

Starter activated for too long

Technical Information for Workshops

If the starter is activated for an extended time, for example, in the case of excessively long venting processes after diesel filter changes, there is a risk of thermal overload of the unit. Such thermal stress will shorten the service life of the starter and, in extreme cases, will destroy it.

The maximum activation time depends on the cranking torque of the combustion engine:

Example for starter type HEF109-L 24V:

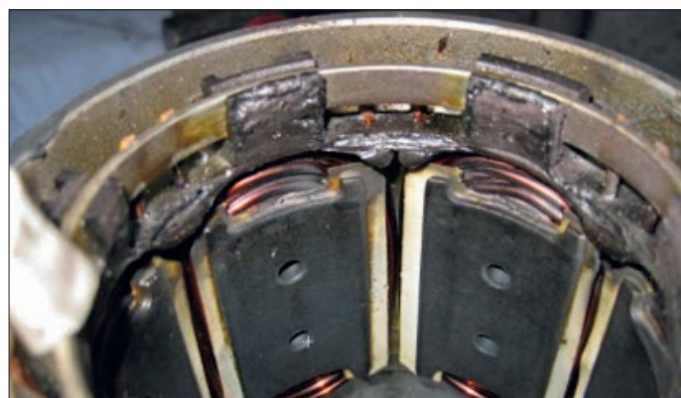
Torque [Nm]	Max. switch-on time [s]	Mean forward current [A]
18	≈180	≈400
38	≈110	≈530
50	≈80	≈600
70	≈40	≈700

Example for starter type R78-M 12V:

Torque [Nm]	Max. switch-on time [s]	Mean forward current [A]
3.5	≈250	≈200
6.8	≈100	≈300
10	≈40	≈400
13	≈18	≈500

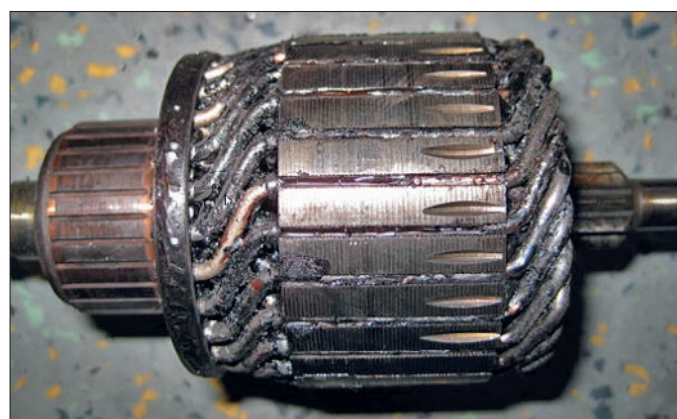
Example of damage to the winding of the pole housing:

Insulating ring melts and enamelled wire discolours due to very high temperatures



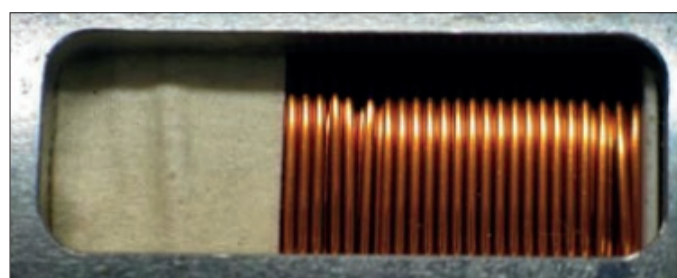
Example of damage to the armature winding:

Enamelled wire and armature lamella stack discolour due to the very high temperatures

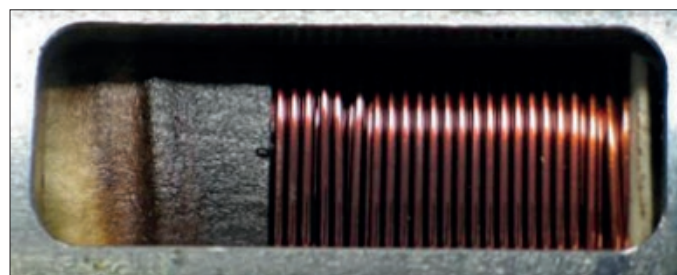


Example of damage patterns on the engagement solenoid winding:

Adhesive tape and enamelled wire discolour due to the very high temperatures, the winding support shows melting.



after 60 seconds



after 480 seconds