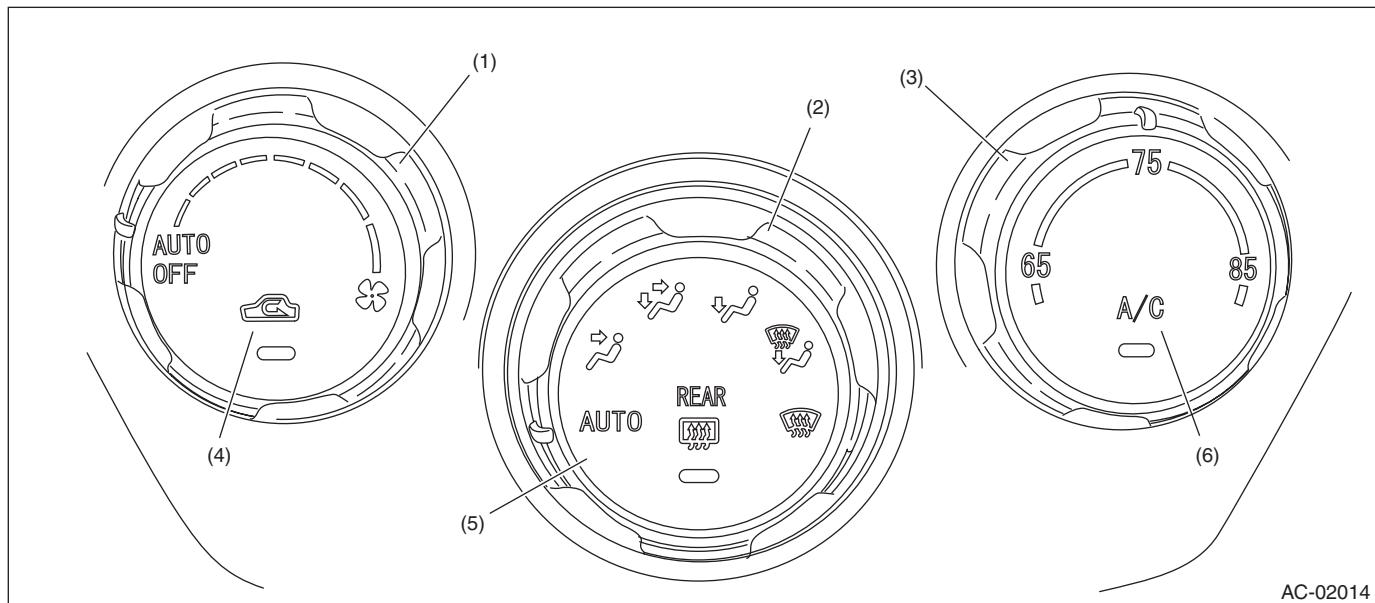


# Diagnostic Chart for Self-diagnosis

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

## 5. Diagnostic Chart for Self-diagnosis

### A: OPERATION



(1) Fan dial	(3) Temperature adjustment dial	(5) Rear window defogger switch
(2) Air flow control dial	(4) FRESH/RECIRC switch	(6) A/C switch

### 1. A/C CONTROL PANEL SELF-DIAGNOSIS

Step	Check	Yes	No
<b>1 SELECT SELF-DIAGNOSIS MODE IN THE CONTROL PANEL.</b> 1) Set the air flow control dial and fan dial to the AUTO position. 2) Start the engine with the A/C switch and the FRESH/RECIRC switch pressed.	Does the self-diagnosis mode operate?	Go to step 2.	<Ref. to AC(diag)-13, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
<b>2 CHECK THE LIGHTING OF THE LED.</b> Make sure that all switch LEDs on the control panel illuminate.	Do all LEDs blink eight times?	Go to step 3.	Replace the control panel.
<b>3 CHECK SENSOR MALFUNCTION.</b> 1) Set the air flow control dial and fan dial to the AUTO position. 2) If the system has trouble for each sensor, the FRESH/RECIRC switch LED blinks or is turned off. 3) If the system has no malfunctions, the FRESH/RECIRC switch LED is illuminated.	Does the FRESH/RECIRC switch LED illuminate?	Go to step 5.	Go to step 4.
<b>4 CONFIRM MALFUNCTIONING SENSOR.</b> 1) Set the air flow control dial to AUTO. 2) Turn the fan dial to each mode position, and check each switch LED illumination according to sensor check table. <Ref. to AC(diag)-11, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.>	When turning the fan dial to each mode position, does the FRESH/RECIRC switch LED go off?	Go to step 5.	Repair the defective sensor. <Ref. to AC(diag)-28, Diagnostic Procedure for Sensors.>

# Diagnostic Chart for Self-diagnosis

## HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Step	Check	Yes	No
<b>5</b> <b>CHECK AIR MIX DOOR AND MODE DOOR POSITION SIGNALS.</b> 1) Set the air flow control dial to FACE. 2) Turn the fan dial to AUTO. 3) If there is a system malfunction in the air mix door signal or the mode door position signal, the FRESH/RECIRC switch LED goes off or blinks. 4) If the system has no malfunctions, the FRESH/RECIRC switch LED is illuminated.	Does the FRESH/RECIRC switch LED illuminate?	Go to step <b>8</b> .	Go to step <b>6</b> .
<b>6</b> <b>CHECK AIR MIX DOOR POSITION DRIVE SIGNALS.</b> 1) Set the air flow control dial to FACE. 2) Place the fan dial in each position and then check each LED illumination conditions. <Ref. to AC(diag)-12, DRIVE SIGNAL CHECK TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.>	Do the LEDs illuminate in accordance with operation signal table?	Go to step <b>7</b> .	Check the air mix door actuator circuit. <Ref. to AC(diag)-26, AIR MIX DOOR ACTUATOR, Diagnostic Procedure for Actuators.>
<b>7</b> <b>CHECK MODE DOOR POSITION DRIVE SIGNAL.</b> 1) Press the A/C switch. 2) Place the fan dial in each position and then check each LED illumination conditions. <Ref. to AC(diag)-12, DRIVE SIGNAL CHECK TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.>	Do the LEDs illuminate in accordance with operation signal table?	Go to step <b>8</b> .	Check the mode door actuator circuit. <Ref. to AC(diag)-24, MODE DOOR ACTUATOR, Diagnostic Procedure for Actuators.>
<b>8</b> <b>CHECK OPERATION OF EACH ACTUATOR, BLOWER FAN AND COMPRESSOR CLUTCH.</b> 1) Set the air flow control dial to B/L. 2) Turn the fan dial from AUTO to 7th, and select operating modes. 3) Check the operation of each mode according to operating mode table. <Ref. to AC(diag)-12, OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.> • FRESH/RECIRC door • Air flow control door • Air mix door • Blower fan • A/C compressor	Does the operation of each mode match to operating mode table?	Turn the fan dial to OFF or the ignition switch to OFF in order to complete self-diagnosis.	Repair the malfunctioning part in accordance with each diagnostic chart.

# Diagnostic Chart for Self-diagnosis

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

## 2. SENSOR CHECK TABLE

### NOTE:

- When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as having an open circuit. Always check the sunload sensor at a location exposed to direct sunlight.
- LED illuminates to warn the past malfunction if it was detected four times or more in the past.
- To clear the past malfunction, disconnect the ground cable from the battery, or press and hold the FRESH/RECIRC switch for five seconds or more when performing the self-diagnosis Step 3 to Step 7.

Air flow control dial position	Fan dial position	Sensor	No trouble	Short circuit	Open circuit	When currently malfunctioning	When having malfunctioned in the past
AUTO	AUTO	In-vehicle sensor	FRESH/RECIRC switch LED is turned off	FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ⇔ turns off for 0.2 sec.)	FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ⇔ turns off for 0.2 sec.)	Rear window defogger switch LED is turned off	Rear window defogger switch LED illuminates
	1st	Ambient sensor		FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ⇔ turns off for 0.2 sec.)			
	2nd	Evaporator sensor		FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ⇔ turns off for 0.2 sec.)			
	3rd	Engine coolant temperature sensor		—			
	4th	Sunload sensor		FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ⇔ turns off for 0.2 sec.)			
	5th – 7th	CAN communication		—			

# Diagnostic Chart for Self-diagnosis

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

## 3. OPERATING MODE TABLE

Operation	Fan dial position							
	AUTO	1st	2nd	3rd	4th	5th	6th	7th
Blower fan	4 V	4 V	4.9 V	5.9 V	7.0 V	8.3 V	9.8 V	14 V
FRESH/ RECIRC door	RECIRC	RECIRC	MIX	FRESH	FRESH	FRESH	FRESH	FRESH
Air flow control door	FACE	FACE	FACE	B/L	HEAT	HEAT	D/H	DEF
Air mix door	0%	0%	0%	50%	50%	100%	100%	100%
A/C compressor	OFF	ON	ON	ON	ON	ON	ON	ON

## 4. DRIVE SIGNAL CHECK TABLE

NOTE:

- LED illuminates to warn the past malfunction if it was detected four times or more in the past.
- To clear the past malfunction, disconnect the ground cable from the battery, or press and hold the FRESH/RECIRC switch for five seconds or more when performing the self-diagnosis Step 3 to Step 7.

Air flow control dial position	Fan dial position	Drive signal to check	A/C switch LED	No trouble	Short circuit	Open circuit	When currently malfunctioning	When having malfunctioned in the past					
FACE	AUTO	MIX #1	Blinking (Illuminates for 0.2 sec. ⇔ turns off for 0.2 sec.)	FRESH/RECIRC switch LED is turned off	FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ⇔ turns off for 0.2 sec.)	FRESH/RECIRC switch LED blinks (Illuminates for 1 sec. ⇔ turns off for 1 sec.)	Rear window defogger switch LED is turned off	Rear window defogger switch LED illuminates					
	1st	MIX #2											
	2nd	MIX #3											
	3rd — 7th	MIX #4											
	AUTO	MODE #1	Blinking (Illuminates for 1 sec. ⇔ turns off for 1 sec.)										
	1st	MODE #2											
	2nd	MODE #3											
	3rd — 7th	MODE #4											