

Schaeffler Vitesco Service Info

Central voltage stabilization system

Removal and installation instructions

Micro-hybrid technology is the first step in the electrification of the powertrain. The integrated start/stop technology reduces CO_2 emissions, but also leads to high loads on the starter battery. Continuously recurring engine starts can cause interruptions or restarts of the lighting, air conditioning and infotainment systems. Voltage stabilization systems are increasingly being used to compensate for these disadvantages. These systems consist of power electronics and what is known as a supercapacitor, which acts as an energy accumulator (Figure 1). The system minimizes voltage fluctuations during the start phase and helps to increase battery life. It also helps to start the engine quickly and seamlessly after a stop phase.

There is a possibility of malfunctions and system failures during a vehicle's operating life. Often the start/stop system can then no longer be activated and/or the error code P01A9C ("Energy Accumulator State of Health Fault") is indicated by the engine warning light illuminating.

If damaged parts of the system are then identified while diagnosing the issue, the following points must be observed when replacing these parts:

- To begin with, the system must be visually inspected
- A damaged or leaking energy accumulator can cause toxic acetonitrile to escape (visible leakage, traces of salt). In this case, a respiratory mask must be used immediately
- Personal protective equipment (suitable gloves/safety goggles) must always be worn when working on the system, as acetonitrile is harmful to health not only when inhaled but also when coming into contact with skin
- The energy accumulator must be discharged using suitable electrical tools before any assembly work. Removing a non-discharged energy accumulator is not permitted
- The onboard power supply battery must be disconnected when working on the system



Figure 1 : Power electronics and energy accumulator

Other important information:

- New energy accumulators are discharged at the factory
- Energy accumulators must not be charged or discharged outside the vehicle
- System components must be removed and installed in accordance with the vehicle manufacturer's instructions
- Screw connections with a different geometry are used for the electrical connections. Special tools are therefore required for the assembly work
- The tightening torque of the electrical connections must be observed
- Immediately after removal, store any defective energy accumulators–in particular, any leaking energy accumulators–in airtight packaging and dispose of them
- After replacing components, the system must be taught-in and initialized using a suitable diagnostic tool

Caution.
In the event of system faults or serious accident damage, it cannot always be assumed that the energy accumulator is completely discharged. The energy accumulator's voltage of 12–14.4 volts is harmless. However, in the event of a short circuit, a sudden and massive energy release can occur, which can lead to significant hazards for persons and material.

Please observe the vehicle manufacturer specifications!

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