CRUISE CONTROL

8530-10

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CRUISE CONTROL

8530-10

GENERAL INFORMATION

1. SPECIFICATIONS

Category			Specifications
Cruise control switch	Rated voltage		DC 5 V
	Operating temperature		−30°C to +80°C
	Switch type	SET+/RES -	Up/Down self return type
		ON/OFF	Push self return type
		CANC	

2. TRAFFIC CONDITIONS

Use the cruise control system when the vehicle is driven on a motorway or highway with light traffic where the driving status is not expected to change suddenly by pedestrians and traffic lights.

WARNING

To prevent unexpected accidents due to uncontrollable situations, only use this function when driving on motorways and highways with light traffic. Never use this function when driving under the following conditions:

- Hard wind or crosswind
- Heavy traffic
- Slippery roads or hills

3. PRECAUTIONS

CAUTION

- Take into consideration road safety while when driving at a constant speed using a cruise control system. Always be prepare to depress the brake and accelerator pedals according to the situations. The vehicle speed may vary and different from the set speed when driving up and down a hill. Avoid
- using cruise control function when driving on hilly roads as much as possible. To ensure safe driving and protect the vehicle, use the engine brake and foot brake properly when driving on hilly roads. Always allow for extra distance between your vehicle and the vehicle ahead. Depress the brake pedal, if needed.
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Modification basis	
Application basis	
Affected VIN	

OVERVIEW AND OPERATING PROCESS

1. OVERVIEW

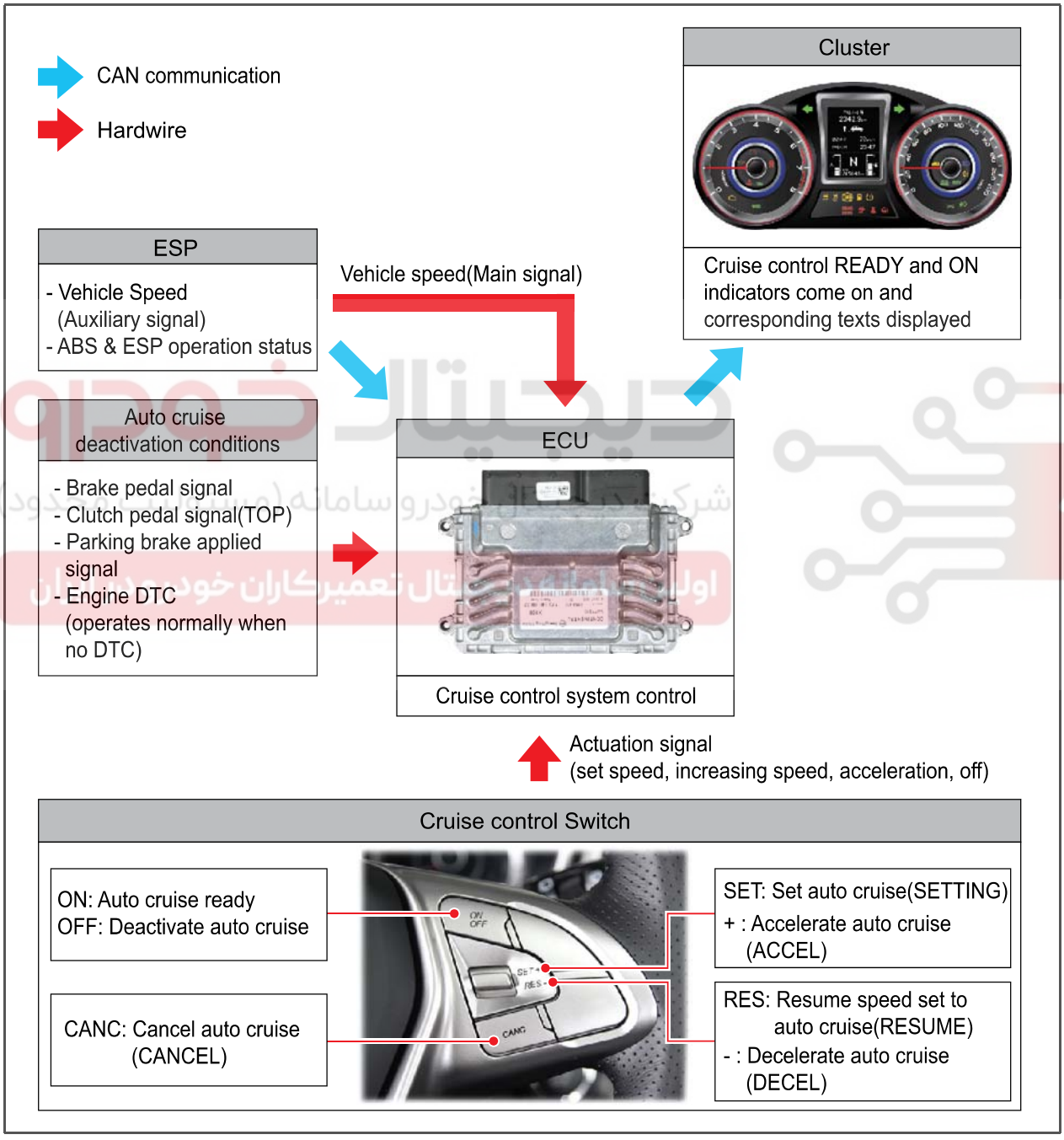
The cruise control is an automatic speed control system that maintains a desired driving speed without using the accelerator pedal. The operating switch assembly is located on the right side of the steering wheel. The switch assembly consists of the buttons for speed up & set (SET +), speed down & return to set speed (RES -), cruise ON/OFF, stop (CANC) modes.
Pressing the auto cruise ON switch activates the auto cruise ready mode. Press the auto cruise SET + button to set the current vehicle speed as the target speed. To change the target speed, press the +(ACCEL) or -(DECEL) button.

2. COMPONENTS

3. OPERATING PROCESS

1) Input/Output Elements

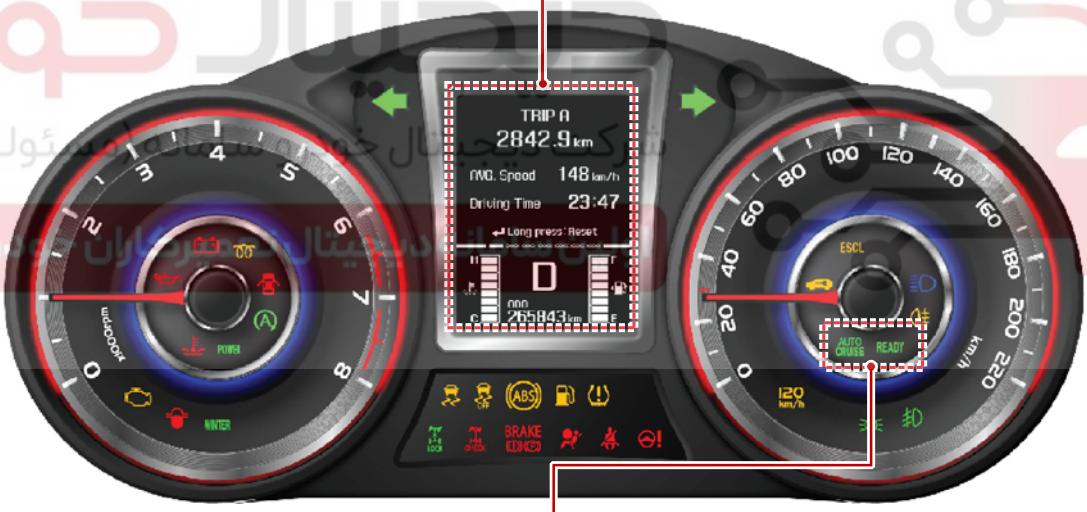
The engine ECU detects the cruise control switch position and monitors the brake operating conditions, clutch conditions, and vehicle speeds, etc. The engine ECU maintains the set vehicle speed, increases, or decreases the vehicle speed according to the signals from the cruise control switch, unless a fault is detected during cruise control driving.



Modification basis	
Application basis	
Affected VIN	

2) Display and Indicators

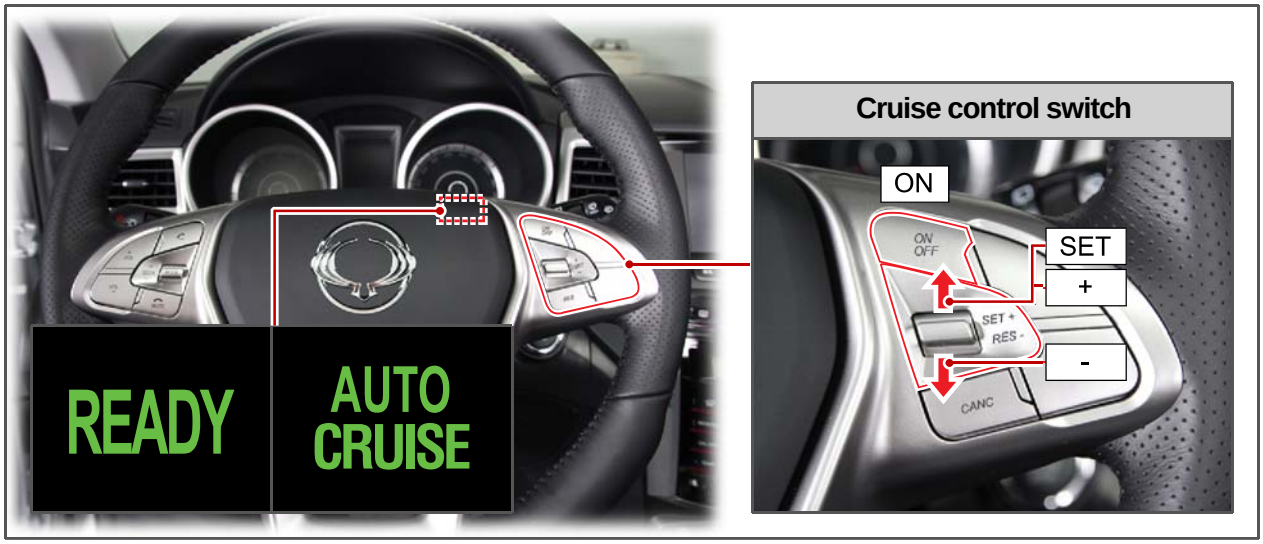
Instrument cluster display (with supervision)		
Auto cruise ready	**Auto cruise set**	**Auto cruise deactivated**
		
Displayed when auto cruise is ready	Displayed when auto cruise is activated	Displayed when auto cruise is turned off from READY or ON state



Auto cruise READY indicator	Auto cruise ON indicator
	
Comes on when cruise control is turned ON by cruise control ON/OFF switch	Comes on when auto cruise is activated

4. HOW IT WORKS

1) How To Set Speed (Cruise Control ON)



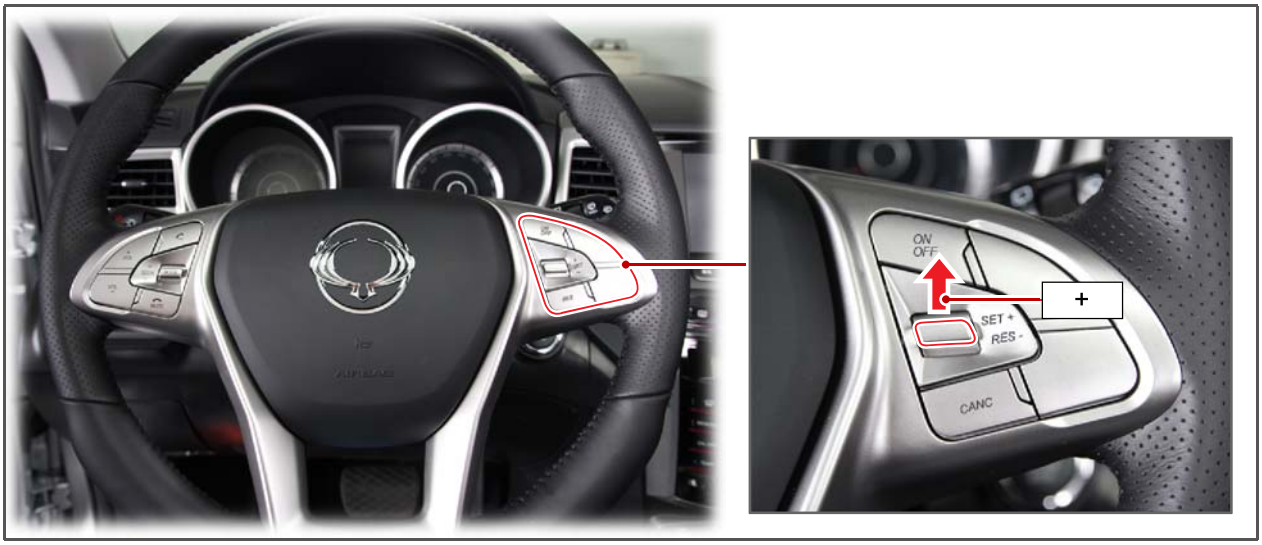
1. Drive the vehicle at speed between 40 and 140 km/h (cruise control operating speed) by depressing the accelerator pedal to activate the cruise control system.
2. Auto cruise set
   a. Pressing the ON switch illuminates the auto cruise READY indicator on the instrument cluster and puts the auto cruise system into READY mode.
   b. To maintain current vehicle speed, press the SET switch. This turns off the auto cruise READY indicator and turns on the auto cruise ON indicator on the instrument cluster.
   c. After that, the vehicle is driven at the set speed (speed set when activating the cruise control system) without accelerator pedal depressed.
3. Pressing the +/- button after the step "b" increases/decreases the set speed.

CAUTION

Operating the cruise control switch is carried out while the vehicle is driven. Therefore, make sure that you fully understand and are familiar with the system before using the cruise control system. Failure to do so may lead to fatal accidents.

Modification basis	
Application basis	
Affected VIN	

2) Increasing Speed (ACCEL)

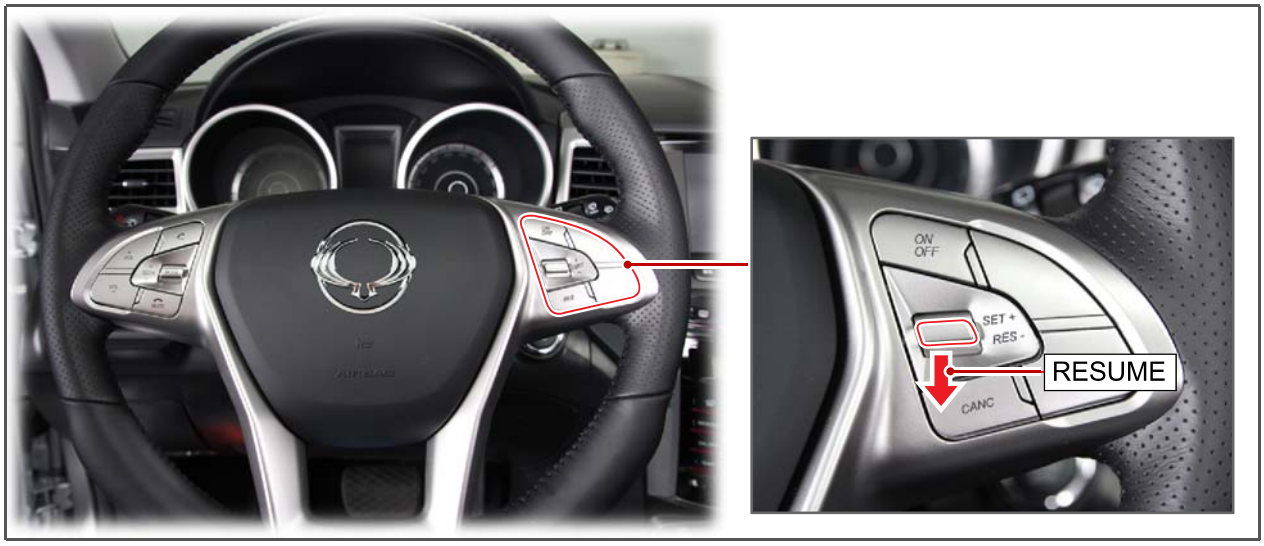


1. To increase the target speed, press the switch to +(ACCEL) until the desired speed is set with the cruise control in READY mode.
2. To increase the speed in 1 Km/h increments, press the +(ACCEL) switch for less than 0.5 sec.

3) Decreasing Speed (DECEL)

1. To decrease the target speed, press the switch to -(DECEL) until the desired speed is set with the cruise control in READY mode. If the vehicle speed is below 38 km/h, the cruise control function will be deactivated.
2. To decrease the speed in 1 Km/h increments, press the -(DECEL) switch for less than 0.5 sec.

4) Restoring Set Speed (RESUME)



When the CANC (CANCEL) switch is pressed accidentally or the cruise control system is deactivated, pressing the switch to RES- direction will restore the cruise control system to the speed before deactivation. The speed should be 40 km/h and the brake or accelerator pedal should not be depressed. (Deactivation by cruise control OFF switch will not restore the previous set speed)

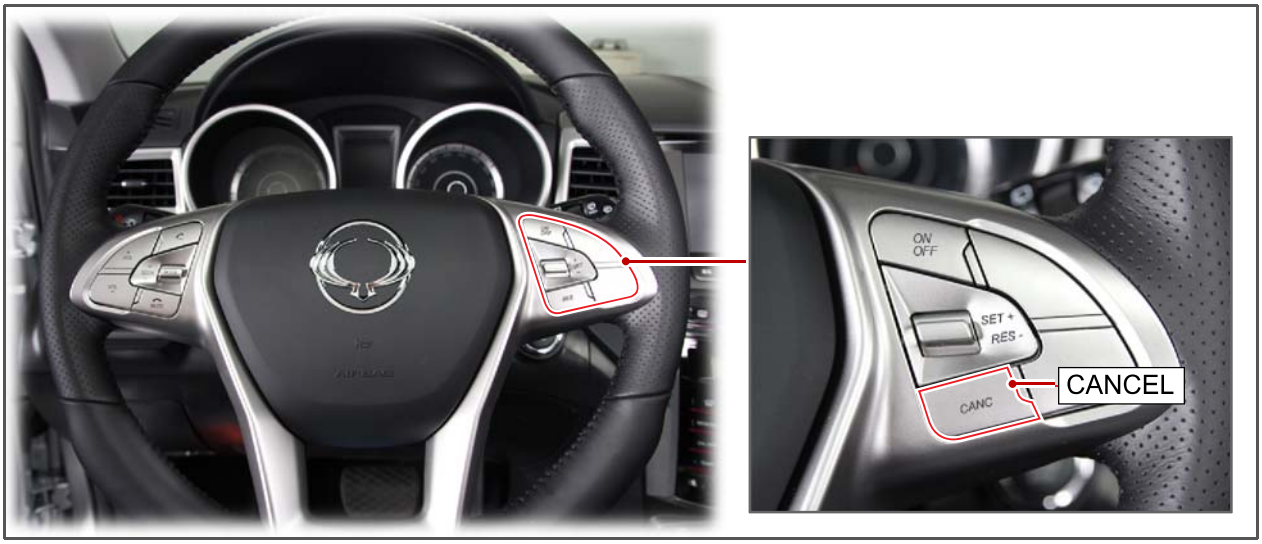
NOTE

To deactivate cruise control

- Depress the brake pedal or activate ESP.
- Drive the vehicle at less than 38 km/h.
- Apply the parking brake while the vehicle is driven.
- Depress the clutch pedal to change the gear.

Modification basis	
Application basis	
Affected VIN	

5) To Cancel (CANCEL)



To cancel the cruise control operation, press the CANC (CANCEL) switch. If this is the case, the engine ECU will remember the speed before cancellation. Pressing RES (RESUME) switch restores the cruise control function to the previous speed.

6) How To Deactivate (Cruise Control OFF)

Pressing the OFF switch while the cruise control system is activated will deactivate the function. In this case, the engine ECU will not remember the speed before deactivation. You need to set the speed again when the cruise control system is activated later.

CONFIGURATION AND FUNCTIONS

S.G.N. 8530-10 CRUISE CONTROL SWITCH

1) Overview

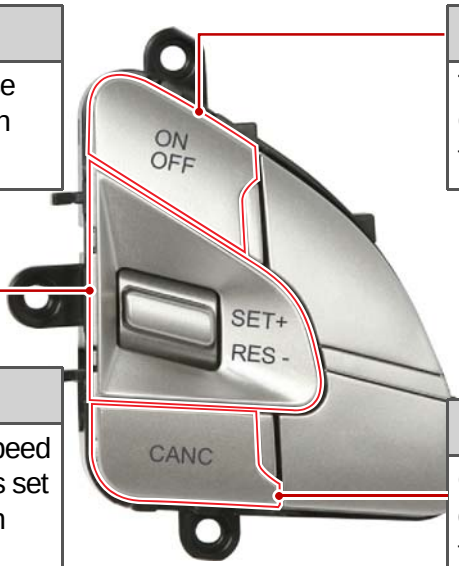
The cruise control switch assembly installed on the right side of the steering wheel controls the cruise control system. The switch assembly consists of the buttons for speed up & set (SET +), speed down & return to set speed (RES -), cruise ON/OFF, stop (CANC) modes.

2) Mounting Location and Components

Cruise control switch

+ / - button
Increases/decreases cruise control set speed (up/down self return type)

SET / RES button
Set cruise control target speed or resumes to the previous set speed (up/down self return type)

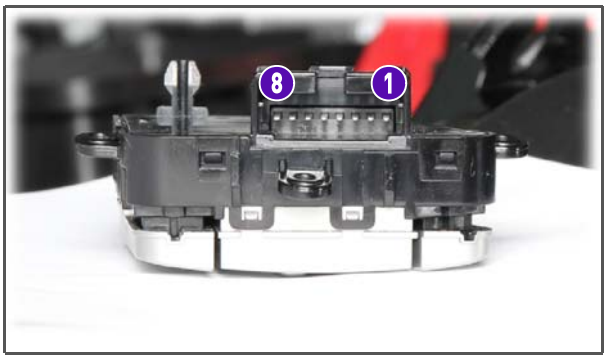


ON/OFF mode button
Turns cruise control system ON/OFF (push self return type)

CANC Button
Cancels cruise control operation (push self return type)

Modification basis	
Application basis	
Affected VIN	

3) Connector

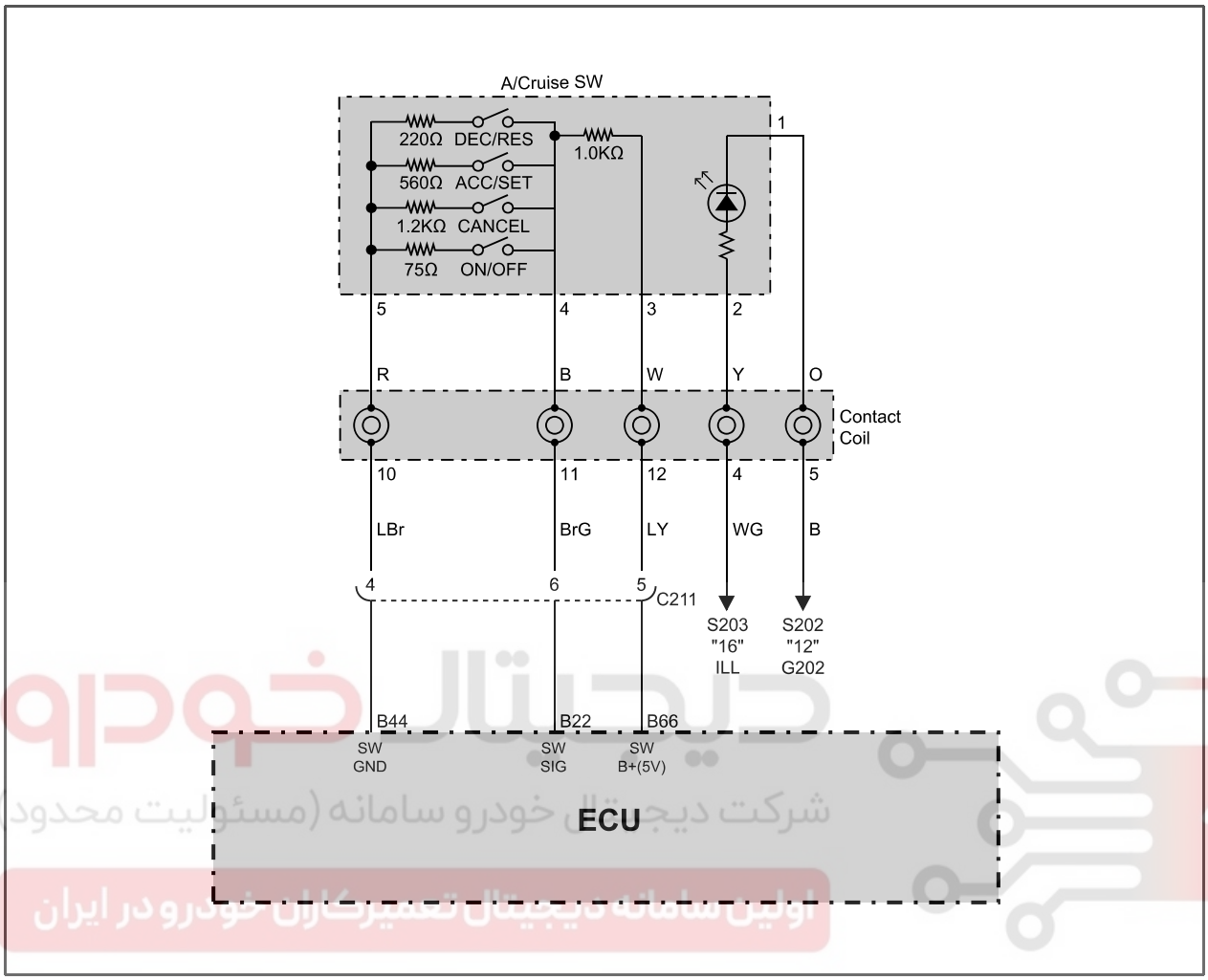


Pin No.	Function
1	ILL -
2	ILL+
3	Power supply
4	Cruise control signal
5	Ground
6	-
7	-
8	-

▶ **No. 4 terminal (Cruise control signal) voltage change by switch operation**

Category	Operating voltage	Remarks
No operation	Approx. 5 V	-
ON/OFF	0.15 to 0.55 V	
SET+	1.6 to 2.0 V	
RES-	0.7 to 1.1 V	
CANC	2.52 to 2.92 V	

4) Circuit Diagram



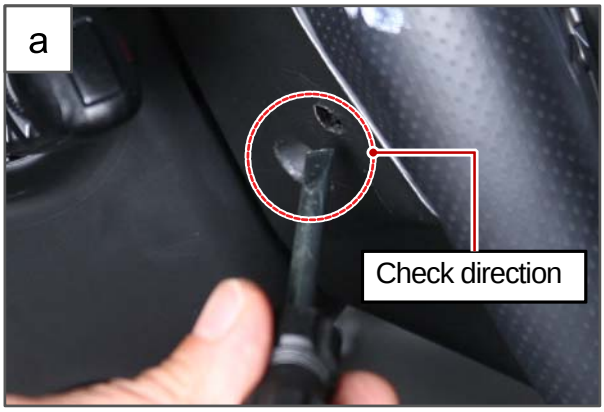
Modification basis	
Application basis	
Affected VIN	

REMOVAL AND INSTALLATION

S.G.N. 8530-10 CRUISE CONTROL SWITCH

Preceding work - Disconnect the negative battery cable.

1. Remove the driver air bag module from the steering wheel by following the procedures below:

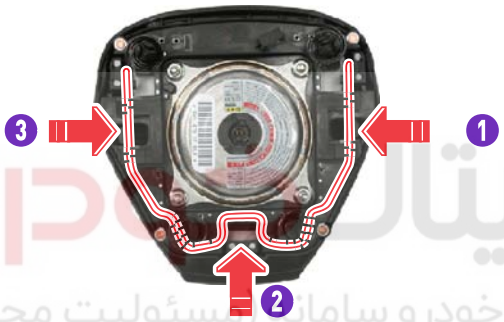


a. Insert a flat bladed screw driver to the 3 holes on the rear side of the steering wheel to press out the snap rings securing the air bag module.

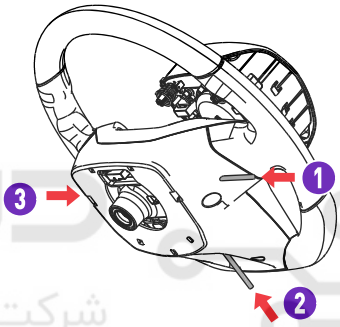
CAUTION

Insert a screwdriver by paying close attention to the short circuit due to wirings in the driver air bag module.

Inside of driver air bag module

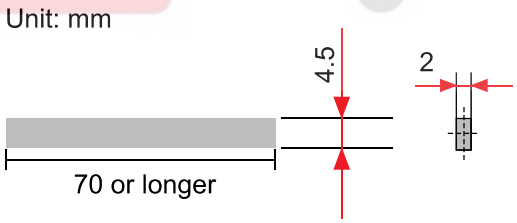


Outside of driver air bag module

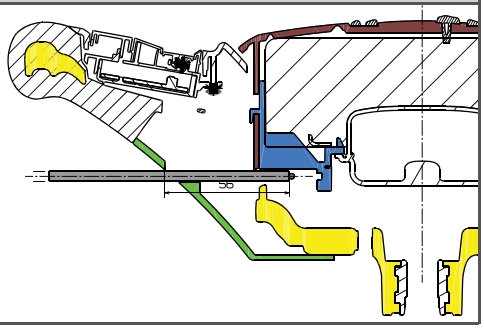


Prying off snap rings

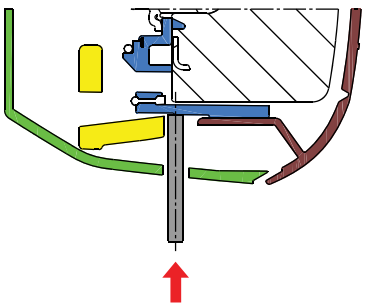
Tool dimensions



Sectional view of directions 1 and 3 with a tool inserted

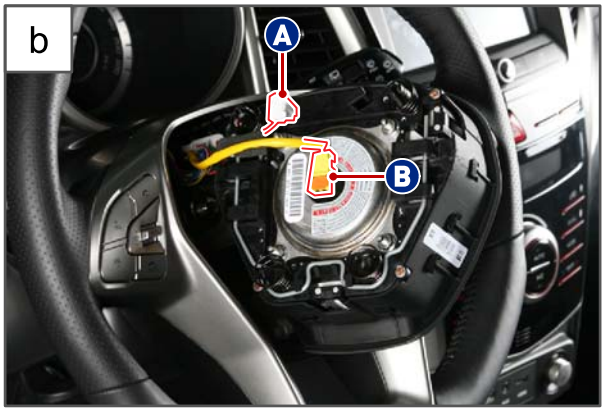


Sectional view of direction 2 with a tool inserted



Modification basis	
Application basis	
Affected VIN	

b



b. Lift out the driver's air bag module and disconnect the connectors (A) and (B).

(A) Horn connector
(B) Driver's air bag module connector

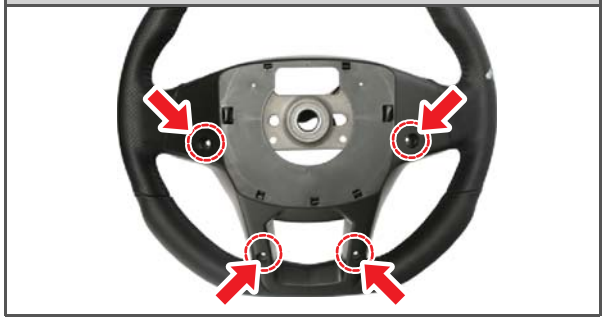
c

c. Remove the driver's air bag module.

d

2. Remove the 4 mounting screws for steering wheel upper cover at the back side of the steering wheel.

Steering wheel upper cover mounting screws



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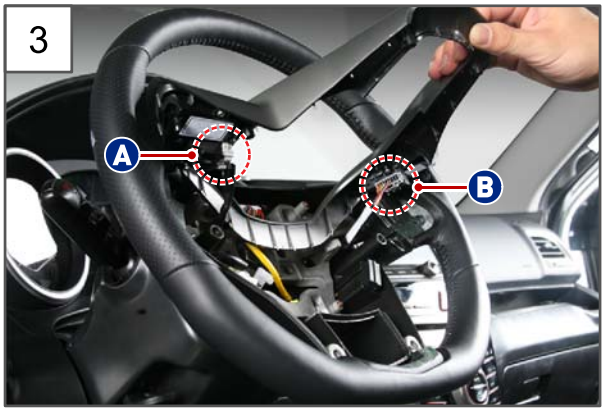

3. Remove the steering wheel upper cover and disconnect the connectors (A) and (B).

(A) Audio remote control switch connector
(B) Cruise control switch connector

4

4. Remove the steering wheel upper cover.

Steering wheel upper cover

5

5. Remove the 3 mounting screws for the cruise control switch at the back side of the removed steering wheel upper cover.

6

6. Remove the cruise control switch.

Modification basis	
Application basis	
Affected VIN	

7

7. Install in the reverse order of removal.

Memo