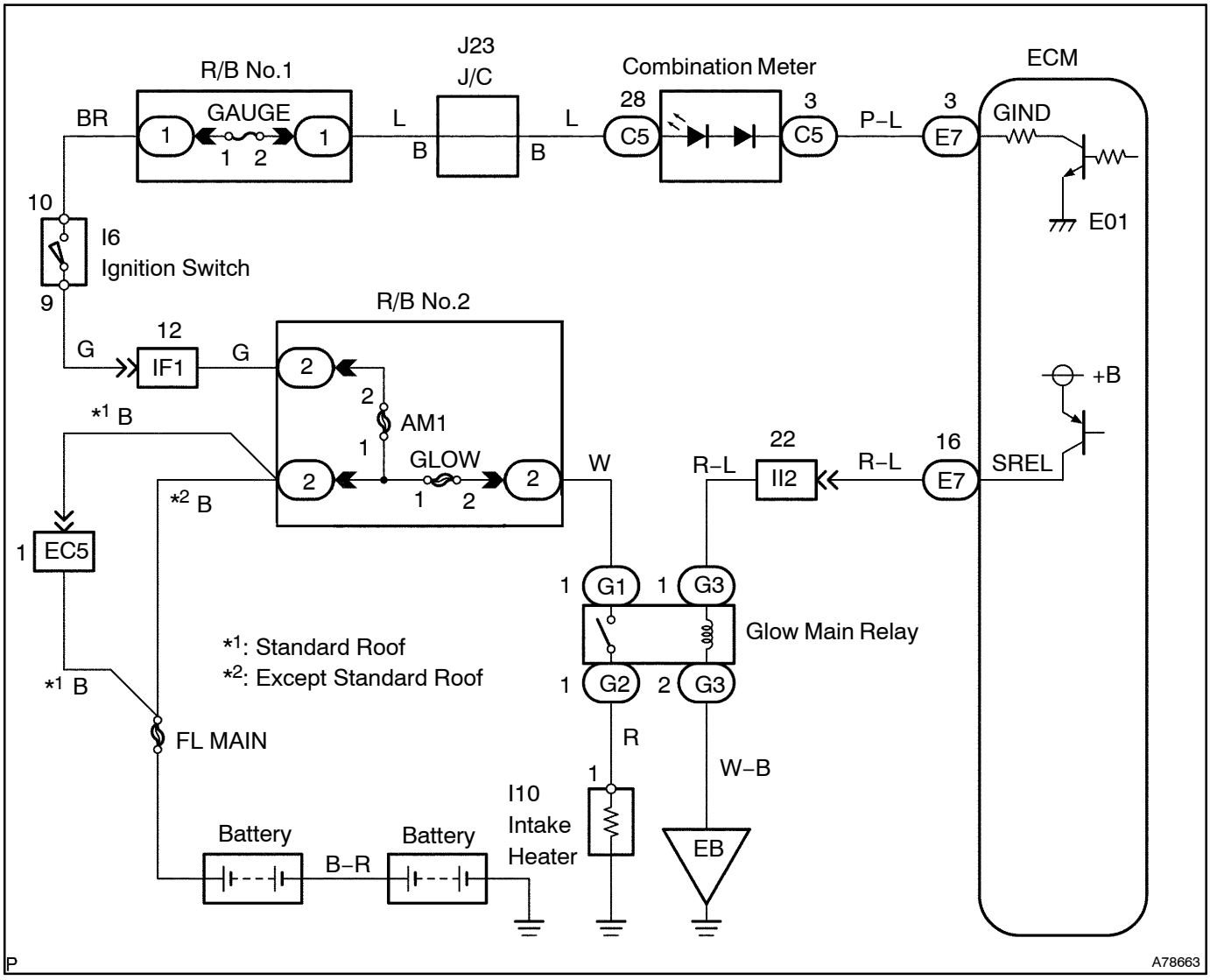
INTAKE HEATER CONTROL CIRCUIT

CIRCUIT DESCRIPTION

When the engine coolant temperature is below 20˚C (68˚F), turning the ignition switch ON causes the intake heater relay to turn ON, allowing the intake heater to operate. The intake heater operates until the engine coolant temperature becomes higher than 20˚C (68˚F) for a maximum of 77 seconds.
At the same time, the glow indicator lamp illuminates in accordance with the engine coolant temperature (a a mximum of 5 seconds).

WIRING DIAGRAM



INSPECTION PROCEDURE

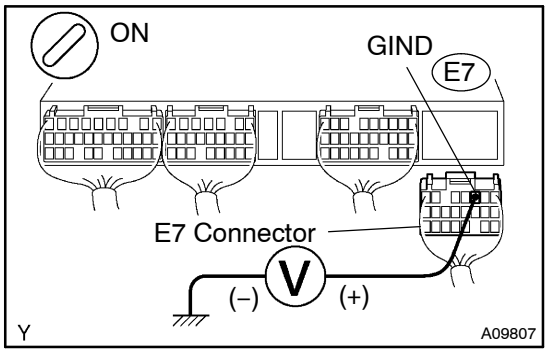
1	DOES GLOW INDICATOR LIGHT UP

(a) Turn the ignition switch ON.
(b) Check that the glow indicator lights up.
Standard: The glow indicator lights up for 0.5 sec. or more.

OK → **Go to step 5**

NG

2	CHECK ECM

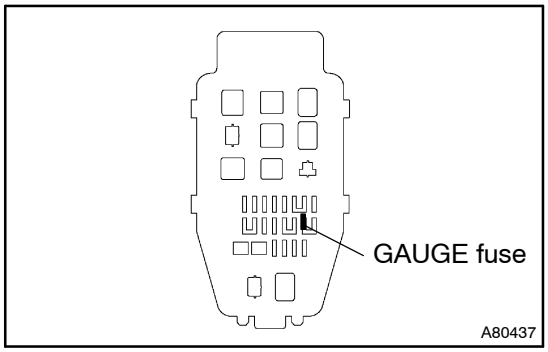


(a) Disconnect the E7 connector from the ECM.
(b) Turn the ignition switch ON.
(c) Measure the voltage between terminal GIND of the E7 ECM connector and the body ground.
Standard: 18 – 27 V

OK → **CHECK AND REPLACE ECM**

NG

3	CHECK FUSE



(a) Remove the GAUGE fuse.
(b) Check the continuity of the GAUGE fuse.
Standard: Continuity

NG → **REPLACE FUSE**

OK

4	CHECK BULB (GLOW INDICATOR LIGHT BULB)

NG → **REPLACE BULB**

OK

CHECK WIRE HARNESS (COMBINATION METER ⇔ ECM, GAUGE FUSE) (See page 01–27)

5	CHECK GLOW INDICATOR LIGHT

(a) Check the glow indicator light illuminating time (See page 19–1)

NG → CHECK AND REPLACE ECM

OK

6	ARE THERE ANY DTC BEING OUTPUT

YES → GO TO RELEVANT DTC CHART (See page 05–15)

NO

7	CHECK RELAY (GLOW MAIN RELAY) (See page 19–1)

NG → REPLACE RELAY

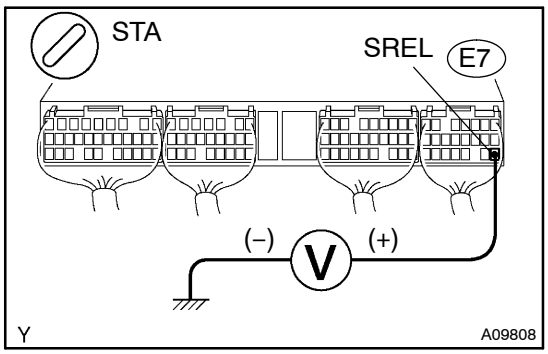
OK

8	CHECK WIRE HARNESS (GLOW MAIN RELAY ⇔ ECM, BODY GROUND) (See page 01–27)

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

9	CHECK ECM



(a) Turn the ignition switch ON.
(b) Measure the voltage between terminal SREL of the E7 ECM connector and the body ground.
Standard: 12 – 27 V

NG → CHECK AND REPLACE ECM

OK

10	CHECK INTAKE HEATER

(a) Check resistance of the intake heater (See page 19–1).

NG → REPLACE INTAKE HEATER

OK

11	CHECK INTAKE HEATER

(a) Check the intake heater installation.

NG → TIGHTEN INTAKE HEATER

OK

12	CHECK WIRE HARNESS (INTAKE HEATER ⇔ GLOW MAIN RELAY) (See page 01–27)

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE (See page 05–22)