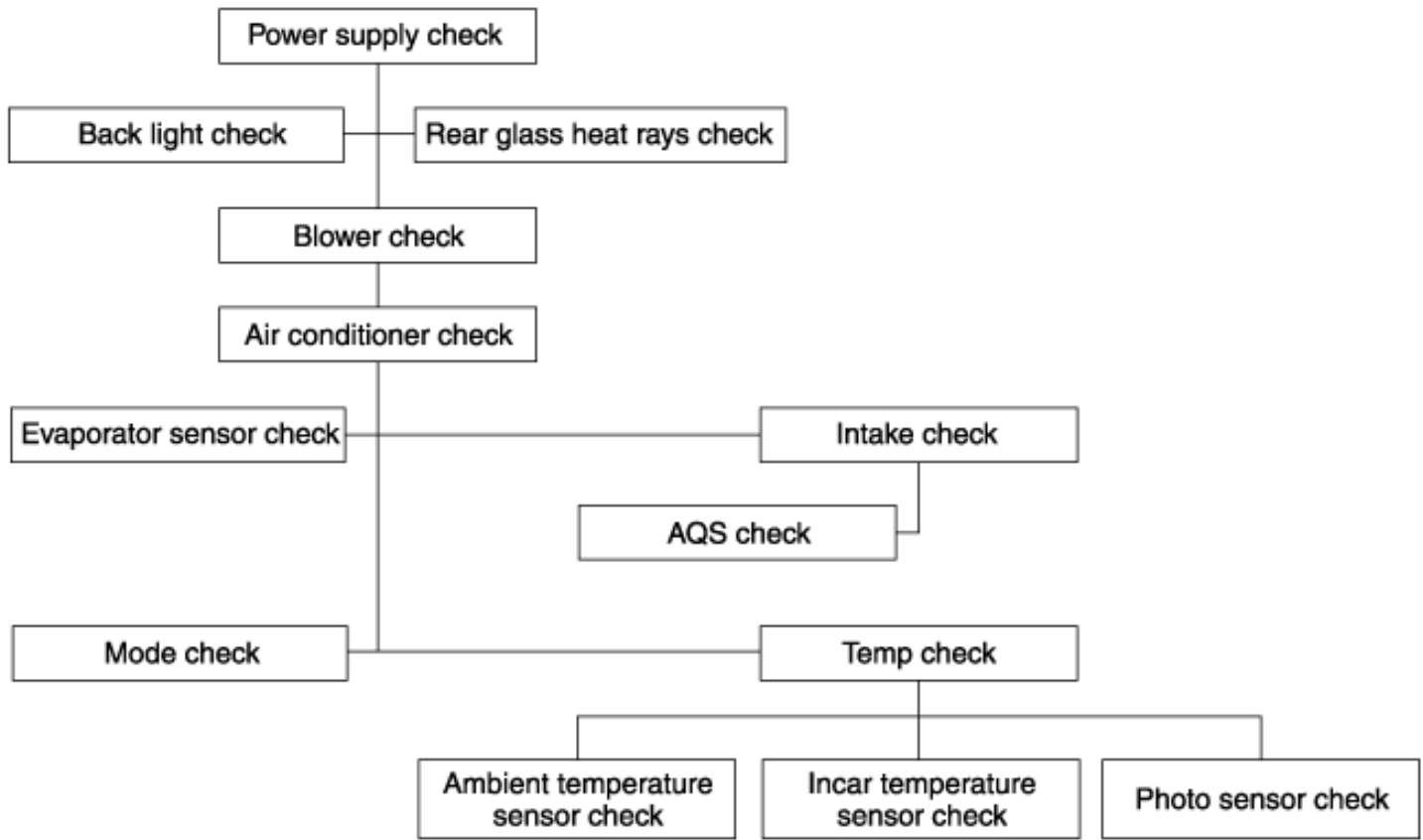




CONTROL PANEL TESTS



1. Power supply check
2. Back light and Rear glass heat rays check
3. Blower check
4. Air conditioner check
5. Intake check and AQS check
6. Mode check
7. Temp check

POWER SUPPLY CHECK

In turning off IGN, battery supplies power for ordinary power, FATC connector A-3 through battery fuse. FATC performs memory function by means of battery power supplied as described above. In turning on IGN, alternator is driven. At this time, IG2 power generated in alternator FATC connector A-12 and A-25 terminal through IG1 fuse and air conditioner fuse (10A). FAT carried out actual system operation by means of IG2 power supplied as described above.

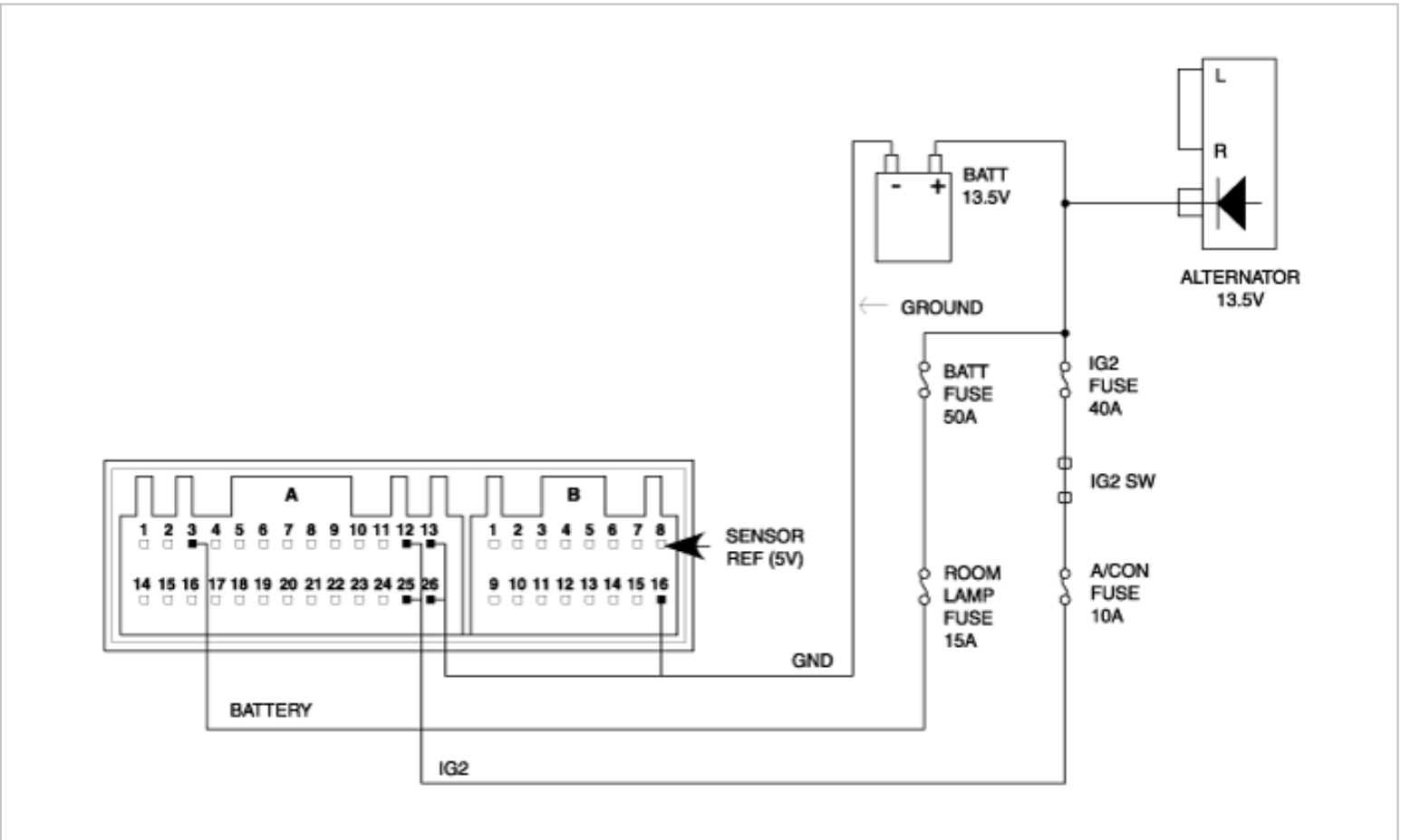
ERROR DIAGNOSTICS

Symptoms	Causes	How to check
When IG is ON, memory function error occurs	Battery power supply error	Check voltage of battery after turning off IG. If 10V and more, check FATC connector and if no problem, check the inside of controller. If 10V and less, check fuse or wiring state of battery power source.

When IG is ON, system running error occurs

IG2 power supply error

Check voltage of IG2 after turning on IG. If 10V and more, check FATC connector and if no problem, check the inside of controller. If 10V and less, check fuse or wiring state of IG2 power source.



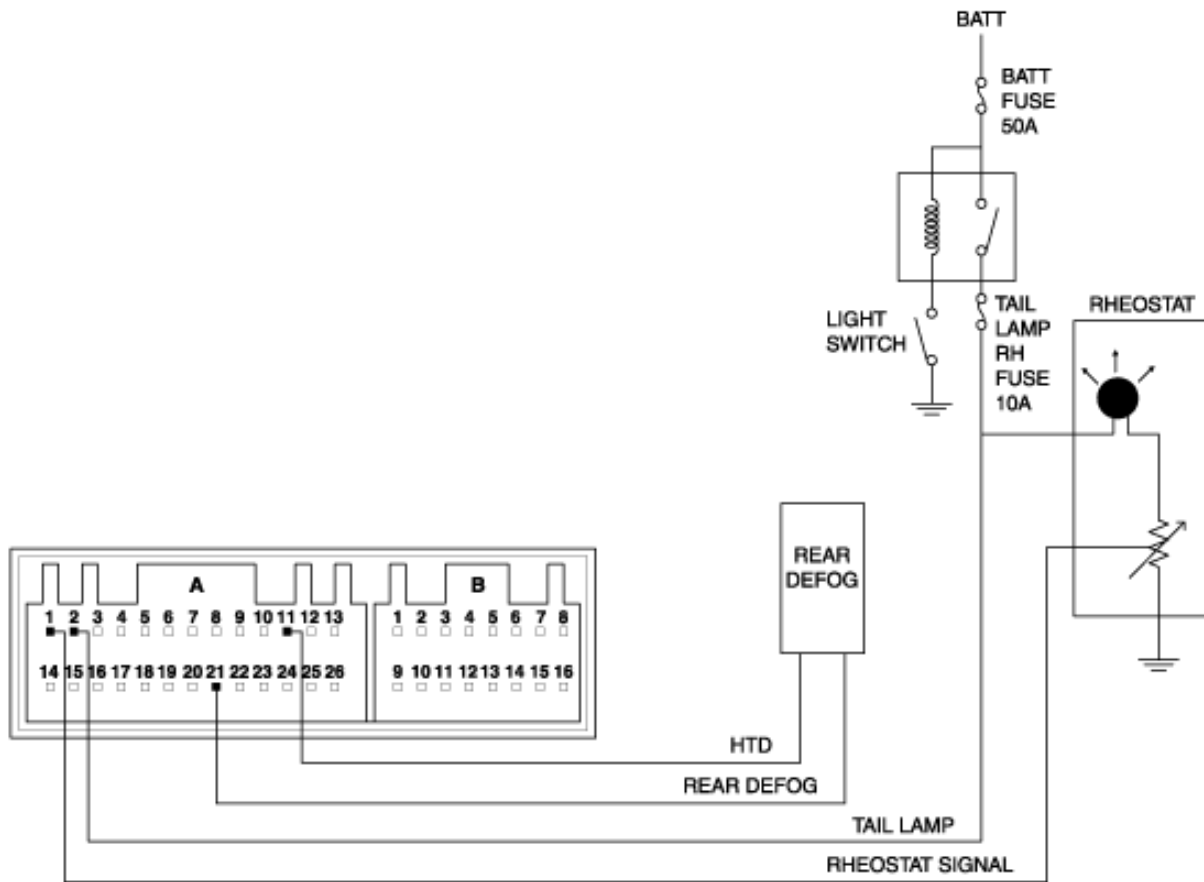
BACK LIGHT AND REAR GLASS HEAT RAYS CHECK

In turning on IG and then light switch, battery power is supplied for FATC connector A-2 terminal through wiring. The supplied power passes connector A-1 terminal through light bulb in FATC and flows into reostart as shown in the above figure. The brightness is adjusted according to resistance value of reostart.

ERROR DIAGNOSTICS

Symptoms	Causes	How to check
When light switch is ON, partial error occurs in back light	Light bulb lighting error in FATC	
When light switch is ON, entire error occurs in back light	Light power supply error	Measure voltage of tail light shown in the above figure after switching on light. If 10V and more, check FATC connector and if no problem, measure signal voltage of reostart shown in the above figure. If 8V and more, check reostart wiring and reostart.

If tail light is below 1V, check tail light wiring.

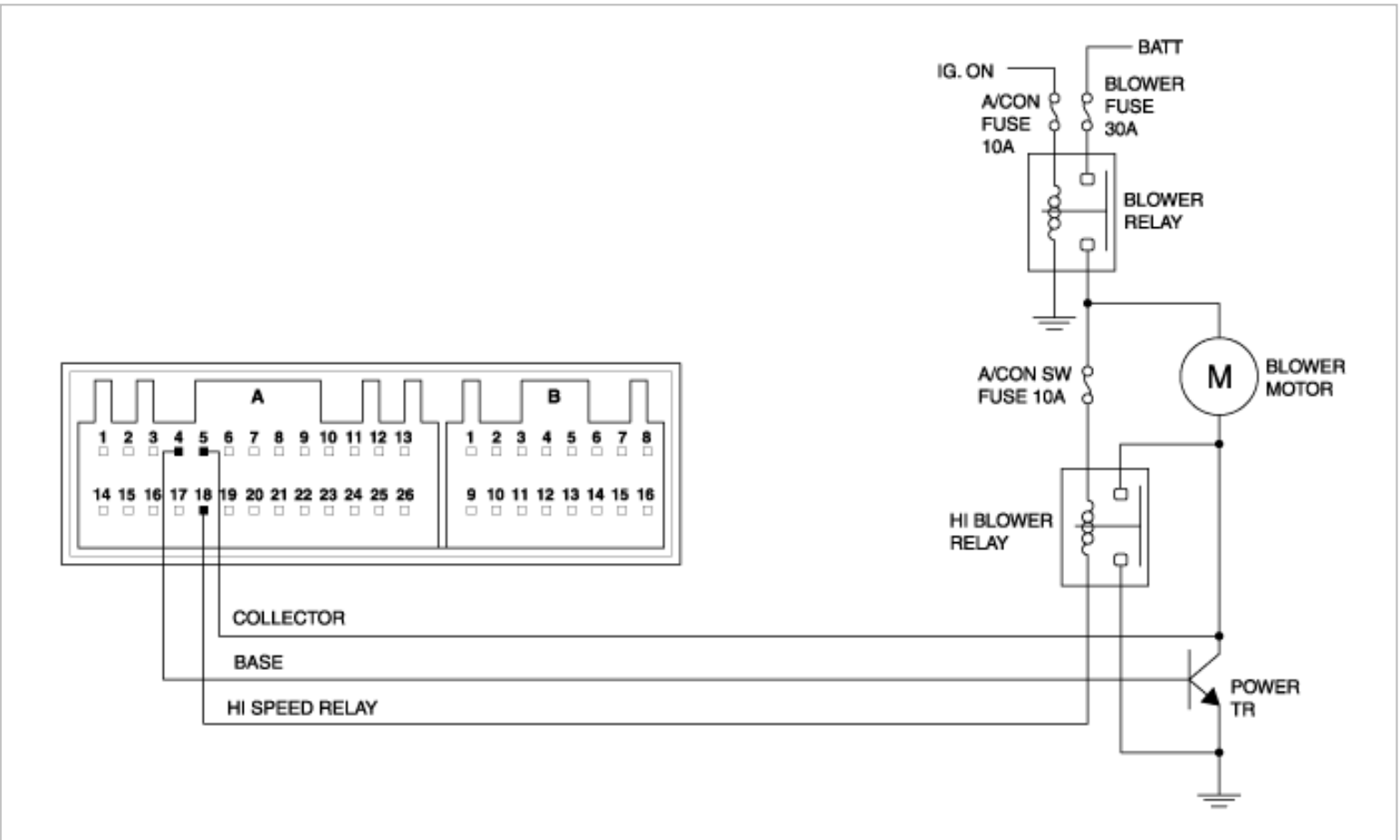


BLOWER CHECK

Perform the blower check in manual blower running state because it is difficult to check blower at automatic control. Blower is controlled from level 1 to level 7 equally as in button operation and running logic. In turning on IG, blower relay is ON and voltage of 0.1 to 1.4V is transferred from FATC connector A-4 terminal to base source of power TR according to FATC control (selectable from level 1 to level 7). At this time, voltage of blower motor's both ends is determined according to collector voltage of FATC connector A-5 terminal. If FATC is controlled in level 7, GND(0V) is supplied for FATC connector A-18 terminal and high blower relay is driven.

ERROR DIAGNOSTICS

Symptoms	Causes	How to check
Amount of wind is wrong at manual selection of blower	Power TR error	Check voltage of blower motor's both ends. (Level 1: 3.8V, Level 2: 5.2V, Level 3: 6.5V, Level 4: 7.9V, Level 5: 9.2V, Level 6: 10.6V, Level 7: 13.5V [high-relay operation]) Measure voltage of each terminal and if there is difference more than $\pm 0.6V$, check power TR.
Blower wind is discharged despite pressing OFF switch	Power TR error	Power TR change



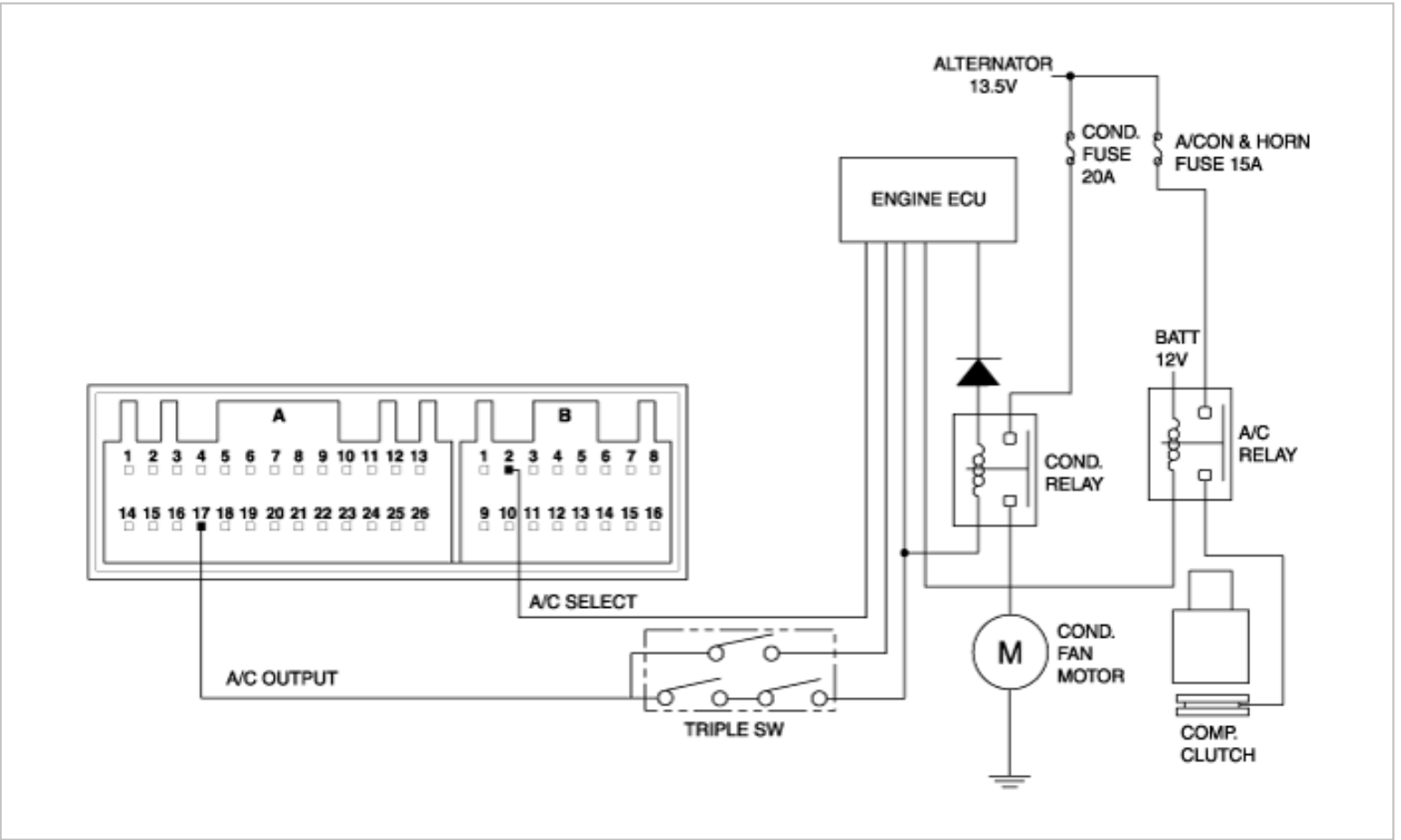
AIR CONDITIONER CHECK

11V is outputted from connector A-17 terminal in turning on INSULATING and pressing air conditioner switch. However, although 11V is outputted from FATC connector A-17 terminal, compressor clutch isn't driven. Wind of air conditioner is discharged if only compressor clutch works. Output signal from air conditioner is inputted in engine computer through triple switch. Then, the engine computer considers several conditions and when output of air conditioner is judged to be practical, it gives GND to signal terminal of air conditioner relay. Accordingly, relay of air conditioner is ON and compressor clutch works. Triple switch checks pressure of refrigerant flowing through pipe and turnson/off switches in it according to standard. So, it controls that output signal of air conditioner outputted from FATC is inputted into engine computer, and also speed of condenser fan according to pressure level. (For high pressure, high-speed and for low pressure, low-speed.

ERROR DIAGNOSTICS

Symptoms	Causes	How to check
Wind of air conditioner isn't discharged into vehicle despite switching on air conditioner.	Signal output error of air conditioner	Switch on air conditioner and measure voltage of FATC connector A-17 terminal as shown in the above figure. If 9V and more, check triple switch, air

		conditioner relay and ECM.
		Switch on air conditioner and measure voltage of FATC connector A-17 terminal as shown in the above figure. If 1V and less, check input value of evaporator sensor.
	Input error of evaporator sensor	If evaporator sensor is disconnected or short or voltage of its input source is more than 3.0V (below 0.5°C), output of air conditioner isn't made.



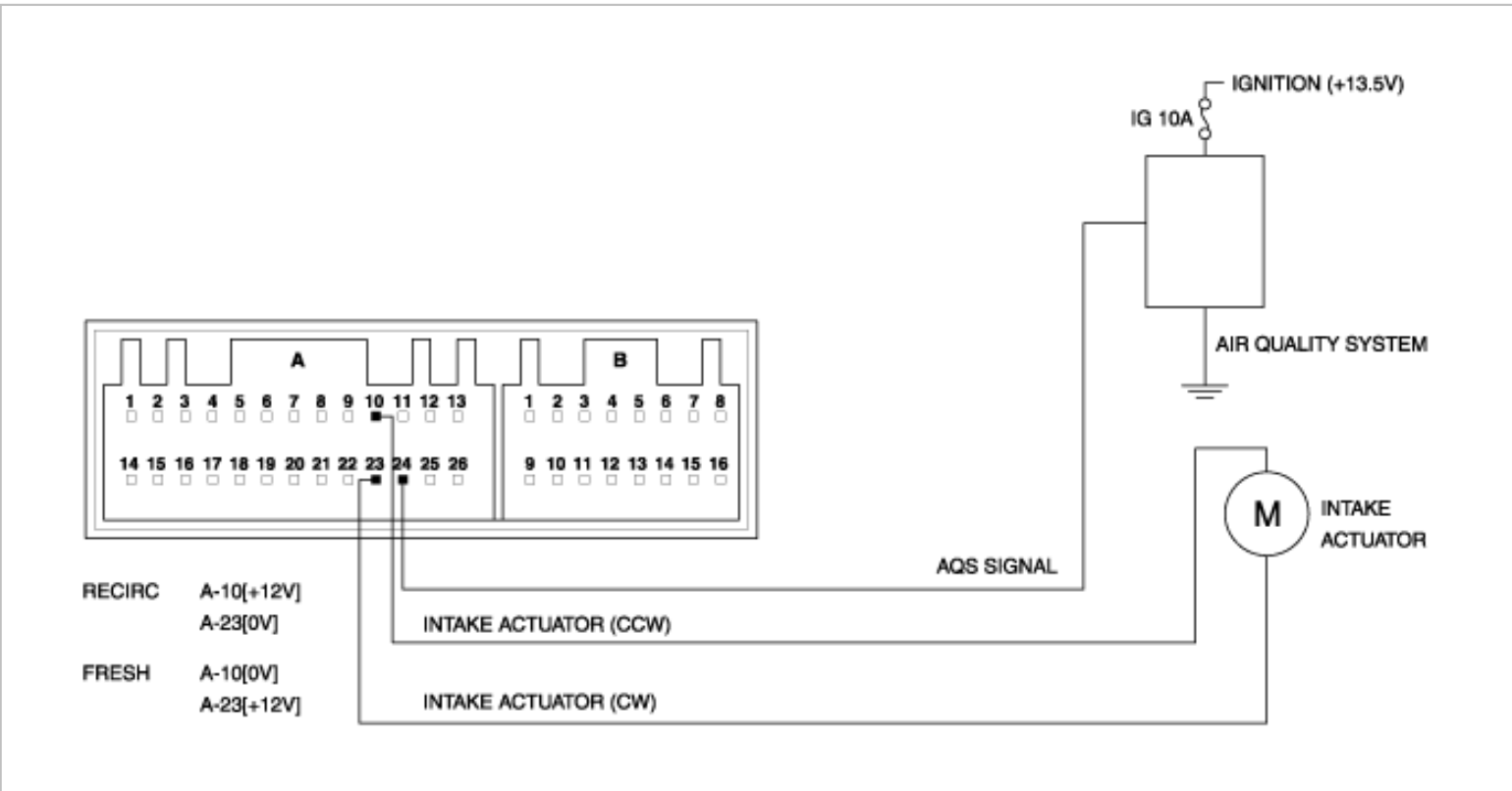
INTAKE AND AQS CHECK

In turning on IG and selecting outdoor mode with indoor switch, 12V is outputted from FATC connector A-23 terminal, 0V is supplied for A-10 terminal and motor works in direction of outdoor. In selecting indoor mode with indoorswitch, 12V is outputted from FATC connector A-10 terminal, 0V is supplied for A-23 terminal and motor works in direction of indoor.

ERROR DIAGNOSTICS

Symptoms	Causes	How to check
Outdoor mode running error	Power supply error in actuator	Separate connector linked with actuator, select outdoor mode with indoor switch and measure voltage of FATC connector A-23 terminal. If 8V and more, check actuator or wiring state and if 9V and less, check the inside of controller.
Indoor mode running error	Power supply error in actuator	Select indoor mode in the above method and measure voltage of FATC connector A-10 terminal. If 8V and more, check actuator or wiring state and if 9V and less, check the inside of controller.

Fixed in outdoor or indoor mode at AQS selection	AQS signal terminal output error	Select AQS switch and measure AQS signal terminal as shown in the above figure. If there is no change of voltage over 10 min, check AQS.
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MODE CHECK

In turning on IG and selecting mode switch, sequential operation begins in order of Vent → Bi-level → Blower → Mix. DIP mode works regardless of order at selecting it. In selecting Vent mode as mode switch, GND(0V) is supplied for FATC connector B-11(Vent) terminal. Voltage of 9V and more is set in the rest terminals B-12, B-13, B-14, B-15 and motor drive IG in mode actuator which receives the signal, works in direction of vent mode setup. Vent, Built-in-level, Blower, Mix and Defrost mode can be selected in the method described above.

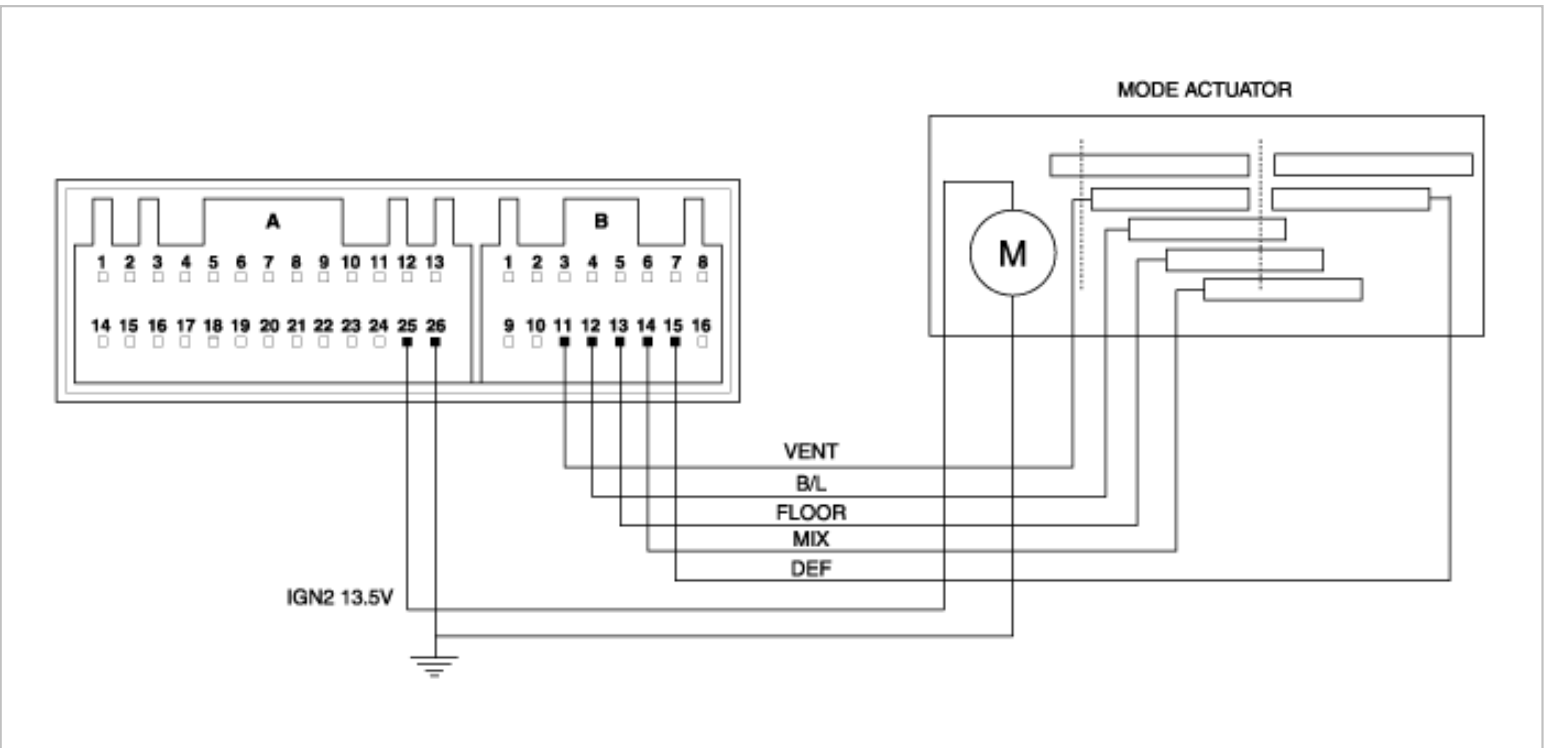
ERROR DIAGNOSTICS

Symptoms	Causes	How to check
Specific mode isn't selected.	Signal transmission error of selected mode	Measure voltage of selected mode wiring without separating connector linked with actuator. If 8V and more, check the inside of controller.
	Mode actuator running error	If 1V and less at measuring in the above method, check mode actuator and wiring state.

Mode selection is impossible

Internal error of mode actuator

If motor driver IG built in mode actuator is bad, mode selection is impossible. When mode isn't selected though GND(0V) is supplied for selected mode wiring after selecting mode in controller, its cause is internal failure of mode actuator.



TEMP CHECK

In adjusting temp switch from 32°C to 17°C, 11V is outputted from FATC connector A-9 terminal, 0V is supplied for A-22 terminal and temp motor works in direction of COOL. In adjusting temp switch from 17°C to 32°C, 11V is outputted from FATC connector A-22 terminal, 0V is supplied for A-9 terminal and temp motor works in direction of WARM. When temp actuator has to move to a certain location for its automatic control, temp feedback signal terminal moves equally in temp actuator and informs controller of location of temp actuator through FATC connector B-10 terminal. Comparing original value with inputted value, it works until they are same. If 4.9V and more is inputted in B-10 terminal, it is regarded as disconnection. If 0.1V and less is inputted in B-10 terminal, it is regarded as short-circuit. In the case of disconnection or short-circuit as a result of self-diagnostic, substitute control is carried out as follows.

- If setup temperature is 17°C to 24.5°C, set to MAX COOL.
- If setup temperature is 25°C to 32.0°C, set to MAX WARM.

ERROR DIAGNOSTICS

Symptoms	Causes	How to check
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Temp actuator running error

Power supply error in temp actuator	After altering 17°C to 32°C and adversely, measure voltage of A-22 terminal. If Both of them are 9V and more, check temp actuator and peripheral wiring state and if one or both of them are 5V and less, its cause is internal failure of FATC.
Sensor (+5) power supply error	If automatic control isn't operated smoothly, measure voltage of FATC connector B- 8 terminal. If under 4.8V or over 5.2V, its cause is internal failure of FATC.
Driver error of temp actuator	If No. 20 is outputted as a result of self-diagnostic, check temp actuatordriver.

