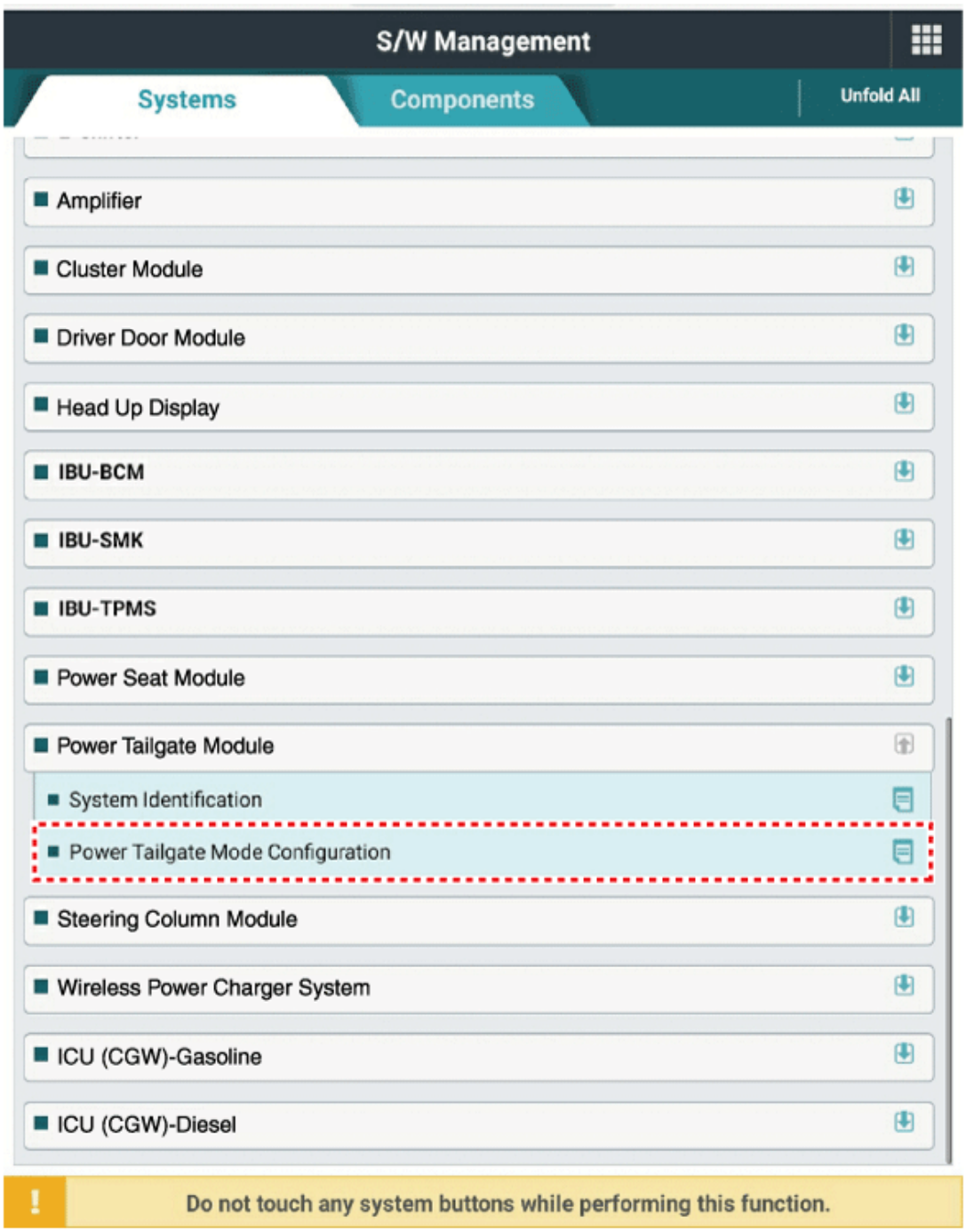
Failure Inspection

Diagnosis With KDS

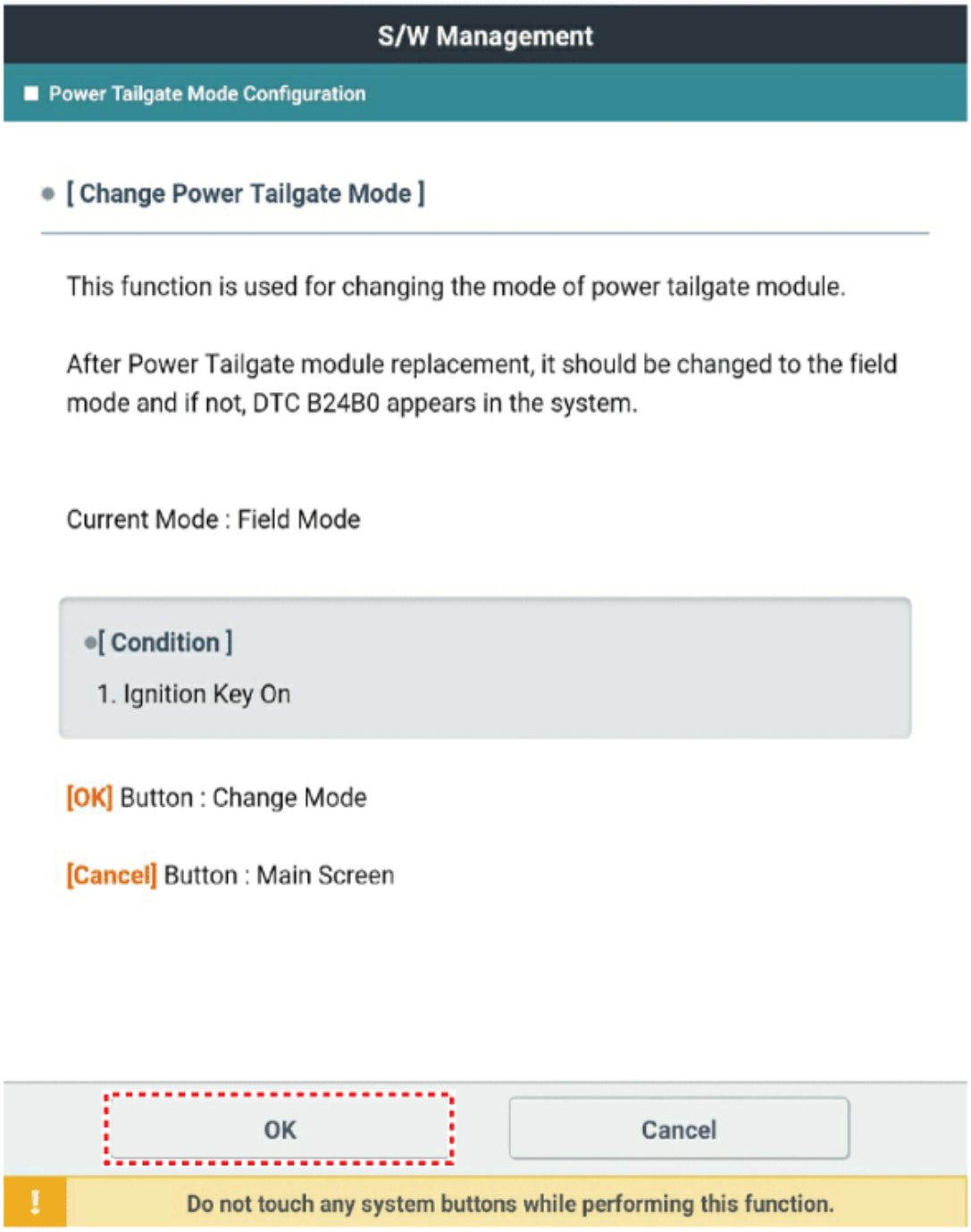
1. In the body electrical system, failure can be quickly diagnosed by using the vehicle diagnostic system (KDS).
   The diagnostic system (KDS) provides the following information.
   (1) Self diagnosis : Checking failure and code number (DTC)
   (2) Current data : Checking the system input/output data state
   (3) Actuation test : Checking the system operation condition
   (4) Additional function : Controlling other features including system option setting and zero point adjustment
2. Select the "Car model" and the "Power liftgate Module" to be checked in order to check the vehicle with the tester.
3. Select the "Current Data" menu to search the current state of the input/output data.
4. To forcibly actuate the input value of the module to be checked, select option "Actuation Test"

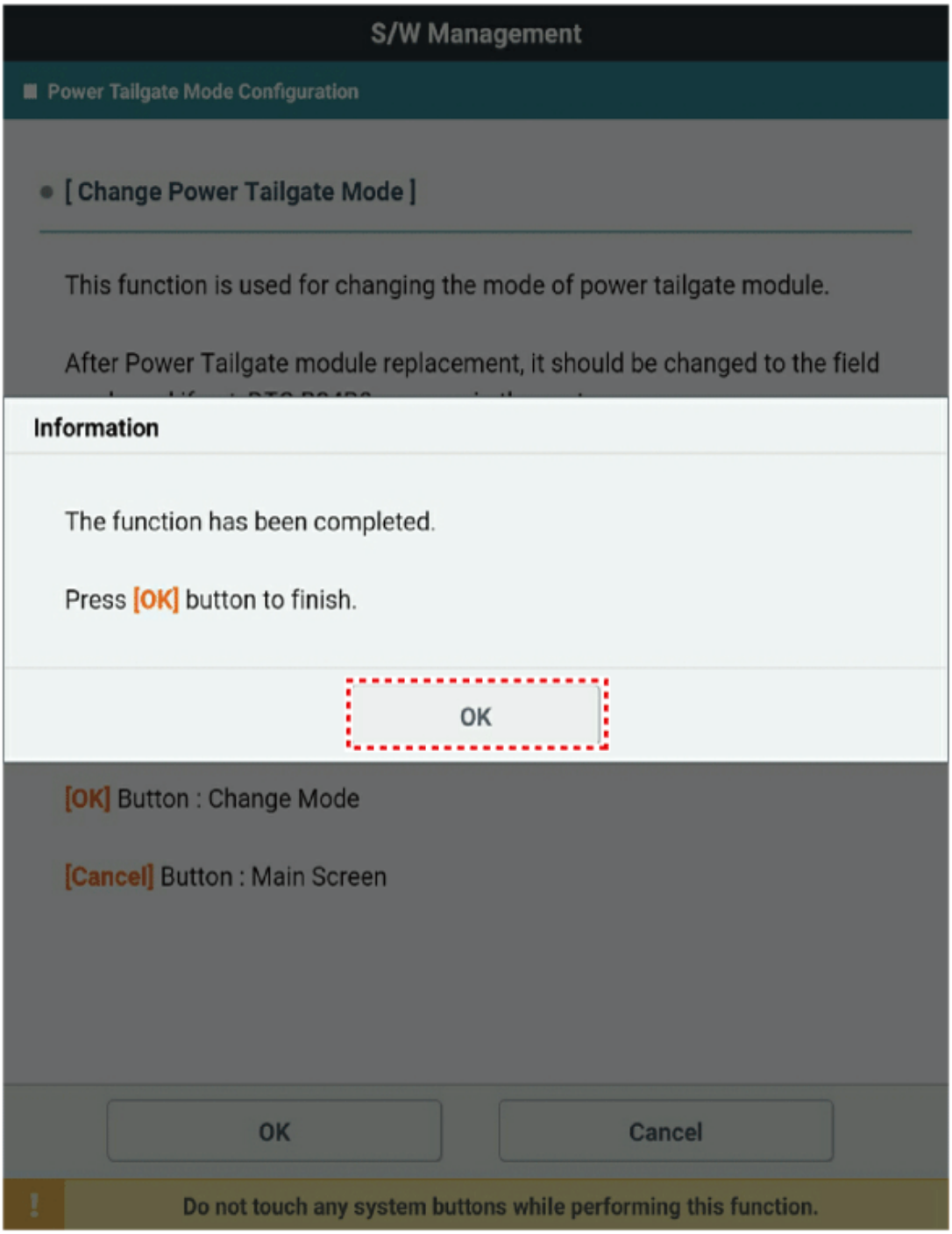
Mode Change (Power Liftgate System)

1. After replacing with a new power liftgate module, check for DTC code at all times.
   If DTC code B24B0 exists, perform power liftgate mode change.
2. After connecting the KDS, select the "Power Liftgate Mode Change" procedure.



3. Perform the liftgate mode change procedure according to displayed messages on KDS.


S/W Management
Power Tailgate Mode Configuration
[Change Power Tailgate Mode]
This function is used for changing the mode of power tailgate module.
After Power Tailgate module replacement, it should be changed to the field mode and if not, DTC B24B0 appears in the system.
Current Mode : Field Mode
[Condition]
1. Ignition Key On
[OK] Button : Change Mode
[Cancel] Button : Main Screen
OK
Cancel
Do not touch any system buttons while performing this function.

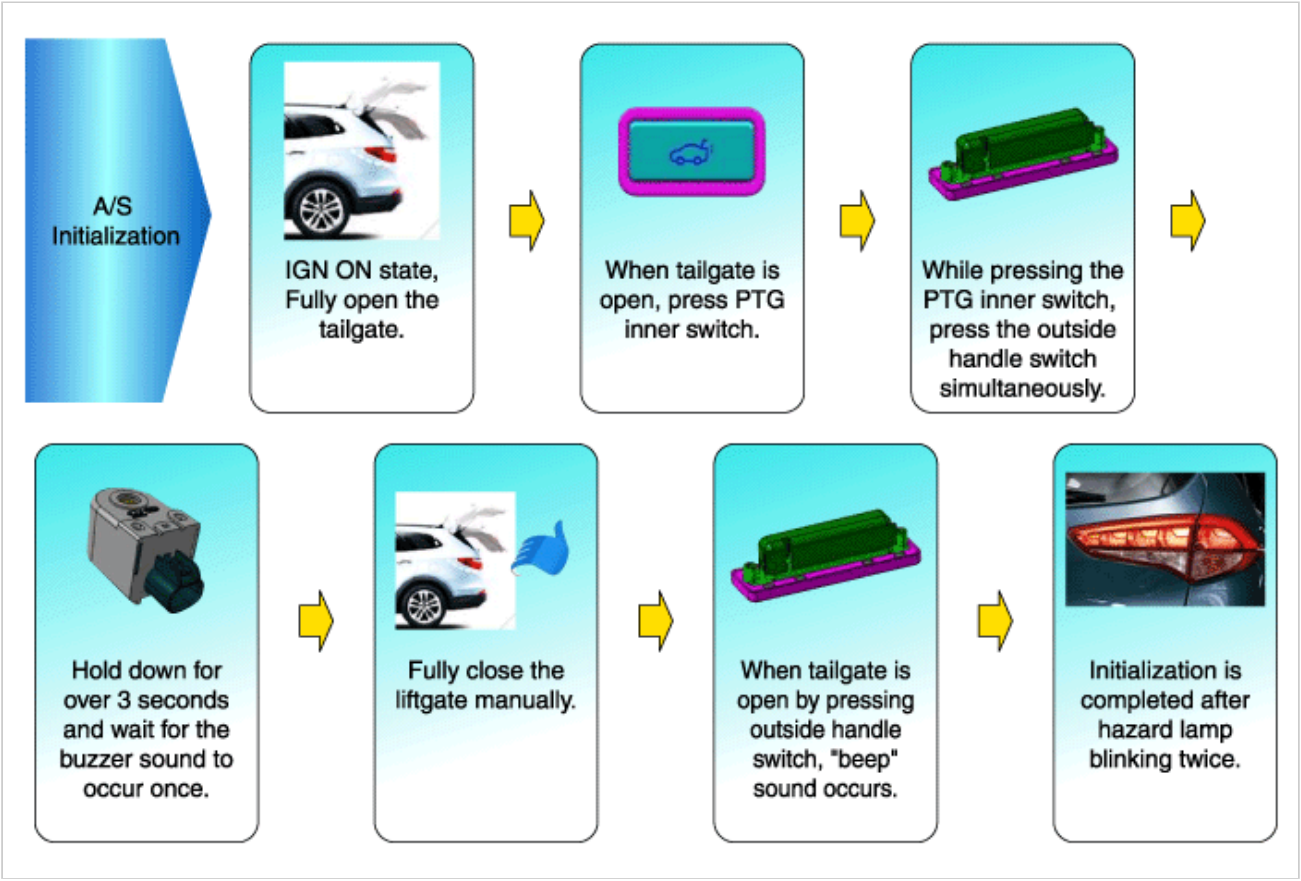


⚠ CAUTION

- If power liftgate system is operated with factory mode, it makes the abnormal warning sound.

System Initialization

System initialization is needed to recognize the closing position of the liftgate to power liftgate module.
The initialization process after battery power reset, system initialization is needed to recognize the maximum opening and closing liftgate position exactly.
The power liftgate operates normally after system initialization is completed.
Procedure :



Inspection and Test - Power Liftgate System

Power Liftgate system is a complex system that consists of several components. To get an accurate test result, the control module of the Power Liftgate must be inspected.

The most trustworthy, effective and accurate method is using KDS required by power liftgate.

KDS helps technicians when inspecting a disabled switch, and enables to check the current status record of the switch ofPower Liftgate control module.

The battery must be fully charged before conducting all of the test on power liftgate, and all of the interfering elements of the system must be shown and understood. (refer to the explanation of smart liftgate) Refer to the analysis reference table when inspecting and testing the smart liftgate.

Status	Cause	Solution
Sudden opening of liftgate	Activation by mistake or malfunction of open/close switch	Check for short or malfunction of short circuit of switch
	Latch assembly failure	Check for wiring connection
		Check for failure code, and replace the latch if needed
	Failure of Smart Liftgate or the body control module	Reset the module fuse or reconnect the battery. If it does not operate properly, check the wiring connection and analyze manual.
Unable to power open and close the liftgate	False indication, or not parked status	Check a switch status using analyzing device
	Low voltage of the Power Liftgate module battery	Check for proper voltage of the Power Liftgate
		Battery charged
	Swelling of the fuse	Check if the fuse is swollen
	Malfunction of PTG spindle	Check for PTG spindle status
	Critical code failure at IBU/liftgate control module	Check for code status using KDS
	Latch assembly failure	Check if the wiring connection of fuse are swollen.
		Check if there"s any alien object interfering with the operation of latch assembly.
Unable to open and close of the tailegate	Failure in motor assembly	Check for motor assembly
	Interference of the consisting components	Replace the needed parts or reset the affected position.
	Wiring problem (system or vehicle)	Resolve the problem using the wiring map.
		Refer to wiring diagram.

Loss of electricity during the liftgate operation	Wiring problem (system or vehicle)	Resolve the problem using the wiring map.
		Refer to wiring diagram.
	Low voltage of vehicle battery	Check for proper voltage of PTGM.
		Charge the battery
	Failure in Power Liftgate or IBU	Check for failure code using analyzing device
	Failure in motor assembly	Test the motor assembly
Power latching unable at Primary/Secondary position	Latch assembly failure	Check if the wiring connection of fuse are swollen.
		Check for failure code using analyzing device
		Resolve the problem using a vehicle analyzing manual.
		Replace the latch assembly if needed.
	Interference of the consisting components	Replace the needed parts or reset the affected position.
	Failure in Power Liftgate or IBU	Check for failure code using analyzing device
	Excessive sealing force of the liftgate	Check for shock on sealing, assembly failure, alien object or other possible factors.
	Failure in motor assembly	Check the motor assembly
Unable to unlock the latch at Primary position	False indication, or not parked status	Check switch status using analyzing device
	Low voltage of the Power Liftgate module battery	Check for proper voltage of the Power Liftgate
		Battery charged
	Swelling of the fuse	Check if the fuse is swollen
	Latch assembly failure	Check switch status using analyzing device
		Check for alien object interfering with the latch assembly operation or shock on components.
		Resolve the problem using a vehicle analyzing manual.
		Remove the latch assembly if needed.
	Failure in outside handle connection	Check for handle joint and wiring connection.
	Failure of Power Liftgate or the body control module	Check for the failure code or cycle using analyzing device.
	Interference of the consisting components	Replace the needed parts or reset the affected position.
Liftgate operation using pop/console switch unavailable.	Swelling of the fuse	Check if the fuse is swollen
	Low voltage of PTGM	Check for proper voltage of PTGM.
		Charge the battery
Unable to unlock the electric lock	Failure on the latch assembly	Check for alien object interfering with the latch assembly operation or shock on components.
		Check for the failure code or cycle using analyzing device.
		Check for pole/latch switch using analyzing device.
		Resolve the problem using the vehicle inspection manual
Unable to unlock the electric lock	Failure of Power Liftgate module	Resolve the problem using the vehicle inspection manual
	Failure of Integrated body control unit (IBU	Resolve the problem using the vehicle inspection manual
		Replace IBU if needed
	Malfunctioning of wireless remote control key	Rewrite the wireless remote control key program
		Replace the wireless remote control key
	Malfunctioning of the liftgate motor assembly	Check for alien object interfering with the motor assembly operation.
		Check for wiring connection
		Change the assembly if motor clutch is not operable
		Replace the switch if the full opening switch is not working
		Resolve the problem using the vehicle inspection manual
		Replace the motor if needed
Unable to maintain opened status of the liftgate	Failure on PTG spindle	Replace PTG spindle
		Check if attached objects are damaged

Excessive operating force when opening and closing	Failure on PTG spindle	Replace PTG spindle
		Check if attached objects are damaged
	Interference of the consisting components	Replace the needed parts or reset the affected position.
When liftgate keeps cinching lock mode	Failure on the latch assembly	Check if wiring connection and fuse are swollen
		Check the switch with analyzing device
When liftgate keeps electric lock mode	Failure on the latch assembly	Check for wiring connection
		Check for any alien object
		Resolve the problem using the vehicle inspection manual
	Malfunctioning of the control module	Check for failure code using analyzing device
	Wiring problem (system or vehicle)	Resolve the problem, referring an electric circuit
		Refer to wiring diagram.
		Check for the vehicle inspection manual for detailed process
	Failure of the motor assembly	Check for operating environments constantly
	Wiring problem (system or vehicle)	Resolve the problem, referring an electric circuit
		Refer to wiring diagram.
Very slow opening of the liftgate	Vehicle battery voltage too low	Check for proper voltage of PTGM.
		Charge the battery
	Malfunctioning of the liftgate PTG spindle	Replace the liftgate PTG spindle if needed
	Interference of the consisting components	Replace the needed parts or reset the affected position.
	Vehicle angle too steep for electric operation	Operate the liftgate manually
	Malfunctioning of the liftgate motor assembly	Replace the motor assembly if needed
Rattling or squeaky sound	Alien object jammed in liftgate components	Remove the alien object
	Excessive tightening or loosening of the components	Resolve the excessive tightness or looseness