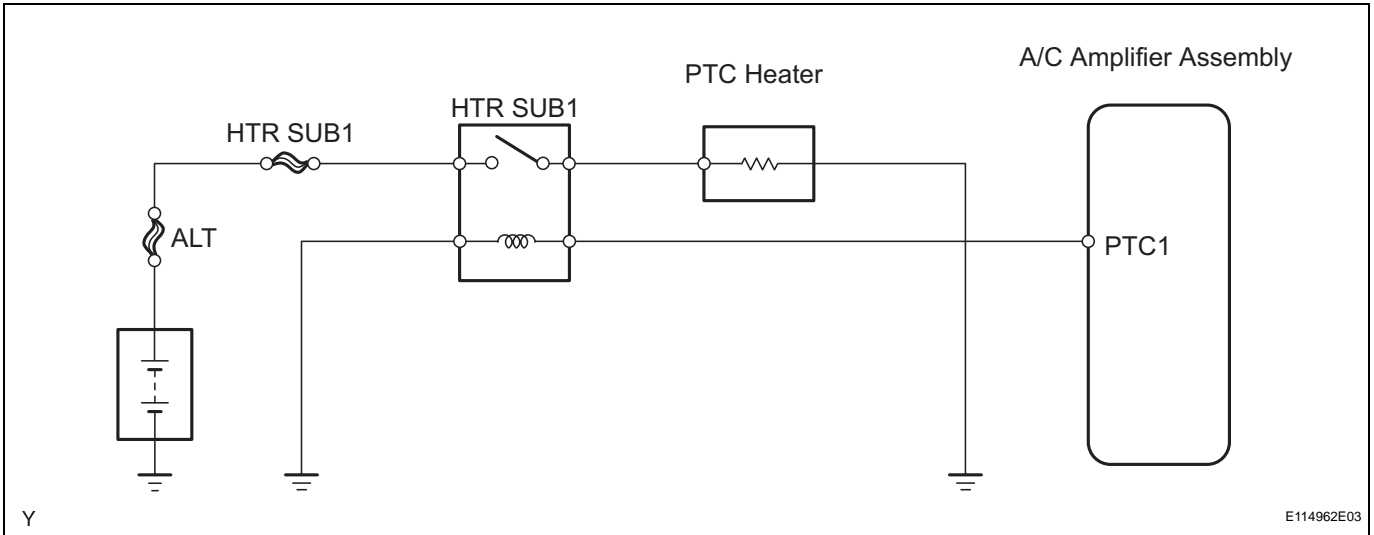


PTC Heater Circuit

DESCRIPTION

The PTC relay turns on when it receives a signal from the A/C amplifier. As a result, power is supplied to the PTC heater installed on the heater radiator unit sub-assembly.

WIRING DIAGRAM



1 INSPECT FUSE (HTR SUB1)

- (a) Remove the HTR SUB1 H-fuse from the engine room relay block.
- (b) Measure the resistance of the fuse.

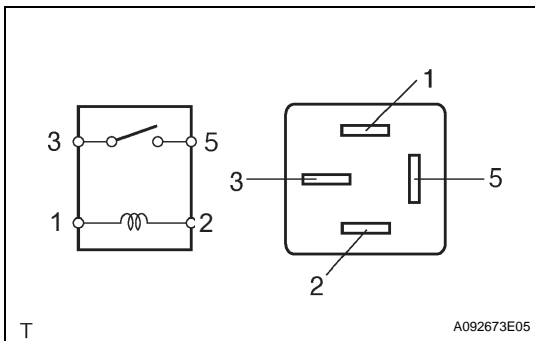
Standard resistance:

Below 1 Ω

NG → **REPLACE FUSE**

OK

2 INSPECT PTC HEATER RELAY (Marking: HTR SUB1)



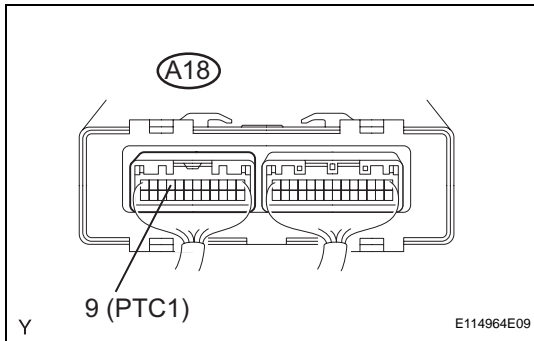
- (a) Remove the PTC heater relay from the engine room relay block.
- (b) Measure the resistance of the relay.

Standard resistance

Tester Connection	Specified Condition
3 - 5	10 kΩ or higher
3 - 5	Below 1 Ω (when battery voltage is applied to terminals 1 and 2)

NG → **REPLACE PTC HEATER RELAY**

OK

3 CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY (PTC1 VOLTAGE)

- (a) Remove the A/C amplifier assembly but do not disconnect its connector.
- (b) Turn the ignition switch ON.
- (c) While the PTC operating conditions are met (engine rpm is at idle rpm or more, engine coolant temperature is 70°C (158°F) or less, air mix control knob setting is MAX HOT), turn the blower switch to the Lo setting.
- (d) Measure the voltage of the connector.

Standard voltage

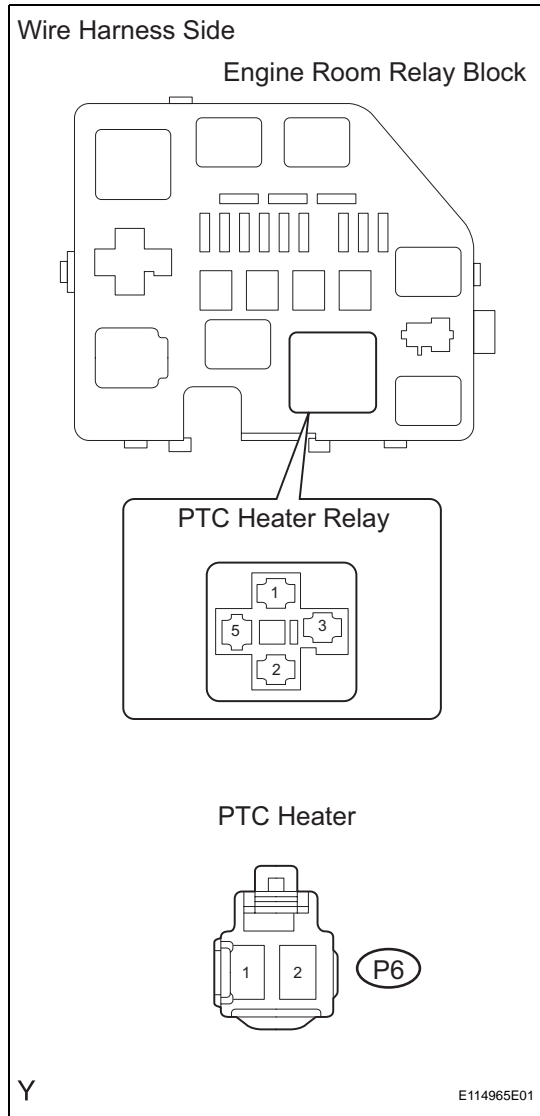
Tester Connection	Specified Condition
A18-9 (PTC1) - Body ground	10 to 14 V

NG

Go to step 6

OK

4 CHECK WIRE HARNESS (PTC HEATER RELAY - PTC HEATER AND BATTERY)



- (a) Remove the PTC heaterUB1 relay from the engine room relay block.
- (b) Disconnect the P6 heater connector.
- (c) Measure the voltage of the wire harness side connector.

Standard voltage

Tester Connection	Specified Condition
PTC heater relay terminal 5- Body ground	10 to 14 V

- (d) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
PTC heater relay terminal 3- P6-1	Below 1 Ω

NG **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5 CHECK PTC HEATER

- (a) After replacing the PTC heater with a normal one, check that the PTC heater function operates normally.

OK:

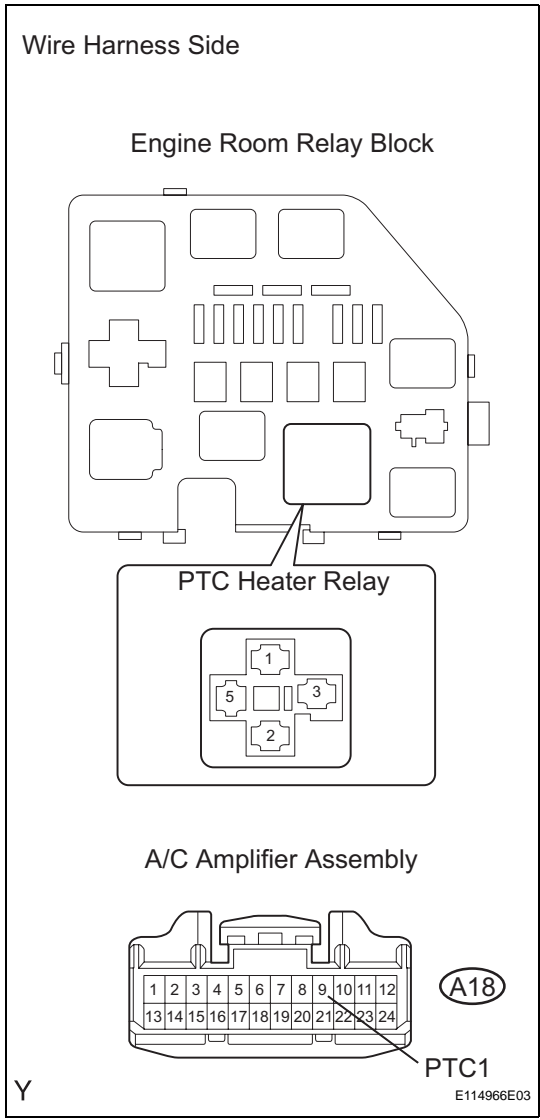
PTC heater function operates normally.

NG **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

OK

REPLACE HEATER RADIATOR UNIT SUB-ASSEMBLY

6 CHECK WIRE HARNESS (PTC HEATER RELAY - AMPLIFIER AND BODY GROUND)



- (a) Remove the PTC heater relay from the engine room relay block.
- (b) Disconnect the A18 amplifier connector.
- (c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
PTC heater relay terminal 2 - A18-9 (PTC1)	Below 1 Ω
PTC heater relay terminal 1 - Body ground	Below 1 Ω

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

7 CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

- (a) After replacing the A/C amplifier assembly with a normal one, check that the PTC heater function operates normally.

OK:
PTC heater function operates normally.

NG REPLACE PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY