TABLE OF CONTENTS

1 Description
   1.1 Safety instructions
   1.2 Rating plate

2 Diagnosis
   2.1 Overview of components
   2.2 Functional test – Testing the specified status of functions
   2.3 Overview of faults – Pointing out possible faults that might occur
   2.4 Troubleshooting – Locating the fault
### TABLE OF CONTENTS

**3 Repair work**

3.1 Seat cushion – removal and installation  
3.2 Backrest cushion – removal and installation  
3.3 Backrest extension – removal and installation  
3.4 Guides for backrest extension – removal and installation  
3.5 Fan for climate control system – removal and installation *  
3.6 Storage net – removal and installation  
3.7 Handle set – removal and installation  
3.8 Handle for lateral isolator – removal and installation  
3.9 Cover for handle rail – removal and installation  
3.9.1 Cover for handle rail (Option 1) – removal and installation *  
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment *  
3.10 Rear cover – removal and installation  
3.11 Cover for lateral isolator – removal and installation  
3.12 Support for warning triangle – removal and installation  
3.13 Armrests – removal and installation  

* Delivery option
TABLE OF CONTENTS

3.14 Multi-function armrest – removal and installation
3.15 Distribution for climate control system – removal and installation
3.16 Entire lumbar support – removal and installation
3.16.1 Entire lumbar support (2-way valve block) – removal and installation *
3.16.2 Entire lumbar support (3-way valve block) – removal and installation *
3.17 Holder for lumbar support and climate control system – removal and installation *
3.18 Backrest adjustment – removal and installation
3.19 Backrest frame – removal and installation
3.20 Backrest bearing – removal and installation
3.21 Flexible support plate for seat occupancy detection system – removal and installation
3.22 Seat angle adjustment – removal and installation
3.23 Seat depth adjustment – removal and installation
3.24 Switch for seat occupancy detection system – removal and installation

* Delivery option
TABLE OF CONTENTS

3.25  Holder for seat depth and seat angle adjustment – removal and installation
3.26  Spring steel plate at the seat angle adjustment – removal and installation
3.27  Spring steel plate at the seat depth adjustment – removal and installation
3.28  Locking mechanism for seat angle and seat depth adjustment – removal and installation
3.29  Covers for seat depth adjustment – removal and installation
3.30  Lever for seat depth adjustment – removal and installation
3.31  Slider for seat depth adjustment and protective profile – removal and installation
3.32  Cable harness of the climate control system and distribution – removal and installation
3.33  Cable harness of the seat heater – removal and installation
3.34  Cable harness of the upper seat part – removal and installation
3.35  Lap belt – removal and installation (optional extra)
3.36  Handle rail – removal and installation
3.37  Seat plate – removal and installation
3.38  Console for multi-function armrest – removal and installation
3.39  Lateral isolator – removal and installation
3.40  Shock absorber for lateral isolator – removal and installation
TABLE OF CONTENTS

3.41 Swivel – removal and installation
3.42 Fore/aft adjustment – removal and installation
3.43 Upper seat part – removal and installation
3.44 Printed circuit board for operating mode setting – removal and installation (delivery option) *
3.45 Removing/installing the handle for the vertical shock absorber adjustment (delivered version) *
3.46 Inspecting and adjusting the Bowden cable for the vertical shock absorber adjustment (delivered version) *
3.47 Removing/installing air conditioning distributor with heating control (TCU) *
3.48 Removing/installing pocket *

* Delivery option
Notes on these instructions

This repair manual includes information and instructions on how to perform repair work on the upper part of GRAMMER seats of type S741/S732-EAC/EL.

The upper seat part S741-EAC forms the basis for illustrations in this repair manual. In case of technical deviations in work procedures (due to different upper seat part designs), refer to the current text or individual chapters of the manual.

Each chapter starts with a list of all preparatory work to be completed before starting repair. These preparations are described in separate chapters and shall be carried out without the preparatory steps described there.

At the beginning of each description for repair you will find an overview diagram. All parts included in the overview diagrams within one chapter are consecutively numbered starting with "1". Each component is referred to by the same number throughout the document.

With the help of these overview diagrams an experienced technician will gain a quick overview without needing to re-read the detailed instructions for "removal/installation" each time.

For spare part orders, please use the numbers stated in the latest issue of the relevant spare parts catalogue.

Diagnosis and repair of the seat suspension are described in the MSG97-EAC repair manual to which a reference is made if required (see repair manual for the seat suspension).
Preliminary remarks

The description of the work steps refers to the dismounted seat. Depending on the individual installation situation, some work may also be performed on the installed seat. For this reason, check the environment of the installed seat for this possibility before starting work. The safety instructions of the specific vehicle manufacturer and those stated in Chapter 1 of this repair manual must be strictly observed.

This repair manual also includes some information on delivery options, if these require further explanation. Since the scope of delivery depends on the specific customer order, the actual upper seat part design may deviate from the descriptions and illustrations in this manual.

If not stated otherwise, the directional indications "front, back" and "right, left" refer to the installed seat regarded in the driving direction of the vehicle.

The document layout is suitable for later use of this repair manual via CD-ROM / INTERNET / INTRANET. A navigation line was entered below the heading for this. This navigation line includes the Chapter titles and it allows the user to jump directly to these Chapters after the corresponding hyperlinks have been set.

Basic information on the upper seat part

The upper seat part is provided with a long-lasting lubrication. The lubricating points must be re-greased only after repair work, using an acid-free multi-purpose lubricant.

In the description of the present repair manual, not all fastening parts might be mentioned. After repair, it might be necessary to check fastening parts regarding their factory-made laying, support and securing and to correct them respectively, if required.
Preliminary remarks

Bowden pull wires, cables and hoses must be tightened only on the defined spots by hand (loose) with cable ties. Make sure that in case of vertical and horizontal seat adjustment, the Bowden pull wires, cables and hoses cannot be squeezed or distorted when the seat is adjusted or moved.

Replace all existing old parts with enclosed new ones. If there is no new part included, the old one is to be cleaned and checked for its suitability for re-use. Defective parts and worn parts must be replaced by new ones.

GRAMMER AG rejects any warranty claims if damaged or worn parts and assemblies are not replaced by spare parts released by GRAMMER AG.

Qualified personnel

These instructions offer basic information on proper technical seat repair. The contents of the work procedures described are intended for professionally educated technicians with profound product knowledge. This level of knowledge is an imperative requirement when performing the work and procedures described in this document.

In order to avoid bodily injury, reduced operational safety or damage to the upper seat part resulting from improperly performed work, all information and instructions, in particular the safety instructions stated in Chapter 1, must be read carefully and strictly observed.
As an inevitable matter of fact, GRAMMER AG cannot evaluate all situations and consequences that may bear a risk of injury for the persons involved in the described work procedures. For this reason, it is absolutely necessary that every person who carries out repair work at the upper seat part uses his/her professional knowledge to make sure that his/her own safety will not be put at risk and that the selected type of repair will not cause any negative effects, in particular with regard to technical safety. For this reason, Grammer AG disclaims liability for any possible damage of this kind.

We point out explicitly that all work steps and procedures described are to be performed with consideration to the applicable directives and regulations stipulated by the relevant local authorities and in compliance with the provisions on health protection, prevention of accidents and environmental protection.

Change notification and copyright

The seats are subject to continuous development. Please understand that we must reserve the right to make changes in shape, equipment and technical design. For this reason, the contents of this repair manual cannot be used to substantiate any possible claims.

Reprint, translation and copies of this manual or parts thereof are admissible only after written approval.

GRAMMER AG · Postfach 14 54 · D-92204 Amberg
Phone +49 (0) 96 21 / 66-6822
www.grammer.com

Delivery and factory address:
GRAMMER AG
Köferinger Str. 9-13 · D-92245 Kümmersbruck
<table>
<thead>
<tr>
<th>1</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>END</td>
<td></td>
</tr>
</tbody>
</table>

TABLE OF CONTENTS

1.1 Safety instructions
1.2 Rating plate

Note:

Please refer to the applicable seat operating instructions for further details.
1.1 Safety instructions

1 All inspection, test and repair work must be performed exclusively by adequately trained personnel.

2 All work steps and procedures described are to be performed with consideration to the applicable directives and regulations stipulated by the relevant local authorities and in compliance with the provisions on health protection, prevention of accidents and environmental protection.

3 Special notes in this repair manual are highlighted as follows:

⚠️ WARNING ... indicates possible risks for persons and their prevention.

⚠️ ATTENTION ... indicates possible damage or destruction of material and their prevention.

Note: … introduces an additional explanation better understanding the work to be carried out.

Installation note: … introduces an additional explanation for better understanding the installation work to be carried out.

4 Prior to all repair work, the following work has to be carried out:
   • Disconnect the seat from the power supply.
   • Bleed air out of the compressed-air system.
   • Move the seat down to the end stops.

5 When using oil, grease and other chemical substances, the relevant safety regulations for the handling and use of these products must be observed.
1.2 Rating plate

The rating plate is located on the rear right of the seat suspension.

The rating plate shows the following information (example):

(A) **Country of manufacture** = MADE IN XXXXXXX

(B) **DESIGNATION** = MSG 97EAC/741

(C) **INVENTORY NO.** = 1137851

(D) **Year / CW / Assembly**
   - Year of manufacture = 08 (2008)
   - Built in week = 12 (March)
   - Assembly = 031

(E) **ORDER NO.** = XX 63988700013
   - Country indicator = XX

**Note:**
When orders are placed, the correct inventory no. (C) on the rating plate is always to be quoted.
2 Diagnosis

<table>
<thead>
<tr>
<th>TABLE OF CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Overview of components (page 1-28)</td>
</tr>
<tr>
<td>● Control and operation elements (page 1-2)</td>
</tr>
<tr>
<td>● Pneumatic connecting diagram Lumbar support * (pages 3-4)</td>
</tr>
<tr>
<td>● Pneumatic connection diagram lumbar support and side contour adjustment with compressor * (page 5-6)</td>
</tr>
<tr>
<td>● Seat heater and seat fan with circuit diagram (pages 7-9)</td>
</tr>
<tr>
<td>● Backrest heater and backrest fan with circuit diagram (pages 10-12)</td>
</tr>
<tr>
<td>● Switch for seat occupancy detection system with circuit diagram and pin assignment (pages 13-15)</td>
</tr>
<tr>
<td>● Micro-switch for height adjustment with circuit diagram and pin assignment (pages 16-17)</td>
</tr>
<tr>
<td>● Printed circuit board for operating mode setting with circuit diagram and pin assignment (delivery option) (pages 18-19)</td>
</tr>
<tr>
<td>● Compressor with circuit diagram and pin assignment (page 20-22)</td>
</tr>
<tr>
<td>● Compressor for lumbar support and side contour adjustment with pin assignment * (page 23-24)</td>
</tr>
<tr>
<td>● Cable harness for upper seat part with circuit diagram and pin assignment (pages 25-28)</td>
</tr>
<tr>
<td>2.2 Functional test – Testing the specified status of functions (page 1-8)</td>
</tr>
<tr>
<td>2.3 Overview of faults – Pointing out possible faults that might occur (pages 1-13)</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS

2.4 Troubleshooting – Locating the fault (pages 1-41)
   1 Inspection of the pneumatic system (pages 1-2)
   2 Inspection of the seat heater (pages 3-6)
   3 Inspection of the fan in the seat cushion (pages 7-11)
   4 Inspection of the backrest heater (page 12-15)
   5 Inspection of the fan in the backrest cushion (pages 16-19)
   6 Inspection of the seat occupancy detection system (pages 20-26)
   7 Inspection of micro-switch for height adjustment in upward direction (pages 27-29)
   8 Inspection of micro-switch for height adjustment in downward direction (pages 30-32)
   9 Inspection of the compressor (pages 33-35)
  10 Inspection of the cable harness for upper seat part (pages 36-37)
  11 Inspection of the printed circuit board for operating mode setting (delivery option) (pages 38-41)
2.1 Overview of components

Control and operation elements

(1) Backrest extension
(2) Armrest
(3) Knob for armrest angle adjustment
(4) Switch for climate control system
(5) Rocker switch (bell-shaped valve) for upper and lower lumbar support
(6) Handle for backrest adjustment
(7) Handle for lateral isolator
(8) Handle for height adjustment
(9) Handle for operating mode setting**

** if fitted
2.1 Overview of components

(10) Lever for rotary adjustment*
(11) Handle for fore/aft isolato
(12) Handle for rotary adjustment*
(13) Lever for fore/aft adjustment
(14) Handle for seat angle adjustment
(15) Handle for seat depth adjustment
(16) Multi-function armrest

* depending on seat model
2.1 Overview of components

**Pneumatic connecting diagram**
*(Delivery option)*

(1) Damping plate
(2) Upper air chamber
(3) Lower air chamber
(4) Air hose for upper air chamber
(5) Air hose for lower air chamber
(6) Air hose for compressor *(compressed-air supply)*
(7) Connection for air hose of upper air chamber
(8) Connection for air hose of lower air chamber
(9) Connection for air hose of compressor
2.1 Overview of components

(10) Holder for lumbar support und climate control system
(11) Rocker switch (valve) for lower lumbar support
(12) Rocker switch (valve) for upper lumbar support
(13) Switch for climate control system
(14) Compressor
Pneumatic connection diagram
lumbar support and side contour
adjustment with compressor (delivery option)

(1) Damping plate
(2) Top air chamber
(3) Compressed air hose side contour
adjustment in the backrest cushion
**Colour:** grey/black
(4) Compressed air hose top air
chamber
**Colour:** black
(5) Compressed air hose bottom air
chamber
**Colour:** black
(6) Valve block
(7) Valve for side contour adjustment
(8) Valve for top lumbar support
2.1 Overview of components

(9) Valve for bottom lumbar support

(10) Compressed air hose, compressor (compressed air supply)

(11) Compressor

(12) Bottom air chamber
2.1 Overview of components

Seat heater and seat fan with circuit diagram

(1) Seat cushion
(2) Seat heater mat
(3) Seat fan
(4) Thermostat (in the seat cushion)
(5) Cable for seat heater mat
(6) Cable for seat fan
(7) Plug of the cable for seat heater mat (4-pin)
(8) Plug of the cable for seat fan (2-pin)
(9) Socket of cable harness for seat heater (4-pin)
(10) Socket of cable harness for seat heater (2-pin)
(11) Cable harness of the seat heater
(12) Cable harness for climate control system
2.1 Overview of components

(13) Socket of cable harness for seat heater (4-pin)
(14) Plug of distribution for climate control system (4-pin)
(15) Socket of cable harness for climate control system (8-pin)
(16) Plug of distribution for climate control system (8-pin)
(17) Distribution for climate control system
(18) Socket of cable harness for climate control system (6-pin)
(19) Plug of cable harness for distribution (6-pin)
(20) Cable harness for distribution
(21) Socket of cable harness for distribution (10-pin)
(22) Switch for climate control system
2.1 Overview of components

Electrical plug and socket connections:

(A) Electrical connection between cable for seat heater mat (5) and cable harness for seat heater (11).

(B) Electrical connection between cable for seat fan (6) and cable harness for seat heater (11).

(C) Electrical connection between cable harness for seat heater (11) and distribution for climate control system (17).

(D) Electrical connection between distribution for climate control system (17) and cable harness for climate control system (12).

(E) Electrical connection between cable harness for climate control system (12) and cable harness for distribution (20).

(F) Electrical connection between cable harness for distribution (20) and switch for climate control system (22).
2.1 Overview of components

Backrest heater and backrest fan with circuit diagram

(1) Backrest cushion
(2) Backrest heater mat
(3) Backrest fan
(4) Thermostat (in the backrest cushion)
(5) Cable of backrest heater mat
(6) Cable of backrest fan
(7) Plug of the cable for backrest heater mat (4-pin)
(8) Plug of the cable for backrest fan (2-pin)
(9) Socket of cable of the distribution for climate control system (2-pin)
(10) Socket of cable of the distribution for climate control system (4-pin)
(11) Cable of the distribution for climate control system
(12) Cable harness for climate control system
2.1 Overview of components

(13) Socket of cable harness for climate control system (8-pin)
(14) Plug of distribution for climate control system (8-pin)
(15) Distribution for climate control system
(16) Socket of cable harness for climate control system (6-pin)
(17) Plug of cable harness for distribution (6-pin)
(18) Cable harness for distribution
(19) Socket of cable harness for distribution (10-pin)
(20) Switch for climate control system
2.1 Overview of components

Electrical plug and socket connections:

(D) Electrical connection between distribution for climate control system (15) and cable harness for climate control system (12)

(E) Electrical connection between cable harness for climate control system (12) and cable harness for distribution (18)

(F) Electrical connection between cable harness for distribution (18) and switch for climate control system (20)

(G) Electrical connection between cable for backrest heater mat (5) and cable of distribution for climate control system (11)

(H) Electrical connection between cable for backrest fan (6) and cable of distribution for climate control system (11)
2.1 Overview of components

Switch of seat occupancy detection system with circuit diagram and pin assignment

(1) Switch of seat occupancy detection system (seat switch) = (2) + (3)
(2) Magnet
(3) Reed switch (magnetic switch)
(4) Cable harness of the seat switch
(5) Plug (control) of cable harness for seat switch (2-pin)
(6) Plug (signal) of cable harness for seat switch (4-pin)
(7) Cable harness for upper seat part
(8) Socket of cable harness for upper seat part (6-pin)
(9) Socket of cable harness for upper seat part (8-pin)
2.1 Overview of components

(10) Socket of cable harness for upper seat part (2-pin)

(11) Socket of cable harness for upper seat part (4-pin)

(O) If no load is applied to the seat, the seat switch (1) is open. The vehicle cannot be driven or is switched off.

(Z) If a load is applied to the seat, the seat switch (1) is closed. The vehicle can be driven.
2.1 Overview of components

Electrical plug and socket connections:

(I) Electrical connection (6-pin) between cable harness for upper seat part (7) and cable harness for seat suspension.

(J) Electrical connection (8-pin) between cable harness for upper seat part (7) and cable harness for seat suspension.

(K) Electrical connection (control) between magnetic switch (3) and cable harness for upper seat part (7).

(L) Electrical connection (signal) between magnetic switch (3) and cable harness for upper seat part (7).
2.1 Overview of components

Micro-switch for height adjustment with circuit diagram and pin assignment

(1) Handle for height adjustment
(2) Cable harness for upper seat part
(3) Socket of cable harness for upper seat part (3-pin)
(4) Micro-switch
(5) Micro-switch connector
(6) Socket of cable harness for upper seat part (6-pin)
2.1 Overview of components

Electrical plug and socket connections:

(I) Electrical connection (6-pin) between cable harness for upper seat part (2) and cable harness for seat suspension.

(M) Electrical connection between micro-switch (4) and cable harness for upper seat part (2).
2.1 Overview of components

Printed circuit board for operating mode setting with circuit diagram and pin assignment (delivery option)

(1) Printed circuit board
(2) Connector of printed circuit board
(3) Socket of cable harness for upper seat part (3-pin)
(4) Socket of cable harness for upper seat part (6-pin)
(5) Switching cams at the handle for operating mode setting
(6) Handle for operating mode setting
(7) Switching magnet
Electrical plug and socket connections:

(I) Electrical connection (6-pin) between cable harness for upper seat part and cable harness for seat suspension

(R) Electrical connection between printed circuit board (1) and cable harness for upper seat part
2.1 Overview of components

Compressor with circuit diagram and pin assignment (Delivery option)

(1) Compressor
(2) Compressor cable
(3) Socket of cable harness for climate control system (narrow)
(4) Socket of cable harness for climate control system (broad)
(5) Plug of compressor cable (narrow)
(6) Plug of compressor cable (broad)
(7) Cable harness for climate control system
(8) Socket of cable harness for climate control system (6-pin)
(9) Plug of cable harness for distribution (6-pin)
2.1 Overview of components

(10) Cable harness for distribution
(11) Socket of cable harness for distribution (10-pin)
(12) Switch for climate control system
(13) Socket of cable harness for distribution (2-pin)
(14) Plug of cable for bell-shaped valve (2-pin)
(15) Cable of bell-shaped valve
2.1 Overview of components

Electrical plug and socket connections:

(E) Electrical connection between cable harness for climate control system (7) and cable harness for distribution (10).

(F) Electrical connection between cable harness for distribution (10) and switch for climate control system (12).

(N) Electrical connection between cable harness for distribution (10) and cable harness for bell-shaped valve (15).

(O) Electrical connection between compressor cable (2) and cable harness for climate control system (7).
2.1 Overview of components

Compressor for lumbar support and side contour adjustment with pin assignment (delivery option)

(1) Compressor
(2) Flat plug connection (earth) between plug connection (G) and compressor (1)
(3) Flat plug connection (voltage) between plug connection (H) and compressor (1)
(4) Valve block
(5) Air chambers top/bottom lumbar support
(6) Switched voltage line to compressor
(7) Power supply cable to compressor switch ON (8)
2.1 Overview of components

(8) Compressor switch ON

(9) Air chambers side contour adjustment left/right backrest

(10) Compressed air hose of compressor (compressed air supply), see page 5

Electrical plug connections:

(S) Plug connection between power supply cable harness comfort functions and compressor cable harness

(T) Plug connection between compressor cable harness and compressor ON switch (8)
2.1 Overview of components

Cable harness for upper seat part with circuit diagram and pin assignment

1. Cable harness for upper seat part
2. Socket of cable harness for upper seat part (6-pin) (vehicle connection)
3. Socket of cable harness for upper seat part (8-pin) (vehicle connection)
4. Socket of cable harness for upper seat part (3-pin)
5. Plug of distribution for climate control system (3-pin)
6. Plug of cable harness for upper seat part (2-pin)
7. Socket of cable harness for upper seat part (3-pin) (for micro-switch)
2.1 Overview of components

(8) Socket of cable harness for upper seat part (2-pin) (for seat switch)
(9) Socket of cable harness for upper seat part (4-pin) (for seat switch)
(10) Distribution for climate control system
(11) Socket of cable harness for upper seat part (3-pin) (for printed circuit board)*

* if fitted
2.1 Overview of components

Electrical plug and socket connections:

(I) Electrical connection (6-pin) between cable harness for upper seat part (1) and cable harness for seat suspension.

(J) Electrical connection (8-pin) between cable harness for upper seat part (1) and cable harness for seat suspension.

(K) Electrical connection (control) between cable harness for upper seat part (1) and magnetic switch.

(L) Electrical connection (signal) between cable harness for upper seat part (1) and magnetic switch.

(M) Electrical connection between cable harness for upper seat part (1) and micro switch.
2.1 Overview of components

(P) Electrical connection (3-pin) between cable harness for upper seat part (1) and distribution for climate control system (10).

(Q) Electrical connection is open.

(R) Electrical connection (3-pin) between printed circuit board and cable harness for upper seat part *

* if fitted
A functional test is used to circumscribe all possible malfunctions; it must be performed before and after repair work on the upper part of the seat at any rate. To perform the functional test, the upper part of the seat must be attached to the seat suspension.

**Preconditions for inspection:**
- The individual functions are activated in compliance with the instructions of the seat operating instructions.
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- Battery voltage 12 V, ignition ON.
- The seat suspension has been inspected and found to be OK with respect to the scope of inspection described here (see Diagnosis in the repair manual for seat suspension).

**Note:** The components mentioned above are illustrated in chapter 2.1, if not stated otherwise in this text. If there is a difference between the result/specified status and the actual status, please take the measures as described in the chapter "Causes/remedial measures".

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Scope of inspection</th>
<th>Function to be operated</th>
<th>Result/specified status</th>
<th>Notes, cause/remedial measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Height adjustment</td>
<td>Apply load to the seat, pull the handle for height adjustment upwards and hold it.</td>
<td>The seat moves upwards (max. to the highest position). When operating the height adjustment handle for more than 20 seconds, the height adjustment will be interrupted.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
</tbody>
</table>
# 2.2 Functional test – Testing the specified status of functions

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Scope of inspection</th>
<th>Function to be operated</th>
<th>Result/specification status</th>
<th>Notes, cause/remedial measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Release the height adjustment handle.</td>
<td>The seat remains in the reached position. When the maximum height is reached, the seat is automatically lowered by about 10 mm.</td>
<td>See Overview of faults (Chapter 2.3).</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Apply load to the seat, press the handle for height adjustment downwards and hold it.</td>
<td>The seat moves down (at least to the lowest position). When operating the height adjustment handle for more than 20 seconds, the height adjustment will be interrupted.</td>
<td>See Overview of faults (Chapter 2.3).</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Release the height adjustment handle.</td>
<td>The seat remains in the reached position. When the minimum height is reached, the seat is automatically lifted by about 10 mm.</td>
<td>See Overview of faults (Chapter 2.3).</td>
<td></td>
</tr>
</tbody>
</table>
### 2.2 Functional test – Testing the specified status of functions

#### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Scope of inspection</th>
<th>Function to be operated</th>
<th>Result/specified status</th>
<th>Notes, cause/remedial measures</th>
</tr>
</thead>
</table>
| 5        | Swivel              | ● Pull the lever (delivery option) for rotary adjustment upwards.  
            ● Pull the handle (delivery option) for rotary adjustment upwards and let it lock into place, if necessary. | The upper seat part can be swivelled to the right or left until the end stop is reached. | See Overview of faults (Chapter 2.3). |
| 6        |                     | ● Release the lever (delivery option) for rotary adjustment.  
            ● Press the handle (delivery option) for rotary adjustment down and out of the locking mechanism, if necessary. | The upper seat part must latch into place with an audible click in the middle, at the end stop and on the right in an additional locking position. After being locked into place, it should no longer be possible to turn the upper seat part. | See Overview of faults (Chapter 2.3). |
| 7        | Lateral isolator    | Pull the handle of the lateral isolator upwards in order to unlock the lateral isolator. | Keep the handle in the upper position and the upper suspension part can be moved in lateral direction. | See Overview of faults (Chapter 2.3). |
## Functional test – Testing the specified status of functions

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Scope of inspection</th>
<th>Function to be operated</th>
<th>Result/specified status</th>
<th>Notes, cause/remedial measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td>Press the handle of the lateral isolator downwards in order to lock the lateral isolator.</td>
<td>Keep the handle in the lower position and the upper suspension part cannot be moved in lateral direction.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>9</td>
<td>Backrest adjustment</td>
<td>Pull the backrest adjustment handle up.</td>
<td>The backrest folds forwards.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Pull the backrest adjustment handle up while loading and unloading the backrest, and then release the handle.</td>
<td>The backrest latches into the desired position. It should not be possible to move the backrest into another position after it has been locked.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>11</td>
<td>Lumbar support</td>
<td>Set the rocker switch for the upper and lower lumbar support to &quot;+&quot;.</td>
<td>The curvature in the upper and lower area of the backrest cushion increases.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Set the rocker switch for the upper and lower lumbar support to &quot;-&quot;.</td>
<td>The curvature in the upper and lower area of the backrest cushion decreases.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
</tbody>
</table>
# 2.2 Functional test – Testing the specified status of functions

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Scope of inspection</th>
<th>Function to be operated</th>
<th>Result/specified status</th>
<th>Notes, cause/remedial measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Seat and backrest cushion heater</td>
<td>Activate the heater by means of the switch for the climate control system.</td>
<td>The LED next to the heater symbol lights. The seat and backrest cushion heaters warm up.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Deactivate the heater by means of the switch for the climate control system.</td>
<td>The LED next to the heater symbol goes out. The seat and backrest cushion heaters cool down.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>15</td>
<td>Fan in the seat and backrest cushion</td>
<td>Activate the fan by means of the switch for the climate control system.</td>
<td>The LED next to the fan symbol lights. The fans in the seat and backrest cushion start running after approx. 10 seconds.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Deactivate the fan by means of the switch for the climate control system.</td>
<td>The LED next to the fan symbol goes out. The fans in the seat and backrest cushion stop running.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
</tbody>
</table>
### 2.2 Functional test – Testing the specified status of functions

<table>
<thead>
<tr>
<th>Step no.</th>
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<th>Notes, cause/remedial measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Seat angle adjustment</td>
<td>Pull the seat angle adjustment handle upwards.</td>
<td>The seat pan can be moved up or down.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Release the seat angle adjustment handle.</td>
<td>The seat angle adjustment must latch into place with an audible click (3 possible positions).</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>19</td>
<td>Seat depth adjustment</td>
<td>Pull the seat depth adjustment handle upwards.</td>
<td>The seat pan moves forwards or backwards.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Release the seat depth adjustment handle.</td>
<td>The seat depth adjuster must latch into the desired position with an audible click (moving is no longer possible).</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>21</td>
<td>Fore/aft adjustment</td>
<td>Pull the lever for seat fore/aft adjustment upwards.</td>
<td>The upper seat part can be moved forwards or backwards.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>Release the lever for fore/aft adjustment.</td>
<td>The seat fore/aft adjustment must latch into the desired position with an audible click (moving is no longer possible).</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
</tbody>
</table>
### 2.2 Functional test – Testing the specified status of functions

<table>
<thead>
<tr>
<th>Step no.</th>
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<th>Result/specified status</th>
<th>Notes, cause/remedial measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Seat occupancy detection system</td>
<td>Apply load to the seat cushion and relieve it.</td>
<td>Switching function (audible click): • loaded = ON • relieved = OFF (for shutting down mechanical equipment when leaving the vehicle)</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>24</td>
<td>Armrests</td>
<td>Tilt the right and left armrests backwards.</td>
<td>The armrests move continuously until the vertical end position is reached. Tilting the armrests backwards too much is not possible.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Turn the knob for armrest angle adjustment inwards and outwards.</td>
<td>The front part of the armrests is lifted or lowered.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>26</td>
<td>Backrest extension</td>
<td>Slowly pull the backrest extension out until the end stop is reached and then push it back.</td>
<td>The backrest extension locks into place (audibly) in any locking position.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
</tbody>
</table>
## 2.2 Functional test – Testing the specified status of functions

<table>
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<tr>
<th>Step no.</th>
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<th>Notes, cause/remedial measures</th>
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</thead>
<tbody>
<tr>
<td>27</td>
<td>Vertical shock absorption with operating mode setting (delivery option)</td>
<td>Turn the handle for vertical shock absorber adjustment backwards as far as possible to set the vertical shock absorption to the position &quot;very soft&quot;.</td>
<td>The seat suspension can be moved very easily in vertical direction.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td>28</td>
<td>Vertical shock absorption with operating mode setting (delivered version)</td>
<td>Turn the handle for vertical shock absorber adjustment subsequently forwarde into the 4 locking positions to set a &quot;harder&quot; vertical shock absorption.</td>
<td>It becomes more and more difficult to move the seat suspension in vertical direction.</td>
<td>See Overview of faults (Chapter 2.3).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Turn the handle for the vertical shock absorber adjustment backwards (as far as the stop) to set the vertical shock absorption to very soft.</td>
<td>Seat suspension moves very easily in vertical direction.</td>
<td>See fault overview (Chapter 2.3).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Successively turn the handle for the vertical shock absorption adjustment forward into its four engagement positions to make the vertical shock absorption stiffer.</td>
<td>Seat suspension moves increasingly less easily in vertical direction.</td>
<td>See fault overview (Chapter 2.3).</td>
</tr>
</tbody>
</table>
## 2.3 Overview of faults – Pointing out possible faults that might occur

This chapter contains notes regarding possible faults in the upper part of the seat. The notes and information provided in Chapter 2.4 "Fault Diagnosis" are intended to ease troubleshooting of faults. The seat suspension has been inspected and found to be OK with respect to the faults described here (see Diagnosis in the repair manual for seat suspension).

Faults caused due to insufficient maintenance or improper repair are not covered here.

**Note:** The components mentioned above are illustrated in chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat does not respond when operating the handle for height adjustment in upward</td>
<td>• Plug of the micro-switch is not connected correctly.</td>
<td>Check the plug and socket connection and connect the plug of the micro-switch, if necessary.</td>
</tr>
<tr>
<td>or downward direction (with the seat being loaded).</td>
<td>• Micro-switch is defective.</td>
<td>Check the micro-switch (Chapter 2.4, inspection steps 7.1 and 8.1).</td>
</tr>
<tr>
<td></td>
<td>• Switching lever of the micro-switch is broken.</td>
<td>Replace the handle rail (Chapter 3.36).</td>
</tr>
<tr>
<td></td>
<td>• Seat occupancy detection system is defective.</td>
<td>Check the seat occupancy detection system (Chapter 2.4, step no. 6.1).</td>
</tr>
<tr>
<td>Seat does not remain in the reached position when the height adjustment handle is</td>
<td>• Micro-switch is defective.</td>
<td>Check the micro-switch (Chapter 2.4, inspection steps 7.1 and 8.1).</td>
</tr>
<tr>
<td>released (up or down).</td>
<td>------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>

Material no. 1 180 724_d
### 2.3 Overview of faults – Pointing out possible faults that might occur

<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper seat part cannot be swivelled to the right or left with the rotary adjustment being actuated.</td>
<td>• Torsion spring is broken. • Swivel is defective.</td>
<td>Replace the swivel (Chapter 3.41). Replace the swivel (Chapter 3.41).</td>
</tr>
<tr>
<td>Swivel does not lock into place with the rotary adjustment not being actuated.</td>
<td>• Swivel jams. • Torsion spring is broken.</td>
<td>Remove and install the swivel (see Chapter 3.41), make it run well and grease it, if necessary. Replace the swivel (Chapter 3.41).</td>
</tr>
<tr>
<td>The handle for rotary adjustment does not lock into the upper position (delivery option).</td>
<td>• Spring steel plate is defective.</td>
<td>Replace the spring steel plate (see Chapter 3.36).</td>
</tr>
<tr>
<td>Swivel squeaks when turning.</td>
<td>• Lubrication of the swivel is insufficient.</td>
<td>Replace the swivel (Chapter 3.41).</td>
</tr>
<tr>
<td>Lateral isolator cannot be locked or unlocked.</td>
<td>• Linkage rod of the lateral isolator is detached. • Linkage rod of the lateral isolator is broken. • Swivel lever is defective.</td>
<td>Hang in the linkage rod (see Chapter 3.8). Replace the linkage rod (see Chapter 3.8). Replace the lateral isolator (Chapter 3.39).</td>
</tr>
</tbody>
</table>
## 2.3 Overview of faults – Pointing out possible faults that might occur

<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| The lateral isolator is unlocked and the upper seat part cannot be moved in lateral direction. | • Shock absorber for lateral isolator is defective.  
• Lateral isolator is defective. | Replace the shock absorber for the lateral isolator (Chapter 3.40).  
Replace the lateral isolator (Chapter 3.39). |
| Lateral isolator squeaks. | • Shock absorber for lateral isolator is defective. | Replace the shock absorber for the lateral isolator (Chapter 3.40). |
| Backrest cannot be unlocked. | • Backrest lock jams.  
• Backrest adjustment jams.  
• Backrest lock is defective.  
• Backrest adjustment is defective.  
• Backrest frame is defective. | Backrest bearing – removal and installation (Chapter 3.20).  
Backrest adjustment – removal and installation (Chapter 3.18).  
Replace the backrest bearing (Chapter 3.20).  
Replace the backrest adjustment (Chapter 3.18).  
Replace the backrest frame (Chapter 3.19). |
### 2.3 Overview of faults – Pointing out possible faults that might occur

#### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backrest does not fold forwards by itself after being unlocked.</td>
<td>• Torsion spring is detached.</td>
<td>Hang in the torsion spring (see Chapter 3.20).</td>
</tr>
<tr>
<td></td>
<td>• Torsion spring is defective.</td>
<td>Replace the torsion spring (see Chapter 3.20).</td>
</tr>
<tr>
<td>The inclination of the backrest cannot be adjusted after being unlocked.</td>
<td>• Backrest lock jams.</td>
<td>Backrest bearing – removal and installation (Chapter 3.20).</td>
</tr>
<tr>
<td></td>
<td>• Backrest lock is defective.</td>
<td>Replace the backrest bearing (Chapter 3.20).</td>
</tr>
<tr>
<td></td>
<td>• Backrest frame is defective.</td>
<td>Replace the backrest frame (Chapter 3.19).</td>
</tr>
<tr>
<td>The compressor does not start running (compressor noise) when the rocker switch</td>
<td>• Holder for lumbar support and climate control system is defective.</td>
<td>Replace the holder for lumbar support and climate control system (Chapter 3.17).</td>
</tr>
<tr>
<td>for the upper and lower lumbar support is set to &quot;+&quot;.</td>
<td>• Compressor is defective.</td>
<td>Check the compressor (Chapter 2.4, step no. 9.1).</td>
</tr>
</tbody>
</table>
### 2.3 Overview of faults – Pointing out possible faults that might occur

<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>No or insufficient curvature of lumbar support in the backrest cushion when the rocker switch of the upper or lower lumbar support is set to &quot;+&quot;.</td>
<td>• Upper and lower air chambers are leaky.</td>
<td>Check the air system (Chapter 2.4, inspection step no. 1.1).</td>
</tr>
<tr>
<td></td>
<td>• Air escapes at the air hoses for the upper and lower air chambers.</td>
<td>Check the air system (Chapter 2.4, inspection step no. 1.2).</td>
</tr>
<tr>
<td></td>
<td>• Air escapes at the air hose to the compressor.</td>
<td>Check the air system (Chapter 2.4, inspection step no. 1.3).</td>
</tr>
<tr>
<td></td>
<td>• Air escapes at the connections of the air hoses for the upper and lower air chambers.</td>
<td>Check the air system (Chapter 2.4, inspection step no. 1.4).</td>
</tr>
<tr>
<td></td>
<td>• Air escapes at the connection for the air hose to the compressor.</td>
<td>Check the air system (Chapter 2.4, inspection step no. 1.5).</td>
</tr>
<tr>
<td></td>
<td>• Air escapes at the rocker switch (bell-shaped valve) for the upper and lower lumbar support.</td>
<td>Check the air system (Chapter 2.4, inspection step no. 1.6).</td>
</tr>
<tr>
<td>Curvature of the lumbar support cannot be reduced when the rocker switch for the upper and lower lumbar support is set to &quot;+&quot;.</td>
<td>• Rocker switch for upper and lower lumbar support is defective.</td>
<td>Replace the holder for lumbar support and climate control system (Chapter 3.17).</td>
</tr>
</tbody>
</table>
### 2.3 Overview of faults – Pointing out possible faults that might occur

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<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat heater does not warm up after being switched on.</td>
<td>• Electrical plug and socket connection is not closed.</td>
<td>Check the plug and socket connections and connect them, if necessary.</td>
</tr>
<tr>
<td></td>
<td>• Cable harness for seat heater is defective.</td>
<td>Check the seat heater (Chapter 2.4, inspection step 2.1).</td>
</tr>
<tr>
<td></td>
<td>• Cable harness for climate control system and distribution is defective.</td>
<td>Check the seat heater (Chapter 2.4, inspection step 2.1).</td>
</tr>
<tr>
<td></td>
<td>• Distribution for climate control system is defective.</td>
<td>Check the seat heater (Chapter 2.4, inspection step 2.1).</td>
</tr>
<tr>
<td></td>
<td>• Heater mat in the seat cushion is defective.</td>
<td>Check the seat heater (Chapter 2.4, inspection step 2.1).</td>
</tr>
<tr>
<td></td>
<td>• Switch for the climate control system is defective.</td>
<td>Replace the holder for lumbar support and climate control system (Chapter 3.17).</td>
</tr>
</tbody>
</table>
### TABLE OF CONTENTS

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<thead>
<tr>
<th>Fault description</th>
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<th>Troubleshooting</th>
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</thead>
<tbody>
<tr>
<td>Backrest heater does not warm up after being switched on.</td>
<td>• Electrical plug and socket connections are not closed.</td>
<td>Check the plug and socket connections and reconnect them, if necessary.</td>
</tr>
<tr>
<td></td>
<td>• Cable harness for climate control system and distribution is defective.</td>
<td>Check the backrest heater (Chapter 2.4, inspection step 4.1).</td>
</tr>
<tr>
<td></td>
<td>• Distribution for climate control system is defective.</td>
<td>Check the backrest heater (Chapter 2.4, inspection step 4.1).</td>
</tr>
<tr>
<td></td>
<td>• Heater mat in the backrest cushion is defective.</td>
<td>Check the backrest heater (Chapter 2.4, inspection step 4.1).</td>
</tr>
<tr>
<td></td>
<td>• Switch for the climate control system is defective.</td>
<td>Replace the holder for lumbar support and climate control system (Chapter 3.17).</td>
</tr>
</tbody>
</table>
### Fault description

Fan in the seat cushion does not start running after being switched on.

### Possible cause

- Electrical plug and socket connections are not closed.
- Cable harness for seat heater is defective.
- Cable harness for climate control system and distribution is defective.
- Distribution for climate control system is defective.
- Fan in the seat cushion is defective.
- Switch for the climate control system is defective.

### Troubleshooting

- Check the plug and socket connections and reconnect them, if necessary.
- Check the fan in the seat cushion (Chapter 2.4, inspection step 3.1).
- Check the fan in the seat cushion (Chapter 2.4, inspection step 3.1).
- Check the fan in the seat cushion (Chapter 2.4, inspection step 3.1).
- Replace the holder for lumbar support and climate control system (Chapter 3.17).
### 2.3 Overview of faults – Pointing out possible faults that might occur

<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| Fan in the backrest cushion does not start running after being switched on. | • Electrical plug and socket connections are not closed.  
• Cable harness for climate control system and distribution is defective.  
• Distribution for climate control system is defective.  
• Fan in the backrest cushion is defective.  
• Switch for the climate control system is defective. | Check the plug and socket connections and reconnect them, if necessary.  
Check the fan in the backrest cushion (Chapter 2.4, inspection step 5.1).  
Check the fan in the backrest cushion (Chapter 2.4, inspection step 5.1).  
Check the fan in the backrest cushion (Chapter 2.4, inspection step 5.1).  
Replace the holder for lumbar support and climate control system (Chapter 3.17). |
### 2.3 Overview of faults – Pointing out possible faults that might occur

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<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat pan cannot be tilted upwards when the seat angle adjustment handle is pulled.</td>
<td>• Spring steel plate (leaf springs) at the seat depth adjustment is broken.</td>
<td>Replace the spring steel plate at the seat depth adjustment (Chapter 3.27).</td>
</tr>
</tbody>
</table>
| Seat angle adjustment does not latch into place after the handle for seat angle adjustment has been released. | • Locking lever is defective.  
• Holder for seat depth and seat angle adjustment is defective.  
• Spring steel plate at the seat angle adjustment is broken.  
• Locking mechanism for seat angle and seat depth adjustment is defective. | Replace the holder for seat depth and seat angle adjustment (Chapter 3.25).  
Replace the holder for seat depth and seat angle adjustment (Chapter 3.25).  
Replace the spring steel plate at the seat angle adjustment (Chapter 3.26).  
Replace the locking mechanism for seat angle and seat depth adjustment (Chapter 3.28). |
<p>| Seat pan cannot be moved forwards or backwards when the seat depth adjustment handle is pulled. | • Linkage rod at the lever for seat depth adjustment is detached. | Hang in the linkage rod (see Chapter 3.22). |</p>
<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| Seat depth adjustment does not latch into place after the seat depth adjustment handle has been released. | • Lever for seat depth adjustment jams.  
• Lever for seat depth adjustment is defective.  
• Tension spring is broken. | Remove and install the seat depth adjustment (see Chapter 3.23).  
Replace the lever for seat depth adjustment (Chapter 3.30).  
Replace the tension spring (see Chapter 3.30). |
| Seat cannot be moved forwards or backwards when the fore/aft adjustment lever is pulled. | • Fore/aft adjustment or lever for fore/aft adjustment jams.  
• Fore/aft adjustment is defective. | Fore/aft adjustment – removal and installation (see Chapter 3.42).  
Replace the fore/aft adjustment (Chapter 3.42). |
| Fore/aft adjustment does not securely lock into position or does not snap into place after being adjusted. | • Particles are between the adjusting and locking rails.  
• Fore/aft adjustment is defective. | Remove and install the fore/aft adjustment (see Chapter 3.42).  
Replace the fore/aft adjustment (Chapter 3.42). |
## 2.3 Overview of faults – Pointing out possible faults that might occur

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<tr>
<th>Fault description</th>
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<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch for seat occupancy detection system does not operate.</td>
<td>• Evaluation electronics of the vehicle is defective.</td>
<td>Check the vehicle electronics.</td>
</tr>
<tr>
<td></td>
<td>• Electrical plug and socket connections are not closed.</td>
<td>Check the plug and socket connections and reconnect them, if necessary.</td>
</tr>
<tr>
<td></td>
<td>• Switch for the seat occupancy detection system is defective.</td>
<td>Check the seat occupancy detection system (Chapter 2.4, step no. 6.1).</td>
</tr>
<tr>
<td></td>
<td>• Cable harness of the upper seat part is defective.</td>
<td>Check the seat occupancy detection system (Chapter 2.4, step no. 6.1).</td>
</tr>
<tr>
<td>The armrest does not hold when it is folded backwards. Armrest falls backwards or</td>
<td>• Armrest is defective.</td>
<td>Replace the armrest (see Chapter 3.13).</td>
</tr>
<tr>
<td>forwards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Armrest does not lift or lower when the knob for armrest angle adjustment is</td>
<td>• The angle adjustment of the armrest is defective.</td>
<td>Replace the armrest (see Chapter 3.13).</td>
</tr>
<tr>
<td>turned outwards or inwards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backrest extension does not hold in the locking position.</td>
<td>• Spring in the guide for backrest extension is broken.</td>
<td>Replace the guides for backrest extension (Chapter 3.4).</td>
</tr>
</tbody>
</table>
### 2.3 Overview of faults – Pointing out possible faults that might occur

<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Eliminating the fault Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>When modifying the operating mode setting (delivery option), no significant change of the shock absorption can be observed.</td>
<td>• Electrical plug and socket connections are not closed.</td>
<td>Check the plug and socket connections and reconnect them, if necessary.</td>
</tr>
<tr>
<td></td>
<td>• Cable harness of the upper seat part is defective.</td>
<td>Check the cable harness of the upper seat part (Chapter 2.4, step no. 10.1).</td>
</tr>
<tr>
<td></td>
<td>• Printed circuit board is defective.</td>
<td>Check the printed circuit board (chapter 2.4, step no. 11.1).</td>
</tr>
<tr>
<td></td>
<td>• Evaluation electronics of the seat is defective.</td>
<td>Check the evaluation electronics (see Diagnosis in the repair manual for seat suspension).</td>
</tr>
<tr>
<td>Handle for vertical shock absorber adjustment does not turn completely forwards or backwards.</td>
<td>• The Bowden cable for vertical shock absorber adjustment is not correctly adjusted.</td>
<td>Inspect and adjust the Bowden cable for the vertical shock absorber adjustment, if necessary (see Chapter 3.46).</td>
</tr>
</tbody>
</table>
### 2.3 Overview of faults – Pointing out possible faults that might occur

<table>
<thead>
<tr>
<th>Fault description</th>
<th>Possible cause</th>
<th>Eliminating the fault Troubleshooting</th>
</tr>
</thead>
</table>
| After the handle for vertical shock absorber adjustment is turned forwards or backwards, there is no perceptible change in shock absorption (not softer or stiffer). | • Bowden cable for vertical shock absorber adjustment is loose.  
• Bowden cable for vertical shock absorber adjustment is torn. | Reinstall the Bowden cable for the vertical shock absorber adjustment (see Chapter 3.45).  
Replace the Bowden cable for the vertical shock absorber adjustment (see Chapter 3.45 and seat suspension repair manual). |
| Handle for vertical shock absorber adjustment does not engage when turned forwards or backwards. | • Handle for vertical shock absorber adjustment is loose.  
• Handle for vertical shock absorber adjustment is defective. | Screw the handle tight (see Chapter 3.45).  
Replace the handle (see Chapter 3.45). |
2.4 Troubleshooting – Locating the fault

1 Inspection of the pneumatic system

Preconditions for fault diagnosis:
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- Battery voltage 12 V, ignition ON.

Notes: • The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.
- Carry out the inspection with the (upper and lower) air chambers of the lumbar support being filled.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Check the upper and lower air chambers for air leakage.</td>
<td>Air escapes at the upper or lower air chamber, the upper or lower air chamber is leaky.</td>
<td>Replace the air chambers for lumbar support (see Chapter 3.16).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The air chambers are airtight.</td>
<td>Proceed with inspection step no. 1.2.</td>
</tr>
<tr>
<td>1.2</td>
<td>Check the air hose for the upper and lower air chambers for air leakage.</td>
<td>Air escapes at the air hose for the upper or lower air chamber.</td>
<td>Replace the air chambers for lumbar support (see Chapter 3.16).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The air hoses are airtight.</td>
<td>Proceed with inspection step no. 1.3.</td>
</tr>
</tbody>
</table>
## 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3</td>
<td>Check the air hose of the compressor for air leakage.</td>
<td>Air escapes at the air hose of the compressor. The air hose of the compressor is airtight.</td>
<td>Replace the compressor (see Chapter 3.16). Proceed with inspection step no. 1.4.</td>
</tr>
<tr>
<td>1.4</td>
<td>Check the connection of the air hoses at the upper and lower air chamber for air leakage.</td>
<td>Air escapes at the connection of the air hose at the upper or lower air chamber. The connections are airtight.</td>
<td>Replace the air chambers for lumbar support (see Chapter 3.16). Proceed with inspection step no. 1.5.</td>
</tr>
<tr>
<td>1.5</td>
<td>Check the connection of the air hose at the compressor for air leakage.</td>
<td>Air escapes at the connection of the air hose at the compressor. The connection is airtight.</td>
<td>Replace the compressor (see Chapter 3.16). Proceed with inspection step no. 1.6.</td>
</tr>
<tr>
<td>1.6</td>
<td>Check the valve (rocker switch) for the upper and lower lumbar support and the connections of the valves for air leakage.</td>
<td>Air escapes at the valve for upper or lower lumbar support. The valves are airtight.</td>
<td>Replace the entire holder for lumbar support and climate control system (Chapter 3.17). End of inspection.</td>
</tr>
</tbody>
</table>
2.4 Troubleshooting – Locating the fault

2 Inspection of the seat heater

Preconditions for fault diagnosis:
• The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
• Switch of the climate control system has been inspected and found to be OK.

Note: The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 2.1      | • Disconnect the electrical connection (G) between the cable of the backrest heater mat and the cable of the climate control system and disconnect the electrical connection (H) between the cable of the backrest fan and the cable of the distribution for the climate control system.  
• Disconnect the electrical connection (F) between the cable harness of the distribution and the switch of the climate control system.  
• Measure the resistance at the contacts K7 and K10 in the socket of the cable harness of the distribution (10-pin):  
  K7 (power) \(\Omega\)  
  K10 (ground) | = 5.0 \(\Omega\) (± 10%) (total resistance)  
>> 5.0 \(\rightarrow \infty\) (interruption) or  
<< 5.0 \(\rightarrow 0\) (short-circuit) | End of inspection.  
Proceed with inspection step no. 2.2. |
## Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 2.2      | • Disconnect the electrical connection (E) between the cable harness of the climate control system and the cable harness of the distribution.  
• Measure the resistance at the contacts K2 and K6 in the socket of the cable harness of the climate control system (6-pin):  
  K2 (power) Ω  
  K6 (ground) Ω | = 5.0 Ω (± 10%) (resistance)  
>> 5.0 Ω (→ ∞) (interruption) or  
<< 5.0 Ω (→ 0) (short-circuit) | Replace the cable harness of the distribution (see Chapter 3.32).  
Proceed with inspection step no. 2.3. |
| 2.3      | • Disconnect the electrical connection (D) between the distribution for the climate control system and the cable harness for the climate control system. | | |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3</td>
<td>• Measure the resistance at the pins P4 and P8 in the plug of the distribution for the climate control system (8-pin): P4 (power) Ω P8 (ground)</td>
<td>= 4.9 Ω (± 10%) (resistance) &gt;&gt; 4.9 Ω (→ ∞) (interruption) or &lt;&lt; 4.9 Ω (→ 0) (short-circuit)</td>
<td>Replace the cable harness of the climate control system (see Chapter 3.32). Proceed with inspection step no. 2.4.</td>
</tr>
<tr>
<td>2.4</td>
<td>• Disconnect the electrical connection (C) between the cable harness of the seat heater and the distribution for the climate control system. • Measure the resistance at the contacts K1 and K4 in the socket of the cable harness of the seat heater (4-pin): K1 (power) Ω K4 (ground)</td>
<td>= 4.9 Ω (± 10%) (resistance) &gt;&gt; 4.9 Ω (→ ∞) (interruption) or &lt;&lt; 4.9 Ω (→ 0) (short-circuit)</td>
<td>Replace the distribution for the climate control system (Chapter 3.15). Proceed with inspection step no. 2.5.</td>
</tr>
</tbody>
</table>
## 2.4 Troubleshooting – Locating the fault

### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| **2.5**  | • Disconnect the electrical connection (A) between the cable of the seat heater mat and the cable harness of the seat heater.  
• Measure the resistance at the pins P1 and P3 in the plug of the cable of the seat heater mat (4-pin):  
  P1 (power) Ω  P3 (ground) | = 4.9 Ω (± 10%) (resistance of the seat heater mat)  
>> 4.9 Ω (→ ∞) (interruption) or  
<< 4.9 Ω (→ 0) (short-circuit) | Replace the cable harness of the seat heater (Chapter 3.33)  
Heater mat in the seat cushion is defective, replace the seat cushion (Chapter 3.1). |
### 3 Inspection of the fan in the seat cushion

#### Preconditions for fault diagnosis:
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- Switch of the climate control system has been inspected and found to be OK.

**Note:** The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specifed status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 3.1      | • Disconnect the electrical connection (G) between the cable of the backrest heater mat and the cable of the climate control system and disconnect the electrical connection (H) between the cable of the backrest fan and the cable of the distribution for the climate control system.  
• Disconnect the electrical connection (F) between the cable harness of the distribution and the switch of the climate control system. |                        |                 |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 3.1      | • Measure the resistance at the contacts K4 and K10 in the socket of the cable harness of the distribution (10-pin):  
  K4 (power) Ω K10 (ground) | = 6.1 MΩ (± 10%) (total resistance)  
  >> 6.1 MΩ (→ ∞) (interruption) or  
  << 6.1 MΩ (→ 0) (short-circuit) | End of inspection. Proceed with inspection step no. 3.2. |
| 3.2      | • Disconnect the electrical connection (E) between the cable harness of the climate control system and the cable harness of the distribution.  
  • Measure the resistance at the contacts K4 and K6 in the socket of the cable harness of the climate control system (6-pin):  
  K4 (power) Ω K6 (ground) | = 6.1 MΩ (± 10%) (resistance)  
  >> 6.1 MΩ (→ ∞) (interruption) or  
  << 6.1 MΩ (→ 0) (short-circuit) | Replace the cable harness of the distribution (see Chapter 3.32). Proceed with inspection step no. 3.3. |
### Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 3.3      | • Disconnect the electrical connection (D) between the distribution for the climate control system and the cable harness for the climate control system.  
• Measure the resistance at the pins P5 and P8 in the plug of the distribution for the climate control system (8-pin):  
  P5 (power) \( \Omega \)  
P8 (ground) | \( = 6.1 \text{ M}\Omega \ (\pm \text{10\%}) \) (resistance)  
\( >> 6.1 \text{ M}\Omega \ (\rightarrow \infty) \) (interruption) or  
\( \ll 6.1 \text{ M}\Omega \ (\rightarrow 0) \) (short-circuit) | Replace the cable harness of the climate control system (see Chapter 3.32).  
Proceed with inspection step no. 3.4. |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specifed status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 3.4      | • Disconnect the electrical connection (C) between the cable harness of the seat heater and the distribution for the climate control system.  
          • Measure the resistance at the contacts K3 and K4 in the socket of the cable harness of the seat heater (4-pin):  
            K3 (power) Ω  K4 (ground) | = 6.1 MΩ (± 10%) (resistance)  
            >> 6.1 MΩ (→ ∞) (interruption) or  
            << 6.1 MΩ (→ 0) (short-circuit) | Replace the distribution for the climate control system (Chapter 3.15).  
Proceed with inspection step no. 3.5. |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specifed status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 3.5      | • Disconnect the electrical connection (B) between the cable of the seat fan and the cable harness of the seat heater.  
           • Measure the resistance at the pins P1 and P2 in the plug of the cable of the seat fan (2-pin):  
             P1 (power) Ω P2 (ground)                                                                 | = 6.1 MΩ (± 10%) (resistance of the seat fan)  
             >> 6.1 MΩ (→ ∞) (interruption) or  
             << 6.1 MΩ (→ 0) (short-circuit)                                                      | Replace the cable harness of the seat heater (Chapter 3.33)  
           Seat fan in the seat cushion is defective, replace the seat cushion (Chapter 3.1). |
### 4 Inspection of the backrest heater

**Preconditions for fault diagnosis:**
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- Switch of the climate control system has been inspected and found to be OK.

**Note:** The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>• Disconnect the electrical connection (A) between the cable of the seat heater mat and the cable harness of the seat heater and disconnect the electrical connection (B) between the cable of the seat fan and the cable harness of the seat heater. • Disconnect the electrical connection (F) between the cable harness of the distribution and the switch of the climate control system.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# 2.4 Troubleshooting – Locating the fault

## Table of Contents

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>• Measure the resistance at the contacts K7 and K10 in the socket of the cable harness of the distribution (10-pin): K7 (power) Ω K10 (ground)</td>
<td>= 6.5 Ω (± 10%) (total resistance) &gt;&gt; 6.5 Ω (→ ∞) (interruption) or &lt;= 6.5 Ω (→ 0) (short-circuit)</td>
<td>End of inspection. Proceed with inspection step no. 4.2.</td>
</tr>
<tr>
<td>4.2</td>
<td>• Disconnect the electrical connection (E) between the cable harness of the climate control system and the cable harness of the distribution. • Measure the resistance at the contacts K1 and K6 in the socket of the cable harness of the climate control system (6-pin): K1 (power) Ω K6 (ground)</td>
<td>= 6.5 Ω (± 10%) (resistance) &gt;&gt; 6.5 Ω (→ ∞) (interruption) or &lt;= 6.5 Ω (→ 0) (short-circuit)</td>
<td>Replace the cable harness of the distribution (see Chapter 3.32). Proceed with inspection step no. 4.3.</td>
</tr>
</tbody>
</table>
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 4.3      | • Disconnect the electrical connection (D) between the distribution for the climate control system and the cable harness for the climate control system.  
         | • Measure the resistance at the pins P2 and P8 in the plug of the distribution for the climate control system (8-pin):  
         | P2 (power) Ω P8 (ground) | $= 6.4 \, \Omega \, (\pm 10\%)$ (resistance)  
         | >> $6.4 \, \Omega \, \rightarrow \infty$ (interruption) or  
         | << $6.4 \, \Omega \, \rightarrow 0$ (short-circuit) | Replace the cable harness of the climate control system (see Chapter 3.32).  
<pre><code>     |                           | Proceed with inspection step no. 4.4. |
</code></pre>
<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 4.4     | • Disconnect the electrical connection (G) between the cable of the backrest heater mat and the cable of the distribution for the climate control system.  
• Measure the resistance at the pins P1 and P3 in the plug of the cable of the backrest heater mat (4-pin):  
P1 (power)  Ω  
P3 (ground)  | = 6.4 Ω (± 10%) (resistance of the backrest heater mat)  
>> 6.4 Ω (→ ∞) (interruption) or  
<< 6.4 Ω (→ 0) (short-circuit)  | Replace the distribution for the climate control system (Chapter 3.15).  
Heater mat in the backrest cushion is defective, replace the backrest cushion (Chapter 3.2).  |
5 Inspection of the fan in the backrest cushion

Preconditions for fault diagnosis:
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- Switch of the climate control system has been inspected and found to be OK.

Note: The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
</tr>
</thead>
</table>
| 5.1      | • Disconnect the electrical connection (A) between the cable of the seat heater mat and the cable harness of the seat heater and disconnect the electrical connection (B) between the cable of the seat fan and the cable harness of the seat heater.  
• Disconnect the electrical connection (F) between the cable harness of the distribution and the switch of the climate control system. |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>• Measure the resistance at the contacts K4 and K10 in the socket of the cable harness of the distribution (10-pin): K4 (power) ( \Omega ) K10 (ground)</td>
<td>= 9.7 M( \Omega ) (± 10%) (total resistance) ( \gg 9.7 , M\Omega \rightarrow \infty ) (interruption) or ( \ll 9.7 , M\Omega \rightarrow 0 ) (short-circuit)</td>
<td>End of inspection. Proceed with inspection step no. 5.2.</td>
</tr>
<tr>
<td>5.2</td>
<td>• Disconnect the electrical connection (E) between the cable harness of the climate control system and the cable harness of the distribution. • Measure the resistance at the contacts K4 and K6 in the socket of the cable harness of the climate control system (6-pin): K4 (power) ( \Omega ) K6 (ground)</td>
<td>= 9.7 M( \Omega ) (± 10%) (resistance) ( \gg 9.7 , M\Omega \rightarrow \infty ) (interruption) or ( \ll 9.7 , M\Omega \rightarrow 0 ) (short-circuit)</td>
<td>Replace the cable harness of the distribution (see Chapter 3.32). Proceed with inspection step no. 5.3.</td>
</tr>
</tbody>
</table>
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3</td>
<td>• Disconnect the electrical connection (D) between the distribution for the climate control system and the cable harness for the climate control system.</td>
<td>= 9.7 MΩ (± 10%) (resistance)</td>
<td>Replace the cable harness of the climate control system (see Chapter 3.32). Proceed with inspection step no. 5.4.</td>
</tr>
<tr>
<td></td>
<td>• Measure the resistance at the pins P5 and P8 in the plug of the distribution for the climate control system (8-pin):</td>
<td>&gt;&gt; 9.7 MΩ (→ ∞) (interruption) or &lt;&lt; 9.7 MΩ (→ 0) (short-circuit)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P5 (power) Ω P8 (ground)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 5.4      | • Disconnect the electrical connection (H) between the cable of the backrest fan and the cable of the distribution for the climate control system.  
          • Measure the resistance at the pins P1 and P2 in the plug of the cable of the backrest fan (2-pin):  
          P1 (power) Ω  P2 (ground)                                                                 | = 6.5 Ω (± 10%) (resistance of the backrest fan)  
          >> 6.5 Ω (→ ∞) (interruption) or  
          << 6.5 Ω (→ 0) (short-circuit)                                                        | Replace the distribution for the climate control system (Chapter 3.15).  
          Backrest fan in the backrest cushion is defective, replace the backrest cushion (Chapter 3.2). |
### 6 Inspection of the seat occupancy detection system

**Preconditions for fault diagnosis:**
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- The seat suspension has been inspected and found to be OK with respect to the scope of fault diagnosis described here (see Diagnosis in the repair manual for seat suspension).

**Note:** The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 6.1      | • Disconnect the electrical connection (I) between the cable harness of the upper seat part and the cable harness of the seat suspension.  
          | • Measure the resistance at the contacts K2 and K3 in the socket of the cable harness of the upper seat part (6-pin):  
          |   K2 (ground) Ω K3 (control)                                                    | = 510 Ω (± 10%) (total resistance)     | Proceed with inspection step no. 6.2.  
          |                                                                                   | >> 510 Ω (→ ∞) (interruption) or      | Proceed with inspection step no. 6.3.  
          |                                                                                   | << 510 Ω (→ 0) (short-circuit)        |                                      |
2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 6.2     | • Press the flexible support plate for the seat occupancy detection system down as far as possible.  
          • Measure the resistance at the contacts K2 and K3 in the socket of the cable harness of the upper seat part (6-pin):  
            K2 (ground) Ω  K3 (control)                                                                                                                                 | = 123.8 Ω (± 10%) (total resistance)  
                                                                                                                                                    | >> 123.8 Ω (→ ∞) (interruption) or  
                                                                                                                                                    | << 123.8 Ω (→ 0) (short-circuit)  
                                                                                                                                                    | with inspection step 6.5.  
                                                                                                                                                    | Proceed with inspection step no. 6.4.                                                                                                        |
## Troubleshooting – Locating the fault

### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 6.3     | • Disconnect the electrical connection (K) between the magnetic switch and the cable harness of the upper seat part (control).  
          • Measure the resistance at the pins P1 and P2 in the plug (control) of the cable harness of the seat switch (2-pin): P1 (control) Ω P2 (ground) | = 510 Ω (± 10%) (resistance of the seat switch)  
          >> 510 Ω (→ ∞) (interruption) or  
          << 510 Ω (→ 0) (short-circuit) | Replace the cable harness of the upper seat part (Chapter 3.34)  
          Replace the switch for the seat occupancy detection system (Chapter 3.24). |
## 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.4</td>
<td>• Press the flexible support plate for the seat occupancy detection system down as far as possible. • Measure the resistance at the pins P1 and P2 in the plug (control) of the cable harness of the seat switch (2-pin): P1 (control) $\Omega$ P2 (ground)</td>
<td>$= 123.8 \ \Omega \ (\pm 10%)$ (resistance of the seat switch) $&gt;&gt; 123.8 \ \Omega \ (\to \infty)$ (interruption) or $&lt;&lt; 123.8 \ \Omega \ (\to 0)$ (short-circuit)</td>
<td>Replace the cable harness of the upper seat part (Chapter 3.34). Replace the switch for the seat occupancy detection system (Chapter 3.24).</td>
</tr>
</tbody>
</table>
### Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 6.5      | • Disconnect the electrical connection (J) between the cable harness of the upper seat part and the cable harness of the seat suspension.  
           • Measure the resistance at the contacts K4 and K5 in the socket of the cable harness of the upper seat part (8-pin):  
            K4 (signal) $\Omega$  
            K5 (signal) $\Omega$ | $= 510 \Omega \ (\pm 10\%)$ (total resistance)  
            $>> 510 \Omega \ (\rightarrow \infty)$ (interruption) or  
            $<< 510 \Omega \ (\rightarrow 0)$ (short-circuit) | Proceed with inspection step no. 6.6.  
Proceed with inspection step no. 6.7. |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 6.6      | • Press the flexible support plate for the seat occupancy detection system down as far as possible.  
          • Measure the resistance at the contacts K4 and K5 in the socket of the cable harness of the upper seat part (8-pin):  
            K4 (signal) Ω K5 (signal)  
          | = 123.8 Ω (± 10%) (total resistance)  
          >> 123.8 Ω (→ ∞) (interruption) or  
          << 123.8 Ω (→ 0) (short-circuit)   | End of inspection.  
          Proceed with inspection step no. 6.8. |
| 6.7      | • Disconnect the electrical connection (L) between the magnetic switch and the cable harness of the upper seat part (signal).  
          • Measure the resistance at the pins P1 and P2 in the plug (signal) of the cable harness of the seat switch (4-pin):  
            P1 (signal) Ω P2 (signal)  
          | = 510 Ω (± 10%) (resistance of the seat switch)  
          >> 510 Ω (→ ∞) (interruption) or  
          << 510 Ω (→ 0) (short-circuit)   | Replace the cable harness of the upper seat part (Chapter 3.34)  
          Replace the switch for the seat occupancy detection system (Chapter 3.24). |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 6.8     | • Press the flexible support plate for the seat occupancy detection system down as far as possible.  
         | • Measure the resistance at the pins P1 and P2 in the plug (signal) of the cable harness of the seat switch (4-pin):  
         | P1 (signal) Ω P2 (signal)                                                         | = 123.8 Ω (± 10%) (resistance of the seat switch)  
         |                                                                                   | >> 123.8 Ω (→ ∞) (interruption) or  
         |                                                                                   | << 123.8 Ω (→ 0) (short-circuit)  
         |                                                                                   | Replace the cable harness of the upper seat part (Chapter 3.34).  
         |                                                                                   | Replace the switch for the seat occupancy detection system (Chapter 3.24). |
# Troubleshooting – Locating the fault

## 7 Inspection of the micro-switch for height adjustment in upward direction

**Preconditions for fault diagnosis:**
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- The seat suspension has been inspected and found to be OK with respect to the scope of fault diagnosis described here (see Diagnosis in the repair manual for seat suspension).

**Note:** The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 7.1      | • Disconnect the electrical connection (I) between the cable harness of the upper seat part and the cable harness of the seat suspension.  
           • Measure the resistance at the contacts K4 and K5 in the socket of the cable harness of the upper seat part (pin assignment for height adjustment in upward direction):  
              K4 (control up) Ω K5 (ground) | 510 Ω (± 5%) (total resistance)  
              >> 510 Ω (→ ∞) (interruption)  
              << 510 Ω (→ 0) (short-circuit) | Proceed with inspection step no. 7.2.  
Proceed with inspection step no. 7.3. |
## Troubleshooting – Locating the Fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 7.2      | • Press the height adjustment handle upwards.  
          • Measure the resistance at the contacts K4 and K5 in the socket of the cable harness of the upper seat part (pin assignment for height adjustment in upward direction):  
            K4 (control up) = 122.6 Ω (± 5%) (total resistance)  
            K5 (ground) >> 122.6 Ω (→ ∞) (interruption)  
            << 122.6 Ω (→ 0) (short-circuit) | End of inspection.  
Proceed with inspection step no. 7.4. |
| 7.3      | • Disconnect the electrical connection (M) between the micro-switch and the cable harness of the upper seat part.  
          • Measure the resistance at the pins P1 and P2 in the plug of the micro-switch (3-pin); (pin assignment for height adjustment in upward direction):  
            P1 (control up) = 510 Ω (± 5%) (resistance of the micro-switch)  
            P2 (ground) >> 510 Ω (→ ∞) (interruption)  
            << 510 Ω (→ 0) (short-circuit) | Replace the cable harness of the upper seat part (Chapter 3.34)  
Micro-switch is defective.  
Replace the handle rail (Chapter 3.36). |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.4</td>
<td>• Press the height adjustment handle upwards.</td>
<td>= 122.6 Ω (± 5%) (resistance of the micro-switch)</td>
<td>Replace the cable harness of the upper seat part (Chapter 3.34)</td>
</tr>
<tr>
<td></td>
<td>• Measure the resistance at the pins P1 and P2 in the plug of the micro-switch</td>
<td>&gt;&gt; 122.6 Ω (→ ∞) (interruption)</td>
<td>Micro-switch is defective. Replace the handle rail (Chapter 3.36).</td>
</tr>
<tr>
<td></td>
<td>(3-pin); (pin assignment for height adjustment in upward direction):</td>
<td>&lt;&lt; 122.6 Ω (→ 0) (short-circuit)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P1 (control up) Ω P2 (ground)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8 Inspection of the micro-switch for height adjustment in downward direction

Preconditions for fault diagnosis:
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- The seat suspension has been inspected and found to be OK with respect to the scope of fault diagnosis described here (see Diagnosis in the repair manual for seat suspension).

Note: The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>• Disconnect the electrical connection (I) between the cable harness of the upper seat part and the cable harness of the seat suspension.</td>
<td>= 510 Ω (± 5%) (total resistance)</td>
<td>Proceed with inspection step no. 8.2.</td>
</tr>
<tr>
<td></td>
<td>• Measure the resistance at the contacts K5 and K6 in the socket of the cable harness of the upper seat part (6-pin); (pin assignment for height adjustment in downward direction):</td>
<td>&gt;&gt; 510 Ω (→ ∞) (interruption)</td>
<td>Proceed with inspection step no. 8.3.</td>
</tr>
<tr>
<td></td>
<td>K6 (control down) Ω K5 (ground)</td>
<td>&lt;= 510 Ω (→ 0) (short-circuit)</td>
<td></td>
</tr>
</tbody>
</table>
## 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.2</td>
<td>• Press the height adjustment handle down.</td>
<td>= 122.6 Ω (± 5%) (total resistance)</td>
<td>End of inspection. Proceed with inspection step no. 8.4.</td>
</tr>
<tr>
<td></td>
<td>• Measure the resistance at the contacts K5 and K6 in the socket of the cable harness of the upper seat part (6-pin); (pin assignment for height adjustment in downward direction):</td>
<td>&gt;&gt; 122.6 Ω (→ ∞) (interruption) &lt;&lt; 122.6 Ω (→ 0) (short-circuit)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K6 (control down) Ω K5 (ground)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.3</td>
<td>• Disconnect the electrical connection (M) between the micro-switch and the cable harness of the upper seat part.</td>
<td>= 510 Ω (± 5%) (resistance of the micro-switch)</td>
<td>Replace the cable harness of the upper seat part (Chapter 3.34)</td>
</tr>
<tr>
<td></td>
<td>• Measure the resistance at the pins P2 and P3 in the plug of the micro-switch (3-pin); (pin assignment for height adjustment in downward direction):</td>
<td>&gt;&gt; 510 Ω (→ ∞) (interruption) &lt;&lt; 510 Ω (→ 0) (short-circuit)</td>
<td>Micro-switch is defective. Replace the handle rail (Chapter 3.36).</td>
</tr>
<tr>
<td></td>
<td>P3 (control down) Ω P2 (ground)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 8.4      | • Press the height adjustment handle down.  
          | • Measure the resistance at the pins P2 and P3 in the plug of the micro-switch (3-pin); (pin assignment for height adjustment in downward direction):  
          | P3 (control down)  \(\Omega\)  
          | P2 (ground)        | \(= 122.6 \Omega \pm 5\%\) (resistance of the micro-switch)  
          | >> 122.6 \(\Omega \rightarrow \infty\) (interruption)  
          | << 122.6 \(\Omega\) (short-circuit) | Replace the cable harness of the upper seat part (Chapter 3.34)  
          | Micro-switch is defective.  
          | Replace the handle rail (Chapter 3.36). |
## Troubleshooting – Locating the fault

### 9 Inspection of the compressor

**Preconditions for fault diagnosis:**
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- The seat suspension has been inspected and found to be OK with respect to the scope of fault diagnosis described here (see Diagnosis in the repair manual for seat suspension).

**Note:** The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
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<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 9.1      | • Disconnect the electrical connection (F) between the cable harness of the distribution and the switch for the climate control system and disconnect the electrical connection (N) between the cable harness of the distribution and the cable of the bell-shaped valve.  
• Measure the resistance at the contact K2 in the socket of the cable harness of the distribution (2-pin) and at the contact K10 in the socket of the cable harness of the distribution (10-pin):  
  
  K2 (power) Ω  K10 (ground) | = 6.9 Ω (± 10%) (total resistance)  
  >> 6.9 Ω (→ ∞) (interruption)  
  << 6.9 Ω (→ 0) (short-circuit) | End of inspection.  
  Proceed with inspection step no. 9.2. |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 9.2      | • Disconnect the electrical connection (E) between the cable harness of the climate control system and the cable harness of the distribution.  
• Measure the resistance at the contacts K3 and K6 in the socket of the cable harness of the climate control system (6-pin):  
  K3 (power) Ω K6 (ground) | = 6.9 Ω (± 10%) (resistance)  
>> 6.9 Ω (→ ∞) (interruption)  
<< 6.9 Ω (→ 0) (short-circuit) | Replace the cable harness of the distribution (see Chapter 3.32).  
Proceed with inspection step no. 9.3. |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 9.3      | • Disconnect the electrical connection (O) between the cable harness of the climate control system and the compressor cable.  
          • Measure the resistance at the pins P1 and P2 at the broad plug and the narrow plug of the compressor cable:  
            P1 (power) Ω P2 (ground) | = 6.8 Ω (± 10%) (resistance of the compressor)  
                              >> 6.8 Ω (→ ∞) (interruption)  
                              << 6.8 Ω (→ 0) (short-circuit) | Replace the cable harness of the climate control system (see Chapter 3.32).  
                                                                 Compressor is defective. Replace the compressor (see Chapter 3.16). |
## 10 Inspection of the cable harness of the upper seat part

### Preconditions for fault diagnosis:
- The electrical system of the vehicle has been inspected and found to be OK and in compliance with the vehicle operating instructions.
- The seat occupancy detection system has been inspected and found to be OK.
- The micro-switch for height adjustment has been inspected and found to be OK.
- The printed circuit board for operating mode setting (delivery option) has been inspected and found to be OK.

**Note:** The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 10.1     | • Disconnect the electrical connection (J) between the cable harness of the upper seat part and the cable harness of the seat suspension (8-pin).  
• Disconnect the electrical connection (P) between the cable harness of the upper seat part and the distribution for the climate control system (3-pin). | | |
### 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1</td>
<td>• Short-circuit the contacts K1, K2 and K3 at the socket of the cable harness of the upper seat part (3-pin) and measure the resistance at the contacts K3, K6 and K8 in the socket of the cable harness of the upper seat part (8-pin): K3 Ω K6 and K3 Ω K8</td>
<td>&lt;&lt; 1 Ω (R → 0) (pass) ≥ 1 Ω (R → ∞) (short-circuit)</td>
<td>Proceed with inspection step no. 10.2. Replace the cable harness of the upper seat part (Chapter 3.34)</td>
</tr>
<tr>
<td>10.2</td>
<td>• Short-circuit the pins P1 and P2 in the plug of the cable harness of the upper seat part (2-pin) and measure the resistance at the contacts K6 and K7 in the socket of the cable harness of the upper seat part (8-pin): K6 Ω K7</td>
<td>&lt;&lt; 1 Ω (R → 0) (pass) ≥ 1 Ω (R → ∞) (short-circuit)</td>
<td>End of inspection. Replace the cable harness of the upper seat part (Chapter 3.34)</td>
</tr>
</tbody>
</table>
11 Inspection of the printed circuit board for operating mode setting (delivery option)

Preconditions for fault diagnosis:

- The electrical system of the vehicle has been inspected and found to be OK in compliance with the vehicle operating instructions.
- The seat suspension has been inspected and found to be OK with respect to the scope of fault diagnosis described here (see Diagnosis in the repair manual for seat suspension).

**Note:** The components mentioned above are illustrated in Chapter 2.1, if not stated otherwise in this text.

<table>
<thead>
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<th>Step no.</th>
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<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 11.1     | • Disconnect the electrical connection (I) between the cable harness of the upper seat part and the cable harness of the seat suspension.  
          • Turn the handle for vertical shock absorber adjustment backwards as far as possible (handle position 1).  
          • Measure the resistance at the contacts K1 and K5 in the socket of the electrical connection "I": | | |
# 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 11.1     | K1 (signal) Ω K5 (ground) | = 104 Ω ± 5 Ω (total resistance)
>> 104 Ω → ∞ (interruption)
<< 104 Ω → 0 (short-circuit) | Proceed with inspection step no. 11.2.
Proceed with inspection step no. 11.3.
Proceed with inspection step no. 11.3. |
| 11.2     | • Turn the handle for vertical shock absorber adjustment subsequently forwards to locking positions 2 to 5 and measure the resistance at the contacts K1 and K5 in the socket of the electrical connection "I":
Handle position 2:
K1 (signal) Ω K5 (ground) | = 473 Ω ± 23 Ω (total resistance)
>> 473 Ω → ∞ (interruption)
<< 473 Ω → 0 (short-circuit) | Proceed with inspection step no. 11.3.
Proceed with inspection step no. 11.3. |
## 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 11.2     | Handle position 3:  
K1 (signal) Ω K5 (ground) | = **1010 Ω (± 50 Ω)** (total resistance)  
>> 1010 Ω (→ ∞) (break)  
<< 1010 Ω (→ 0) (short-circuit) | Proceed with inspection step no. 11.3. |
|          | Handle position 4:  
K1 (signal) Ω K5 (ground) | = **641 Ω (± 30 Ω)** (total resistance)  
>> 641 Ω (→ ∞) (interruption)  
<< 641 Ω (→ 0) (short-circuit) | Proceed with inspection step no. 11.3. |
## 2.4 Troubleshooting – Locating the fault

<table>
<thead>
<tr>
<th>Step no.</th>
<th>Inspect/operate</th>
<th>Result/specified status</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| 11.2     | Handle position 5: K1 (signal) Ω K5 (ground) | = 42 Ω (± 2 Ω) (total resistance)  
>> 42 Ω (→ ∞) (interruption)  
<< 42 Ω (→ 0) (short-circuit) | End of inspection.  
Proceed with inspection step no. 11.3. |
| 11.3     | • Remove the printed circuit board for operating mode setting (Chapter 3.44).  
• Short-circuit the pins P1 and P3 in the socket of the electrical connection "R".  
Measure the resistance at the contacts K1 and K5 in the socket of the electrical connection "I": K1 (signal) Ω K5 (ground) | << 1 Ω (R → 0) (pass)  
≥ 1 Ω (R → ∞) (interruption) | Replace the printed circuit board for operating mode setting (Chapter 3.44).  
Replace the cable harness of the upper seat part (Chapter 3.34). |
TABLE OF CONTENTS

3.1 Seat cushion – removal and installation
3.2 Backrest cushion – removal and installation
3.3 Backrest extension – removal and installation
3.4 Guides for backrest extension – removal and installation
3.5 Fan for climate control system – removal and installation *
3.6 Storage net – removal and installation
3.7 Handle set – removal and installation
3.8 Handle for lateral isolator – removal and installation
3.9 Cover for handle rail – removal and installation
3.9.1 Cover for handle rail (Option 1) – removal and installation *
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment *
3.10 Rear cover – removal and installation
3.11 Cover for lateral isolator – removal and installation
3.12 Support for warning triangle – removal and installation
3.13 Armrests – removal and installation

* Delivery option
## TABLE OF CONTENTS

3.14 Multi-function armrest – removal and installation
3.15 Distribution for climate control system – removal and installation
3.16 Entire lumbar support – removal and installation
3.16.1 Entire lumbar support (2-way valve block) – removal and installation *
3.16.2 Entire lumbar support (3-way valve block) – removal and installation *
3.17 Holder for lumbar support and climate control system – removal and installation
3.18 Backrest adjustment – removal and installation
3.19 Backrest frame – removal and installation
3.20 Backrest bearing – removal and installation
3.21 Flexible support plate for seat occupancy detection system – removal and installation
3.22 Seat angle adjustment – removal and installation
3.23 Seat depth adjustment – removal and installation
3.24 Switch for seat occupancy detection system – removal and installation
3.25 Holder for seat depth and seat angle adjustment – removal and installation

* Delivery option
### TABLE OF CONTENTS

3.26  Spring steel plate at the seat angle adjustment – removal and installation  
3.27  Spring steel plate at the seat depth adjustment – removal and installation  
3.28  Locking mechanism for seat angle and seat depth adjustment – removal and installation  
3.29  Covers for seat depth adjustment – removal and installation  
3.30  Lever for seat depth adjustment – removal and installation  
3.31  Slider for seat depth adjustment and protective profile – removal and installation  
3.32  Cable harness of the climate control system and distribution – removal and installation  
3.33  Cable harness of the seat heater – removal and installation  
3.34  Cable harness of the upper seat part – removal and installation  
3.35  Lap belt – removal and installation (optional extra)  
3.36  Handle rail – removal and installation  
3.37  Seat plate – removal and installation  
3.38  Console for multi-function armrest – removal and installation  
3.39  Lateral isolator – removal and installation  
3.40  Shock absorber for lateral isolator – removal and installation  
3.41  Swivel – removal and installation
TABLE OF CONTENTS

3.42 Fore/aft adjustment – removal and installation
3.43 Upper seat part – removal and installation
3.44 Printed circuit board for operating mode setting – removal and installation (delivery option)
3.45 Removing/installing the handle for the vertical shock absorber adjustment (delivered version)
3.46 Inspecting and adjusting the Bowden cable for the vertical shock absorber adjustment (delivered version)
3.47 Removing/installing air conditioning distributor with heating control (TCU) *
3.48 Removing/installing pocket *

* Delivery option
3.1 Seat cushion – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Seat cushion
(2) Round head screw (inner race) ...................... 3.5 Nm
(3) Cable for seat fan
(4) Cable for seat heater mat
(5) Plug of seat fan
(6) Plug of seat heater
(7) Socket of seat fan
(8) Socket of seat heater
(9) Velcro fastener
(10) Protective strap (at the backrest cushion)
(11) Hook
(12) Round head screw (inner race) ...................... 3.5 Nm
(13) Clamping plate
(14) Cable harness of the seat heater
(15) Backrest cushion
(16) Rear cover
(17) Protective strap (at the seat cushion)
3.1 Seat cushion – removal and installation

Removal and installation

1 Push the seat cushion (1) as far forward as possible.

2 Unscrew three round head screws (2).
   **Installation note:**
   Round head screw (2), 3.5 Nm.

3 Pull the seat cushion (1) out of the two hooks (11) in forward direction.

4 Backrest cushion (15) with protective strap (10):
   Undo the Velcro fastener (9) between the protective strap (10) and the seat cushion (1).
   **Installation note for reassembly of an existing seat cushion (1):**
   When closing the Velcro fastener (9), make sure that the Velcro fastener (9) is flush on the left and right side (no lateral offset).
3.1 Seat cushion – removal and installation

REMOVAL / INSTALLATION

Installation note for reassembly of a new seat cushion (1):
● Remove the backrest cushion (Chapter 3.2).
● Remove the protective strap (10) at the backrest cushion (15) and dispose of the protective strap.

Note:
To remove the protective strap (10), release the clamps or cut off the protective strap (10) at the backrest cushion (15).
● Hang in the protective strap (17) at the rear cover (16) by means of a clamping profile.

5 Backrest cushion (15) without protective strap (10):
Detach the protective strap (17) at the rear cover (16).

6 Lift the seat cushion (1) at the front and pull the seat heater cable (4) and the seat fan cable (3) out of the depression (arrow) in the bottom part of the seat cushion (1).
7 Disconnect the electrical connections between the plug (6) and the socket (8) of the seat heater and between the plug (5) and the socket (7) of the seat fan.

8 Unscrew two round head screws (12) and remove the clamping plate (13).

**Installation notes:**
- Round head screw (12), 3.5 Nm.
- When tightening the clamping plate (13), clamp the seat heater cable (4), the seat fan cable (3) and the cable harness of the seat heater (14) between the clamping plate (13) and the seat cushion (1) for strain relief.

9 Remove the seat cushion (1).

10 Re-install the components in the reverse order of their removal.
3.2 Backrest cushion – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Backrest cushion
(2) Seat cushion
(3) Plug of backrest fan
(4) Plug of backrest heater
(5) Velcro fastener
(6) Protective strap (at the backrest cushion)
(7) Socket of backrest fan
(8) Socket of backrest heater
(9) Round head screw (inner race) ...................... 3.5 Nm
(10) Handle for backrest adjustment
(11) Backrest frame
(12) Backrest extension
(13) Protective strap (at the seat cushion)
(14) Rear cover
3.2 Backrest cushion – removal and installation

Removal and installation

1. Push the seat cushion (2) as far forward as possible.

2. Pull the backrest extension (12) upwards as far as possible.

3. Unscrew four round head screws (9).

   **Installation notes:**
   - Round head screw (9), 3.5 Nm.
   - When tightening the screws of the backrest cushion (1), use a highlighter to mark the location of drill holes in the backrest cushion (1) for easier screw placement.
   - When installing the round head screw (9) on the lower left, take care not to damage the cables located on the inside.
4 **WARNING** Take care with the backrest frame (11) – it may jerk forward and cause injury! When the backrest cushion (1) has been removed, the backrest frame (11) must be supported, before the handle for backrest adjustment (10) is operated.

Pull the backrest cushion (1) forwards at the top and disconnect the electrical connections between the plug (4) and the socket (8) of the backrest heater and between the plug (3) and the socket (7) of the backrest fan.
5 Backrest cushion (1) with protective strap (6):
   Undo the Velcro fastener (5) between the protective strap (6) and the seat cushion (2).
   **Installation note for reassembly of an existing backrest cushion (1):**
   When closing the Velcro fastener (5), make sure that the Velcro fastener (5) is flush on the left and right side (no lateral offset).
   **Installation notes for reassembly of a backrest cushion (1) without protective strap (6):**
   ● Attach the protective strap (13) to the seat cushion (2) so that it is flush at the left and right side.
   ● Hang in the protective strap (13) at the rear cover (14) by means of the clamping profile.

6 Remove the backrest cushion (1).

7 Re-install the components in the reverse order of their removal.
3.3 Backrest extension – removal and installation

REMOVAL / INSTALLATION

(1) Backrest extension
(2) Guide
Removal and installation

1. Remove the backrest extension (1) from the guides (2) by pulling it upwards over the end stop in one move.

2. Re-install the components in the reverse order of their removal.
3.4 Guides for backrest extension – removal and installation

REMOVAL / INSTALLATION

(1) Guide
(2) Support
(3) Backrest frame

1 Remove the backrest extension (Chapter 3.3).

2 Remove the backrest cushion (see Chapter 3.2).

Note: The backrest cushion does not need to be removed completely. Unscrew four round head screws and pull the upper backrest cushion forwards.
3.4 Guides for backrest extension – removal and installation

Removal and installation

3 Compress the two guides (1) at the slitted end and pull them out of the support (2) in upward direction. **Installation note:** The longitudinal nose on the guide (1) must be slid into the groove (arrow) of the support (2).

4 Re-install the components in the reverse order of their removal.
### 3.5 Fan for climate control system – removal and installation

**REMOVAL/INSTALLATION**

1. Remove backrest cushion (Chapter 3.2).

**Note:**

The backrest cushion (1) does not have to be removed completely.

* Delivery option
3.5 Fan for climate control system – removal and installation

Removal, installation

2 Backrest cushion with bolted-on fan (delivery option):

2.1 If the cover (4) is faulty:
   Carefully pull cover (4) off the fan for the backrest (2) where it is stuck on.
   **Installation note:**
   Remove the peel-off film from the self-adhesive part of the cover (4) and stick the cover (4) on the fan for backrest (2).

2.2 Unscrew two cup head screws (3).
   **Installation note:**
   Cup head screw (3), 0.5 Nm

2.3 Remove the fan for the backrest (2) from the backrest cushion (1).
3 Backrest cushion with clipped-on fan (delivery option):
Unclip the fan for the backrest (5) and remove it.

4 Installation is carried out in reverse order.
3.6 Storage net – removal and installation

REMOVAL / INSTALLATION

(1) Backrest cushion
(2) Backrest frame
(3) Storage net
(4) Support
(5) Blind rivet

1 **ATTENTION** Noise!
The blind rivets (5) knocked off fall onto the upper seat part.

Remove the backrest cushion (1) at the backrest frame (2) (see Chapter 3.2) and pull the backrest cushion (1) forwards until the blind rivets (5) knocked off can be removed.
3.6 Storage net – removal and installation

Removal and installation

2 Bore off four rivet heads and drive out the blind rivets (5).
   Note:
   The rivet head of the blind rivet (5) must not be knocked off.

3 Remove the storage net (3) including the supports (4).

4 If the support (4) is defective:
   Unclip the support (4) at the storage net (3).

5 Re-install the components in the reverse order of their removal.
3.7 Handle set – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Handle for backrest adjustment
(2) Handle for height and weight adjustment
(3) Handle for rotary adjustment*
(4) Support (handle for backrest adjustment)
(5) Hook
(6) Support (handle for height and weight adjustment)
(7) Hook
(8) Support (handle for rotary adjustment)
(9) Hook
(10) Handle for operating mode setting**

* depending on seat model
** if fitted
3.7 Handle set – removal and installation

Removal and installation

⚠️ ATTENTION Damage!
Do not break off the hooks (5, 7, 9).

Carefully unclip the hooks (5, 7, 9) by means of a suitable screwdriver.

1 Place the screwdriver laterally into the aperture of the handle for backrest adjustment (1) under the hook (5) and unclip the hook (5) at the handle for backrest adjustment (1) by lifting it off. Simultaneously, pull off the handle for backrest adjustment (1) from the support (4).

Installation note:
Put the handle for backrest adjustment (1) firmly into the support (4) until the hook (5) locks into place with an audible click.
2 Pull the handle for height and weight adjustment (2) upwards. Put a screwdriver through the lower aperture at the rear of the handle for height and weight adjustment (2) and unclip the hook (7) of the handle for height and weight adjustment (2) by pressing the screwdriver in upward direction. Simultaneously, pull off the handle for height and weight adjustment (2) from the support (6).

Installation note:
Put the handle for height and weight adjustment (2) firmly into the support (6) until the hook (7) locks into place with an audible click.

Notes:
- Slightly turn the screwdriver when pressing the hook (7) upwards.
- Do not put the screwdriver by accident into the lower aperture at the front of the handle for height and weight adjustment (2).
3. **Variant: Upper seat part with handle for rotary adjustment (3):**

Pull the handle for rotary adjustment (3) upwards. Put a screwdriver through the lower aperture of the handle for rotary adjustment (3) and unclip the hook (9) at the handle for rotary adjustment (3) by pressing the screwdriver in upward direction. Simultaneously, pull off the handle for rotary adjustment (3) from the support (8).

**Installation note:**
Put the handle for rotary adjustment (3) firmly into the support (8) until the hook (9) locks into place with an audible click.

4. Re-install the components in the reverse order of their removal.
(1) Handle for lateral isolator
(2) Stud
(3) Axial locking ring .......... to replace
(4) Lateral isolator
(5) Linkage rod
(6) Swivel lever

1 Remove the cover for the lateral isolator (Chapter 3.11).
3.8 Handle for lateral isolator – removal and installation

Removal and installation

2 Press the handle of the lateral isolator (1) down.

3 Detach the axial locking ring (3) at the stud (2).
   **Installation note:**
   Replace the axial locking ring (3).

4 Pull out the stud (2) from the lateral isolator (4) and the handle of the lateral isolator (1) in backward direction.

5 Detach the handle of the lateral isolator (1) at the linkage rod (5) and remove it.
   **Note:**
   Make sure that the linkage rod (5) remains hung into the swivel lever (6).

6 Re-install the components in the reverse order of their removal.
3.9 Cover for handle rail – removal and installation

INHALTSVERZEICHNIS

3.9.1 Cover for handle rail (Option 1) – removal and installation *
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment *

* Liefervariante
3.9.1 Cover for handle rail (Option 1) – removal and installation  
(delivery option)

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Cover for handle rail  
(2) Cap  
(3) Rounded head screw ........ 3.5 Nm  
(4) Cap  
(5) Lug (at the seat cushion)  
(6) Holder for lumbar support und climate control system  
(7) Handle rail  
(8) Hook (on the cover)  
(9) Hook (on the handle rail)  
(10) Hook (on the cover)  
(11) Hook (on the handle rail)  
(12) Handle for rotary adjustment*  
(13) Handle for height and weight adjustment  
(14) Seat cushion

*) if fitted
3.9.1 Cover for handle rail (Option 1) – removal and installation (delivery option)

REMOVAL / INSTALLATION

1 Remove the handle for backrest adjustment (see Chapter 3.7).

Removal and installation

2 Turn the cap (4) by 45 degrees to the left or right by means of a screwdriver and lift it off at the cover for the handle rail (1).

Installation note:
The slot of the cap (4) must be in horizontal or vertical position.

3 Unscrew the rounded head screw (3).

Installation note:
Rounded head screw (3), 3.5 Nm.

4 Release three hooks (8) as well as the hook (10) of the cover for the handle rail (1) at the handle rail (7).
3.9.1 Cover for handle rail (Option 1) – removal and installation (delivery option)

5 Lift off the cover for the handle rail (1) at the hook (11) and at the two hooks (9) of the handle rail (7) by means of a screwdriver.

6 Pull the cover of the handle rail (1) out of the guides (arrows) of the holder for the lumbar support and climate control system (8) and simultaneously pull it over the handles for height and weight adjustment (13) and the rotary adjustment (12).

**Note:**
The handle for rotary adjustment (12) is only fitted in certain seat models.

**Installation note:**
Make sure that the lug (5) of the seat cushion (14) is under the cover for the handle rail (1).

7 Re-install the components in the reverse order of their removal.
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment (delivery option)

REMOVAL/INSTALLATION

| (1) Cover |
| (2) Hook |
| (3) Opening for snap-in lugs |
| (4) Valve block |
| (5) Top cover |
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment (delivery option)

REMOVAL/INSTALLATION

(1) Cover
(4) Valve block
(6) Plugs
(7) Compressed air hose (grey)..... Side-contour adjustment (connection “A”)
(8) Compressed air hose (black) .......... lumbar support top air chamber (connection “B”)
(8) Compressed air hose (blue) .......... from compressor (connection “C”)
(10) Compressed air hose (yellow) .......... lumbar support bottom air-chamber (connection “D”)
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment (delivery option)

1. Remove the seat cushion (see Chapter 3.1).
   **Note:**
   The seat cushion does not have to be removed completely.

2. Remove the handle for the locking lever (see Chapter 3.7).

**Removal, installation**

3. Unclip the top cover (5) to the right.

4. Unclip the cover (1) at the handle holder:
   - Unclip the five hooks (2).
   - Unclip the two snap-in lugs from the openings (3).
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment (delivery option)

5 Turn the cover (1) over and press the valve block (4) out of the cover (1).

⚠️ **CAUTION** Do not damage the connections (A, B, C, D) (mandrel profiles) on the valve block (4) and the compressed air hoses (7, 8, 9, 10)!

Do not use a screwdriver or similar tools to pry the compressed air hoses (7, 8, 9, 10) off the connections (A, B, C, D) of the valve block (4).
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment (delivery option)

### REMOVAL/INSTALLATION

6 Mark the compressed air hoses (7, 8, 9, 10) and, with a sharp knife, make a straight, clean cut immediately behind the connections (A, B, C, D) of the valve block (4).

**Installation instructions:**
- Install compressed air hoses (7, 8, 9, 10) as marked.
- Gently heat the compressed air hoses (7, 8, 9, 10) and apply pressure to push them completely onto the appropriate connections (A, B, C, D) of the valve block (4).

7 Remove the remaining pieces of the compressed air hoses (7, 8, 9, 10) on the valve block connections (4).
3.9.2 Removing/installing cover for handle holder (option 2) or activator for lumbar support and side contour adjustment (delivery option)

8 Disconnect the electrical plug connection on the plug (6).

9 Remove the cover (1) and valve block (4).

10 Installation is carried out in reverse order.
3.10 Rear cover – removal and installation

REMOVAL / INSTALLATION

(1) Rear cover
(2) Blind rivet
(3) Seat plate
(4) Lug (at the rear cover)
(5) Cover for handle rail

1 Remove the support for the warning triangle (Chapter 3.12).
3.10 Rear cover – removal and installation

Removal and installation

2 Bore out two rivet heads and drive out the blind rivets (2) at the rear cover (1) and the seat plate (3).

3 Pull the lug (4) on the rear cover (1) out of the guide (arrow) of the handle rail cover (5) and remove the rear cover (1).

4 Re-install the components in the reverse order of their removal.
3.11 Cover for lateral isolator – removal and installation

REMOVAL / INSTALLATION

(1) Cover for lateral isolator
(2) Hook (on the cover)
(3) Spring (on the cover)
(4) Pin (on the cover)
(5) Lateral isolator
(6) Lug (on the lateral isolator)
(7) Guide (on the lateral isolator)
### Removal and installation

1. Unclip two hooks (2) of the cover (1) at the cut-outs (arrows) of the lateral isolator (5).

2. Pull the pins (4) of the cover (1) out of the lugs (6) and the springs (3) of the cover (1) out of the guides (7) and remove the cover (1).

3. Re-install the components in the reverse order of their removal.
3.12 Support for warning triangle – removal and installation

REMOVAL / INSTALLATION

(1) Support for warning triangle
(2) Blind rivet
(3) Buffer
(4) Console for multi-function armrest
**3.12 Support for warning triangle – removal and installation**

### Removal and installation

1. Bore off two rivet heads and drive the blind rivets (2) out of the support for the warning triangle (1) and the console for the multi-function armrest (4).

2. Remove the support for the warning triangle (1).

3. **If the buffer (3) is defective:**
   Remove the buffer (3) at the support for the warning triangle (1).

4. Re-install the components in the reverse order of their removal.
3.13 Armrests – removal and installation

REMOVAL / INSTALLATION

(1) Left armrest
(2) Flange nut............................ 25 Nm
(3) Holder for lumbar support und climate control system
(4) Handle rail
(5) Left backrest support
(6) Right armrest*)
(7) Hexagon nut
(8) Right backrest support
(9) Adapter plate
(10) Multi-function armrest*)
(11) Belt roller*)

*) if fitted
Note:
The number of armrests differs depending on the design or model of the seat.
Here, the removal of the right and left armrest (1, 6) is described. For seat models with multi-function armrest (10), only the steps for the removal of the left armrest (1) are to be carried out.

⚠️ ATTENTION Malfunction!
If a belt roller (11) is fitted, do not mount the armrests (1, 6) in the lowest position as otherwise the function of the belt roller (11) might be impaired.

After having installed the armrests (1, 6), carry out a functional test of the belt roller (11).
3.13 Armrests – removal and installation

1 Left armrest (1):
   1.1 Remove the handle for backrest adjustment (see Chapter 3.7).
   1.2 Remove the handle rail cover (Chapter 3.9).

2 Right armrest (6):
   Remove the right armrest cover (see corresponding repair manual).

Removal and installation

3 Fold up the armrests (1 and 6).

4 Pull out the holder for lumbar support and climate control system (3) at the handle rail (4).
5 Unscrew a flange nut (2) at each armrest.

**Installation notes:**
- Flange nut (2), 25 Nm.
- The height adjustment of the armrests (1 or 6) is done via six steps (arrows) at the corresponding armrest (1 or 6) and via the nose (arrows) on the backrest supports (5, 8). When installing the armrests (1 or 6), make sure that the nose (arrows) is located in the fourth locking position from the top.
6 Remove the left armrest (1).
   **Installation note:**
   The longitudinal hole of the left armrest (1) must be pushed over the nose (B/arrow) on the left backrest support (B/5) and the guide (B/arrow) of the adapter plate (B/9) (anti-rotation device).

7 Remove the right armrest (5).
   **Installation notes:**
   - The hexagon nut (7) serves as anti-rotation device and guide for the right armrest (6). Two opposite outer surfaces of the hexagon nut (7) must be in vertical position.
   - The longitudinal hole of the right armrest (6) must be pushed over the nose (A/arrow) on the right backrest support (A/8) and the hexagon nut (A/7).

8 Re-install the components in the reverse order of their removal.
3.14 Multi-function armrest – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Multi-function armrest
(2) Circlip
(3) Lock washer
(4) Spacer
(5) Console for multi-function armrest .................. to grease
(6) Cover (multi-function armrest)
(7) Linkage rod (multi-function armrest)
Removal and installation

1. Loosen the lock washer (3) at the axle of the console (5).

2. **ATTENTION** Damage!
   Take care not to damage the cover (6).
   Detach the circlip (2) at the axle of the console (5).

3. Pull off the multi-function armrest (1) at the axles of the console (5).

**Installation notes:**
- Apply acid-free multi-purpose lubricant to the axles (F) of the console (5).
- During installation, make sure that the axle of the console (5) is put into the linkage rod (7).
4 Pull off the spacer (4) at the axle of the console (5).

5 Re-install the components in the reverse order of their removal.
3.15 Distribution for climate control system – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Distribution for climate control system
(2) Blind rivet
(3) Plate for lumbar support
(4) Socket of cable harness for seat heater
(5) Socket of cable harness for climate control system
(6) Socket of cable harness for upper seat part

1 Remove the backrest cushion (Chapter 3.2).
3.15 Distribution for climate control system – removal and installation

Removal and installation

2 Disconnect the electrical connection between the distribution for the climate control system (1) and the socket of the cable harness for the seat heater (4).

3 Disconnect the electrical connection between the distribution for the climate control system (1) and the socket of the cable harness for the climate control system (5).

4 Disconnect the electrical connection between the distribution for the climate control system (1) and the socket of the cable harness for the upper seat part (6).
5 Bore out two rivet heads on the plate for lumbar support (3) and drive out the blind rivets (2).

6 Remove the distribution for the climate control system (1).

7 Re-install the components in the reverse order of their removal.
3.16 Entire lumbar support – removal and installation

TABLE OF CONTENTS

3.16.1 Entire lumbar support (2-way valve block) – removal and installation *
3.16.2 Entire lumbar support (3-way valve block) – removal and installation *

* Liefervariante
3.16.1 Entire lumbar support (2-way valve block) – removal and installation (delivery option)

REMOVAL / INSTALLATION

(1) Air chambers for lumbar support
(2) Plate for lumbar support
(3) Cable tie
(4) Compressor
(5) Foam plastic part
(6) Backrest frame
(7) Handle rail
(8) Seat plate
(9) Air hose (at the compressor)
(10) Air hose (lower air chamber)
(11) Air hose (upper air chamber)
(12) Bell-shaped valve
(13) Cable tie
3.16.1 Entire lumbar support (2-way valve block) – removal and installation
(delivery option)

(14) Socket of cable harness for climate control system (broad)
(15) Plug of compressor cable (broad)
(16) Socket of cable harness for climate control system (narrow)
(17) Plug of compressor cable (narrow)
(18) Cable harness for climate control system
(19) Compressor cable
(20) Blind rivet
(21) Expanding rivet
### 3.16.1 Entire lumbar support (2-way valve block) – removal and installation (delivery option)

#### REMOVAL / INSTALLATION

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Remove the backrest cushion (Chapter 3.1).</td>
</tr>
<tr>
<td>2</td>
<td>Remove the handle for backrest adjustment (see Chapter 3.7).</td>
</tr>
<tr>
<td>3</td>
<td>Remove the handle rail cover (Chapter 3.9).</td>
</tr>
<tr>
<td>4</td>
<td>Remove the distribution for the climate control system at the plate for lumbar support (see Chapter 3.15).</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The electrical connections do not have to be disconnected.</td>
</tr>
<tr>
<td>5</td>
<td>Detach the holder for lumbar support and climate control system at the handle rail (see Chapter 3.17).</td>
</tr>
</tbody>
</table>

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![Diagram showing the removal and installation process of the entire lumbar support.](image-url)
3.16.1 Entire lumbar support (2-way valve block) – removal and installation (delivery option)

Removal and installation

⚠️ ATTENTION Damage!
Take care not to damage the connections (mandrel profiles) of the bell-shaped valve (12).

Mark the connections (arrows) of the bell-shaped valve (12) and pull off the air hoses (9, 10, 11) at the connections (arrows) of the bell-shaped valve (12).

Notes:
- Do not use a screwdriver or similar tools to lift off the air hoses (9, 10, 11) at the connections (arrows) of the bell-shaped valve (12).
- For easier removal, carefully slit the air hoses (9, 10, 11) with a sharp knife.
3.16.1 Entire lumbar support (2-way valve block) – removal and installation (delivery option)

**Installation notes:**
- Install the air hoses (9, 10, 11) according to the marking.
- Push the air hoses (9, 10, 11) completely onto the respective connections (arrows) of the bell-shaped valve (12).

7 Thread the air hoses (9, 10, 11) inwards through the opening (arrow) in the seat plate (8) and in the handle rail (7).

**Installation note:**

⚠️ **ATTENTION** Damage!
During installation, make sure that the air hoses (9, 10, 11) are not squeezed.

8 Mark the point where the air hoses (9, 10, 11) are fastened to the backrest frame (6) by means of cable ties (13) and remove the cable ties (13).
3.16.1 Entire lumbar support (2-way valve block) – removal and installation (delivery option)

9 Disconnect the electrical connection between the plug (15) and the socket (14) (broad plug-in contact).

10 Disconnect the electrical connection between the plug (17) and the socket (16) (narrow plug-in contact).

11 Mark the points where the foam plastic part (5) and the compressor (4) are attached to the bar of the backrest frame (6) by means of two cable ties (3) and remove the cable ties (3).

12 Remove the compressor (4) and the foam plastic part (5).
3.16.1 Entire lumbar support (2-way valve block) – removal and installation (delivery option)

13 Drive out two expanding rivets (21) and remove the air chambers for lumbar support (1).

14 If the plate for lumbar support (2) is defective:

14.1 Bore out three rivet heads at the backrest frame (6) and drive out the blind rivets (20).

14.2 Remove the plate for lumbar support (2).

15 Re-install the components in the reverse order of their removal.
3.16.2 Entire lumbar support (3-way valve block) – removal and installation (delivery option)

REMOVAL/INSTALLATION

TABLE OF CONTENTS

(1) Compressor
(2) Top and bottom air chamber with plate and buffer
(3) Back plate
(4) Hose connector
(5) Compressed air hose for top air chamber
(6) Compressed air hose for bottom air chamber
(7) Hose connector
(8) Compressed air hose on compressor
(9) Blind rivet
(10) Cable ties
(11) Foam part
(12) Holder for air conditioning distributor
3.16.2 Entire lumbar support (3-way valve block) – removal and installation (delivery option)

REMOVAL/INSTALLATION

(13) Blind rivet
(14) Flat plug connection (voltage)
(15) Flat plug connection (ground)

1 Remove backrest cushion (Chapter 3.2).
2 Remove the pocket (Chapter 3.48).
3.16.2 Entire lumbar support (3-way valve block) – removal and installation (delivery option)

Removal, installation

3 Mark the points at which the foam part (11) and the compressor (1) are secured to the beam of the back plate (3) with two cable ties (10), and remove the cable ties (10).

Installation instructions:
- Install the cable ties (10) with the closure facing downwards.
- Tighten the cable ties (10) to 360 ± 30 N with pliers in the direction of pull.
- Cut the cable tie ends flush at the closure.
3.16.2 Entire lumbar support (3-way valve block) – removal and installation  
(delivery option)

REMOVAL/INSTALLATION

4 Push pressure springs on the compressed air hoses (5, 6 and 8) backwards.  
**Note:**  
The pressure springs serve as anti-kink protection for the compressed air hoses (5, 6, and 8).

⚠️ **CAUTION** Do not damage the connections (mandrel profiles) of the hose connectors (4 and 7) and on the compressor (1)!
Do not use a screwdriver or similar tools to pry the compressed air hoses (5, 6, and 8) off the connections.
5 Mark the compressed air hoses (5, 6, and 8) and, with a sharp knife, make a straight, clean cut immediately behind the connections.

**Installation instructions:**
- Install the compressed air hoses (5, 6, and 8) as marked.
- Gently heat the compressed air hoses (5, 6, and 8) and apply pressure to push them completely onto the appropriate connections.

6 Remove the remaining pieces of the compressed air hoses (5, 6, and 8) on the connections.
7 Disconnect the flat plug connection (14 and 15) and remove the compressor (1) with the foam part (11).

**Installation instructions:**
- Lay the excess lengths of the lines in loops between the foam part (11) and the compressor (1).
- Wrap the foam part (11) around the compressor (1) and install both according to the marking.

8 Drill out the three rivet heads on the back plate (3) and knock out the blind rivets (9).
9 Drill out the rivet heat on the holder for air conditioning distributor (12) and knock out the blind river (13).

10 Remove the air chamber with the plate and buffer (2).

11 Installation is carried out in reverse order.
3.17 Holder for lumbar support and climate control system – removal and installation (Delivery option)

REMOVAL / INSTALLATION

TABLE OF CONTENTS

1. Entire holder for lumbar support and climate control system
2. Switch for climate control system
3. Socket of cable harness for distribution
4. Air hose (compressor)
5. Air hose (lower air chamber)
6. Air hose (upper air chamber)
7. Bell-shaped valve (for upper and lower air chamber)
8. Handle rail
3.17 Holder for lumbar support and climate control system – removal and installation (Delivery option)

REMOVAL / INSTALLATION

1. Remove the handle for backrest adjustment (see Chapter 3.7).

2. Remove the handle rail cover (Chapter 3.9).

Removal and installation

3. Detach the holder for lumbar support and climate control system (1) at the upper hook (arrow) of the handle rail (8) and pull it out at the handle rail (8).

4. Disconnect the electrical connection between the switch for the climate control system (2) and the socket of the cable harness for the distribution (3).
5 ATTENTION Damage!
Take care not to damage the connections (arrows) of the bell-shaped valve (7) and the air hoses (4, 5, 6).
Do not use a screwdriver or similar tools to lift off the air hoses (4, 5, 6) at the connections (arrows) of the bell-shaped valve (7).

Mark the air hoses (4, 5, 6) and cut them off in a clean and straight way directly behind the connections (arrows) of the bell-shaped valve (7).

Installation notes:
- Install the air hoses (4, 5, 6) according to the marking.
- Push the air hoses (4, 5, 6) completely onto the respective connections (arrows) of the bell-shaped valve (7).
3.17 Holder for lumbar support and climate control system – removal and installation (Delivery option)

Notes:
- After cutting, mark the air hoses (4, 5, 6) in order not to cut them several times.
- The air hoses (4, 5, 6) can be cut off only once.

6 Remove the holder for lumbar support and climate control system (1).

7 Re-install the components in the reverse order of their removal.
3.18 Backrest adjustment – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Adapter plate
(2) Micro-encapsulated countersunk screw (hexagon socket screw) ................................ to replace, 12 Nm
(3) Countersunk screw (with cams)
(4) Strip
(5) Axial locking ring
(6) Support
(7) Lever
(8) Handle rail
(9) Seat plate (left)
(10) Backrest
(11) Seat plate (right)
(12) Seat cushion
(13) Handle for backrest adjustment
3.18 Backrest adjustment – removal and installation

REMOVAL / INSTALLATION

1. Remove the handle for backrest adjustment (see Chapter 3.7).

2. Remove the handle rail cover (Chapter 3.9).

3. Remove the left armrest (see Chapter 3.13).

4. Detach the holder for lumbar support and climate control system at the handle rail (see Chapter 3.17).

Removal and installation

5. Temporarily attach the handle for backrest adjustment (13), pull it upwards and fold the backrest (10) forwards onto the seat cushion (12).
3.18  Backrest adjustment – removal and installation

REMOVAL / INSTALLATION

**6** Unscrew three micro-encapsulated countersunk screws (2).

*Installation note:*
Replace the micro-encapsulated countersunk screw (2), 12 Nm.

**7** Remove the adapter plate (1) and the countersunk screw (3).

*Installation note:*
Make sure the cam (arrow) at the countersunk screw (3) points upwards and engages with the groove of the adapter plate (1).

**8** Carefully lift off the lever (7) at the seat plate (9) by means of a screwdriver.

*Note:*
In order to prevent the backrest (10) from being unlatched at the seat plate (9), fasten the left and right side of the seat plate (9, 11) (e.g. clamp it in a screw clamp).
9 Detach the axial locking ring (5) at the pin of the handle rail (8).

10 Pull off the support (6) together with lever (7) and strip (4) at the pin of the handle rail (8).

11 Pull off the strip (4) with the lever (7) at the pin of the support (6).

12 Detach the strip (4) at the lever (7).

13 Re-install the components in the reverse order of their removal.
3.19 Backrest frame - removal and installation

REMOVAL / INSTALLATION

(1) Backrest frame................. to grease
(2) Washer
(3) Micro-encapsulated hexagon bolt ......................... to replace, 25 Nm
(4) Torsion spring
(5) Bearing
(6) Flange nut
(7) Cap
(8) Seat plate (right)
(9) Seat plate (left)
(10) Handle for backrest adjustment
(11) Seat cushion
(12) End stop
3.19 Backrest frame - removal and installation

REMOVAL / INSTALLATION

1. Remove the backrest cushion (Chapter 3.2).

2. Remove the backrest extension (Chapter 3.3).

3. Remove the guides for backrest extension (Chapter 3.4).

4. Remove the storage net (Chapter 3.6).

   **Note:**
   If a storage box is fitted, it has to be removed.

5. Remove the handle for backrest adjustment (see Chapter 3.7).

6. Remove the handle rail cover (Chapter 3.9).

7. Remove the rear cover (Chapter 3.10).
3.19 Backrest frame - removal and installation

8 Remove the armrests (Chapter 3.13).

9 Disconnect the electrical connection at the distribution for the climate control system (see Chapter 3.15).

**Note:**
Do not remove the distribution for the climate control system at the plate for lumbar support.

10 Remove the entire lumbar support (Chapter 3.16).

11 Detach the holder for lumbar support and climate control system at the handle rail (see Chapter 3.17).

12 Remove the adapter plate and the lever for backrest adjustment (see Chapter 3.18).

**Note:**
Do not remove the support at the handle rail.
3.19 Backrest frame - removal and installation

13 Remove the cable harness for the climate control system at the backrest frame (see Chapter 3.32).

14 Remove the cable harness for the seat heater at the backrest frame (see Chapter 3.33).

15 Remove the cable harness for the upper seat part at the backrest frame (see Chapter 3.34).

Removal and installation

16 Temporarily attach the handle for backrest adjustment (10), pull it upwards and fold the backrest frame (1) forwards onto the seat cushion (11).

17 Lift off the cap (7) at the flange nut (6).
18 Unscrew the flange nut (6).

**Installation note (if right armrest is fitted):**
The flange nut (6) acts as anti-rotation device and guide for the right armrest. Once tightened, the two opposite outer surfaces of the flange nut (6) must be located vertically.

19 Drive out the micro-encapsulated hexagon bolt (3) and remove the washer (2).

**Installation note:**
Replace the micro-encapsulated hexagon bolt (3), 25 Nm.

20 Press the backrest frame (1) to the left and lift it off at the right side of the seat plate (8) in upward direction.

**Installation note:**
Apply acid-free multi-purpose lubricant to the bearing surface (F) of the backrest frame (1).
3.19 Backrest frame - removal and installation

REMOVAL / INSTALLATION

21 Pull off the torsion spring (4) at the bearing (5).
**Installation notes:**
- The hook of the torsion spring (4) must be located at the rear and point upwards.
- The end stop (12) at the backrest frame (1) must be hung into the hook of the torsion spring (4).

22 Pull out the bearing (5) at the right side of the seat plate (8).
**Installation note:**
The pin (arrow) at the bearing (5) must be put into the upper hole at the right side of the seat plate (8).

23 Re-install the components in the reverse order of their removal.
### 3.20 Backrest bearing – removal and installation

**REMOVAL / INSTALLATION**

<table>
<thead>
<tr>
<th>No.</th>
<th>Part Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Backrest frame</td>
<td>to grease</td>
</tr>
<tr>
<td>2</td>
<td>Washer</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Micro-encapsulated hexagon bolt</td>
<td>to replace, 25 Nm</td>
</tr>
<tr>
<td>4</td>
<td>Torsion spring</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Bearing</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Flange nut</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Cap</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Seat plate (right)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Seat plate (left)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Handle for backrest adjustment</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Seat cushion</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>End stop</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE OF CONTENTS**
3.20 Backrest bearing – removal and installation

1. Remove the backrest cushion (Chapter 3.2).

2. Remove the handle for backrest adjustment (see Chapter 3.7).

3. Remove the handle rail cover (Chapter 3.9).

4. Remove the rear cover (Chapter 3.10).

5. Remove the armrests (Chapter 3.13).

6. Detach the holder for lumbar support and climate control system at the handle rail (see Chapter 3.17).

7. Remove the adapter plate and the lever for backrest adjustment (see Chapter 3.18).

**Note:**
Do not remove the support at the handle rail.
3.20 Backrest bearing – removal and installation

Removal and installation

8 Temporarily attach the handle for backrest adjustment (10), pull it upwards and fold the backrest frame (1) forwards onto the seat cushion (11).

9 Lift off the cap (7) at the flange nut (6).

10 Unscrew the flange nut (6).

**Installation note (if right armrest is fitted):**

The flange nut (6) acts as anti-rotation device and guide for the right armrest. Once tightened, the two opposite outer surfaces of the flange nut (6) must be located vertically.
11 Drive out the micro-encapsulated hexagon bolt (3) and remove the washer (2).
**Installation note:**
Replace the micro-encapsulated hexagon bolt (3), 25 Nm.

12 Press the backrest frame (1) to the left, lift it off at the right side of the seat plate (8) in upward direction and lay it onto the seat cushion (11) in forward direction.
**Note:**
When laying it down, make sure that the cable harnesses and air hoses fastened to the backrest frame (1) are not overstretched.
**Installation note:**
Apply acid-free multi-purpose lubricant to the bearing surface (F) of the backrest frame (1).
3.20 Backrest bearing – removal and installation

REMOVAL / INSTALLATION

13 Pull off the torsion spring (4) at the bearing (5).
   **Installation notes:**
   - The hook of the torsion spring (4) must be located at the rear and point upwards.
   - The end stop (12) at the backrest frame (1) must be hung into the hook of the torsion spring (4).

14 Pull out the bearing (5) at the right side of the seat plate (8).
   **Installation note:**
   The pin (arrow) at the bearing (5) must be put into the upper hole at the right side of the seat plate (8).

15 Re-install the components in the reverse order of their removal.
3.21 Flexible support plate for seat occupancy detection system – removal and installation

(1) Flexible support plate for seat occupancy detection system
(2) Compression spring
(3) Tension spring
(4) Seat angle adjustment

1 Remove the seat cushion (Chapter 3.1).
3.21 Flexible support plate for seat occupancy detection system – removal and installation

Removal and installation

2 Detach the tension spring (3) at the seat angle adjustment (4) and flexible support plate (1).

3 Fold up the flexible support plate (1) in forward direction.

4 Detach two noses (arrows) of the flexible support plate (1) at the seat angle adjustment (4) and remove the flexible support plate (1).

Note:
Do not bend the noses (arrows) while unhooking them.

Installation note:
Check the flexible support plate (1) for correct function:
Press the flexible support plate (1) several times to check if the flexibility of the compression springs (2) is ensured.
5 If the compression springs (2) are defective:
   Remove two compression springs (2) at the flexible support plate (1).
   **Installation note:**
   Make sure that the compression springs (2) are positioned correctly.

6 Re-install the components in the reverse order of their removal.
3.22 Seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

(1) Seat angle adjustment
(2) Seat depth adjustment
(3) Handle for seat angle adjustment
(4) Linkage rod
(5) Lever for seat depth adjustment
(6) Spring steel plate
(7) Leaf spring
(8) Locking mechanism
(9) Broad plug (cable harness for upper seat part)
(10) Narrow plug (cable harness for upper seat part)
(11) Broad socket (cable of seat switch)
(12) Narrow socket (cable of seat switch)
3.22 Seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

1 Remove the seat cushion (Chapter 3.1).

2 Remove the flexible support plate for the seat occupancy detection system (Chapter 3.21).

Removal and installation

3 Pull the seat angle adjustment (3) upwards and unlock the seat angle adjustment (1).

Note: Use a screwdriver to unhook the spring plate (6) at the bottom of the seat angle adjustment (1) at the hook of the locking mechanism (8).

4 Fold the seat angle adjustment (1) backwards by approx. 90 degrees.

5 Detach the linkage rod (4) at the lever for seat depth adjustment (5).
3.22 Seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

6 Detach two noses (arrows) of the seat angle adjustment (1) at the seat depth adjustment (2).

Note:
Do not bend the noses (arrows) while unhooking them.

Installation note:
Make sure not to distort the two leaf springs (7). The leaf springs (7) must be aligned lengthwise and parallel to the seat angle adjustment (1).

7 Disconnect the electrical connection between the plug (9) and the socket (11) (broad plug-in contact).

8 Disconnect the electrical connection between the plug (10) and the socket (12) (narrow plug-in contact).

9 Remove the seat angle adjustment (1).

10 Re-install the components in the reverse order of their removal.
3.23 Seat depth adjustment – removal and installation

REMOVAL / INSTALLATION

Table of Contents

(1) Seat depth adjustment .... to grease
(2) Slider
(3) Slider (travel limiter)
(4) Lever for seat depth adjustment
(5) Leaf spring ...................... to grease
(6) Seat plate
(7) End stop
(8) Cable tie
(9) Cable harness for upper seat part
3.23 Seat depth adjustment – removal and installation

REMOVAL / INSTALLATION

1. Remove the seat cushion (Chapter 3.1).

2. Remove the seat angle adjustment (Chapter 3.22).
   **Note:**
   The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

**Removal and installation**

3. Remove the end stop (7) at the seat depth adjustment (1).

4. Mark the points where the cable of the seat occupancy detection system (9) is attached to the seat depth adjustment (1) by means of two cable ties (8) and remove the cable ties (8).
5 Turn the lever for seat depth adjustment (4) in clockwise direction until the bent down hook (arrow) of the lever for seat depth adjustment (4) unlocks at the locking plate (dashed line) of the seat plate (6).

6 Push the seat depth adjustment (1) forwards until the four sliders (2) in the big cut-outs of the guides (arrows) are positioned in the seat depth adjustment (1).

**Note:**
The slider (3) in the right guide at the front acts as a travel limiter for the seat depth adjustment (1).

**Installation note:**
Apply acid-free multi-purpose lubricant to the upper and lower sliding surface of the four guides (arrows).
7 Lift off the seat depth adjustment (1) at the seat plate (6) in upward direction over the four sliders (2).

**Installation notes:**
- Make sure not to distort the two leaf springs (5). The leaf springs (5) must be aligned lengthwise and parallel to the seat depth adjustment (1).
- Apply acid-free multi-purpose lubricant to the upper surface (F) of the two leaf springs (5).

8 Re-install the components in the reverse order of their removal.
3.24 Switch for seat occupancy detection system – removal and installation

REMOVAL / INSTALLATION

(1) Seat switch
(2) Magnet
(3) Seat angle adjustment
(4) Flexible support plate for seat occupancy detection system
(5) Blind rivet
(6) Cable of seat switch

1 Remove the seat cushion (Chapter 3.1).

2 Remove the flexible support plate for the seat occupancy detection system (Chapter 3.21).

3 Remove the seat angle adjustment (Chapter 3.22).
3.24 Switch for seat occupancy detection system – removal and installation

Removal and installation

4 Bore out two rivet heads at the magnet (2) and drive out the blind rivets (5). Then, remove the magnet (2).

Installation note:
The arrows at the magnet (2) mark the connection end and must point towards the seat switch (1).

5 Bore out the two rivet heads on the seat switch (1) and drive out the blind rivets (5).
3.24 Switch for seat occupancy detection system – removal and installation

REMOVAL / INSTALLATION

6 Pull out the cable harness of the seat switch (6) through the hole (arrow) in the seat angle adjustment (3) in upward direction and remove the seat switch (1).

**Installation note:**
The arrows on the seat switch (1) mark the connection end and must point towards the magnet (2).

7 Re-install the components in the reverse order of their removal.
3.25 Holder for seat depth and seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Handle for seat angle adjustment
(2) Nose (at the handle for seat angle adjustment)
(3) Handle for seat depth adjustment
(4) Nose (at the handle for seat depth adjustment)
(5) Cover
(6) Holder for seat angle adjustment
(7) Hook (at the handle for seat angle adjustment)
(8) Holder for seat depth adjustment
(9) Hook (at the handle for seat depth adjustment)
(10) Rounded flange head screw
(11) Locking lever
(12) Seat angle adjustment
3.25 Holder for seat depth and seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

(13) Blind rivet
(14) Spring steel plate
(15) Round head screw 2 Nm
(16) Linkage rod

1 Remove the seat cushion (Chapter 3.1).

2 Remove the flexible support plate for the seat occupancy detection system (Chapter 3.21).

3 Remove the seat angle adjustment (Chapter 3.22).
3.25 Holder for seat depth and seat angle adjustment – removal and installation

Removal and installation

4. Unscrew two rounded flange head screws (10).

Installation notes:
- Screw the respective rounded flange head screw (10) from above diagonally through the aperture (arrow) in the holder for seat depth adjustment (8) and the holder for seat angle adjustment (6) into the nose (4) at the handle for seat depth adjustment (3) and into the nose (2) at the handle for seat angle adjustment (1) (permanent attachment).
- Screw in the rounded flange head screws (10) until their head lies flush at the holder for seat depth adjustment (8) or at the holder for seat angle adjustment (6).
5 Press the hook (9) backwards through the aperture at the bottom of the handle for seat depth adjustment (3) by means of a screwdriver and pull off the handle for seat depth adjustment (3) at the holder for seat depth adjustment (8) in downward direction at the same time.

**Installation notes:**
- Push the handle for seat depth adjustment (3) firmly onto the holder for seat depth adjustment (8) until the hook (9) at the handle for seat depth adjustment (3) clicks into place.
- The nose (4) must be put into the aperture (arrow) at the top of the holder for seat depth adjustment (8).
3.25 Holder for seat depth and seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

6 To remove the handle for seat angle adjustment (1) at the holder for seat angle adjustment (6), the instructions under item 5 have to be followed observing all installation notes.

7 Remove the linkage rod (16) from the holder for seat depth adjustment (8).

8 Unscrew two round head screws (15) at the cover (5) and remove the cover (5).
   **Installation note:**
   Round head screw (15), 2 Nm.

9 Drill off two rivet heads and drive out blind rivets (13), remove the spring plate (14).

10 Hang out the holder for seat depth adjustment (8) at the seat angle adjustment (12) and remove it.
3.25 Holder for seat depth and seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

11 Lever out the holder for seat angle adjustment (6) at the pin (arrow) of the locking lever (11) by means of a screwdriver and then pull it off at the locking lever (11).

Note: To remove the holder for seat angle adjustment (6) at the locking lever (11), the holder for seat depth adjustment (8) has to be removed first.

Installation note: Press the holder for seat angle adjustment (6) firmly onto the locking lever (11) until the pin (arrow) of the locking lever (11) locks into place in the holder for seat angle adjustment (6).
3.25 Holder for seat depth and seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

12 If the locking lever (11) is defective:
   Detach the locking lever (11) at the seat angle adjustment (12) and remove it.

13 Re-install the components in the reverse order of their removal.
3.26 Spring steel plate at the seat angle adjustment – removal and installation

REMOVAL / INSTALLATION

(1) Spring steel plate
(2) Blind rivet
(3) Seat angle adjustment
(4) Locking lever

1 Remove the seat cushion (Chapter 3.1).

2 Remove the flexible support plate for the seat occupancy detection system (Chapter 3.21).

3 Remove the seat angle adjustment (Chapter 3.22).
3.26 Spring steel plate at the seat angle adjustment – removal and installation

Removal and installation

4 Bore out two rivet heads at the spring steel plate (1) and drive out the blind rivets (2).

5 Remove the spring steel plate (1) at the seat angle adjustment (3).

**Note:**
During riveting, the spring steel plate (1) lies on the locking lever (4) under tension.

6 Re-install the components in the reverse order of their removal.
3.27 Spring steel plate at the seat depth adjustment – removal and installation

REMOVAL / INSTALLATION

1. Remove the seat cushion (Chapter 3.1).

2. Remove the seat angle adjustment (Chapter 3.22).
   **Note:**
   The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

3. Remove the seat depth adjustment (Chapter 3.23).
Removal and installation

4 Bore out two rivet heads at the seat depth adjustment (3) and drive out the blind rivets (2).

5 Remove the spring steel plate (1) at the seat depth adjustment (3).

6 Re-install the components in the reverse order of their removal.
3.28 Locking mechanism for seat angle and seat depth adjustment – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Locking mechanism
(2) Blind rivet
(3) Seat depth adjustment
(4) Left cover (for seat depth adjustment)
(5) Right cover (for seat depth adjustment)

1 Remove the seat cushion (Chapter 3.1).

2 Remove the seat angle adjustment (Chapter 3.22).
   **Note:** The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

3 Remove the seat depth adjustment (Chapter 3.23).
3.28 Locking mechanism for seat angle and seat depth adjustment – removal and installation

Removal and installation

4 Detach the left cover (4) and the right cover (5) for the seat depth adjustment (3) at the locking mechanism (1).

5 Bore out four rivet heads at the seat depth adjustment (3) and drive out the blind rivets (2).

6 Remove the locking mechanism (1) at the seat depth adjustment (3).

7 Re-install the components in the reverse order of their removal.
3.29 Covers for seat depth adjustment – removal and installation

REMOVAL / INSTALLATION

(1) Right cover for seat depth adjustment
(2) Left cover for seat depth adjustment
(3) Locking mechanism
(4) Seat depth adjustment
(5) Blind rivet
(6) Washer
(7) Pin
3.29 Covers for seat depth adjustment – removal and installation

1. Remove the seat cushion (Chapter 3.1).

2. Remove the seat angle adjustment (Chapter 3.22).

   **Note:**
   The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

3. Remove the seat depth adjustment (Chapter 3.23).

**Removal and installation**

4. Bore out four rivet heads, drive out the blind rivet (5) and remove the two washers (6).

5. Detach the left cover (2) and the right cover (1) at the locking mechanism (3).
6 Pull out the pin (7) of the left cover (2) and of the right cover (1) at the seat depth adjustment (3).

7 Detach the left cover (2) and the right cover (1) at the seat depth adjustment (3) (arrows) and remove them.

8 Re-install the components in the reverse order of their removal.
3.30 Lever for seat depth adjustment – removal and installation

REMOVAL / INSTALLATION

(1) Seat depth adjustment
(2) Lever for seat depth adjustment
(3) Socket
(4) Tension spring
(5) Micro-encapsulated countersunk screw (inner race) ....... to replace, 25 Nm

1 Remove the seat cushion (Chapter 3.1).

2 Remove the seat angle adjustment (Chapter 3.22).
   **Note:**
   The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

3 Remove the seat depth adjustment (Chapter 3.23).
Removal and installation

4 Detach the tension spring (4) at the lever for seat depth adjustment (2) and at the seat depth adjustment (1).

5 Unscrew the micro-encapsulated countersunk screw (5).
   **Installation note:**
   Replace the micro-encapsulated countersunk screw (5), 25 Nm.

6 Remove the socket (3) and the lever for seat depth adjustment (2).

7 Re-install the components in the reverse order of their removal.
3.31 Slider for seat depth adjustment and protective profile – removal and installation

REMOVAL / INSTALLATION

(1) Slider ........................................... to grease
(2) Blind rivet
(3) Protective profile
(4) Seat plate
(5) Seat depth adjustment

1 Remove the seat cushion (Chapter 3.1).

2 Remove the seat angle adjustment (Chapter 3.22).

Note:
The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

3 Remove the seat depth adjustment (Chapter 3.23).
3.31 Slider for seat depth adjustment and protective profile – removal and installation

Removal and installation

4 Bore out four rivet heads at the sliders (1) and drive out the blind rivets (2).

5 Remove four sliders (1).
   **Installation note:**
   Apply acid-free multi-purpose lubricant to the sliding surface (F) of the sliders (1).

6 Pull out the slider (1) in the right front guide (arrow) of the seat depth adjustment (5).
   **Note:**
   The slider (1) acts as a travel limiter for the seat depth adjustment (5).
   **Installation notes:**
   - Apply acid-free multi-purpose lubricant to the sliding surface (F) of the slider (1).
   - Loosely push the slider (1) into the guide (arrow).
3.31 Slider for seat depth adjustment and protective profile – removal and installation

7 Pull off two protective profiles (3) at the seat plate (4).

8 Re-install the components in the reverse order of their removal.
3.32 Cable harness of climate control system and distribution – removal and installation

REMOVAL / INSTALLATION

(1) Cable harness for climate control system
(2) Cable harness for distribution
(3) Clamp
(4) Backrest frame
(5) Cable tie
(6) Distribution for climate control system
(7) Socket (cable harness for climate control system)
(8) Plug (broad)
(9) Socket (broad)
(10) Plug (narrow)
(11) Socket (narrow)
(12) Cable harness for upper seat part
(13) Cable harness of the seat heater
(14) Cable tie
3.32 Cable harness of climate control system and distribution – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(15) Socket (cable harness for climate control system)
(16) Plug (cable harness for distribution)
(17) Plug (cable of bell-shaped valve)
(18) Socket (cable harness for distribution)
(19) Socket (cable harness for distribution)
(20) Switch for climate control system
(21) Cable of bell-shaped valve
(22) Handle rail
(23) Seat plate
3.32 Cable harness of climate control system and distribution – removal and installation

REMOVAL / INSTALLATION

1. Remove the seat cushion (Chapter 3.1).

2. Remove the backrest cushion (Chapter 3.2).

3. Remove the handle for backrest adjustment (see Chapter 3.7).

4. Remove the handle rail cover (Chapter 3.9).

5. Detach the holder for lumbar support and climate control system at the handle rail (see Chapter 3.17).
3.32 Cable harness of climate control system and distribution – removal and installation

Removal and installation

6 Mark the installation position of the cable harness for climate control system (1) and distribution (2) and of the cable harnesses (12, 13) affected by the removal.

7 Mark the points where the cable harness for the climate control system (1) is fastened to the backrest frame (4) and to the seat plate (23) by means of cable ties (5) and remove the cable ties (5).

**Installation note:**
Refasten the cable harness for the upper seat part (12) and the cable harness for the seat heater (13) by means of cable ties (5).

8 Disconnect the electrical connection between the distribution for the climate control system (6) and the socket (7).
9 Disconnect the electrical connection between the plug (8) and the socket (9) (broad plug-in contact).

10 Disconnect the electrical connection between the plug (10) and the socket (11) (narrow plug-in contact).

11 Detach the cable harness for the climate control system (1) at the four clamps (3).

12 Mark the points where the electrical connections between the cable harness for the climate control system (1), the cable harness for the distribution (2) and the cable of the bell-shaped valve (21) are fastened by means of cable ties (14) and remove the cable ties (14).

13 Disconnect the electrical connection between the switch for the climate control system (20) and the socket (19).
3.32 Entire cable harness for climate control system – removal and installation

REMOVAL / INSTALLATION

14 Disconnect the electrical connection between the plug (16) and the socket (15).

15 Disconnect the electrical connection between the plug (17) and the socket (18).

16 Remove the cable harness for the distribution (2).

17 Thread the cable harness for the climate control system (1) inwards through the opening (arrow) in the seat plate (23) and in the handle rail (22) and remove it.

**Installation note:**
Install the cable harness for climate control system (1) and distribution (2) according to the marking.

18 Re-install the components in the reverse order of their removal.
3.33 Cable harness of the seat heater – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Cable harness of the seat heater
(2) Seat plate
(3) Backrest frame
(4) Cable tie
(5) Cable tie
(6) Cable harness for climate control system
(7) Cable harness for upper seat part
(8) Socket (cable harness for seat heater)
(9) Distribution for climate control system

1 Remove the seat cushion (Chapter 3.1).

2 Remove the backrest cushion (Chapter 3.2).
3.33 Cable harness of the seat heater – removal and installation

Removal and installation

3 Mark the installation position of the cable harness for the seat heater (1) and of the cable harnesses (6, 7) affected by the removal.

4 Mark the points where the cable harness for the seat heater (1) is fastened to the backrest frame (3) by means of two cable ties (5) and remove the cable ties (5).

Installation note:
Refasten the cable harness for the climate control system (6) and the cable harness for the upper seat part (7) by means of cable ties (5).
5 Mark the points where the cable harness for the seat heater (1) is fastened to the seat plate (2) by means of two cable ties (4) and remove the cable ties (4).

**Installation note:**
Refasten the cable harness for the climate control system (6) and the cable harness for the upper seat part (7) by means of cable ties (4).

6 Disconnect the electrical connection between the distribution for the climate control system (9) and the socket of the cable harness for the seat heater (8).

7 Remove the cable harness for the seat heater (1).

**Installation note:**
Run the cable harness for the seat heater (1) according to the marking.

8 Re-install the components in the reverse order of their removal.
3.34 Cable harness of the upper seat part – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Cable harness for upper seat part
(2) Seat plate
(3) Backrest frame
(4) Handle rail
(5) Cable tie
(6) Cable harness for climate control system
(7) Cable harness of the seat heater
(8) Cable tie
(9) Socket of cable harness for upper seat part
(10) Distribution for climate control system
(11) Micro-switch
(12) Socket of cable harness for upper seat part
3.34 Cable harness of the upper seat part – removal and installation

REMOVAL / INSTALLATION

(13) Clamp
(14) Electrical connection "R" at printed circuit board*
(15) Printed circuit board*

* if fitted
3.34 Cable harness of the upper seat part – removal and installation

REMOVAL / INSTALLATION

1. Remove the upper seat part (Chapter 3.43).

2. Remove the seat cushion (Chapter 3.1).

3. Remove the backrest cushion (Chapter 3.2).

4. Remove the handle for backrest adjustment (see Chapter 3.7).

5. Remove the handle rail cover (Chapter 3.9).

6. Remove the seat angle adjustment (Chapter 3.22).

   **Note:**
   The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

7. Remove the seat depth adjustment (Chapter 3.23).
3.34 Cable harness of the upper seat part – removal and installation

Removal and installation

8 Mark the installation position of the cable harness for the upper seat part (1) and of the cable harnesses (6, 7) affected by the removal.

9 Mark the points where the cable harness for the upper seat part (1) is fastened to the backrest frame (3) by means of two cable ties (8) and remove the cable ties (8).

Installation note:
Refasten the cable harness for the climate control system (6) and the cable harness for the seat heater (7) by means of cable ties (8).
10 Disconnect the electrical connection between the distribution for the climate control system (10) and the socket of the cable harness for the upper seat part (9).

11 Mark the points where the cable harness for the upper seat part (1) is fastened to the seat plate (2) by means of six cable ties (5) and remove the cable ties (5).

**Installation note:**
Refasten the cable harness for the climate control system (6) and the cable harness for the seat heater (7) by means of cable ties (5).

12 Detach the cable harness of the upper seat part (1) at the clamp (13).

13 Disconnect the electrical connection between the micro-switch (11) and the socket of the cable harness for the upper seat part (12).
14 **Upper seat part with operating mode setting:**
Disconnect the electrical connection (14) at the printed circuit board (15).

15 Thread the cable harness for the upper seat part (1) inwards at the opening (arrow) in the seat plate (2) and in the handle rail (4).

16 Pull out the cable harness for the upper seat part (1) at the opening (arrow) of the seat plate (2) in upward direction and remove it.

**Installation note:**
Run the cable harness for the upper seat part (1) according to the marking.

17 Re-install the components in the reverse order of their removal.
3.35 Lap belt – removal and installation (optional extra)

REMOVAL / INSTALLATION

(1) Belt roller
(2) Belt buckle
(3) Cap
(4) Hexagon bolt....................... 50 Nm
(5) Console for multi-function armrest
(6) Spacer sleeve
(7) Seat plate
(8) Handle rail
(9) Spacer sleeve
(10) Hexagon bolt....................... 50 Nm
(11) Handle rail cover
(12) Holder for lumbar support und climate control system
(13) Lug
3.35 Lap belt – removal and installation (optional extra)

REMOVAL / INSTALLATION

1. Remove the seat cushion (Chapter 3.1).

2. Remove the handle for backrest adjustment (see Chapter 3.7).

3. Remove the handle rail cover (Chapter 3.9).

4. Remove the multi-function armrest (Chapter 3.14).
3.35 Lap belt – removal and installation (optional extra)

Removal and installation

5 Lift off the cap (3) at the hexagon bolt (4).

6 Unscrew the hexagon bolt (4) at the seat plate (7).

7 Pull the hexagon bolt (4) out of the console (5) and remove the belt retractor (1) and two spacer sleeves (6).

Installation notes:
- Hexagon bolt (4), 25 Nm.
- Tighten the belt retractor (1) at an angle of 45 to 60 degrees by means of screws so that the safety belt can be fastened without any distortions in a comfortable seat position over the thighs.
8 Unscrew the hexagon bolt (10) at the seat plate (7) and remove the belt buckle (2) and the spacer sleeve (9). **Installation notes:**
- Hexagon bolt (10), 25 Nm.
- When subsequently installing the belt buckle (2), the lug (13) of the holder for lumbar support and climate control system (12) must be cut off at the perforated point (predetermined breaking point).
- Turn the belt buckle (2) to the correct position before tightening the hexagon bolt (10) so that the belt buckle (2) fits through the aperture between the handle rail cover (11) and the holder for lumbar support and climate control system (12).

9 Remove the components in the reverse order of their installation.
3.36 Handle rail – removal and installation

(1) Handle rail
(2) Blind rivet
(3) Support
(4) Micro-switch
(5) Socket of the cable for height adjustment (at cable harness for upper seat part)
(6) Cable for height adjustment
(7) Air hose (of compressor)
(8) Air hose (lower air chamber)
(9) Air hose (upper air chamber)
(10) Cable harness for climate control system
(11) Seat plate
(12) Lever
(13) Strip
3.36 Handle rail – removal and installation

REMOVAL / INSTALLATION

(14) Pin
(15) Clamp (cable clamp)
(16) Blind rivet*
(17) Spring steel plate*

* if fitted
3.36 Handle rail – removal and installation

REMOVAL / INSTALLATION

1 Remove the seat cushion (Chapter 3.1).

2 Remove the handle set (Chapter 3.7).

3 Remove the handle rail cover (Chapter 3.9).

4 Remove the left armrest (see Chapter 3.13).

5 Detach the holder for lumbar support and climate control system at the handle rail (see Chapter 3.17).

6 Remove the air hoses at the connections of the bell-shaped valve (see Chapter 3.16).
7 Disconnect the electrical connection between the plug of the cable harness for the distribution and the socket of the cable harness for the climate control system (see Chapter 3.32).

8 Remove the seat angle adjustment (Chapter 3.22).
   **Note:**
   The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

9 Remove the seat depth adjustment (Chapter 3.23).

10 **Seat with lap belt:**
   Remove the belt buckle (see Chapter 3.35).
3.36 Handle rail – removal and installation

11 Upper seat part with operating mode setting:
Remove the printed circuit board (Chapter 3.44).
Installation note:
The printed circuit board has to be reused.

12 Seat top with vertical shock absorber adjustment:
Removing the handle (Chapter 3.45).

Removal and installation

13 Disconnect the electrical connection between the micro-switch (4) and the socket of the cable harness for height adjustment (5).

14 Detach the cable for height adjustment (6) at the clamp (15).

15 Pull off the strip (13) at the pun (14) of the support (3).
3.36 Handle rail – removal and installation

16 Detach the strip (13) at the lever (12).

17 Bore out three rivet heads and drive out the blind rivets (2).

18 Detach the hook (arrow) of the handle rail (1) at the seat plate (11) and pull the handle rail (1) out of the seat plate (11).

19 Thread three air hoses (7, 8, 9), the cable for height adjustment (6) and the cable harness for the climate control system (10) inwards through the aperture (arrow) of the handle rail (1) and the seat plate (11) and remove the handle rail (1).
20 **Upper seat part with free-wheeling of the swivel:**
When installing a new handle rail, the spring steel plate (17) must be riveted to the handle rail (1) by means of a blind rivet (16) prior to installation.

21 Re-install the components in the reverse order of their removal.
3.37 Seat plate – removal and installation

REMOVAL / INSTALLATION

(1) Seat plate
(2) Micro-encapsulated cap screw ...................... to replace, 25 Nm
(3) Washer
(4) Console for multi-function armrest
(5) Protective profile
(6) Micro-encapsulated cap screw to replace, 25 Nm
(7) End stop
(8) Hexagon nut
(9) Blind rivet
(10) Slider ................................. to grease

1 Remove the seat cushion (Chapter 3.1).

2 Remove the backrest cushion (Chapter 3.2).
3.37 Seat plate – removal and installation

3. Removal of the handle for backrest adjustment (see Chapter 3.7).

4. Remove the handle rail cover (Chapter 3.9).

5. Remove the support for the warning triangle (Chapter 3.12).

6. Remove the rear cover (Chapter 3.10).

7. Remove the left armrest (see Chapter 3.13).

8. Remove the multi-function armrest (Chapter 3.14).

9. Remove the air hoses at the bell-shaped valve and thread them inwards through the aperture in the seat plate (see Chapter 3.16).
10 Detach the holder for lumbar support and climate control system at the handle rail (see Chapter 3.17).

11 Remove the seat angle adjustment (Chapter 3.22).

Note: The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

12 Remove the seat depth adjustment (Chapter 3.23).

13 **Seat with lap belt:**
Remove the lap belt (Chapter 3.35).

14 Remove the cable harness for the climate control system (see Chapter 3.32).
Note:
The cable harness for the climate control system remains attached to the backrest frame, to the distribution for the climate control system and to the compressor.

15 Remove the cable harness for the seat heater (see Chapter 3.33).

Note:
The cable harness for the seat heater remains attached to the backrest frame and to the distribution for the climate control system.

16 Remove the upper seat part (Chapter 3.43).

17 Remove the cable harness for the upper seat part (see Chapter 3.34).

Note:
The cable harness for the upper seat part remains attached to the backrest frame and to the distribution for the climate control system.
3.37 Seat plate – removal and installation

REMOVAL / INSTALLATION

18 Remove the handle rail (Chapter 3.36).

19 Remove the backrest adjustment (Chapter 3.18).

20 Remove the backrest frame (see Chapter 3.19).

**Note:**
The components which are attached to the backrest frame do not need to be removed.

**Removal and installation**

21 Unscrew three micro-encapsulated cap screws (2) and remove the washers (3).

**Installation note:**
Replace the micro-encapsulated cap screw (2), 25 Nm.

22 Remove the seat plate (1) at the console for the multi-function armrest (4).
23 Removing components which are preassembled at the seat plate (1):

23.1 Unscrew the micro-encapsulated cap screw (6) and remove the end stop (7) and the hexagon nut (8).

Installation note:
Replace the micro-encapsulated cap screw (2), 25 Nm.

23.2 Bore out four rivet heads at the sliders (10), drive out the blind rivets (9) and remove the sliders (10).

Installation note:
Apply acid-free multi-purpose lubricant to the sliding surface (F) of the sliders (10).

23.3 Pull off two protective profiles (5) at the seat plate (1).

24 Re-install the components in the reverse order of their removal.
(1) Console for multi-function armrest
(2) Micro-encapsulated countersunk screw ................. to replace, 25 Nm
(3) Washer
(4) Lateral isolator
1 Remove the seat cushion (Chapter 3.1).

2 Remove the support for the warning triangle (Chapter 3.12).

3 Remove the multi-function armrest (Chapter 3.14).

4 Remove the seat angle adjustment (Chapter 3.22).

**Note:**
The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

5 Remove the seat depth adjustment (Chapter 3.23).
3.38 Console for multi-function armrest – removal and installation

**REMOVAL / INSTALLATION**

**6 Seat with lap belt:**
Remove the belt roller (see Chapter 3.35).

**7 Remove the upper seat part** (Chapter 3.43).

**8 Pull out the cable harness for the upper seat part (1) at the aperture of the seat plate in upward direction (see Chapter 3.34).**

**9 Remove the seat plate** (Chapter 3.37).

**Note:**
The seat plate is removed together with the attached backrest frame and all components fixed to it. Preparatory work that is expected to be carried out according to this chapter does not need to be carried out.
Removal and installation

10 Unscrew four micro-encapsulated countersunk screws (2).
   **Installation note:**
   Replace the micro-encapsulated countersunk screw (2), 25 Nm.

11 Remove the console for the multi-function armrest (1) and the washers (3) at the lateral isolator (4).

12 Re-install the components in the reverse order of their removal.
3.39 Lateral isolator – removal and installation

REMOVAL / INSTALLATION

(1) Lateral isolator
(2) Swivel
(3) Fore/aft adjustment
(4) Cable tie
(5) Micro-encapsulated hexagon nut
........................................ to replace, 25 Nm
(6) Threaded bolt
(7) Washer
3.39 Lateral isolator – removal and installation

REMOVAL / INSTALLATION

1. Remove the seat cushion (Chapter 3.1).

2. Remove the support for the warning triangle (Chapter 3.12).

3. Remove the multi-function armrest (Chapter 3.14).

4. Remove the seat angle adjustment (Chapter 3.22).
   **Note:**
   The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

5. Remove the seat depth adjustment (Chapter 3.23).

6. **Seat with lap belt:**
   Remove the belt roller (see Chapter 3.35).
3.39 Lateral isolator – removal and installation

7 Remove the upper seat part (Chapter 3.43).

8 Pull out the cable harness for the upper seat part at the aperture of the seat plate in upward direction (see Chapter 3.34).

9 Remove the seat plate (Chapter 3.37).

Note:
The seat plate is removed together with the attached backrest frame and all components fixed to it. Preparatory work that is expected to be carried out according to this chapter does not need to be carried out.

10 Remove the console for the multifunction armrest (Chapter 3.38).
3.39 Lateral isolator – removal and installation

Removal and installation

11 Turn the component (1, 2, 3) by 180 degrees and lay it onto the lateral isolator (1).

12 Turn the swivel (2) to the left and to the right respectively so that the micro-encapsulated hexagon nuts (5) are accessible.

13 Unscrew four micro-encapsulated hexagon nuts (5) at the threaded bolts (6).

Installation note:
Replace the micro-encapsulated hexagon nut (5), 25 Nm.
3.39 Lateral isolator – removal and installation

REMOVAL / INSTALLATION

14 Lift off the swivel (2) with the attached fore/aft adjustment (3) over the threaded bolts (6) in upward direction and remove the lateral isolator (1).

Note:
The two cable ties (4) fix the lateral isolator (1) so that the threaded bolts (6) stay in alignment with the mounting holes (arrow) in the swivel (2) when the swivel (2) is attached.

Installation note:
After placing the swivel (2) onto the threaded bolts (6), remove the two cable ties (4).

15 Re-install the components in the reverse order of their removal.
3.40 Shock absorber for lateral isolator – removal and installation

(1) Shock absorber for lateral isolator
(2) Lateral isolator
(3) Micro-encapsulated hexagon nut ............................. to replace, 12 Nm
(4) Socket
(5) Cap screw
(6) Countersunk screw
(7) Angle plate
3.40 Shock absorber for lateral isolator – removal and installation

REMOVAL / INSTALLATION

1. Remove the seat cushion (Chapter 3.1).

2. Remove the support for the warning triangle (Chapter 3.12).

3. Remove the multi-function armrest (Chapter 3.14).

4. Remove the seat angle adjustment (Chapter 3.22). **Note:**
   The flexible support plate for the seat occupancy detection system remains attached to the seat angle adjustment.

5. Remove the seat depth adjustment (Chapter 3.23).

6. **Seat with lap belt:**
   Remove the belt roller (see Chapter 3.35).
7 Remove the upper seat part (Chapter 3.43).

8 Pull out the cable harness for the upper seat part at the aperture of the seat plate in upward direction (see Chapter 3.34).

9 Remove the seat plate (Chapter 3.37).  
**Note:**  
The seat plate is removed together with the attached backrest frame and all components fixed to it. Preparatory work that is expected to be carried out according to this chapter does not need to be carried out.

10 Remove the console for the multifunction armrest (Chapter 3.38).

11 Remove the lateral isolator (Chapter 3.39).
3.40 Shock absorber for lateral isolator – removal and installation

Removal and installation

12 Unscrew the micro-encapsulated hexagon nut (3) and remove the countersunk screw (6).
**Installation note:**
Replace the micro-encapsulated hexagon nut (3), 12 Nm.

13 Unscrew the micro-encapsulated hexagon nut (3) and remove the cap screw (5) and the socket (4).
**Installation note:**
Replace the micro-encapsulated hexagon nut (3), 12 Nm.
14 **WARNING** Risk of injury!
After removal of the shock absorber for the lateral isolator (1), the angle plate (7) is loose.

Remove the shock absorber (1) at the lateral isolator (2).

15 Re-install the components in the reverse order of their removal.
3.41 Swivel – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Swivel
(2) Fore/aft adjustment
(3) Threaded bolt
(4) Micro-encapsulated hexagon nut
  ........................................ to replace, 25 Nm
(5) Micro-encapsulated cap screw
  ........................................ to replace, 25 Nm
(6) Washer
(7) Flange nut
(8) Washer
(9) Seat cushion
(10) Backrest frame

1 Remove the upper seat part
   (Chapter 3.43).
3.41 Swivel – removal and installation

Removal and installation

2 Turn the upper seat part by 180 degrees and lay it onto the seat cushion (9) or onto the backrest frame (10) folded forwards.

3 Turn the swivel (1) to the left and to the right respectively so that the micro-encapsulated hexagon nuts (4) are accessible.

4 Unscrew four micro-encapsulated hexagon nuts (4) at the threaded bolts (3).

Installation note:
Replace the micro-encapsulated hexagon nut (4), 25 Nm.

5 Lift off the swivel (1) with the attached fore/aft adjustment (2) over the threaded bolts (3) in upward direction.

Note:
The washer (8) at the threaded bolt (3) is loose.
3.41 Swivel – removal and installation

REMOVAL / INSTALLATION

6 Turn the swivel (1) to the right so that the micro-encapsulated cap screws (5) are accessible.

7 Push the fore/aft adjustment (2) forwards, unscrew two micro-encapsulated cap screws (5) at the front and remove flange nuts (7) and washers (6).

**Installation note:**
Replace the micro-encapsulated cap screw (5), 25 Nm.

8 Push the fore/aft adjustment (2) backwards, unscrew two micro-encapsulated cap screws (5) at the rear and remove flange nuts (7) and washers (6).

**Installation note:**
Replace the micro-encapsulated cap screw (5), 25 Nm.
9 Remove the swivel (1) at the fore/aft adjustment (2).

10 Re-install the components in the reverse order of their removal.
3.42 Fore/aft adjustment – removal and installation

REMOVAL / INSTALLATION

1 Remove the upper seat part (Chapter 3.43).

TABLE OF CONTENTS

(1) Adjusting rail
(2) Locking rail
(3) Lever for fore/aft adjustment
(4) Fore/aft adjustment = (1) + (2) + (3)
(5) Swivel
(6) Micro-encapsulated cap screw ......................... to replace, 25 Nm
(7) Washer
(8) Flange nut
(9) Micro-encapsulated hexagon nut ....................... to replace, 12 Nm
(10) Threaded bolt (on adjusting rail)
(11) Seat cushion
(12) Backrest frame
3.42 Fore/aft adjustment – removal and installation

Removal and installation

2 Turn the upper seat part by 180 degrees and lay it onto the seat cushion (11) or onto the backrest frame (12) folded forwards.

3 Turn the swivel (5) to the right so that the micro-encapsulated cap screws (6) are accessible.

4 Push the locking rail (2) of the fore/aft adjustment (4) backwards, unscrew two micro-encapsulated cap screws (6) at the front and remove flange nuts (8) and washers (7).

Installation notes:
- Replace the micro-encapsulated cap screw (6), 25 Nm.
- After having installed the fore/aft adjustment (4), check the fore/aft adjustment (4) for correct locking in any position.
5. Push the locking rail (2) of the fore/aft adjustment (4) forwards, unscrew two micro-encapsulated cap screws (6) at the rear and remove flange nuts (8) and washers (7).

Installation notes:
Replace the micro-encapsulated cap screw (6), 25 Nm.

6. Remove the fore/aft adjustment (4) at the swivel (5).

Installation note:
Apply acid-free multi-purpose lubricant to the notching (F) of the locking rail (2).
7 Unscrew two micro-encapsulated hexagon nuts (9).
   **Installation note:**
   Replace the micro-encapsulated hexagon nut (9), 12 Nm.

8 Pull off the lever for fore/aft adjustment (3) at the threaded bolts (10) of the adjusting rails (1).
   **Note:**
   The bend of the lever for fore/aft adjustment (3) must point upwards.
   **Installation note:**
   The hooks (arrows) at the adjusting rails (1) must engage in the drill holes of the lever for fore/aft adjustment (3).

9 Re-install the components in the reverse order of their removal.
3.43 Upper seat part – removal and installation

REMOVAL / INSTALLATION

TABLE OF CONTENTS

(1) Seat suspension
(2) Upper seat part
(3) Fore/aft adjustment
(4) Micro-encapsulated cap screw ..................... to replace, 25 Nm
(5) Reinforcement plate*)
(6) Cable harness for upper seat part
(7) Cable tie
(8) Center cover
(9) Socket (cable harness for upper seat part)
(10) Plug (cable harness of seat suspension)
(11) Socket (cable harness for upper seat part)
(12) Plug (cable harness of seat suspension)

*) if fitted
3.43 Upper seat part – removal and installation

REMOVAL / INSTALLATION

Note:
For the removal of the seat suspension (1) on the vehicle, ask the vehicle manufacturer for the necessary assembly work to be carried out.

1 Seat top with vertical shock absorber adjustment:

1.1 Remove the handle for the backrest angle adjustment (see Chapter 3.7).

1.2 Remove the cover for the handle holder (Chapter 3.9).

1.3 Remove the seat cushion (Chapter 3.1).

1.4 Detach the Bowden cable from the handle for vertical shock absorber adjustment (see Chapter 3.45).
Removal and installation

2 Push the upper seat part (2) backwards over the fore/aft adjustment (3) as far as possible.

3 Mark the screw positioning diagram, unscrew two micro-encapsulated cap screws (4) at the front of the fore/aft adjustment (3) and remove the reinforcement plates (5).

Installation notes:
- Replace the micro-encapsulated cap screw (4), 25 Nm.
- Check the fore/aft adjustment (3) for correct locking in any position.
- Install the fore/aft adjustment (3) according to the marking.
3.43 Upper seat part – removal and installation

4 Push the upper seat part (2) forwards over the fore/aft adjustment (3) as far as possible.

5 Mark the screw positioning diagram, unscrew two micro-encapsulated cap screws (4) at the rear of the fore/aft adjustment (3) and remove the reinforcement plates (5).

Installation notes:
- Replace the micro-encapsulated cap screw (4), 25 Nm.
- Install the fore/aft adjustment (3) according to the marking.
3.43 Upper seat part – removal and installation

REMOVAL / INSTALLATION

6 Mark the points where the cable harness of the upper seat part (6) is fastened to the center cover (8) by means of two cable ties (7) and remove the cable ties (7).

7 Disconnect the electrical connection between the socket (9) and the plug (10).

8 Disconnect the electrical connection between the socket (11) and the plug (12).

9 Seat top with vertical shock absorber adjustment:

9.1 Mark the points at which the Bowden cable is secured to the seat top and detach it.

9.2 Unthread the Bowden cable from the seat top.

Installation note:
Install the Bowden cable as marked.
10 Lift off the upper seat part (2) at the seat suspension (1).

**Installation note:**
To prevent the cable harness of the upper seat part (6) from being squeezed and rubbed, the two cables of the cable harness for the upper seat part (6) should be placed in slackness loops (round arrows) between the seat suspension (1) and the upper seat part (2).

11 Re-install the components in the reverse order of their removal.
### 3.44 Printed circuit board for operating mode setting – removal and installation (delivery option)

**REMOVAL / INSTALLATION**

<table>
<thead>
<tr>
<th></th>
<th>Printed circuit board</th>
<th>Screw</th>
<th>2 Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Micro-switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Cable harness for upper seat part</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Clamp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Electrical connection &quot;M&quot; (micro-switch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Handle for operating mode setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Electrical connection &quot;R&quot; (printed circuit board)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Remove the handle for backrest adjustment (see Chapter 3.7).
2. Remove the handle rail cover (Chapter 3.9).
3. Remove the seat cushion (chapter 3.1).
Removal and installation

4 Detach the cable harness of the upper seat part (4) at the clamp (5).

5 Disconnect the electrical connection (6) at the micro-switch (3).

6 Unscrew the screw (2) and take off the printed circuit board (1).

**Installation notes:**
- Press the printed circuit board (1) onto the two centering pins (arrows).
- Screw (2), 2 Nm.

7 Disconnect the electrical connection (8) at the printed circuit board (1).

8 Re-install the components in the reverse order of their removal.
3.45 Removing/installing the handle for the vertical shock absorber adjustment (delivered version)

REMOVAL/INSTALLATION

(1) Handle  
(2) Bowden cable  
(3) Cup head screw....................3.5 Nm  
(4) Washer  
(5) Spring  
(6) Handle  
(7) Cover  
(8) Seat cushion

1 Remove the handle (6) for the backrest angle adjustment (see Chapter 3.7).

2 Remove the cover (7) for the handle holder (Chapter 3.9).

3 Remove the seat cushion (8) (Chapter 3.1).
3.45 Removing/installing the handle for the vertical shock absorber adjustment (delivered version)

Removal, installation

4. Turn the handle (1) to its forward position.
   **Installation note:**
   Inspect and adjust the Bowden cable for the vertical shock absorber adjustment if necessary (see Chapter 3.46).

5. Unscrew the cup head screw (3).
   **Installation note:**
   Cup head screw (3), 3.5 Nm.

6. Remove the washer (4) and the spring (5) (1).
7 Detach the Bowden cable (2) from the handle (1).

**Note:**
When detaching it, make sure that the cable pull (arrow) does not slide back into the sleeve of the Bowden cable (2) (if necessary use adhesive tape to secure it).
Non-compliance could cause the Bowden cable on the vertical shock absorber to become detached in the suspension.

**Installation note:**
Remove the screw lock from the cable pull (arrow).

8 Remove the handle (1).

9 Installation is carried out in reverse order.
3.46 Inspecting and adjusting the Bowden cable for the vertical shock absorber adjustment (delivered version)

REMOVAL/INSTALLATION

(1) Handle
(2) Bowden cable
(3) Lock nut
(4) Counter nut
(5) Handle
(6) Cover
(7) Seat cushion
(8) Vertical shock absorber (in seat suspension)

1 Remove the seat cushion (7) (Chapter 3.1).

2 Remove the rocker for the seat occupancy sensor (Chapter 3.21).

3 Remove the tilt adjustment (Chapter 3.22).

4 Remove the handle (5) for the backrest angle adjustment (see...
3.46 Inspecting and adjusting the Bowden cable for the vertical shock absorber adjustment (delivered version)

**REMOVAL/INSTALLATION**

5 Remove the rear cover (Chapter 3.10).

6 Remove the cover (6) for the handle holder (Chapter 3.9).

**Inspection, adjustment**

7 Move the handle (1) to its middle position.

8 Turn the lock nut (3), thus increasing or reducing the Bowden cable (2) tension until the centre of the fork on the vertical shock absorber (8) lines up with the middle line of the damper (A) (see seat suspension repair manual).

9 Tighten the counter nut after adjusting the Bowden cable.
3.47 Removing/installing air conditioning distributor with heating control (TCU) (delivery option)

REMOVAL/INSTALLATION

TABLE OF CONTENTS

(1) Back plate
(2) Plate
(3) Clamp
(4) Air conditioning cable harness
(5) Bushing for fan cable harness
(6) Air conditioning distributor
(7) Holder for air conditioning distributor
(8) Bushing for switch cable harness 3-way valve block
(9) Bushing power supply cable harness comfort functions
(10) Bushing (5) for switch cable harness seat heating / air conditioning system
3.47 Removing/installing air conditioning distributor with heating control (TCU) (delivery option)

1. Remove backrest cushion (Chapter 3.2).

2. Remove the rivet on the holder for the air conditioning distributor (see in Chapter 3.5.2).

Removal, installation

3. Disconnect electrical plug connections on air conditioning distributor (6).
   - Bushing (10) seat heating / air conditioning system cable harness
   - Bushing (9) power supply comfort functions cable harness
   - Bushing (8) 3-way valve block switch cable harness
   - Bushing (5) backrest cushion fan cable harness

4. Mark points at which the cable harness (4) is secured to the plate (2) with the clamp (3).

![Diagram of the air conditioning distributor with heating control (TCU)](image_url)
3.47 Removing/installing air conditioning distributor with heating control (TCU) (delivery option)

5 Press the clamp (3) off the plate (2) and remove the air conditioning distributor (6) downwards off the back plate (1).

6 Installation is carried out in reverse order.
2.48 Removing/installing pocket (delivery option)

**REMOVAL/INSTALLATION**

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<thead>
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<tbody>
<tr>
<td>1</td>
<td>Pocket</td>
<td>2</td>
<td>Screw</td>
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<tr>
<td>3</td>
<td>Hook</td>
<td></td>
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<tr>
<td>4</td>
<td>Back plate</td>
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*Diagram showing the pocket with numbers corresponding to the items listed.*
Removal, installation

1. Open pocket (1).

2. Unhook hook (3).

3. Unscrew screws (2) and remove pocket (1) from the back plate (4).

4. Installation is carried out in reverse order.