



## Operating Condition for the ISG function

### 1. Auto stop or Auto start condition

► If all of the below conditions are satisfied

Component	State	Remark
ISG OFF Switch	OFF	ISG OFF switch indicator lamp ->OFF
Engine Coolant Temperature	Over 30°C (86°F)	
Brake vacumm	Below -35kPa	
Drive door, Seat belt, Hood	Closed	
EMS state (TPS/CKP/CMP/WTS/Vehicle speed signal)	Satisfied	DPF Regeneration prohibited
A/C System	Satisfied	
Battery sensor [SOC: Over 78% Temperatuere:2-55°C(35.6 - 131°F)]	Satisfied	
ISG related part error	Does not occur	
Vehicle speed	Entry the below 0kph after Over 8kph	Prohibition the ISG System before 8kph
Accelerator pedal	OFF	Engine auto stop condition
Brake switch	ON	Engine auto stop condition
	OFF	Engine auto stop condition
Gear state	N (Neutral)/ D	Engine auto stop condition
	R/ 1/ 2	Engine auto stop condition

### NOTICE

In congested areas, if the driver wishes to stop the vehicle and change lever from D→N, the ignition will turn OFF.

### 2. Restriction conditions for Auto stop or Auto start

► If one of the following conditions is met, the ISG system will not operate properly.

Component	Conditions	Remark
ISG OFF switch	ON	ISG OFF switch indicator state
EMS State (TPS/CKP/CMP/WTS/Vehicle speed signal etc.)	Dissatisfied	DPF Regeneration prohibited
Driver side door, seat belt, hood state	Open	
Brake vacumm	Over -35kPa	
A/C State	Dissatisfied	
Battery sensor (SOC: Over 78%, Temperature: 2 - 60°C))	Dissatisfied	
ISG system error	Occurred	
Steering wheel	Greater the angle	
A/C System	A/C switch ON, FATC over 6, MTC over 3	
Defrost	Defrost switch ON	
etc.	Downhill, steep uphill	
	Operate the SPAS	

### 3. onditions for forced restart (If none of the below condition is not satisfied)

Component	Conditions	Remark
Safety requirements	Low pressure for braking system	Over -35kpa
	Low battery voltage	Maintain excessive electrical load for 3 minutes

	Active defroster of front glass	
	Inertial speed over 1.5 km/h (on downhill)	
	Door open or driver side seat belt unfastened	Brake Pedal Pressed
	Ignition switched ON with hood open	
	Engine stopped for long	After 300 seconds
	Vehicle parted on a steep slope	
Convenience requirements	A/C ON, FATC over 6, MTC over 3 or HVAC performance dissatisfied	
	ISG OFF" button pressed	

#### 4. Restriction conditions for Auto-Stop operation

Conditions	State	Remark
Driver side door, seat belt, hood state (Brake OFF state)	Open	Start by using "ignition switch" or "button start key" (only)
CAN error (TCU, FATC/Cluster)	Occurred	
EMS state(TPS/CKP/CMP/WTS/Vehicle speed signal)	Dissatisfied	

#### NOTICE

In case of error during idle stop, the engine can only be started by using the key.

#### ⚠ CAUTION

The ISG system is strongly networked with the power management. In the event of battery replacement, disconnection of the battery terminal or after changing the engine management system, the reference data regarding the battery charge state and battery condition can be lost. Battery sensor can be reactivated by parking for approximately 4 hours after connecting the negative (-) battery terminal to the battery.

#### ⚠ CAUTION

ISG system deactivation by fault.

- Fault in communication line (LIN/CAN)
  - Fault Electric oil pump
  - Fault ESP System
  - Fault Limp home mode
- Fault brake booster vacuum pressure sensor
  - Fault Brake master cylinder pressure sensor
  - Fault Brake pedal switch
  - Fault Battery sensor

When the ISG related sensors or system error occurs, the ISG OFF switch lights up. Especially when the battery sensor is replaced or reinstalled, the vehicle must be placed in the ignition switch OFF for about 4 hours for recalibration.

The ISG function should operate properly in approximately 4 hours. However, for the first 25 times, the ISG function will operate regardless of recalibration.

#### ⚠ WARNING

When the engine is in idle stop mode, it can be restarted without the driver taking any action.

Before leaving the car or doing anything in the engine room area, stop the engine by turning the ignition key to the LOCK position or removing it.