Technical Messenger

MAHLE

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Causes of a defective resistor on the interior blower

Replacing a defective resistor on the interior blower often fixes the obvious issue without addressing its underlying cause.

If the motor of the interior blower will only run at its highest speed, a defective blower resistor may be the cause. Typically, voltage and continuity are checked at the resistor to determine whether it is functioning correctly. If there is no continuity at the resistor, for example if a thermal fuse has blown, it is defective and needs to be replaced. All well and good, but if the component is simply replaced without addressing the underlying cause of the defect, the issue is likely to recur in the foreseeable future.

Cause and effect

A tripped thermal fuse on the blower resistor is often just consequential damage. The root cause may be a sluggish or even seized blower motor. This can be due to worn or damaged bearings, or a distorted or defective fan wheel that rubs against the housing.

Other potential causes of a blown thermal fuse include failure to adhere to replacement intervals and leaves or debris clogging or blocking cabin filters (see TM 10/2017). Over time, the use of low-grade cabin filters can lead to the accumulation of deposits on the evaporator, resulting in a significantly reduced airflow rate, thus tripping the thermal fuse.

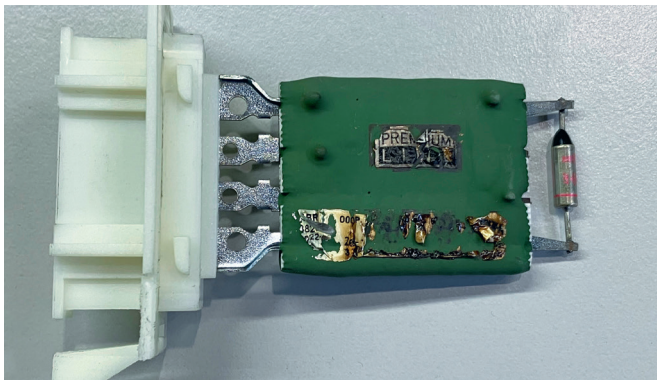

Figure 1: Melted label due to large thermal overload

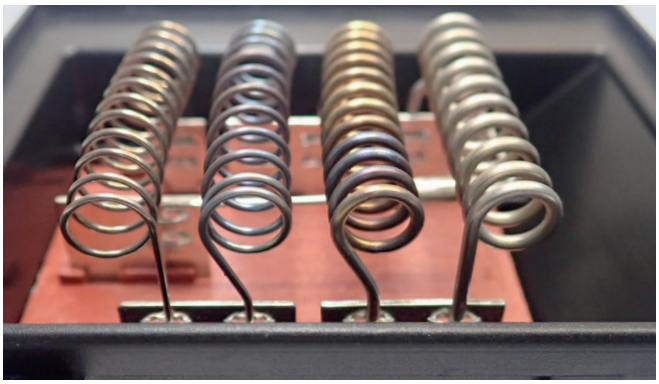

Figure 2: Thermally discolored spiral resistor

Important!

Before replacing the interior blower resistor, it is important to ensure that the fan wheel rotates freely and is not rubbing against anything. The air section from the cabin filter to the interior blower should also be checked and cleaned if necessary.