

## **COOL-08, Thermostat - General Information and Replacement**

### **General Information**

If your car is experiencing overheating or overcooling problems, they may be due to a faulty thermostat. Overcooling problems are caused by a thermostat that is stuck open while overheating problems by a thermostat that is either stuck closed or does not open at the correct coolant temperature.

There are two different thermostats for the 924S, 944, and 944 Turbo. The correct thermostat is determined by whether you have a new type water pump or old type water pump. With the old style thermostat, the groove for the thermostat snap ring is 4.5 mm from the thermostat sealing surface inside the water pump housing. With the new style, the groove is 7 mm from the sealing surface.

### **Parts**

<b>Thermostat Parts</b>		
<b>Part Number</b>	<b>Description</b>	<b>Application</b>
944 106 129 05	Thermostat (Old Style Water Pump)	924S, 944, 944 Turbo
944 106 929 05	Thermostat O-Ring (for thermostat 944 106 129 05)	924S, 944, 944 Turbo
944 106 019 00	Thermostat (New Style Water Pump)	924S, 944, 944 Turbo
944 106 929 08	Thermostat O-Ring (for thermostat 944 106 019 00)	924S, 944, 944 Turbo
900 234 160 00	2.5mm Support Washer (for thermostat 944 106 019 00)	924S, 944, 944 Turbo

### **Tools**

- Flat tip screwdriver
- 45° angle snap ring pliers
- Catch pan
- Catch rags
- Ramps or jack stands and floor jack
- 10 mm socket, ratchet, and 6" extension

### **Other Procedures Needed**

- [COOL-02](#), Coolant System Draining, Filling, and Venting

## **Replacement**

1. Disconnect the battery negative lead.
2. Raise the front of the vehicle on ramps or jack stands.
3. Remove the belly pan.
4. Using [COOL-02](#), drain the cooling system. Have a large enough catch pan for approximately 2 gallons of coolant and catch rags to clean up any spilled coolant.
5. Remove the cooling hose going from the water pump to the bottom of the radiator.
6. Using angled snap ring pliers, remove the thermostat retaining snap ring. This can be very difficult and requires a lot of patience.
7. Remove the old thermostat from the pump housing. The thermostat has an sealing o-ring and a spacer washer. Both should come out with the thermostat.
8. If desired, the old thermostat can be checked using the Testing section below.
9. Install new thermostat with o-ring and support washer (if required) into the pump housing. The newer style thermostat and seal which goes into the newer style water pump requires the 2.5mm support washer between the snap ring and the thermostat. On the newer style water pumps, there is a 7mm gap between the thermostat sealing surface and the snap ring groove as opposed to a 4.5mm gap on the older style water pumps.
10. Install the snap ring into the pump housing. Bear in mind that correctly orienting the holes on the snap ring can make removal of the snap ring much easier if the thermostat needs to be replaced in the future. Generally, the holes in the snap ring should be oriented toward the top of the pump housing or toward the bottom.
11. Install the cooling hose from the water pump to the radiator.
12. Using [COOL-02](#), fill and vent the cooling system.
13. Connect the battery negative lead.
14. Start the vehicle and run until it reaches normal operating temperature and check for leaks and proper operation of the thermostat.
15. Install the belly pan and lower the vehicle.

## **Testing**

### **Tools Needed**

- Cooking container (pot)
  - Temperature sensor (thermometer)
  - Heat source (stove)
1. Remove the thermostat from the car using the appropriate steps of the Thermostat Replacement procedure above.
  2. Inspect the thermostat for damage or excessive corrosion prior to testing.
  3. On a piece of paper, record the thermostat rated temperature stamped on the thermostat. Realize that this temperature will likely be in  $\hat{A}^{\circ}\text{C}$ .
  4. Place the thermostat in a cooking container filled with water and place a thermostat in the water.

5. Place the container on a heat source and heat the water until it reaches the temperature stamped on the thermostat. When this temperature is reached, the thermostat should be fully open.
6. Remove the container from the heat source and allow it to cool. The thermostat should be fully closed when the temperature decreases to approximately 10 degrees below the rated temperature.
7. If the thermostat does not operate as described above, it should be replaced.

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