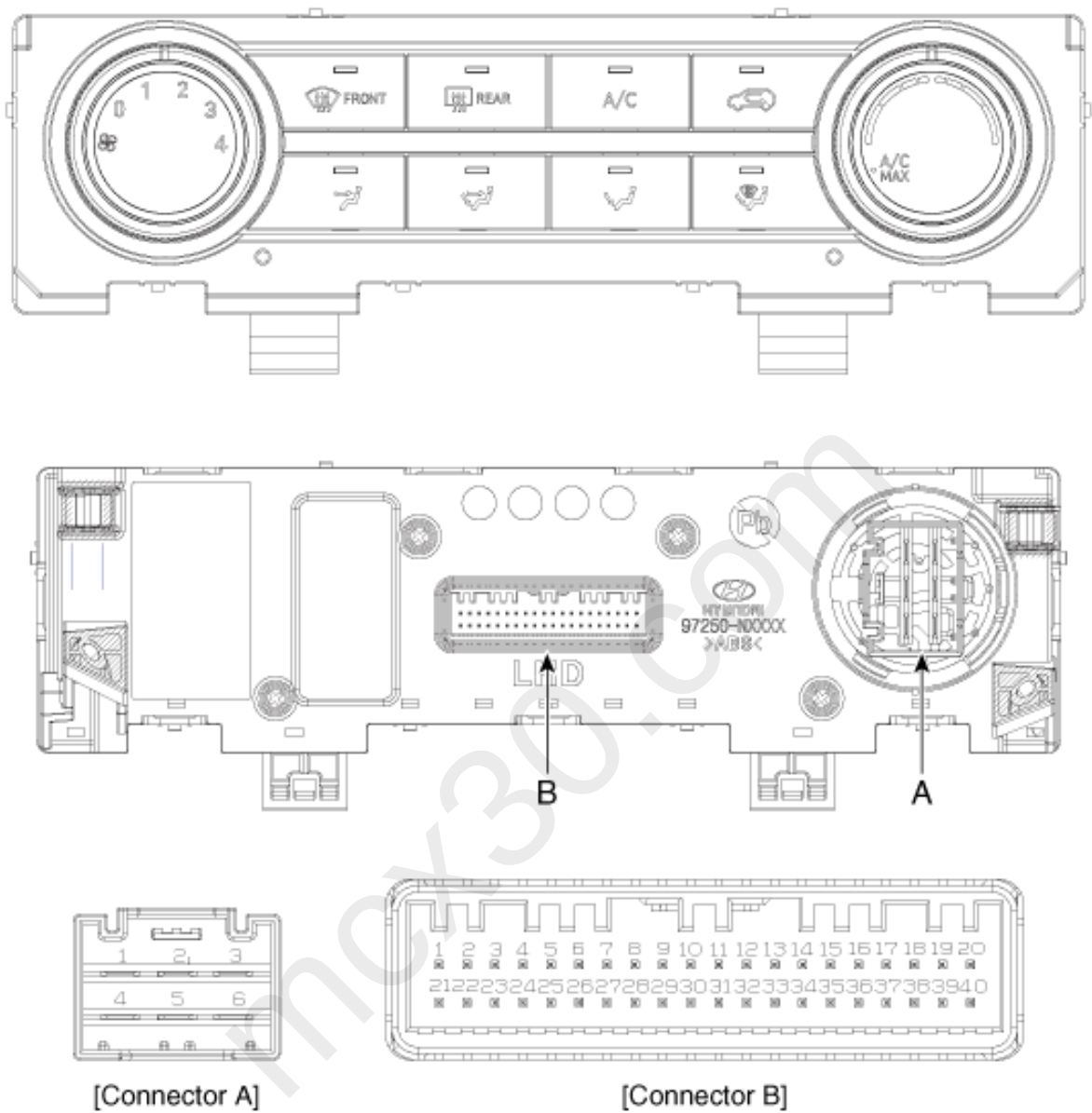




Connector Pin Function

Pin No	Connector A (Blower)	Connector B (Main)
1	Low	Battery (+)
2	Common	ISG B+
3	Ground	ILL+ (TAIL)
4	Middle Low	Sensor REF (+5V)
5	Middle High	Mode control actuator feedback
6	High	Temperature control actuator feedback

7		Intake actuator feedback
8		Evaporator temperature sensor (+)
9		Ambient temperature sensor (+)
10		Mode control actuator (Vent)
11		Mode control actuator (DEF)
12		Temperature control actuator (Cool)
13		Temperature control actuator (Warm)
14		Intake actuator (FRE)
15		Intake actuator (REC)
16		-
17		-
18		-
19		Blower ON signal (Common)
20		ILL - (RHEO)
21		IGN2
22		IGN1
23		Blower INH
24		Blower IS
25		Blower PWM IN
26		-
27		Blower MAX signal
28		IBU Active Low
29		PTC reay 2
30		PTC ON signal
31		-
32		-
33		CAN FD (High)
34		CAN FD (Low)
35		-
36		Blower relay
37		ECV (+)
38		ECV (-)
39		Sensor ground
40		Ground

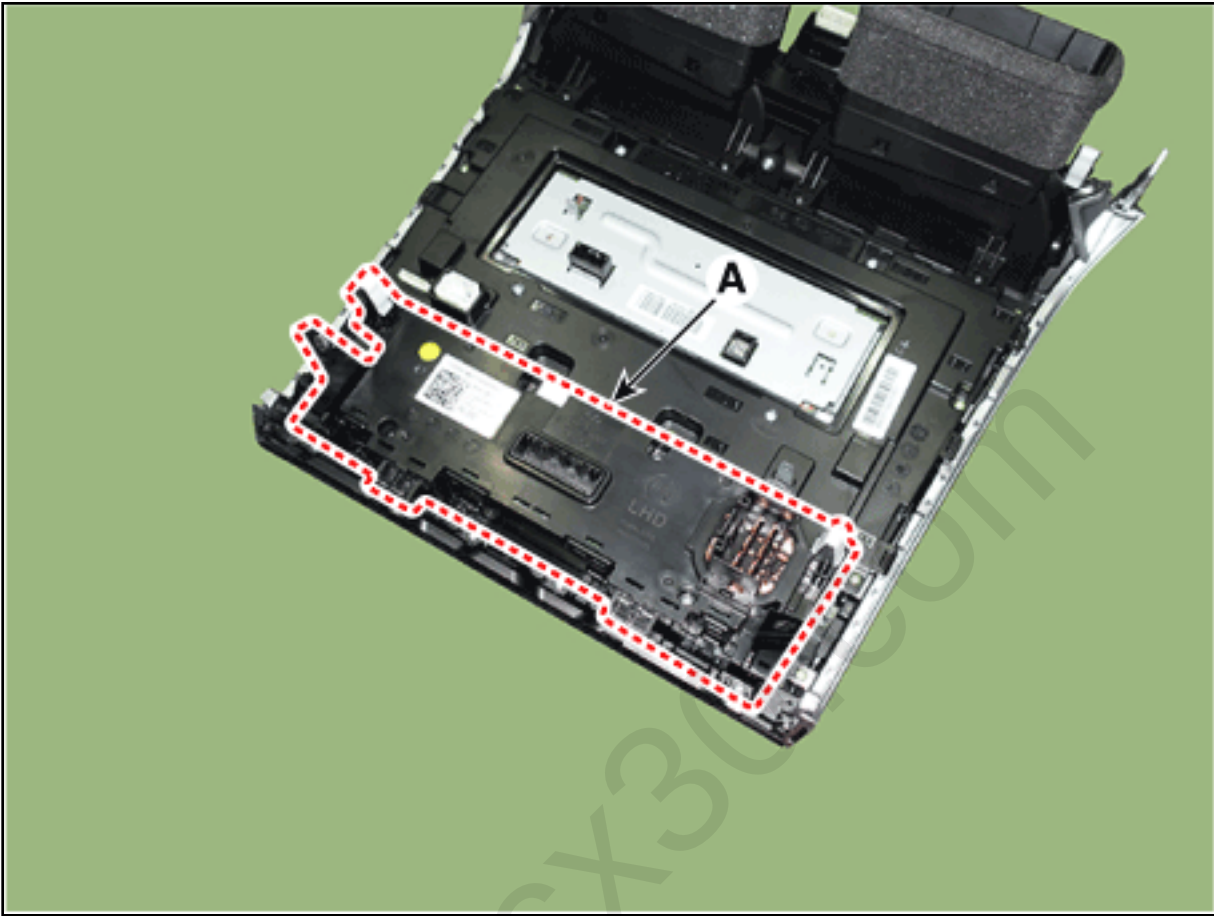
Replacement

1. Disconnect the negative (-) battery terminal.

2. Remove the front monitor.

(Refer to Body Electrical System - "Front Monitor")

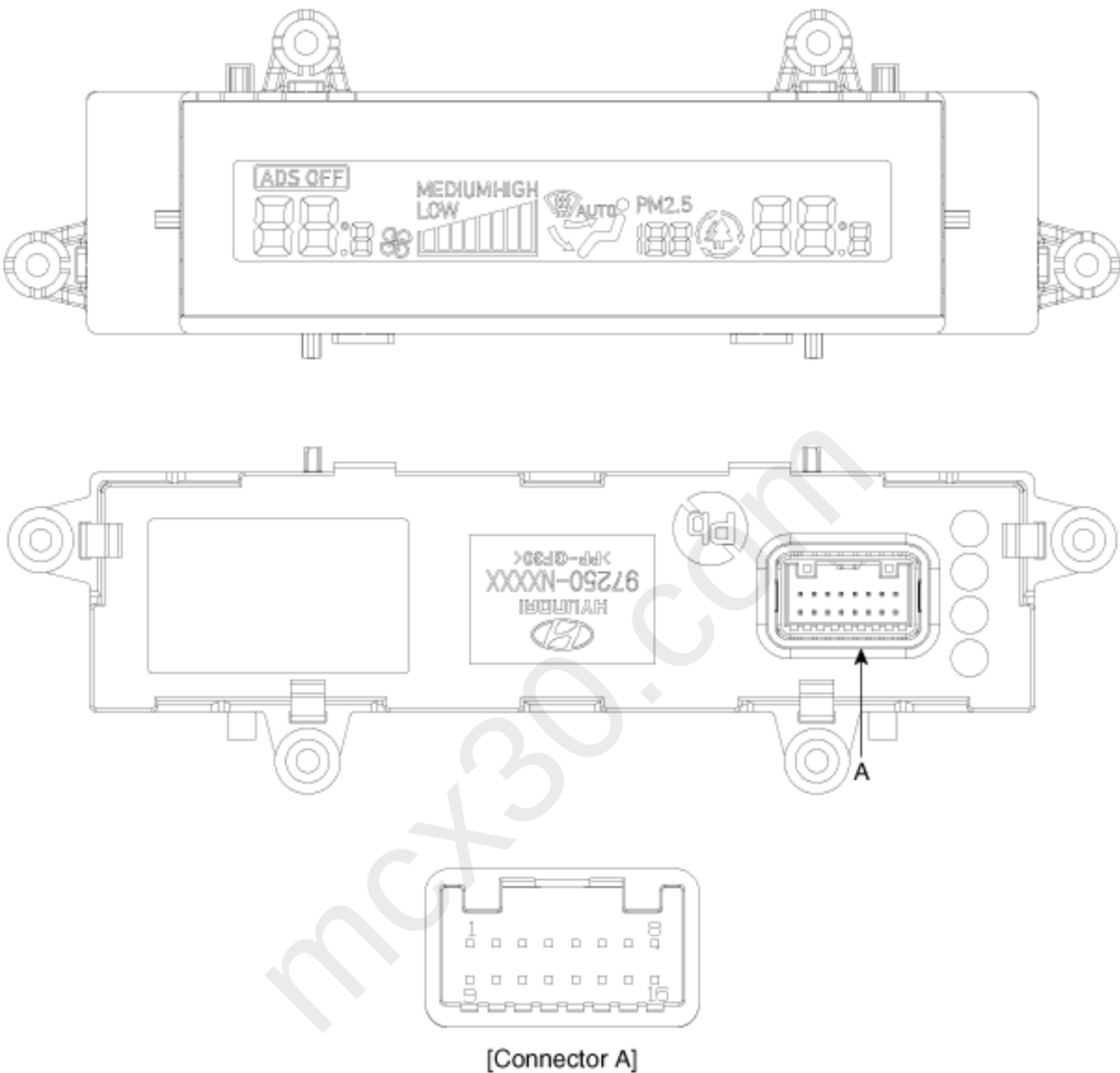
3. Remove the heater & A/C control unit (A).



4. Install in the reverse order of removal.



- Replace any damaged clips.
- Make sure the connector is connected properly.



Connector Pin Function

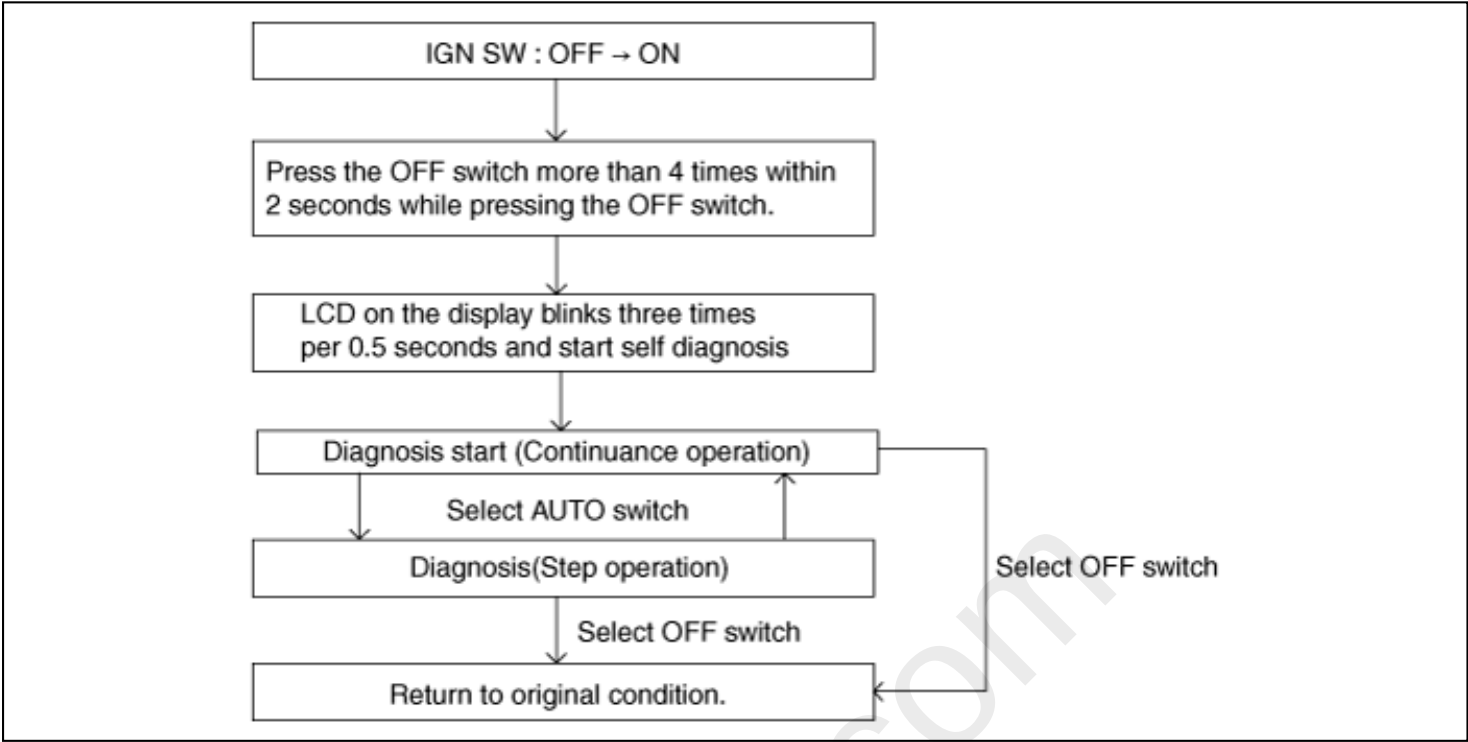
Pin No	Connector A
1	Battery (+)
2	IGN2
3	IGN1
4	Local CAN (High)
5	Local CAN (Low)
6	In-car sensor (+)

7	-
8	Sensor ground
9	ISG B+
10	ILL+ (TAIL)
11	-
12	-
13	-
14	-
15	ILL- (RHEO)
16	Ground

mcx30.com

Self
Diagnosis

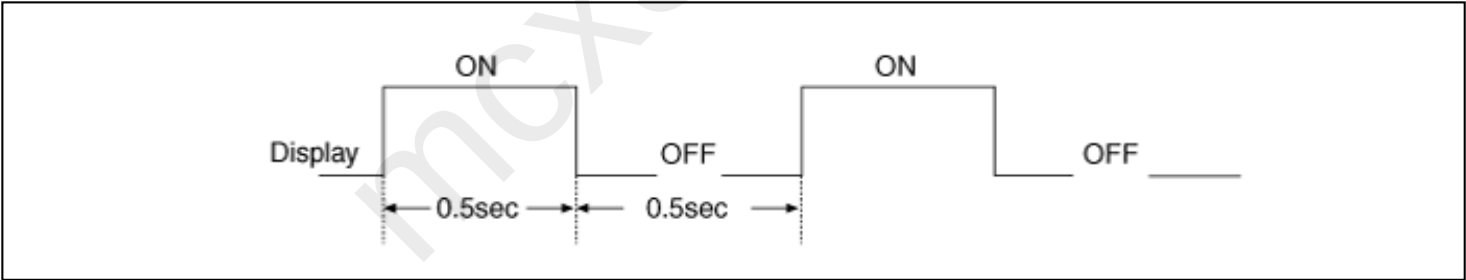
1. Self-diagnosis process.



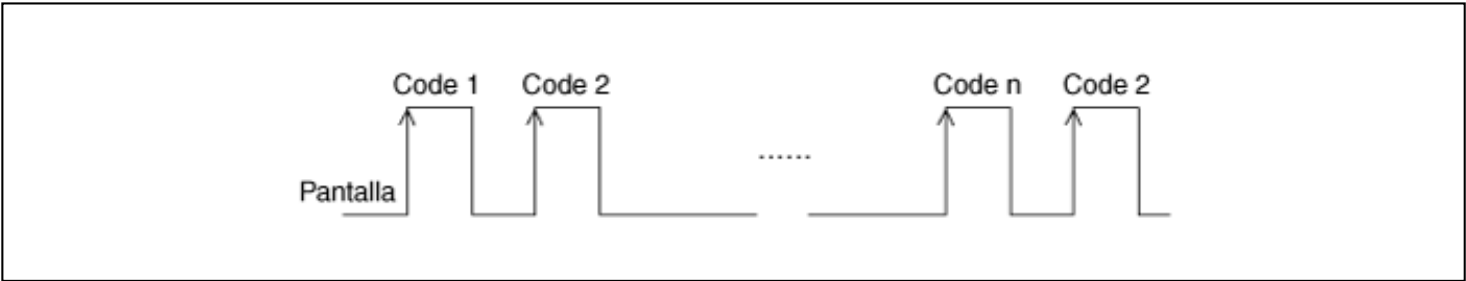
- ☐
- When operating the self-diagnostics, the below fault(self-diagnostics code) will blink at 0.5 seconds interval on the temperature display settings(driver's side only) and the remaining symbols are OFF .

2. Fault code display

(1) Continuance operation : DTC code.



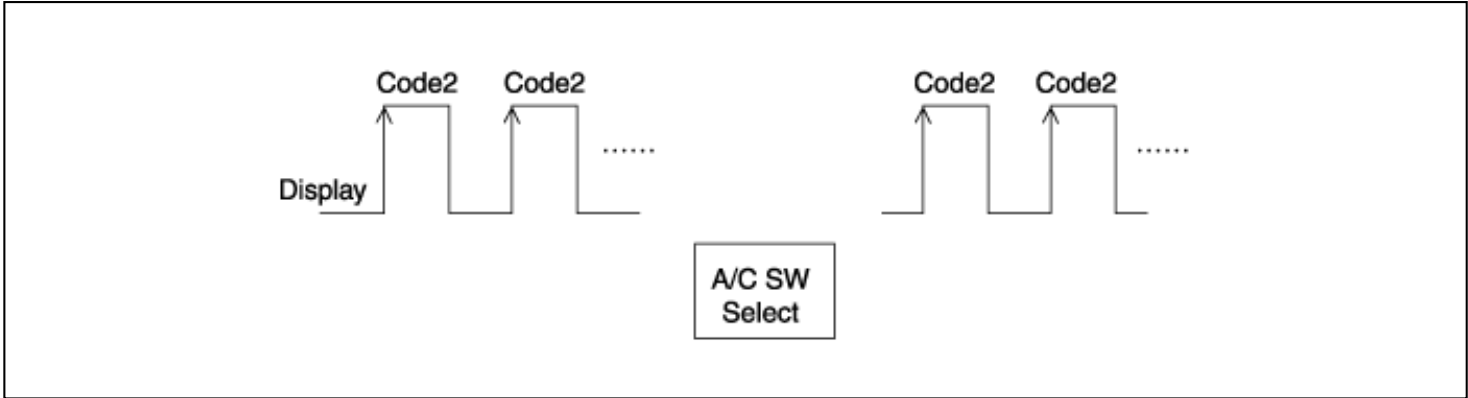
(2) Continuance operation : DTC code.



(3) STEP operation.

A. Nomal or one fault code is same as a continuance operation.

B. DTC code.



3. Self diagnostic code

Display	Fail description	Remarks
0	Normal	
11	Interior Temperature Sensor Disconnection (OPEN)	
12	Interior Temperature Sensor Short Circuit (SHORT)	
13	Ambient Temperature Sensor Disconnection (OPEN)	
14	Ambient Temperature Sensor Disconnection (SHORT)	
17	Evaporator Temperature Sensor Disconnection (OPEN)	
18	Evaporator Temperature Sensor Disconnection (SHORT)	
19	Driver Seat Temperature Control Actuator Feedback Disconnection/Short Circuit (OPEN/SHORT)	
	SHORT Range [TEMP F/B Voltage $\leq 0.1V$], OPEN Range [TEMP F/B Voltage $\geq 4.9V$]	
20	Dr TEMP DOOR POTENTIOMETER LOCKED	If the actuator cannot reach the desired control position in 10 seconds, then it is deemed to be locked.
21	MODE DOOR POTENTIOMETER Disconnection/Short Circuit (OPEN/SHORT)	
	SHORT Range [DR MODE F/B Voltage $\leq 0.1V$]	
	OPEN Range [DR MODE F/B Voltage $\geq 4.9V$]	
22	MODE DOOR POTENTIOMETER LOCKED	If the actuator cannot reach the desired control position in 10 seconds, then it is deemed to be locked.
24	AUTO DEFOG SENSOR (SHORT)	ADS specification ONLY
25	INTAKE DOOR POTENTIOMETER Disconnection/Short Circuit (OPEN/SHORT)	
	SHORT Range [INTAKE F/B Voltage $\leq 0.1V$]	
	OPEN Range [INTAKE F/B Voltage $\geq 4.9V$]	

26	INTAKE DOOR POTENTIOMETER LOCKED	If the actuator cannot reach the desired control position in 10 seconds, then it is deemed to be locked.
32	PASSENGER TEMP DOOR POTENTIOMETER Disconnection/Short Circuit (OPEN/SHORT)	
	SHORT Range [TEMP F/B Voltage $\leq 0.1V$]	
	OPEN Range [TEMP F/B Voltage $\geq 4.9V$]	
33	PASSENGER TEMP DOOR POTENTIOMETER LOCKED	
43	DEFOG DOOR POTENTIOMETER Disconnection/Short Circuit (OPEN/SHORT)	ADS specification ONLY
	SHORT Range [DEFOG F/B Voltage $\leq 0.1V$]	
	OPEN Range [DEFOG F/B Voltage $\geq 4.9V$]	
44	DEF DOOR POTENTIOMETER LOCKED	If the actuator cannot reach the desired control position in 10 seconds, then it is deemed to be locked.
		ADS specification ONLY
45	APT CAN Signal Error	
47	RPM CAN SIGNAL Error	
48	Vehicle Speed CAN Signal Error	
49	Engine coolant temperature CAN Signal Error	
71	ECV Fault (OPEN)	
72	Communication error between the front and rear seats.	

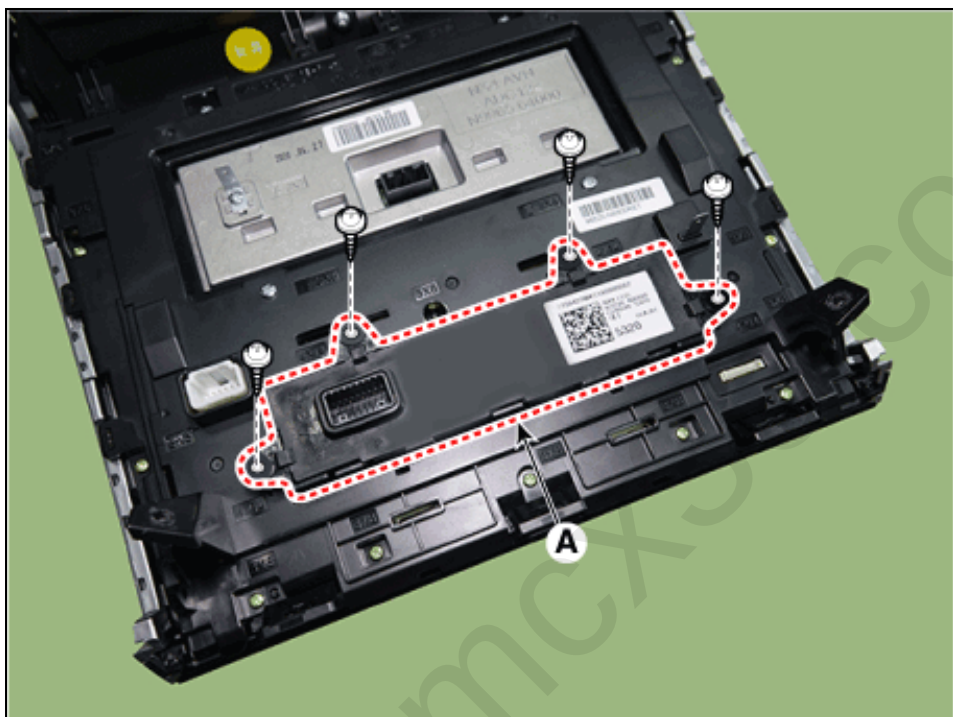
4. FAIL SAFE

NO	SIGNAL / ITEM	Failure Criteria	Alternative Value in Case of Failure
1	INCAR SENSOR	Voltage ≤ 0.1V or Voltage ≥ 4.9V	Fixed at 22°C
2	AMB SENSOR	Voltage ≤ 0.1V or Voltage ≥ 4.9V	Fixed at 20°C
3	EVA SENSOR	Voltage ≤ 0.1V or Voltage ≥ 4.9V	Fixed at -2°C
4	TEMPERATURE CONTROL ACTUATOR	Voltage ≤ 0.1V or Voltage ≥ 4.9V	When the set temperature is 16.5°C → 22°C : Fixed to the maximum cooling.
			When the set temperature is 22.5°C → 27.5°C : Fixed to the maximum heating.
5	MODE CONTROL ACTUATOR	Voltage ≤ 0.1V or Voltage ≥ 4.9V	In case of vent mode : Vent position is fixed.
			Other modes other than the vent : Defrost position is fixed.

6	INTAKE ACTUACOR	Voltage $\leq 0.1V$ or Voltage $\geq 4.9V$	In case of outdoor ventilation mode : Outdoor ventilation position is fixed.
			In case of indoor ventilation mode : Indoor ventilation position is fixed.
7	AUTO DEFOGGING SENSOR (relative humidity)	OPEN / SHORT	Relative humidity : 0 %
8	Engine coolant temperature	OPEN / SHORT	-2°C
9	ECV Feedback	OPEN	ECV output OFF

Replacement

1. Disconnect the negative (-) battery terminal.
2. Remove the front monitor.
(Refer to Body Electrical System - "Front Monitor")
3. Loosen the mounting screw, remove the heater & A/C control unit (A).

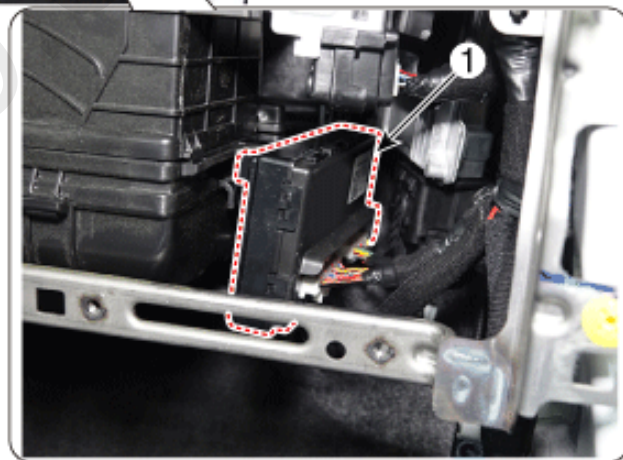


4. Install in the reverse order of removal.



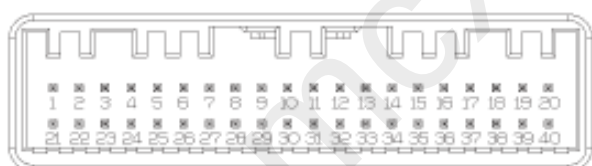
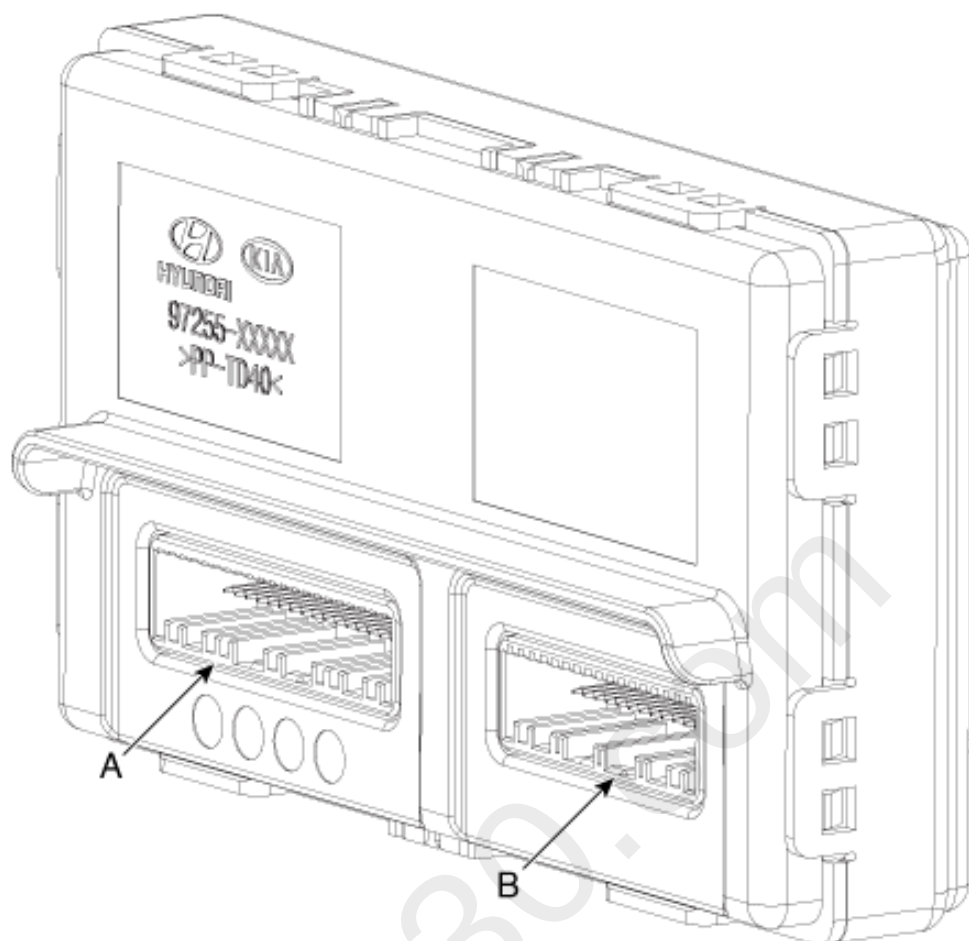
- Replace any damaged clips.
- Make sure the connector is connected properly.

Components
Location

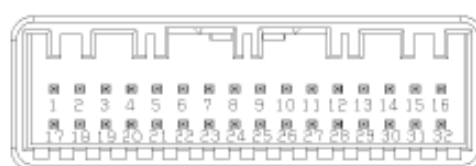


1. Heater control unit

Component



[Connector A]



[Connector B]

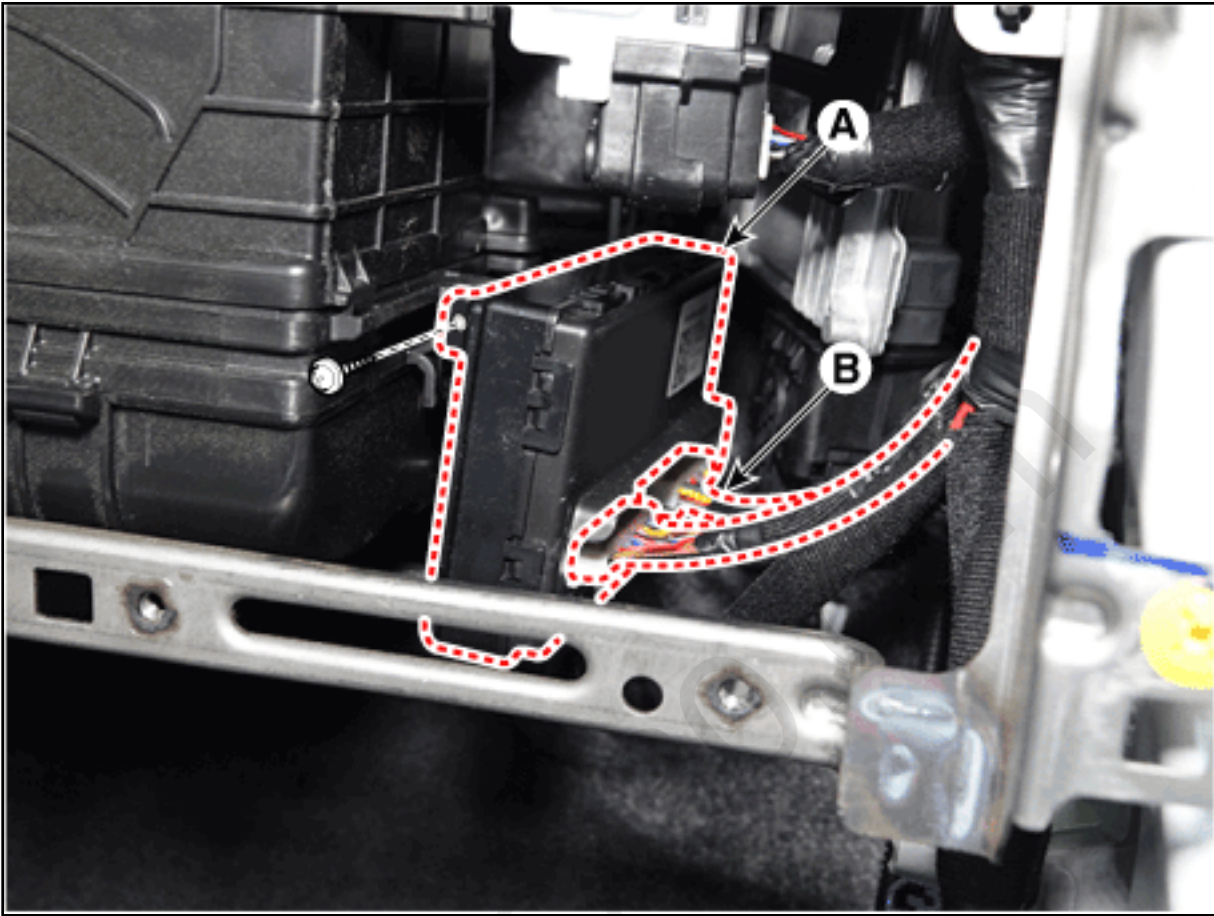
[Connector Pin Function]

Pin No	Connector A	Connector B
1	Driver's mode control actuator feedback	Sensor ground
2	Intake actuator feedback	ECV (-)
3	Passenger's temperature control actuator feedback	ECV (+)
4	Driver's temperature control actuator feedback	-
5	Auto defogging actuator feedback	-
6	-	FET DRAIN feedback

7	-	Blower motor (+)
8	Photo sensor (-) LEFT	Blower INH
9	Photo sensor (-) RIGHT	Blower IS
10	-	Blower PWM IN
11	DEFOG DATA	-
12	DEFOG SCK	-
13	DEFOT TEMP	Sensor (+ 5V)
14	Ambient temperature sensor (+)	FET (GATE)
15	Evaporator sensor (+)	-
16	-	Battery (+)
17	-	Ground
18	-	-
19	-	-
20	-	-
21	Driver's mode control actuator (Vent)	-
22	Driver's mode control actuator (DEF)	-
23	Intake actuator (FRE)	-
24	Intake actuator (REC)	-
25	Passenger's temperature control actuator (Cool)	IBU ACTIVE (Low)
26	Passenger's temperature control actuator (Warm)	-
27	Driver's temperature control actuator (Cool)	-
28	Driver's temperature control actuator (Warm)	-
29	Auto defogging actuator (Open)	Blower relay
30	Auto defogging actuator (Close)	LIN
31	-	IGN1
32	-	IGN2
33	PTC relay1 or 2	
34	CAN FD (Low)	
35	CAN FD (High)	
36	-	
37	LOCAL CAN (High)	
38	LOCAL CAN (Low)	
39	PTC ON signal	
40	Ground	

Replacement

1. Disconnect the negative (-) battery terminal.
2. Remove the crash pad center panel.
(Refer to Body (Interior and Exterior) - "Crash Pad Center Panel")
3. Disconnect the connectors (B) and remove the heater control unit (A).



4. To install, reverse removal procedure.



- Make sure the connectors are connected properly.