

ADDRESSEES	: Owners and operators
VEHICLE MODELS	: Vehicles with Siemens voltage inverters/inductors
MANUAL CHAPTER	: 02.02 Traction system - Control system
BULLETIN TYPE	: Service information
DATE	: March 15, 2022
SUBJECT	: Additional information related to fixing screws of top cover on Siemens voltage inverter/inductor
CONDITIONS	: This service bulletin does not entitle to any reimbursement.

DESCRIPTION:

The traction system of your vehicle includes voltage inverters (INV), voltage inverters with built-in overvoltage protection (iVPM) or inductors (IND) from Siemens.

This service bulletin gives you step-by-step instructions on how to properly remove/install the top cover fixing screws giving access to the high-voltage terminals.

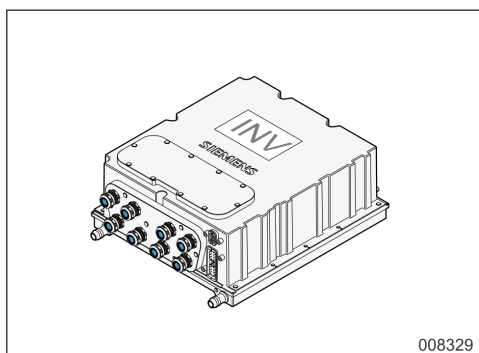


Figure 1: “SIEMENS” voltage inverter

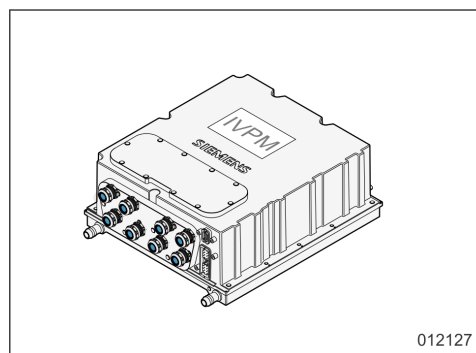


Figure 2: “SIEMENS” voltage inverter with built-in overvoltage protection

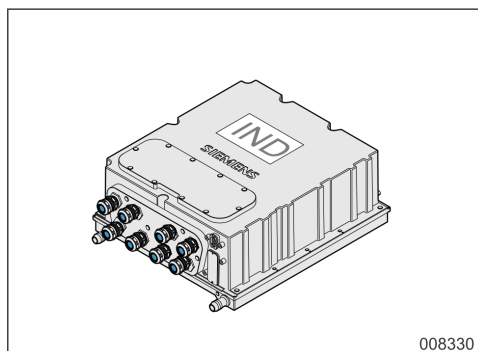


Figure 3: “SIEMENS” inductor

Continued on next page.

JOB QUALIFICATION:

The task has to be carried out by an experienced automotive technician, trained in the operations at hand.

PREPARATION:

- Park the vehicle on a level floor. Apply the parking brake. Switch off the traction system. Switch off all systems and turn off the battery isolation switch on the dashboard.
- Put a "DO NOT START" warning message on the instrument panel before starting the checks or repairs.
- Put chocks in front of and behind the drive axle wheels.
- **Read the entire procedure before starting the operations.**



WARNING!

Observe safe shop practices at all times.

The voltage inverters, voltage inverters with built-in overvoltage protection and inductors are high-voltage components! Before opening such a component, the high-voltage circuit has to be de-energised (Follow the instructions under "To de-energise traction system" in chapter 2.1 of the maintenance manual).

POINTS OF ATTENTION DURING REMOVAL OF FIXING SCREWS:

- Slacken the screws with a maximum tightening torque of 4,5 Nm. To this end, use a torque wrench according to DIN-ISO 6789.
- In the event that it is not possible to slacken the screws with the prescribed torque wrench, use other tools/techniques (for example a battery-operated impulse wrench, or letting rust remover work overnight).

POINTS OF ATTENTION DURING INSTALLATION OF FIXING SCREWS:

- Tighten all ten M5 cover fixing screws first to a torque of approximately 2,5 Nm in the sequence shown in figure 4. Then finally tighten the screws to 3,7 Nm in the order shown in figure 4. To this end, use a torque wrench according to DIN-ISO 6789.
- If the component is exposed to splash water or sea air, use "Teroson WX 210" to seal the gaps between the screw heads and the holes. Do the same for the gap around the closing edge between the top cover and the housing.

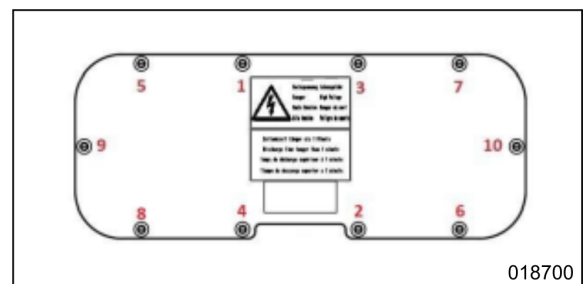


Figure 4

Continued on next page.

HELPDESK:

If you still have any questions, address your regular contact person at After-Sales Department or your local Van Hool Service Point.

DISCLAIMER:

The procedures contained herein are not exclusive. Van Hool cannot possibly know, evaluate, or advise the transportation industry of all conceivable ways in which a procedure may be undertaken or of the possible consequences of each such procedure. Other procedures may be as good, or better, depending upon the particular circumstances involved. Each carrier who uses the procedures herein must first satisfy itself thoroughly that neither the safety of its employees or agents, nor the safety or usefulness of any products, will be jeopardized by any procedure selected.

INFORMATION HANDLING:

Important additions and modifications regarding technical information not yet included in the manual will be communicated through Service Bulletins.

VAN HOOL CUSTOMER PORTAL:

Consult the customer portal regularly for the latest service documentation. In addition to the maintenance manual, you will also find the operating manual and the spare parts catalogue of your vehicle on the customer portal. The customer portal is accessible through www.vanhool.be, and only with a code (password) from Van Hool. If you do not have a password yet, request it by using the link on the Van Hool website.