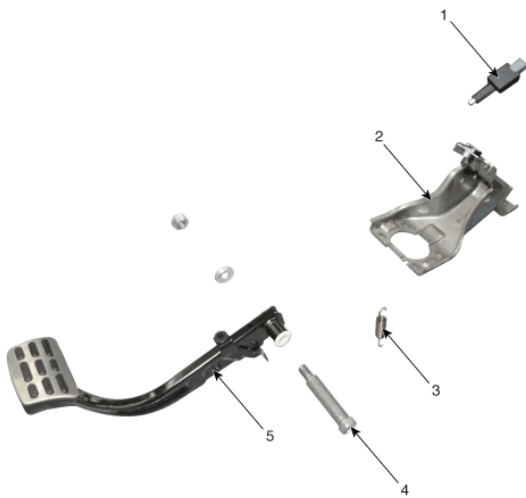
Qualifier	Part #	Name	Price	Note
Switches	93810J3000	Stoplamp Switch	112.94	

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Switches > Stoplamp Switch, R&R	B	0.6	0.0

Stop Lamp Switch - Components and Components Location (Article 45160)

- Components

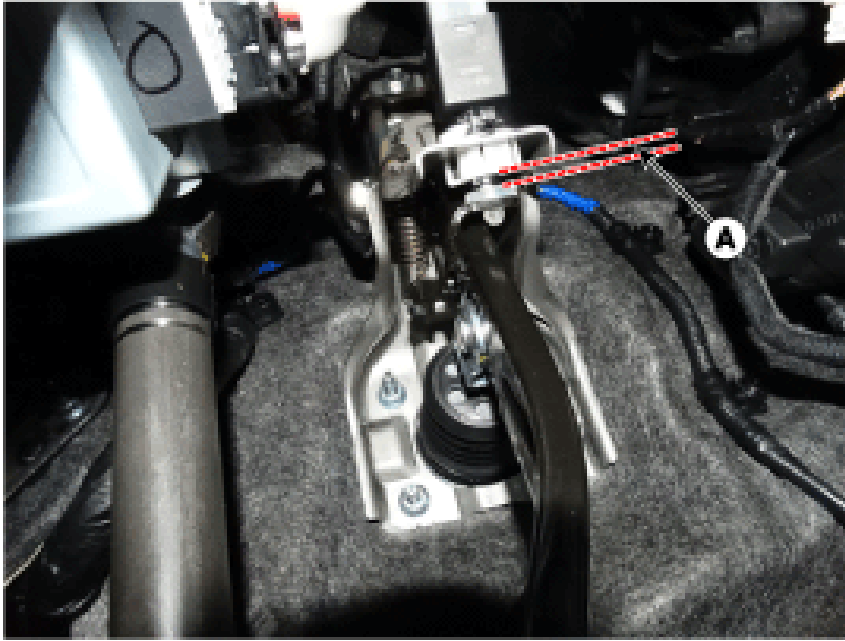


1. Stop lamp switch 2. Brake pedal member assembly 3. Return spring 4. Bolt 5. Brake pedal arm assembly

Stop Lamp Switch - Repair Procedures (Article 45163)

- Adjustment

- Turn ignition switch OFF and disconnect the negative (-) battery cable.
- Remove the lower crash pad. (Refer to Body - "Crash Pad")
- Confirm the gap between stop lamp switch and bracket. Stop lamp clearance (A) : 1.0 - 2.0 mm (0.04 - 0.08 in.)

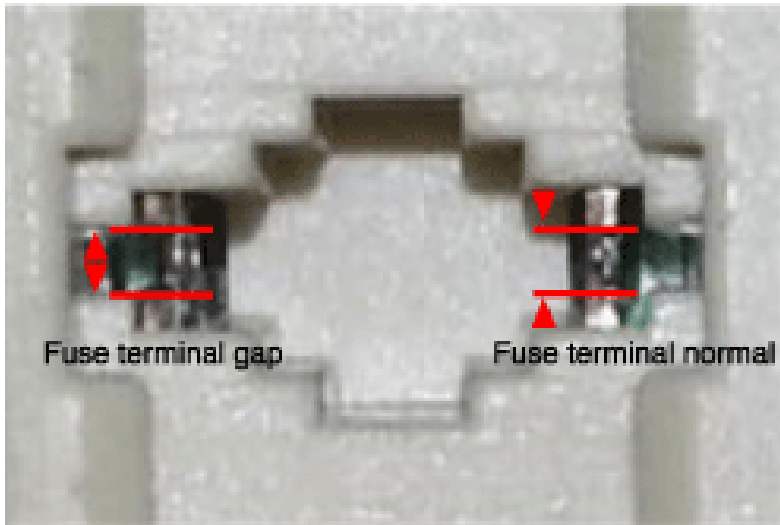


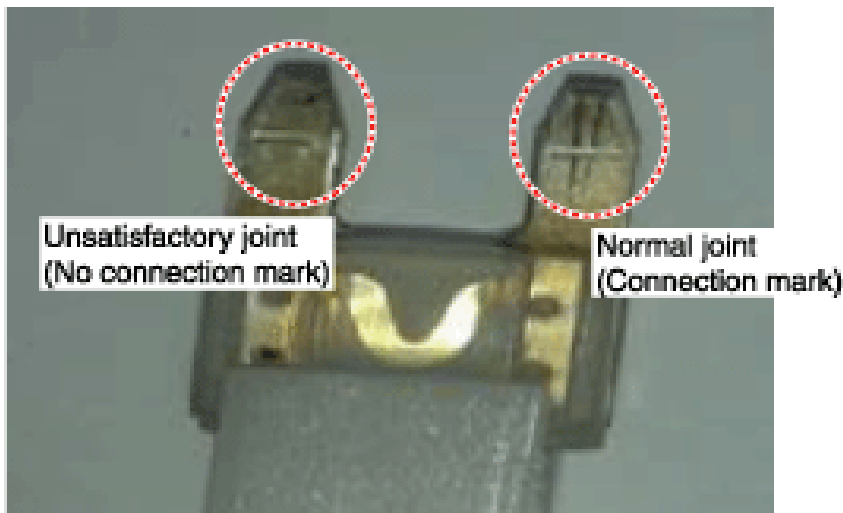
- If the gap between stop lamp switch and bracket is not 1.0 - 2.0mm (0.04 - 0.08in), check the mounting clip and other part of around stop lamp.

- If there is normal, remove the stop lamp switch and then install again.

- Inspection

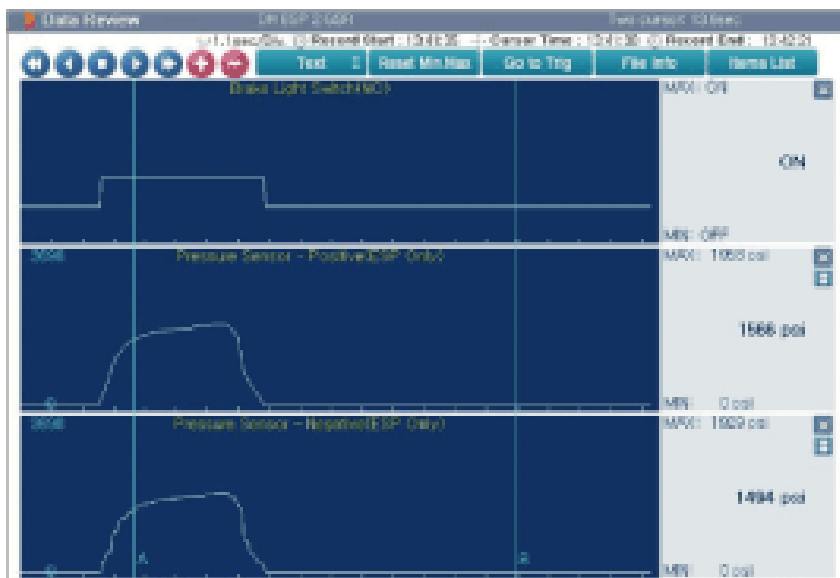
1. Fuse inspection





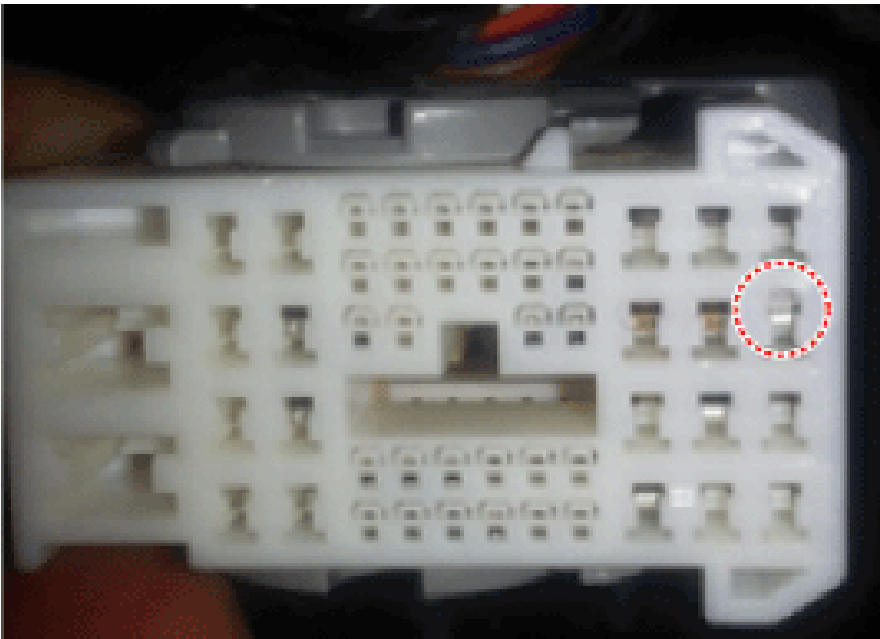
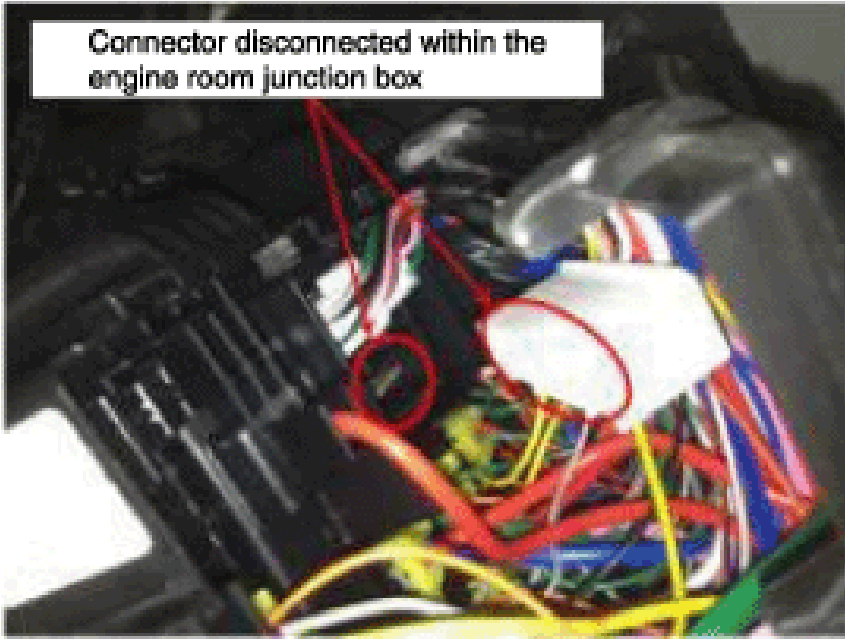
2. GDS Data Analysis

- Analyze GDS data and confirm if there is anything wrong with the stop lamp switch. Connect the GDS to the self-diagnosis connector. Turn the spark switch on Step on the brake pedal. Inspect the " brake switch " category that displays the "sensor data" GDS. Normal waveform : The pressure sensor signal value will change according to the brake ON/OFF switch.
- Connect the GDS to the self-diagnosis connector.
- Turn the spark switch on
- Step on the brake pedal.
- Inspect the " brake switch " category that displays the "sensor data" GDS. Normal waveform : The pressure sensor signal value will change according to the brake ON/OFF switch.

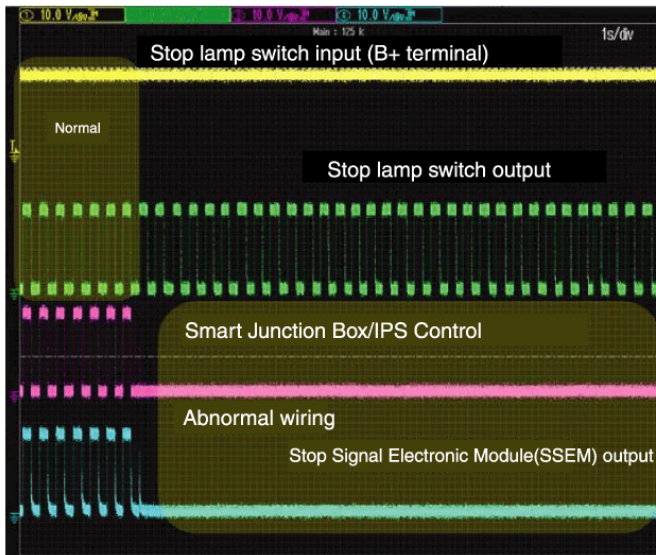


3. Inspection of connector by each part

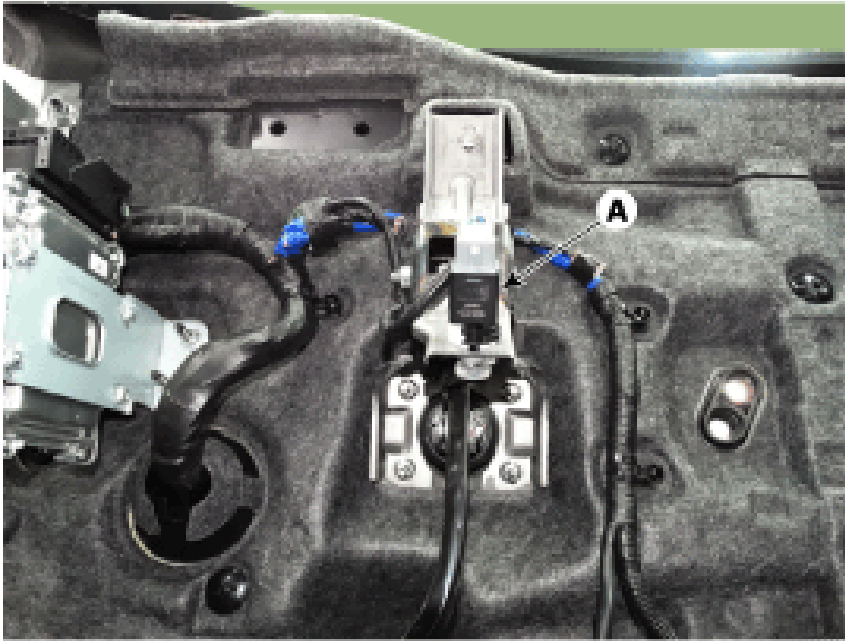
Connector disconnected within the engine room junction box



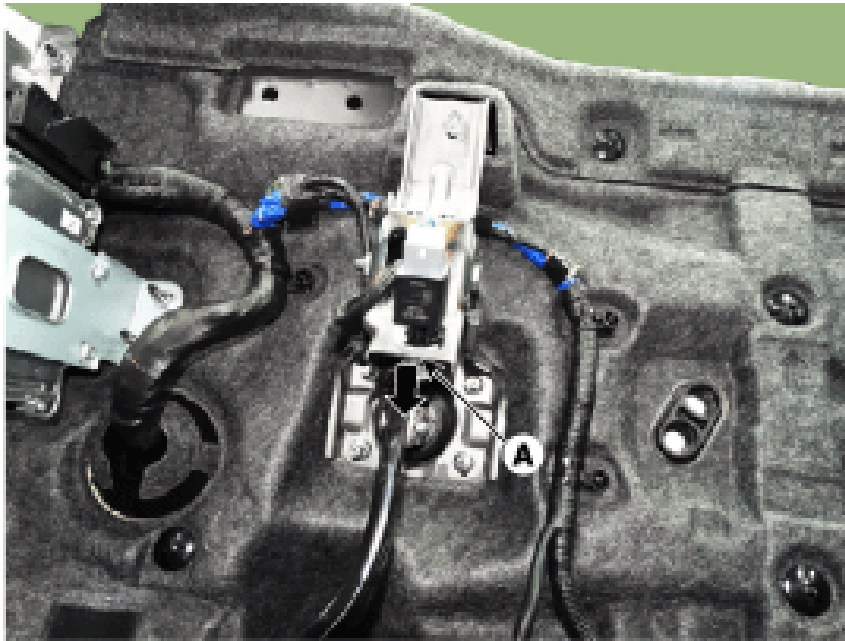
4. Inspect the stop lamp circuit



- Removal
- Turn ignition switch OFF and disconnect the negative (-) battery cable.
- Disconnect the stop lamp switch connector (A).



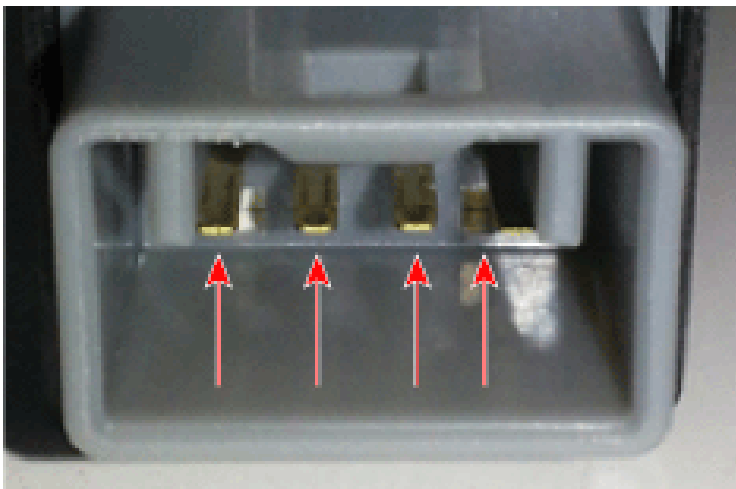
- Pull the locking plate (A) as indicated by the arrow.



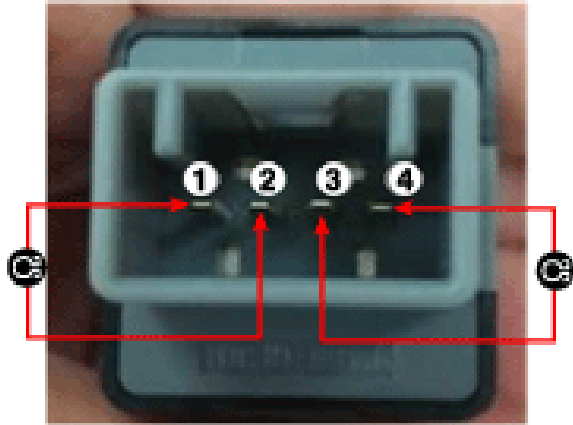
- Turn stop lamp switch 45° counterclockwise and remove it.



- Inspect a removed stop lamp switch along the below procedures. Confirm a normal connection with terminal part A confirmation can be made to see if the connector has been secured properly and if a connection mark is present. Perform the inspection of parts resistance Resistance (Ω) 3-4 1-2 Non rod protruded (switch turned OFF) Infinite 0 Rod protruded (switch turned On) 0 Infinite
- Confirm a normal connection with terminal part A confirmation can be made to see if the connector has been secured properly and if a connection mark is present.
- A confirmation can be made to see if the connector has been secured properly and if a connection mark is present.



- Perform the inspection of parts resistance Resistance (Ω) 3-4 1-2 Non rod protruded (switch turned OFF) Infinite 0 Rod protruded (switch turned On) 0 Infinite



Resistance (Ω) 3-4 1-2

Non rod protruded (switch turned OFF) Infinite 0

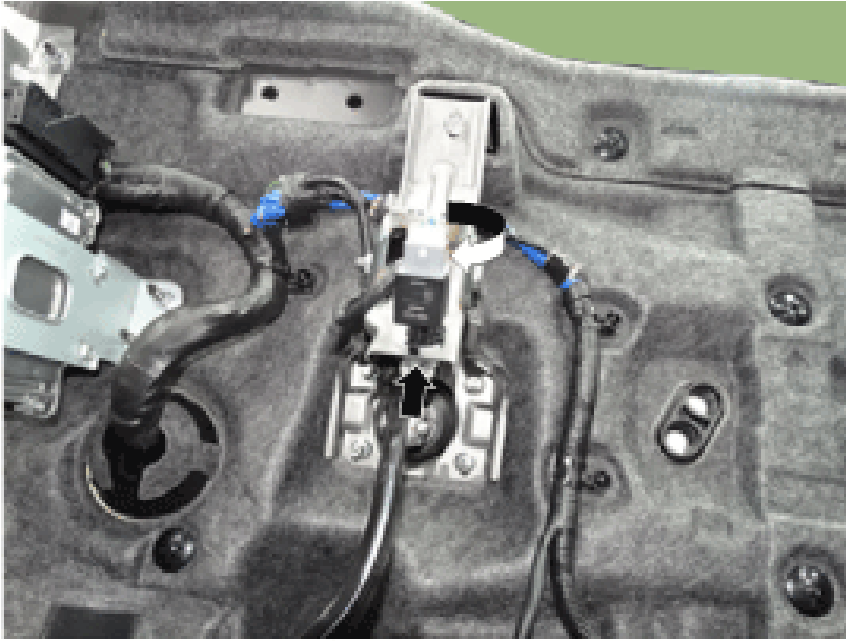
Rod protruded (switch turned On) 0 Infinite

- Installation

- Fix the brake pedal arm and insert fully the stop lamp switch as hiding contact part.



- After inserting, turn the stop switch (A) 45° clockwise, and then assemble locking plate by pushing.



- Confirm the gap between stop lamp switch and bracket. Stop lamp clearance : 1.0 - 2.0 mm (0.04 - 0.08 in.)
- If the gap between stop lamp switch and bracket is not 1.0-2.0mm(0.04-0.08in), perform the above process again.
- If the gap between stop lamp switch and bracket is not 1.0-2.0mm(0.04-0.08in), perform the above process again.

NOTICE

- If the gap between stop lamp switch and bracket is not 1.0-2.0mm(0.04-0.08in), perform the above process again.
- Connect the stop lamp switch connector.
- Install the lower crash pad. (Refer to Body - "Crash Pad")

Stop Lamp Switch - Troubleshooting (Article 45164)

- Troubleshooting
- Part diagnosis Items Cause Symptom Switch fuse Faulty fuse connection, Damaged fuse DTC Code : P0504 Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble, ESP OFF light illuminated. ① A waveform inspection is performed using an oscilloscope on each part during vehicle acceleration/braking. (Refer to stop lamp switch circuit inspection procedures) 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) Relay fuse Faulty fuse connection, Damaged fuse DTC Code : P0504 Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated. Stop lamp switch Damaged wiring of each part Faulty connection to connector Each part is defective DTC Code : P0504 Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated. Stop signal electronic module (If it applies) DTC Code : P0504, C2130, C2131 Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated. Engine control module (ECM) DTC Code : P0504 Symptom : Shifting gear trouble, Cruise control function cancelation trouble Body control module (BCM) Shifting gear trouble Shift-lock solenoid Shifting gear trouble Inhibitor switch Symptom : Shifting gear trouble,

Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble Smart Key Unit (SMK) Starting failure Electronic parking brake Symptom : EPB function cancelation trouble , ESP OFF light illuminated. ABS/VDC control module (Pressure sensor) Symptom : ESP OFF light illuminated.

Items Cause Symptom

Switch fuse Faulty fuse connection, Damaged fuse DTC Code : P0504 Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble, ESP OFF light illuminated. ① A waveform inspection is performed using an oscilloscope on each part during vehicle acceleration/braking. (Refer to stop lamp switch circuit inspection procedures) 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)

- DTC Code : P0504

- Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble, ESP OFF light illuminated.

Relay fuse Faulty fuse connection, Damaged fuse DTC Code : P0504 Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated.

- Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated.

Stop lamp switch Damaged wiring of each part Faulty connection to connector Each part is defective DTC Code : P0504 Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated.

- Damaged wiring of each part

- Faulty connection to connector

- Each part is defective

Stop signal electronic module (If it applies) DTC Code : P0504, C2130, C2131 Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble, Stop lamp lighting trouble , ESP OFF light illuminated.

- DTC Code : P0504, C2130, C2131

Engine control module (ECM) DTC Code : P0504 Symptom : Shifting gear trouble, Cruise control function cancelation trouble

- Symptom : Shifting gear trouble, Cruise control function cancelation trouble

Body control module (BCM) Shifting gear trouble

- Shifting gear trouble

Shift-lock solenoid Shifting gear trouble

Inhibitor switch Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble

- Symptom : Shifting gear trouble, Starting failure, Cruise control function cancelation trouble, EPB function cancelation trouble

Smart Key Unit (SMK) Starting failure

- Starting failure

Electronic parking brake Symptom : EPB function cancelation trouble , ESP OFF light illuminated.

- Symptom : EPB function cancelation trouble , ESP OFF light illuminated.

ABS/VDC control module (Pressure sensor) Symptom : ESP OFF light illuminated.

- Symptom : ESP OFF light illuminated.

- 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 ① Inspect waveform using an oscilloscope on each part during vehicle acceleration/braking. (Refer to stop lamp switch circuit inspection Procedures) 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)

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 Stop lamp does not working Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, Wire/Connector disconnected Stop lamp always turns on Stop lamp switch, Stop signal electronic module, Wiring short circuit, Damaged fuse 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 ① Inspect waveform using an oscilloscope on each part during vehicle acceleration/braking. (Refer to stop lamp switch circuit inspection Procedures) 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)

Trouble shifting gears Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, BCM, ECM, Inhibitor switch, Each wire, Connector

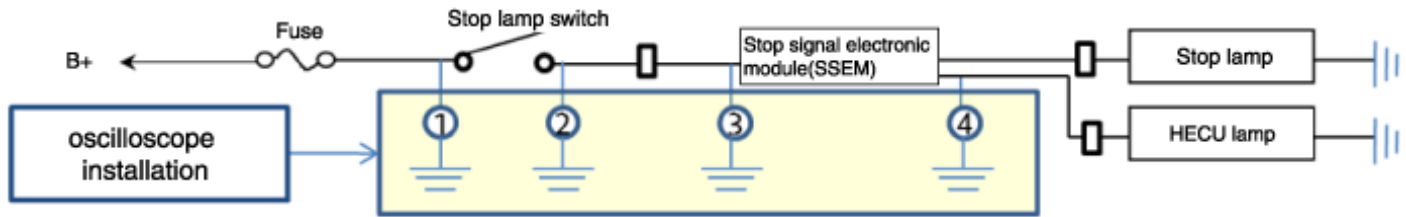
ESP OFF light illuminated Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, ABS/VDC control module, Each wire, Connector

P0504 Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, ECM, Each wire, Connector

Stop lamp does not working Switch fuse, Relay fuse, Stop lamp switch, Stop signal electronic module, Wire/Connector disconnected

Stop lamp always turns on Stop lamp switch, Stop signal electronic module, Wiring short circuit, Damaged fuse

- Stop lamp switch system diagnosis SSEM : Stop Signal Electronic Module



● : Always ON ○ : ON - OFF operation X : Always OFF

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 a new one and check it
Switch internal short	●	●	●	●	Check the stop lamp switch after removing it ① Switch failure : Replace a new one ② Wiring failure : Check part that could be the cause
SSEM internal short	●	○	○	● or X	Check the SSEM after removing it ① SSEM failure : Replace a new one ② Wiring failure : Check the part that could be the cause
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 the 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

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