

■ REPAIR MANUAL



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Damages caused by operating errors or incorrect assembly or repair are excluded of liability.

1) Serial Number

The serial number is on a sticker at the loading ramp and contains the production date:

For example: SN 1593 means: 15. calendar-week of the year 2009, 3rd system.

Please always advise the serial number for exchange or spare part orders!



2) Problem Analysis

- Turn on ignition of the vehicle
- Turn on main switch (decompressed above)
 - Close loading ramp
- Is the compressor running?

No: Possible Causes

Problem with the power supply	> continue with 4), then 5A)
Problem with the compressor	> continue with 4), then 5G)
Problem at the pressure switch	> continue with 4), then 5F)
Problem at the heat-protection-switch	> continue with 4), then 5C)
Problem at the main switch	> continue with 4), then 5B)

2) Problem Analysis

Yes: There is insufficient pressure !

Wait for approximately 5 minutes, then continue with the following test:

Does the system rise when loaded with at least 80 kg ?

No: Possible causes:

System is leaking > continue with 4), then 5H)

Problem at the pressure switch > continue with 4), then 5F)

Problem with the compressor > continue with 4), then 5G)

Problem at the micro-switch > continue with 4), then 5D)

Problem with the magnetic valve > continue with 4), then 5E)

Yes: System is leaking slightly > connect external compressed air-care and 12 Volts= and localize the leak with leak-search-spray. Then seal.

3) Removal

For extensive analysis and repairs, it is necessary to remove the DURANBOARD. Proceed as follows:

- Remove the (driving-) stretcher off the DURANBOARD.
- Remove the 4 (or 6) screws at the base-frame (Abb.1,Pos. 7), with which the DURANBOARD is fastened to the vehicle ! **Never remove the stretcher-mounting-plate !**
- Turn around the DURANBOARD completely.
- Remove the 4 screws on the cover of the noise-protection-box (Abb.1,Pos.4), then open the cover > Caution ! The magnetic-valves are connected to the cover !
- Now all components are accessible for all eventual repairs.

4) Repairs

- For checks as well as repairs on the electric components the following is required:
Screw-drivers, small-tools
Volt-meter and ohm-meter or passageway-examiner ("multimeter")
- For checks as well as repairs on the pneumatic system the following is required:
Screw-driver, small-tools
External compressed air-care with at least 7 bar
pressure gauges up to at least 8 bar
Matching compressed-air-fittings and 6-mm-tube for connection
External power-source of 12 volts=, min 6 A (for example vehicle battery)
- A) Power supply
Test with the multi-meter at the clamp-block in the noise-reduction-box (Abb.1, pos.4), whether there is a voltage of app. 12 - 14 volts between the inlets (see Abb. 3 as well as Abb. 5 > orange, black)
 - No: Ignition of the vehicle switched on ?
Fuses in the vehicle blown ?
Cables in the vehicle worn ?
Fuses in the DURANBOARD blown ? For correct loading and unloading please refer to the instructions of the (transport-) stretcher.
- B) Main switch
Voltage between ground wire and violet wire ?
 - No: Main switch turned off or faulty.
- C) Thermal switch
Remove the wires of the compressor from the clamp-block and take compressor from the noise-reduction-box.
Test the thermal-switch (at the compressor) on continuity.
No continuity: Only with temperatures higher than 72° C.
Otherwise > thermal-switch is faulty.

4) Repairs

- D) Micro-switch

Test continuity between the two yellow wires :

Pin pressed: No continuity

Pin not pressed: continuity

Otherwise change connections or reconnect at the micro-switch.

- E) Magnetic valves

Electric:

Remove both wires (black, blue) of the magnetic valve from the clamp-block

(Fig. 3 resp. Fig. 5) and connect directly with 12 volts=.

When doing so, you should hear the valve switch.

If not > magnetic valve faulty.

- Pneumatic:

Connect compressed air supply and pressure gauge with the connection "1" or "P" of the magnetic valves. Due to connecting of the inlets with 12 volts= the magnetic valve must switch and pass air on to the connection "2" or "A".

Afterwards disconnect the power supply again and stop the compressed-air- supply by means of closing the valve (or bending the tube).

The pressure in the tube is not to decrease remarkable. Otherwise the magnetic valve is faulty.

Finally connect the compressed-air-supply at the connection "2" or "A" and connect "1" or "P" by means of a closed (or bended) tube.

Air must escape at the connection "3", until 12 volts= is reconnected at the inlets. Then, no more air should escape.

Otherwise the magnetic valve is faulty.

4) Repairs

- F) Pressure switch

The grey wires should be connected well to the pins 1 and 2 of the pressure switch. Then connect external compressed air supply and pressure gauge instead of the pressure hose at the distribution block.

Check continuity between the grey wires and rise the air pressure continuously, but slowly.

Below 7 bar: continuity

above 7 bar: no continuity

Otherwise the pressure switch is to be readjusted:

Remove dust-cover and turn the setscrew right to the end and then about quarter-turn back.

Then follow up with fine-tuning: At 7 bar the switch should turn off.

If it is not possible to meet this exact adjustment, the switch is faulty.

- G) Compressor

Remove wires from the distribution block and the pressure hose and take out the compressor.

Connect the compressor directly to the pressure gauge and start it for about 15 seconds.

Then there should be a pressure of at least 8 bar.

Otherwise the compressor is faulty.

After turning off, pressure must not decrease remarkable.

Otherwise the check valve at the compressor is faulty.

- H) Leaks

If there's a leak in the system, the compressor will run until it gets so hot, that the thermal switch will turn it off.

So if the compressor runs for more than 7 minutes and finally stops, there's probably a leak anywhere in the system.

Connect to external air supply, use leak detection spray to find the leak and seal.