

Component Procedures: Auxiliary Cabin Heater

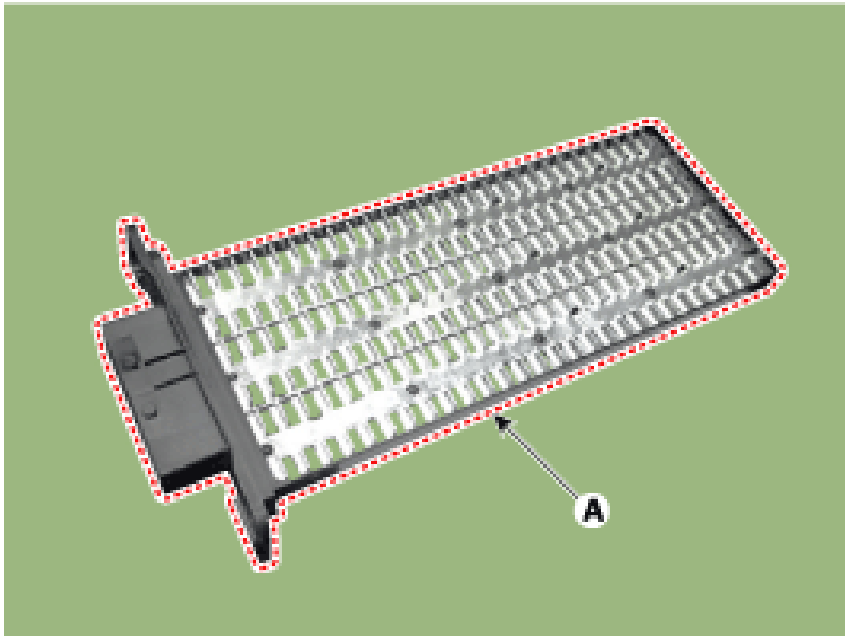
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Component Procedures: Auxiliary Cabin Heater

PTC Heater - Description and Operation (Article 44855)

- Description



Operation Principle

Operating Condition

- Battery voltage: 12.4V or above

- Engine : Running

- Ambient temperature and coolant temperature

Ambient Temperature Coolant Temperature PTC Operation

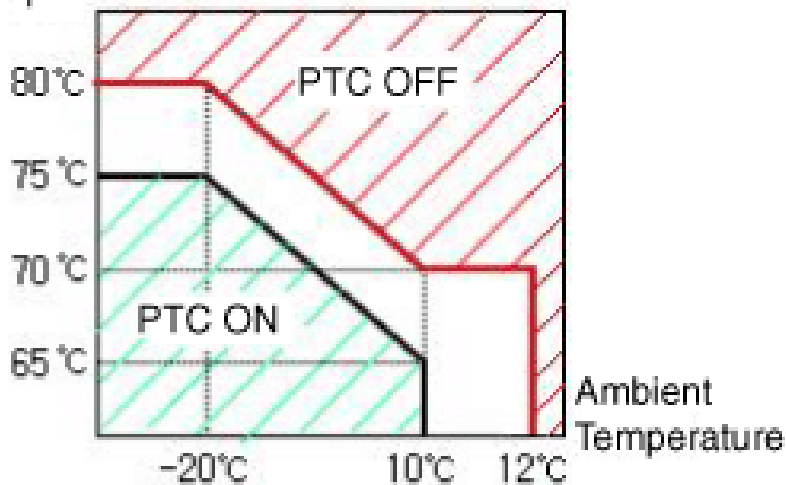
Below -20°C (-4°F) Below 75°C (167°F) ON

10°C (50.4°F) Below 65°C (149°F) ON

12°C (53.6°F) or above - OFF

- 80°C (176°F) or above OFF

Coolant
Temperature



PTC Heater - Repair Procedures (Article 44856)

- Inspection

Operating Logic Test (Manual only)

- Entering Set the Floor mode and maximum heating position. Turn off the blower switch. Press the intake (recirculation) button 5 times or more. \Indicators of intake and A/C button are continuously flashed with an interval of 0.5 seconds. Confirm the PTC operation by turn on the blower switch. Each PTC relay is operated with an interval of 3 seconds. The logic test will be automatically cancelled after 30 seconds. In addition, it can be cancelled by followings. Select A/C or intake (recirculation) switch Ignition switch OFF
- Set the Floor mode and maximum heating position.
- Turn off the blower switch.
- Press the intake (recirculation) button 5 times or more.
- \Indicators of intake and A/C button are continuously flashed with an interval of 0.5 seconds.
- Confirm the PTC operation by turn on the blower switch.
- Each PTC relay is operated with an interval of 3 seconds.
- The logic test will be automatically cancelled after 30 seconds. In addition, it can be cancelled by followings. Select A/C or intake (recirculation) switch Ignition switch OFF
- Select A/C or intake (recirculation) switch
- Ignition switch OFF
- Cancellation Select A/C or intake (recirculation) switch. Turn the ignition switch OFF. The test is cancelled automatically after 30 seconds.
- Select A/C or intake (recirculation) switch.
- Turn the ignition switch OFF.
- The test is cancelled automatically after 30 seconds.
- If the PTC is not operated, substitute with a known-good PTC heater and check for proper operation. If the problem is corrected, replace the PTC heater.

Operating Test

- Run the engine.
- Check the current on wiring with a clamp multi tester. Pattern Current (A) PTC 1 ON 0.1 - 33 PTC 2 ON 0.1 - 33 PTC 3 ON 0.1 - 33 Total 0.1 - 100

Pattern Current (A)

PTC 1 ON 0.1 - 33

PTC 2 ON 0.1 - 33

PTC 3 ON 0.1 - 33

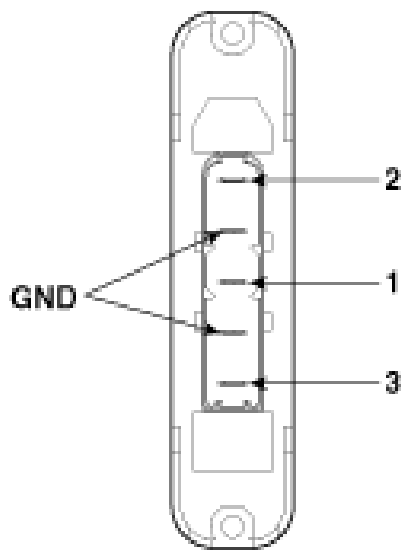
Total 0.1 - 100

- If the current is not specification, inspect related wiring.

Resistance Test

- Disconnect the PTC heater connector.
- Measure the resistance between terminal 1, 2, 3 of PTC heater and ground line. Resistance : 0.3 - 1.5 Ω PTC 1 PTC 2 PTC 3

Connector



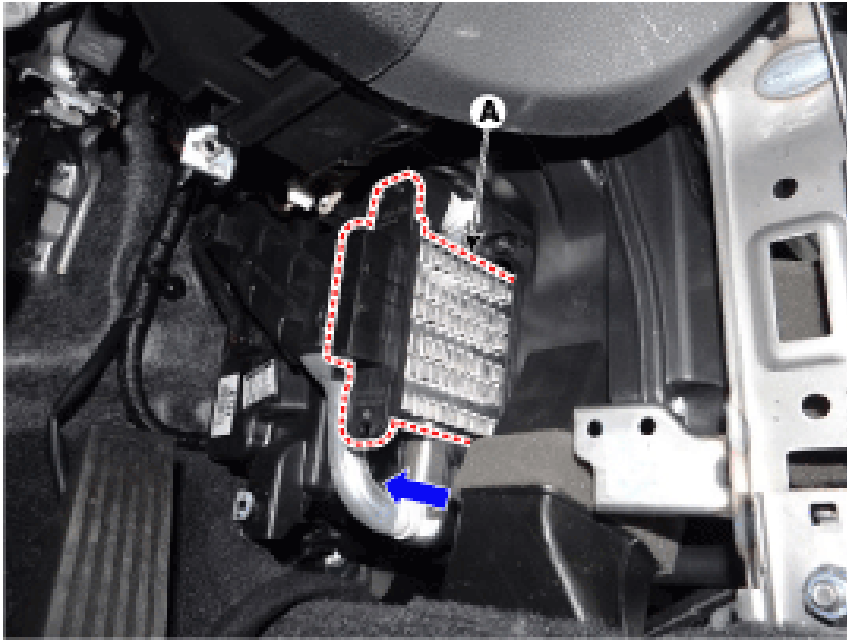
- PTC 1
- PTC 2
- PTC 3

- If the measured resistance is not specification, replace the PTC heater with new one.
- Replacement
- Disconnect the negative (-) battery terminal.
- Remove the floor console side cover. (Refer to Body - "Floor Console Assembly")
- Disconnect the PTC heater connector (A).



- Remove the PTC heater core (A) after loosening the PTC heater mounting screws.





- To install, reverse the removal procedure.