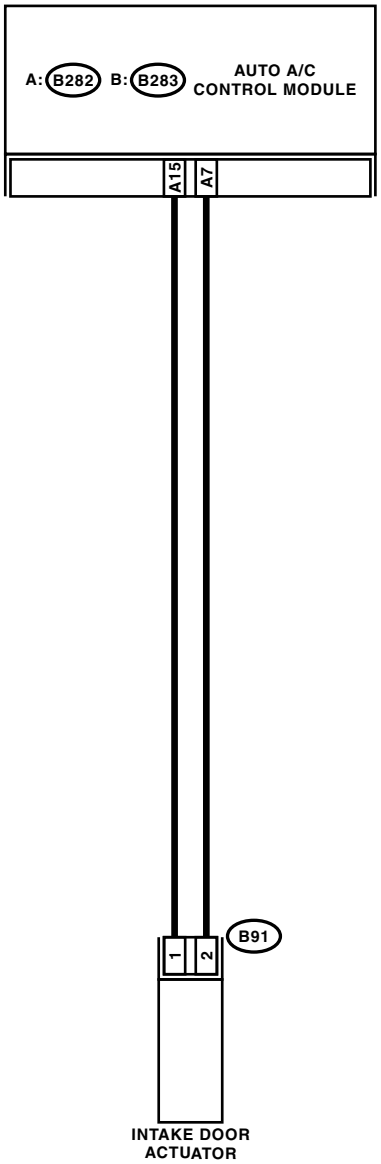
7. Diagnostic Procedure for Actuators

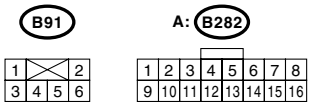
A: INTAKE DOOR ACTUATOR

TROUBLE SYMPTOM:

FRESH/RECIRC mode is not changed.

WIRING DIAGRAM:





AC-00675

DIAGNOSTIC PROCEDURE FOR ACTUATORS

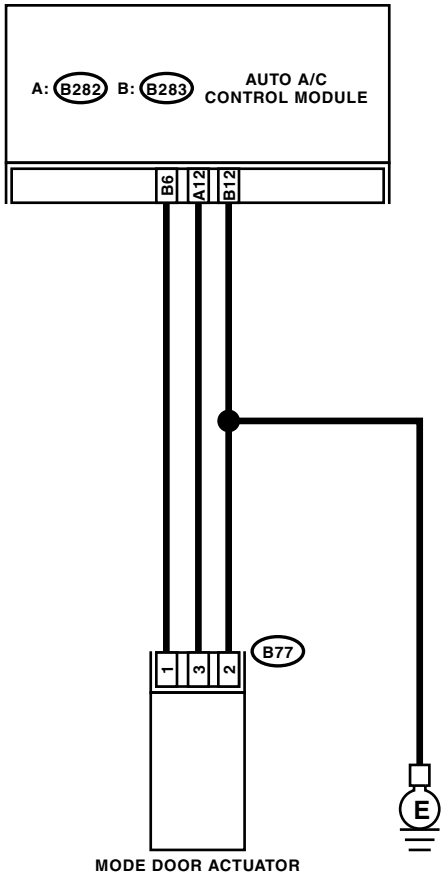
	Step	Check	Yes	No
1	**CHECK FUSE.** 1)Remove the No. 17 fuse in fuse & relay box. 2)Check the condition of fuse.	Is the fuse blown-out?	Replace the fuse.	Go to step **2.**
2	**CHECK SIGNAL VOLTAGE.** 1)Change the air intake to RECIRC by pushing FRESH/RECIRC switch. 2)Measure the voltage between A/C control module and chassis ground. ***Connector & terminal*** ***(B282) No. 15 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **3.**	Repair the short circuit in harness for power supply line.
3	**CHECK SIGNAL VOLTAGE.** 1)Change the air intake to FRESH with pushing FRESH/RECIRC switch. 2)Measure the voltage between A/C control module and chassis ground. ***Connector & terminal*** ***(B282) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4.**	Repair the short circuit in harness for power supply line.
4	**CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND FRESH/RECIRC ACTUATOR.** 1)Turn the ignition switch to OFF. 2)Disconnect the connector from A/C control module and intake door actuator. 3)Measure the resistance of harness between A/C control module and intake door actuator. ***Connector & terminal*** ***(B282) No. 15 — (B91) No. 1:***	Is the resistance less than 1 Ω?	Go to step **5.**	Repair the open circuit in harness between A/C control module and intake door actuator.
5	**CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND FRESH/RECIRC ACTUATOR.** Measure the resistance of harness between A/C control module and intake door actuator. ***Connector & terminal*** ***(B282) No. 7 — (B91) No. 2:***	Is the resistance less than 1 Ω?	Go to step **6.**	Repair the open circuit in harness between A/C control module and intake door actuator.
6	**CHECK POOR CONTACT.** Check poor contact in A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the A/C control module.

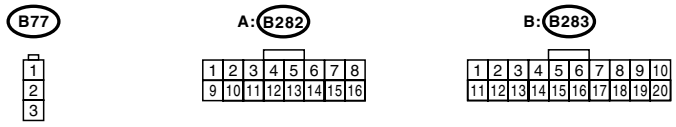
B: MODE DOOR ACTUATOR

TROUBLE SYMPTOM:

Air flow outlet is not changed.

WIRING DIAGRAM:





AC-00676

DIAGNOSTIC PROCEDURE FOR ACTUATORS

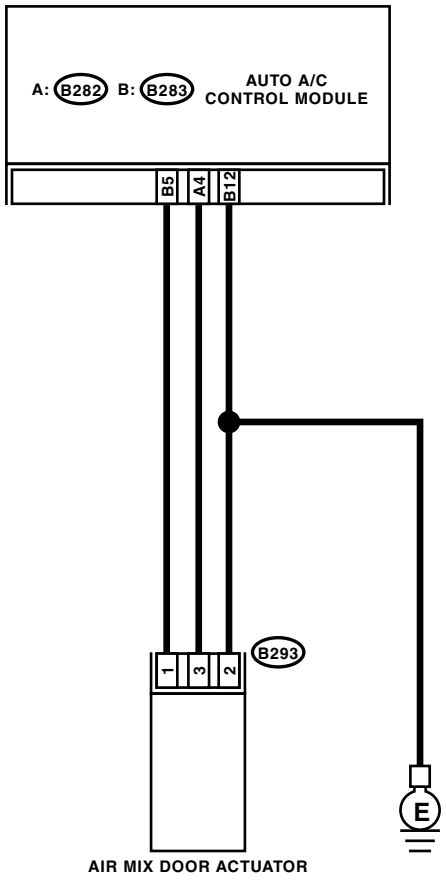
	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR AUTO A/C CONTROL MODULE SIDE.** 1)Turn the ignition switch to ON. 2)Turn the A/C switch to ON. 3)Measure the voltage between auto A/C control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B283) No. 6 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2.**	Replace the auto A/C control module.
2	**CHECK POWER SUPPLY FOR ACTUATOR SIDE.** Measure the voltage between mode door actuator harness connector terminal and chassis ground. ***Connector & terminal*** ***(B77) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3.**	Repair the open circuit in harness between auto A/C control module and mode door actuator.
3	**CHECK SIGNAL FOR AUTO A/C CONTROL MODULE SIDE.** Measure the voltage between auto A/C control module harness connector terminal and chassis ground with oscilloscope. ***Connector & terminal*** ***(B282) No. 12 (+) — Chassis ground (–):***	Is the voltage approx. 5.5 V?	Go to step **4.**	Replace the auto A/C control module.
4	**CHECK SIGNAL FOR ACTUATOR SIDE.** Measure the voltage between mode door actuator harness connector terminal and chassis ground. ***Connector & terminal*** ***(B77) No. 3 (+) — Chassis ground (–):***	Is the voltage approx. 5.5 V?	Go to step **5.**	Repair the open circuit in harness between auto A/C control module and mode door actuator.
5	**CHECK GROUND CIRCUIT OF ACTUATOR.** 1)Turn the ignition switch and A/C switch to OFF. 2)Measure the resistance between mode door actuator harness connector terminal and chassis ground. ***Connector & terminal*** ***(B77) No. 2 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **6.**	Repair the open circuit in harness between mode door actuator and chassis ground.
6	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the A/C control module.

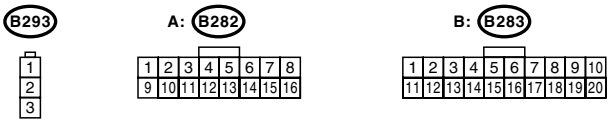
C: AIR MIX DOOR ACTUATOR

TROUBLE SYMPTOM:

Outlet air temperature is not changed.

WIRING DIAGRAM:





AC-00677

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR AUTO A/C CONTROL MODULE SIDE.** 1)Turn the ignition switch to ON. 2)Turn the A/C switch to ON. 3)Measure the voltage between auto A/C control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B283) No. 5 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2.**	Replace the auto A/C control module.
2	**CHECK POWER SUPPLY FOR ACTUATOR SIDE.** Measure the voltage between air mix door actuator harness connector terminal and chassis ground. ***Connector & terminal*** ***(B293) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3.**	Repair the open circuit in harness between auto A/C control module and air mix door actuator.
3	**CHECK SIGNAL FOR AUTO A/C CONTROL MODULE SIDE.** Measure the voltage between auto A/C control module harness connector terminal and chassis ground with oscilloscope. ***Connector & terminal*** ***(B282) No. 4 (+) — Chassis ground (–):***	Is the voltage approx. 5.5 V?	Go to step **4.**	Replace the auto A/C control module.
4	**CHECK SIGNAL FOR ACTUATOR SIDE.** Measure the voltage between air mix door actuator harness connector terminal and chassis ground with oscilloscope. ***Connector & terminal*** ***(B293) No. 3 (+) — Chassis ground (–):***	Is the voltage approx. 5.5 V?	Go to step **5.**	Repair the open circuit in harness between auto A/C control module and air mix door actuator.
5	**CHECK GROUND CIRCUIT OF ACTUATOR.** 1)Turn the ignition switch and A/C switch to OFF. 2)Measure the resistance between air mix door actuator harness connector terminal and chassis ground. ***Connector & terminal*** ***(B293) No. 2 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **6.**	Repair the open circuit in harness between air mix door actuator and chassis ground.
6	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the A/C control module.