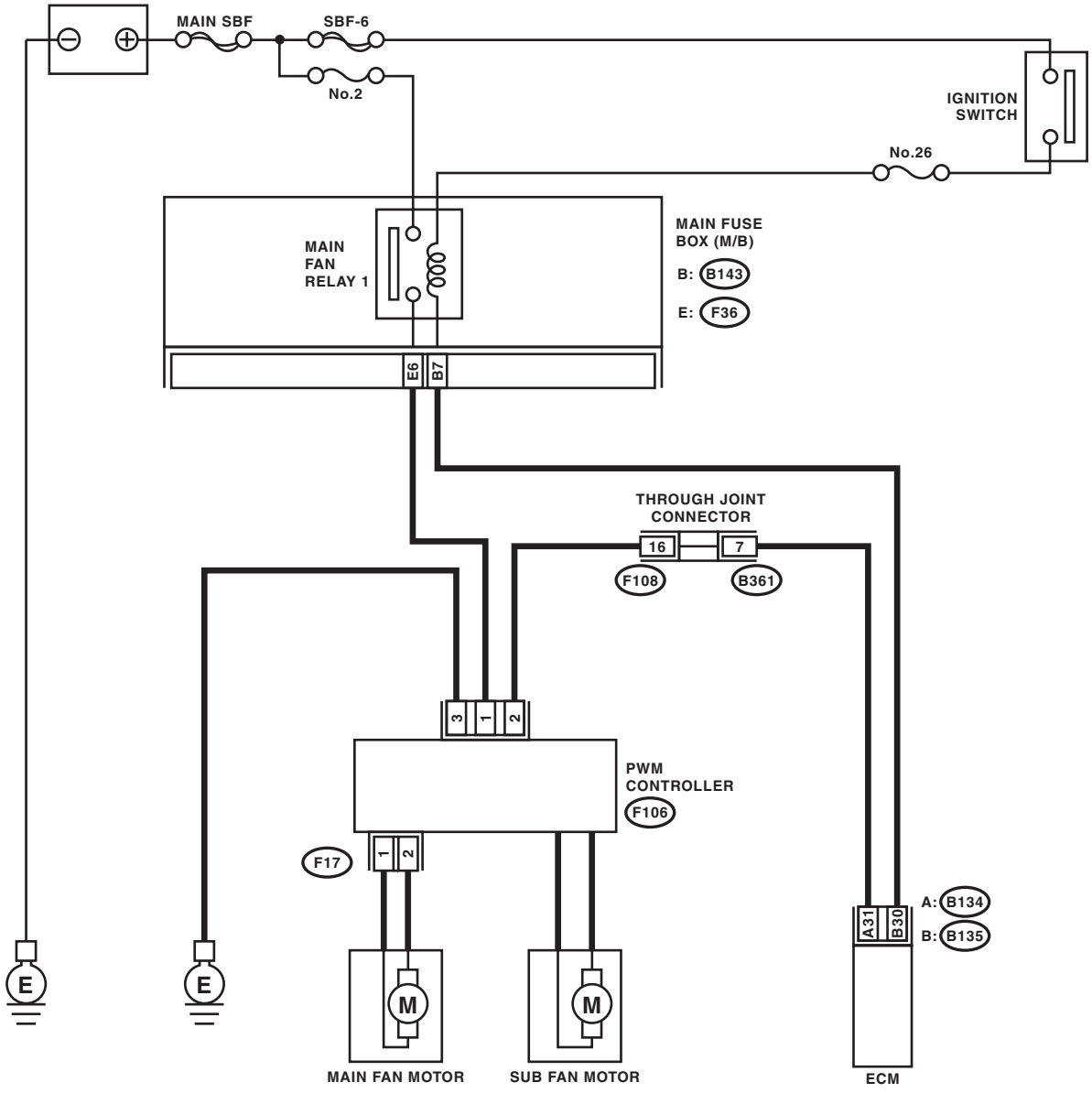
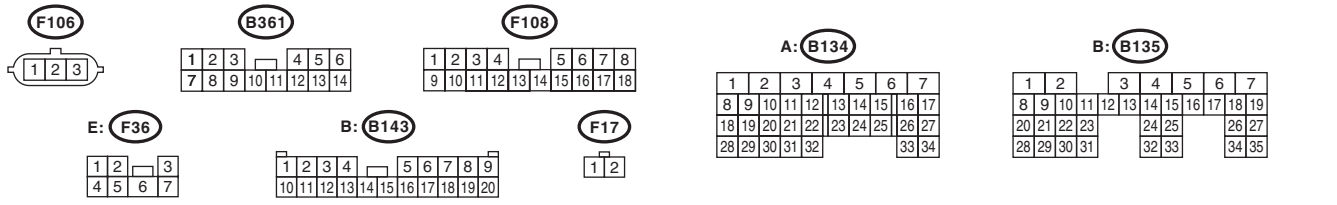
2. Radiator Fan System

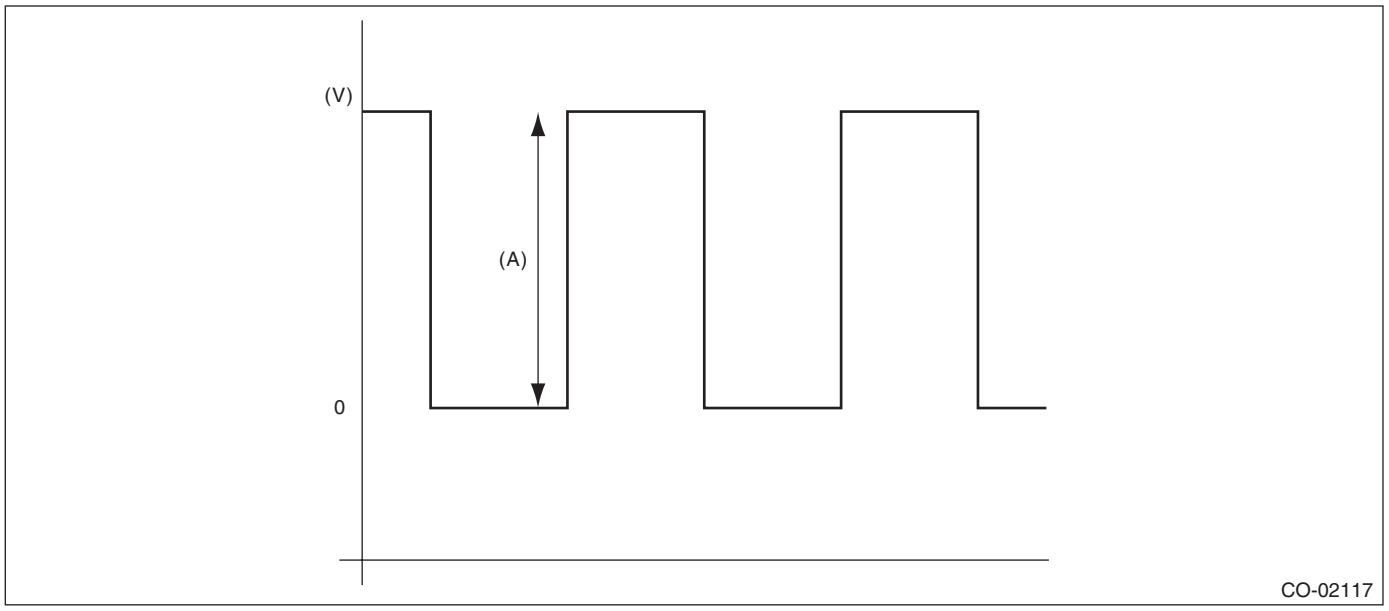
A: WIRING DIAGRAM





CO-02126

B: RADIATOR FAN CONTROL OUTPUT WAVEFORM



(A) 5 V

C: INSPECTION

DETECTING CONDITION:

- Engine coolant temperature is more than 93°C (199°F).
- A/C switch is turned OFF.
- Vehicle speed is below 19 km/h (12 MPH).

TROUBLE SYMPTOMS:

Radiator main and sub fans do not rotate under the above conditions.

	Step	Check	Yes	No
1	**CHECK MAIN FAN RELAY 1.** 1) Turn the ignition switch to OFF. 2) Remove the main fan relay 1 from A/C relay holder. 3) Measure the resistance of terminal in main fan relay 1 switch.	Is the resistance more than 1 MΩ?	Go to step **2**.	Replace the main fan relay 1.
2	**CHECK MAIN FAN RELAY 1.** 1) Connect the battery to terminal of main fan relay 1 coil. 2) Measure the resistance between terminals of main fan relay 1 switch.	Is the resistance less than 1 Ω?	Go to step **3**.	Replace the main fan relay 1.
3	**CHECK POWER SUPPLY FOR ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Turn the ignition switch to ON. 4) Measure the voltage between ECM terminal and chassis ground. ***Connector & terminal*** ***(B135) No. 30 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **4**.	Repair the power supply line.

	Step	Check	Yes	No
4	**CHECK POWER SUPPLY FOR RADIATOR FAN CONTROL UNIT.** 1) Turn the ignition switch to OFF. 2) Connect the connector to ECM. 3) Disconnect the connector from radiator fan control unit. 4) Turn the ignition switch to ON. 5) Measure the voltage between radiator fan control unit terminal and chassis ground. ***Connector & terminal*** ***(F106) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **5**.	Repair the power supply line.
5	**CHECK HARNESS BETWEEN ECM AND RADIATOR FAN CONTROL UNIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from ECM. 3) Measure the resistance between radiator fan control unit and ECM connector. ***Connector & terminal*** ***(B134) No. 31 — (F106) No. 2:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair the open circuit of harness between ECM and radiator fan control unit.
6	**CHECK RADIATOR FAN CONTROL UNIT AND GROUND CIRCUIT.** 1) Connect the connector to ECM and radiator fan control unit. 2) Measure the resistance between radiator fan control unit connector and chassis ground. ***Connector & terminal*** ***(F106) No. 3 — Chassis ground:***	Is the resistance less than 5 Ω?	Go to step **7**.	Repair the open circuit of harness between radiator fan control unit connector and chassis ground.
7	**CHECK SUB FAN MOTOR.** 1) Disconnect the connector from radiator fan control unit. 2) Connect the battery positive (+) terminal to terminal No. 1 of the radiator fan control unit, and the ground (–) terminal to terminal No. 3.	Does the fan motor rotate?	Go to step **8**.	Replace the fan motor which does not rotate.
8	**CHECK OUTPUT SIGNAL FROM ECM.** 1) Turn the ignition switch to OFF. 2) Connect the test mode connector. 3) Turn the ignition switch to ON. 4) Check the output waveform using oscilloscope. <Ref. to CO(H6DO)-8, RADIATOR FAN CONTROL OUTPUT WAVEFORM, Radiator Fan System.> ***Connector & terminal*** ***(B134) No. 31 (+) — Chassis ground (–):***	Is waveform being output?	Replace the radiator fan control unit. <Ref. to CO(H6DO)-24, Radiator Fan Control Unit.>	Replace the ECM. <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>