Technical Messenger

Workshop Information

MAHLE

Driven by performance

Issue no. 09/2017: Connection defect when changing the starter motor

If the engine does not restart after the starter motor has been replaced, even if it is audibly actuated, this is generally caused by a connection defect of the new component.

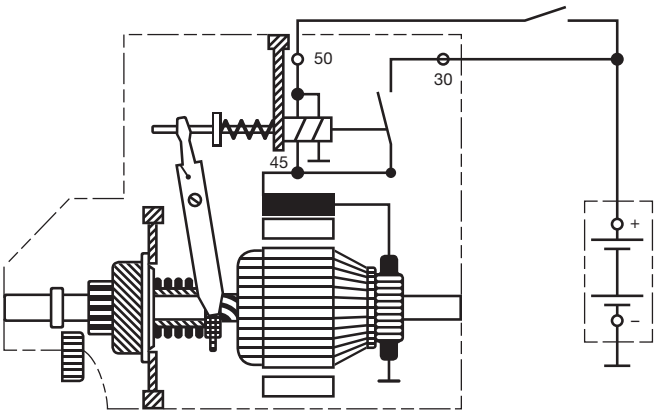

Figure 1: Wiring diagram with clamp 50 (start control) and clamp 45 at the solenoid output to monitor the starting process

In some starter motors, an additional flat plug is connected between the solenoid and electric motor **(clamp 45)** to **monitor the starting process.**

If this plug is clamped to the **start control (clamp 50)** during installation by mistake, current will be supplied to the electric motor but not to the solenoid. As a result, the pinion will not engage with the ring gear on the flywheel, the starter motor turns, but the combustion engine will not start.

Caution: This may lead to high current consumption via the cable to the ignition switch, causing scorch or fire damage to electric components.

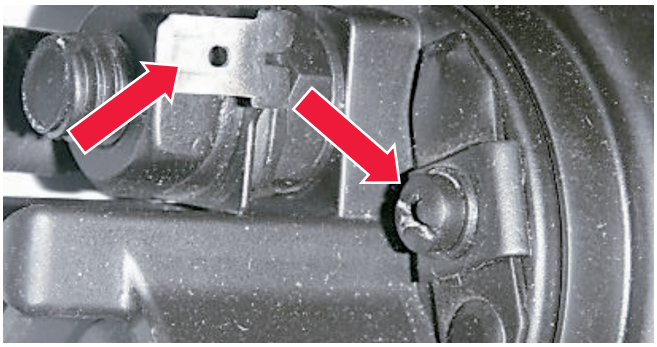

Figure 2: Clamp 45 (left) and clamp 50 (right)

Figure 3: Cable attached to clamp 50 of the solenoid

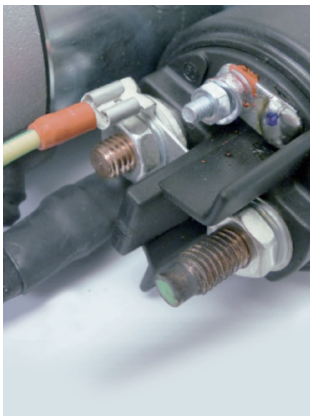

Figure 4: Cable attached to clamp 45, only supplying current to the electric motor

Important: When removing the starter motor, it is recommended to label connections and cables in order to avoid confusion.