

Quality People - Quality Products

Section **7-3**

Repair Manual For Upper Seat Part, GRAMMER

Please review Safety Form 80-508 before performing any maintenance procedures.

Repair manual for I	upper seat part	GRAMMER	S721;	S731;	S741;
-			S722:	S732:	S742

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depending on scope of delivery

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- depending on scope of delivery

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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 (see rating plate on the seat):

Upper seat part S721; S731; S741 (low back height).

Upper seat part S722; S732; S742 (high back height).

The upper seat parts of types S721; S731; S741 form the basis for the diagram in this repair manual. In the case of technical deviations in the work steps, (due to different seat models) refer to the current text or separate chapters of the manual.

At the beginning of each chapter, you can find a list of preparatory steps which you should carry out before starting work. These preparations are described in separate chapters and will be carried out without the preparatory steps described here.

At the beginning of each description for repair you will find an overview diagram. All parts included in these 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.

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

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

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

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

The document layout is suitable for later use of this repair manual via CD-ROM / INTERNET / INTRANET. For this reason a navigation line has been added beneath the title. This navigation line includes some chapter titles and it allows the user to jump directly to these chapters after the corresponding hyperlinks have been set.

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Basic information about the seat

The seat is provided with a long-lasting lubrication (approx. 10 years). The lubricating points must be re-greased only after repair work, using an acid-free multiple-purpose lubricant.

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

After removal, all parts must be cleaned and checked for their suitability for re-use.

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

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Qualified personnel

These installation 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 seat resulting from improperly performed work, all information and instructions, in particular the safety notes in chapter 1, have to 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 a seat 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.

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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.

1 Safety notes

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- 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 deterioration of material and preventive measures.

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

- 4 Before starting any repair work, disconnect the battery from power supply; as regards seats with integrated seat switch, disconnect the seat switch from the vehicle supply network.
- 5 When using oil, grease and other chemical substances the relevant safety regulations for the handling and use of these materials must be observed.

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) depending on scope of delivery

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depending on scope of delivery

2.1 Seat pad and backrest upholstery – removal and installation

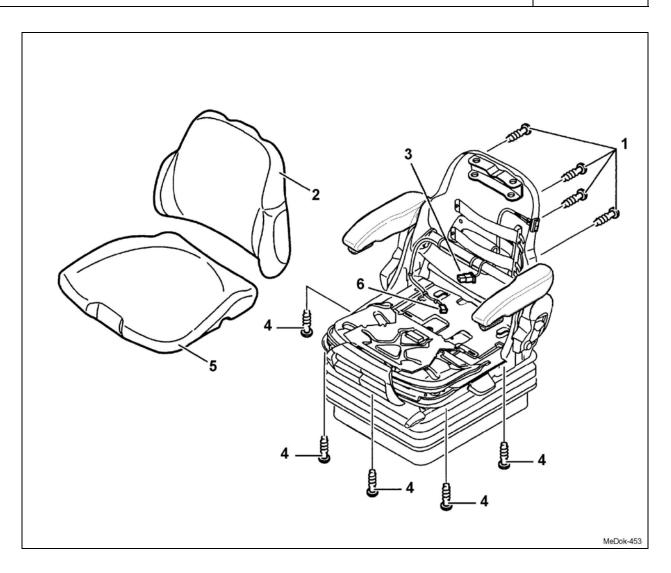
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REMOVAL/INSTALLATION

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- 1) Screws
- (2) Backrest upholstery
- (3) Connector at the backrest upholstery
- (4) Screws
- (5) Seat pad
- (6) Connector at the seat pad



2.1 Seat pad and backrest upholstery – removal and installation

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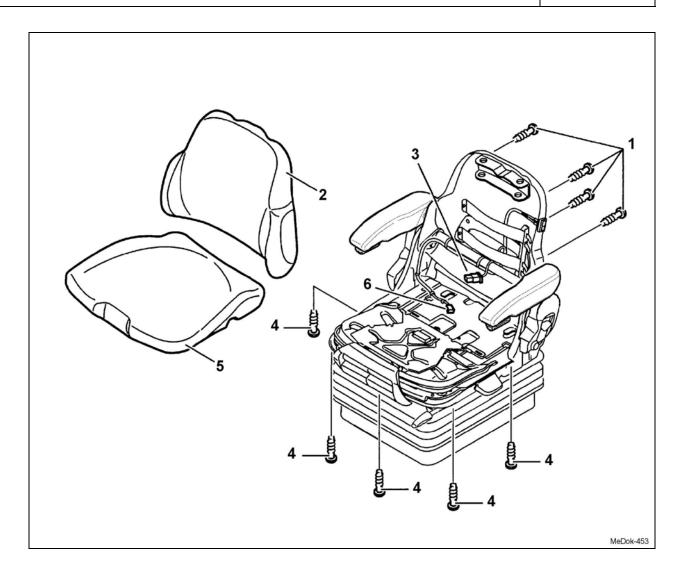
Removal, installation

- 1 Undo the screws (1).
- 2 Seat with seat heater:
 Pull the backrest upholstery (2)
 slightly forwards and disconnect the connector (3) for the seat heater.
- 3 Remove the backrest upholstery (2).
- 4 Seat without seat angle and seat depth adjuster:

Undo the three screws (4) at the front.

5 Seat with angle and seat depth adjuster:

Undo the four screws (4) on the side.



2.1 Seat pad and backrest upholstery – removal and installation

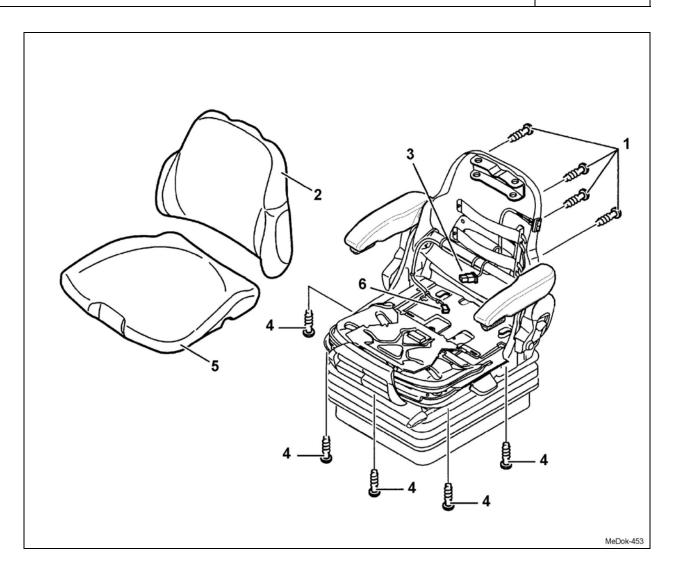
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- 6 Seat with seat heater:
 - Pull the seat pad (5) slightly forward and disconnect the connector (6) for the seat heater.
- 7 Remove the seat pad (5).
- 8 Re-install the components in the reverse order of their removal.



2.2 Lumbar support – removal and installation

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2.2.1 Mechanical lumbar support – removal and installation

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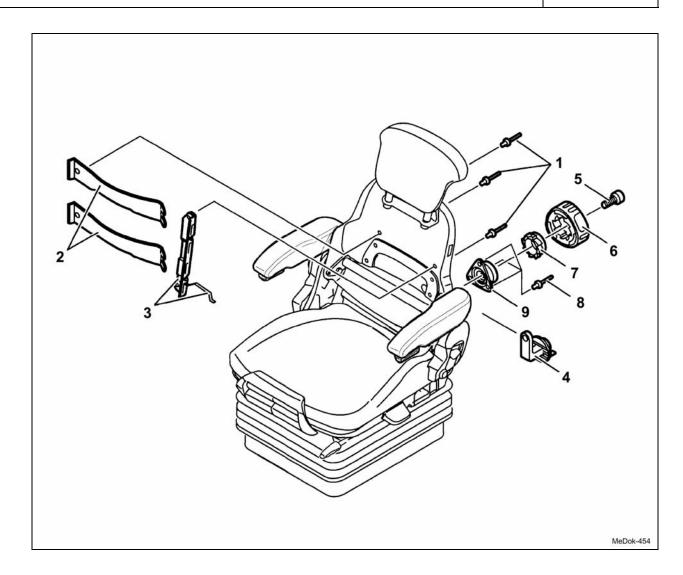


REMOVAL/INSTALLATION

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- (1) Rivets
- (2) Spring steel sheet
- (3) L-bar
- (4) Catch element
- (5) Hexagon socket screw
- (6) Adjusting knob
- (7) Toothed wheel
- (8) Rivet
- (9) Wrap spring brake element

- 1 Remove the backrest upholstery (see chapter 2.1).
- 2 Seat with storage box: Detach the storage box (chapter 2.8).



2.2.1 Mechanical lumbar support – removal and installation

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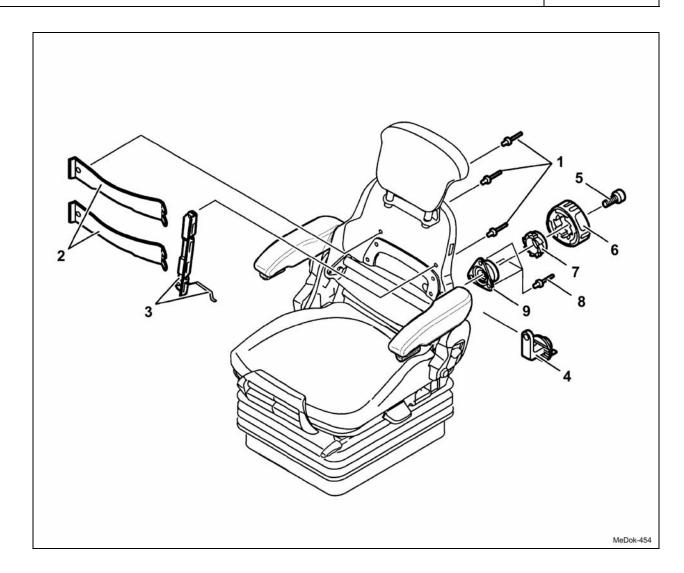


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Removal, installation

- 3 Drill off the rivets (1), loosen the spring steel sheets (2) from the L-bar (3) and remove them.
- 4 Unhook the L-bars (3) from the catch element (4).
- 5 Undo the hexagon socket screw (5) and remove the adjusting knob (6) with the toothed wheel (7).
- 6 Drill off the rivet (8), remove the wrap spring brake element (9) and the catch element (4).
- 7 Re-install the components in the reverse order of their removal.



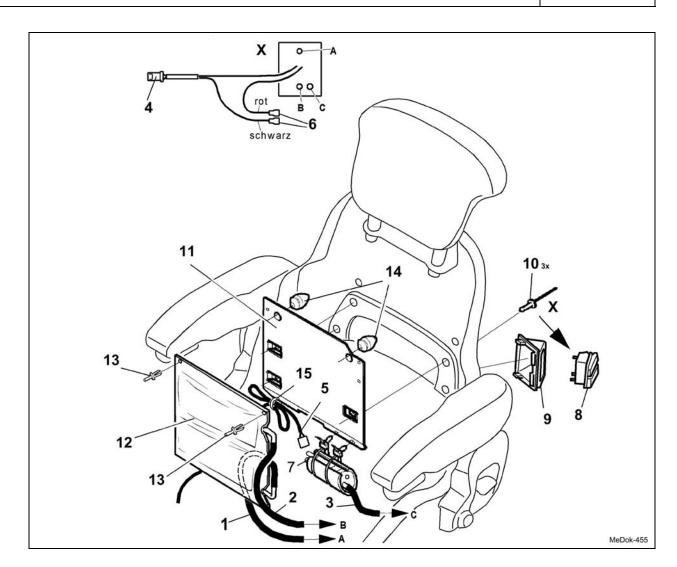
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REMOVAL/INSTALLATION

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- (1) Hose leading to valve connection A
- (2) Hose leading to valve connection B
- (3) Hose leading to valve connection C
- (4) Connector
- (5) Connecting cable
- (6) Terminal contacts
- (7) Compressor
- (8) Switch
- (9) Switch enclosure
- (10) Rivet
- (11) Plate
- (12) Lumbar support
- (13) Plastic clips
- (14) Rubber buffer
- (15) Cable tie



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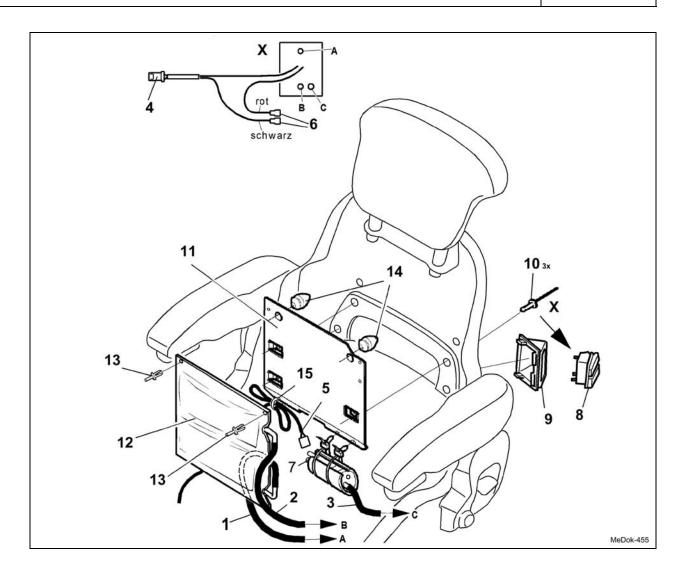
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- 1 Remove the backrest upholstery (see chapter 2.1).
- **2 Seat with storage box:** Detach the storage box (chapter 2.8).

Removal, installation

- 3 Pull off the hose (1) from valve connection (A).
- 4 Pull off the hose (2) from valve connection (B).
- 5 Pull off the hose (3) from valve connection (C).
- 6 Disconnect the connector (4) from the connecting cable (5).



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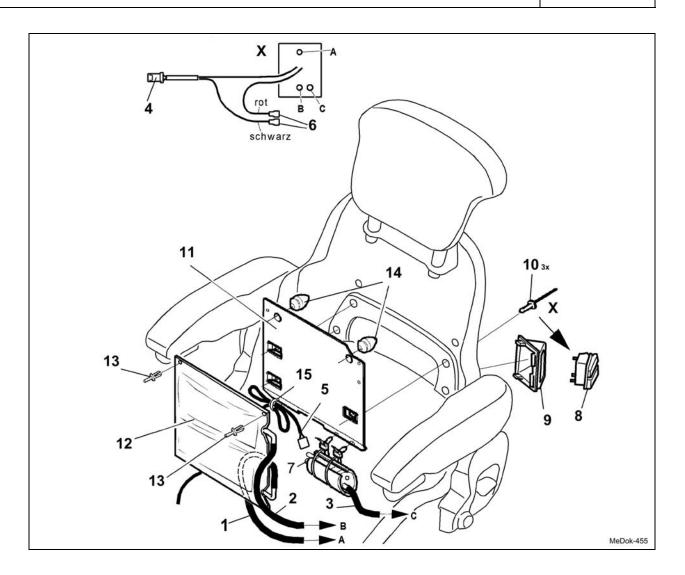
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- 7 Disconnect the electrical contacts (6) from the compressor (7).
 - Installation note:

Black cable: thin terminal contact, Red cable: broad terminal contact.

- 8 Dismount the switch (8).
- 9 Dismount the switch enclosure (9).
- 10 Drill off the rivet (10).
- 11 Remove the plate (11) with the lumbar support (12).
- 12 Remove the plastic rivet (13) and remove the lumbar support (12).



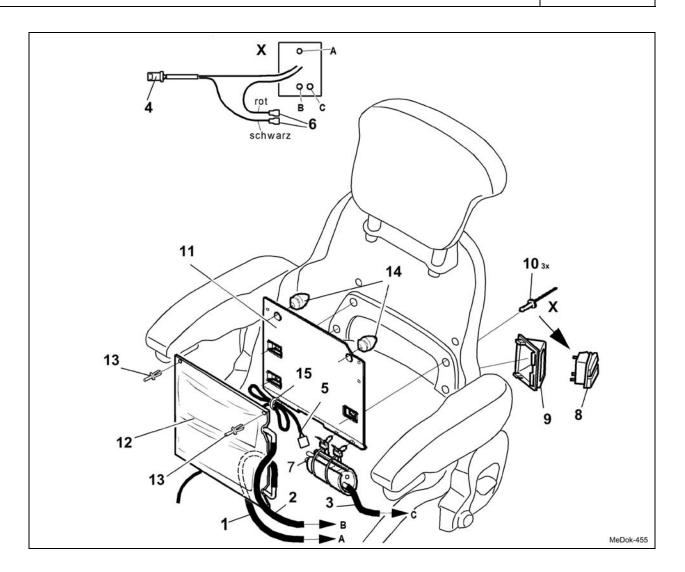
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- 13 Un-clip the compressor (7) from the plate (11).
- 14 Remove the rubber buffers (14).
- 15 Open the cable tie (15) and remove the connecting cable (5) from the plate (11).
- 16 Re-install the components in the reverse order of their removal.



2.3 Cable harness – removal and installation

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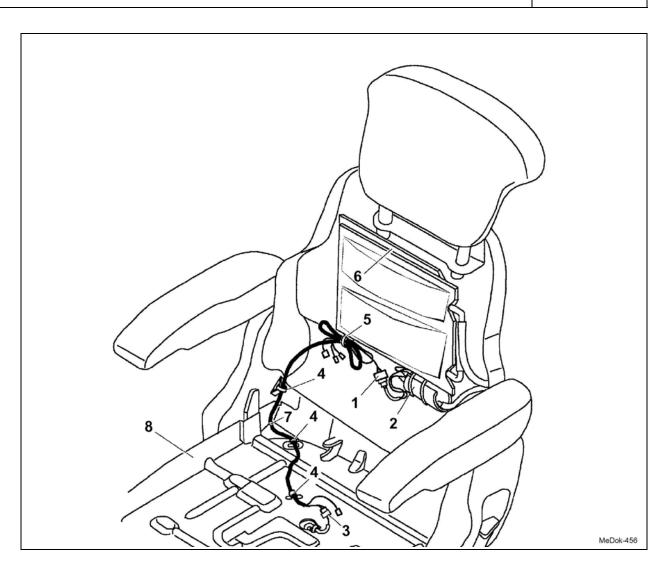
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- 1) Connector for the compressor
- (2) Compressor
- (3) Cable connection
- (4) Cable tie
- (5) Cable tie
- (6) Plate
- (7) White cable marking
- (8) Seat plate

- 1 Remove the seat pad and backrest upholstery (chapter 2.1).
- 2 Seat with seat angle and seat depth adjuster:

Remove the parts for seat angle and seat depth adjustment (chapter 2.13).



2.3 Cable harness – removal and installation

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Removal, installation

3 Disconnect the connector (1) from the compressor (2).

Installation note:

Use plug-in connection with red/black cable.

4 Disconnect the connector (3) from the connecting cable.

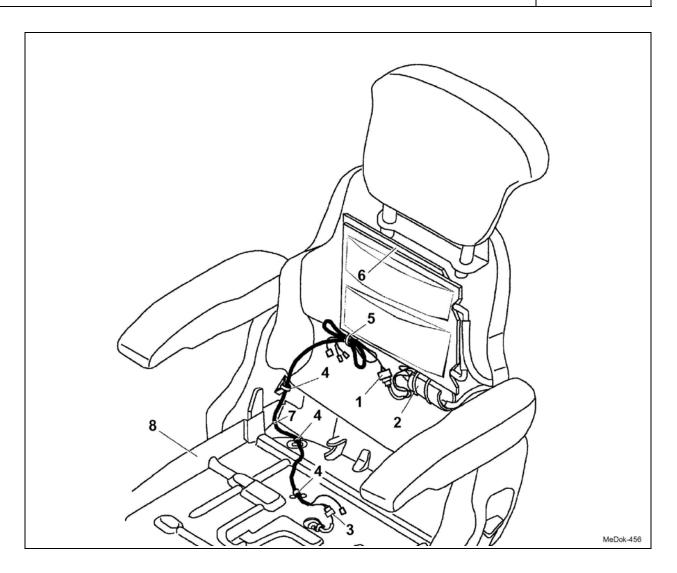
Installation note:

Use plug-in connection with red/black cable.

- 5 Cut open all cable ties (4).
- 6 Cut open all cable ties (5).

Installation note:

Fix all cable lines not required at the moment to the plate hole (6) with a cable tie.



2.3 Cable harness – removal and installation

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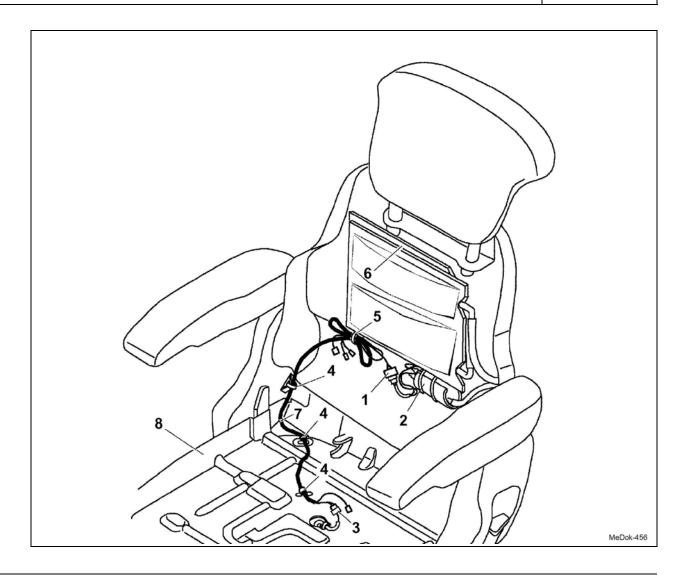
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- 7 Remove the cable.
 - Installation note:

The white cable marking (7) must be located in an elbow in the corner of the seat plate (8).

8 Re-install the components in the reverse order of their removal.



2.4 Headrest – removal and installation

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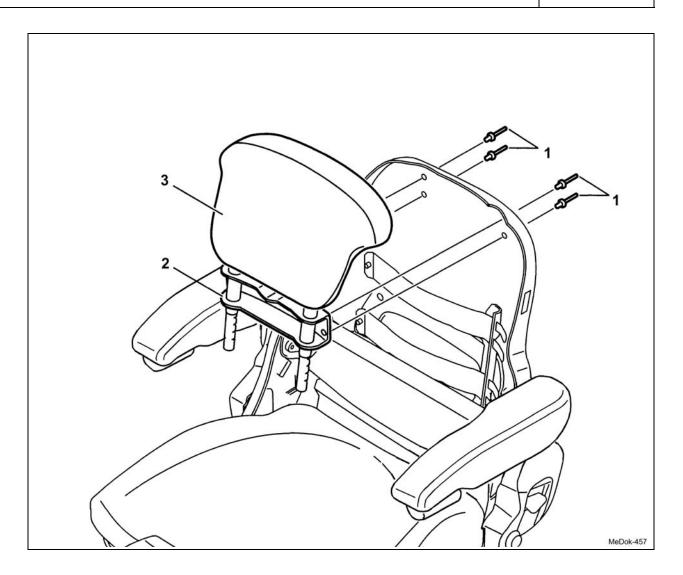


REMOVAL/INSTALLATION

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- (1) Rivets
- (2) Holder
- (3) Headrest

- 1 Remove the backrest upholstery (see chapter 2.1).
- 2 Seat with storage box: Detach the storage box (chapter 2.8).



2.4 Headrest – removal and installation

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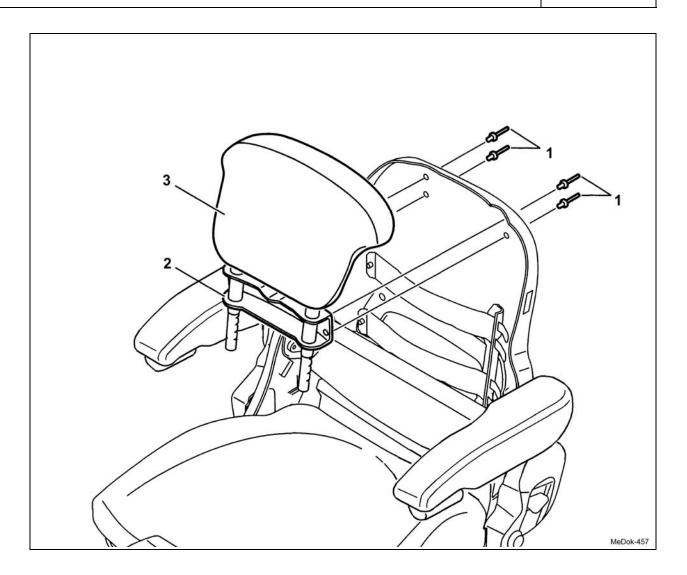


REMOVAL/INSTALLATION

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Removal, installation

- 3 Pull out the headrest (3), whereby the limit stop resistance should be overcome with one jerk.
- 4 Drill off the rivets (1).
- 5 Take off the holder (2).
- 6 Re-install the components in the reverse order of their removal.



2.5 Seat heater cables and switch – removal and installation

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- 2.5.1 Seat heater cables and switch removal and installation (seat with pneumatic lumbar support)
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2.5.1 Seat heater cables and switch – removal and installation (seat with pneumatic lumbar support)

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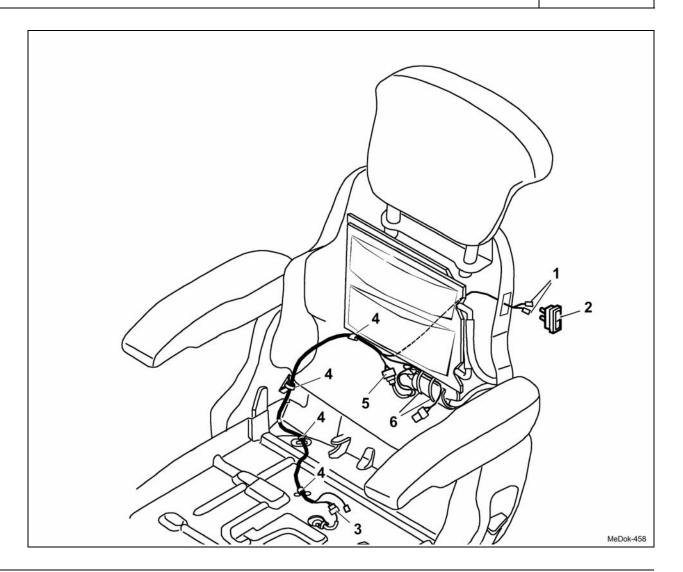
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- (1) Connector
- (2) Switch
- (3) Plug-in connector
- (4) Cable tie
- (5) Plug-in connector
- (6) Cable tie

1 Remove the seat pad and backrest upholstery (chapter 2.1).

Removal, installation

2 Disconnect the connector (1) and remove the switch (2).



2.5.1 Seat heater cables and switch – removal and installation (seat with pneumatic lumbar support)

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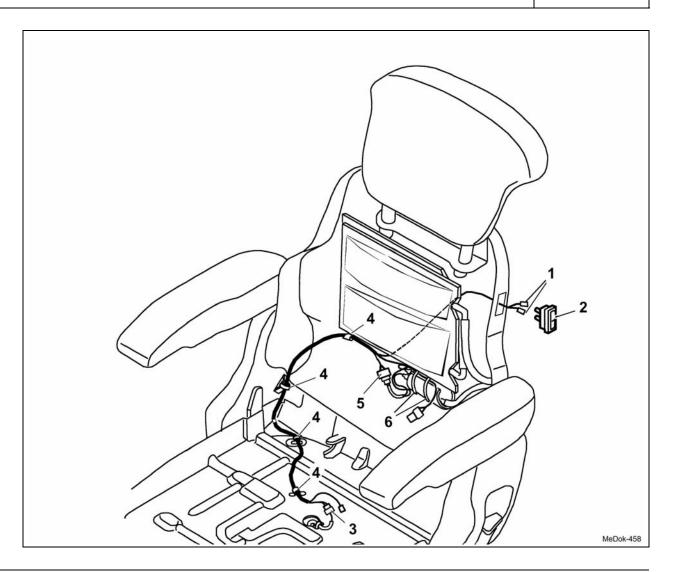
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- 3 Seat with seat angle and seat depth adjuster:
 - Remove the seat angle and seat depth adjuster (chapter 2.13).
- 4 Disconnect the electrical connector (3).

Installation note:

Use plug-in connection with red/black cable.

- 5 Cut open all cable ties (4).
- Disconnect the connector (5).
 Installation note:
 Use plug-in connection with red/black cable.
- 7 Pull the cable through the cable tie (6) and remove the cable.
- 8 Re-install the components in the reverse order of their removal.



2.5.2 Seat heater cables and switch – removal and installation (seat with mechanical lumbar support)

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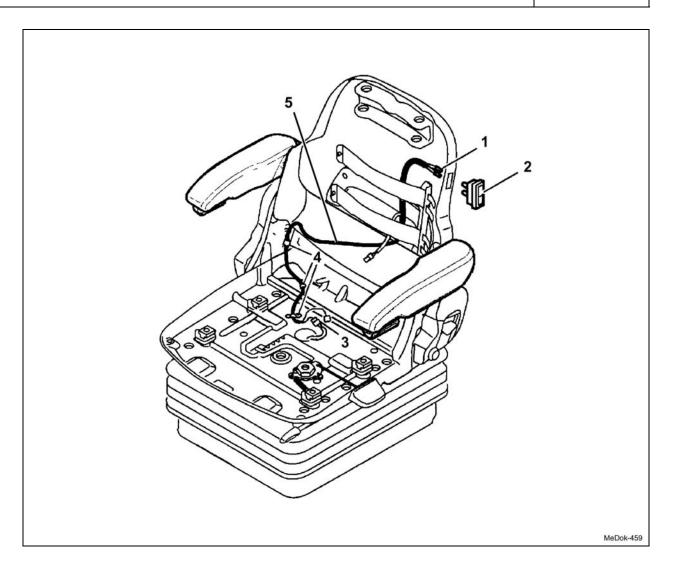


REMOVAL/INSTALLATION

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- (1) Connector
- (2) Switch
- (3) Plug-in connector
- (4) Cable tie
- (5) Cable harness

1 Remove the seat pad and backrest upholstery (chapter 2.1).



2.5.2 Seat heater cables and switch – removal and installation (seat with mechanical lumbar support)

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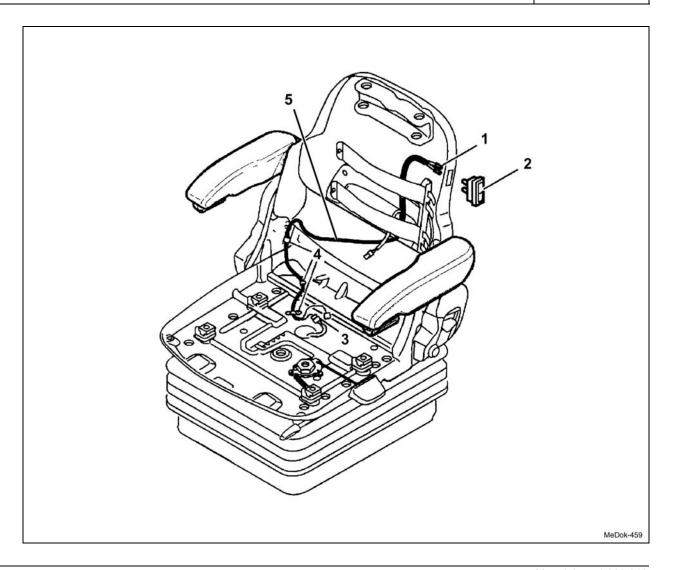


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Removal, installation

- 2 Disconnect the connector (1) and remove the switch (2).
- 3 Seat with seat angle and seat depth adjuster:
 - Remove the seat angle and seat depth adjuster (chapter 2.13).
- 4 Disconnect the plug-in connector (3).
- 5 Cut open the cable ties (4) and withdraw the cable harness (5).
- 6 Re-install the components in the reverse order of their removal.



2.6 Armrests – removal and installation

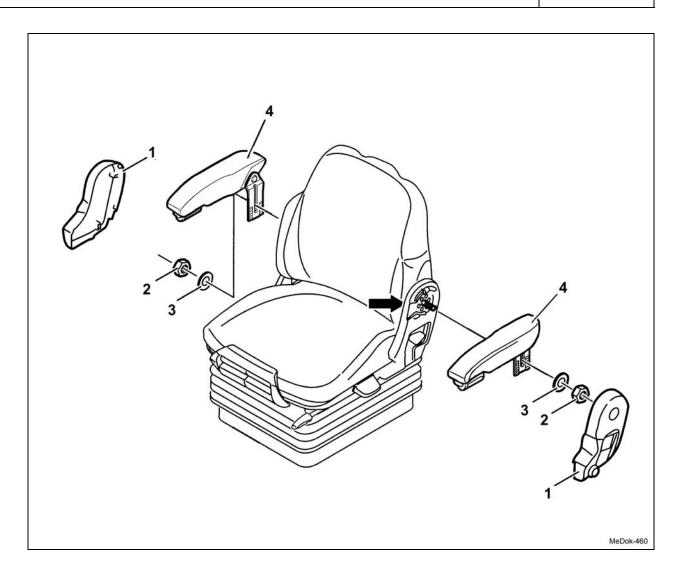
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- (1) Cover
- (3) Washer
- (4) Armrest



2.6 Armrests – removal and installation

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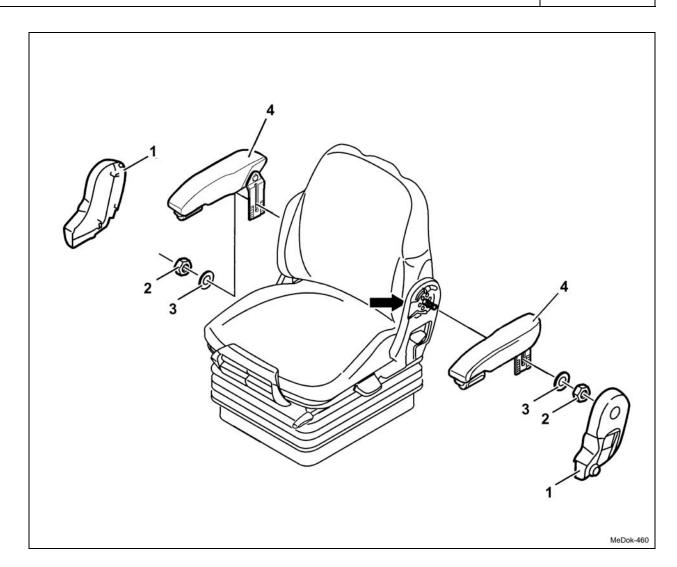


REMOVAL/INSTALLATION

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Removal, installation

- 1 Remove the cover (1).
- Unscrew the hexagon nuts (2), if necessary hold the screws (arrow).
 Installation note:
 Hexagon nut (2), 25 Nm Tightening torque.
- 3 Remove the washers (3) and the armrests (4).
- 4 Re-install the components in the reverse order of their removal.



2.7 Lap belt – removal and installation

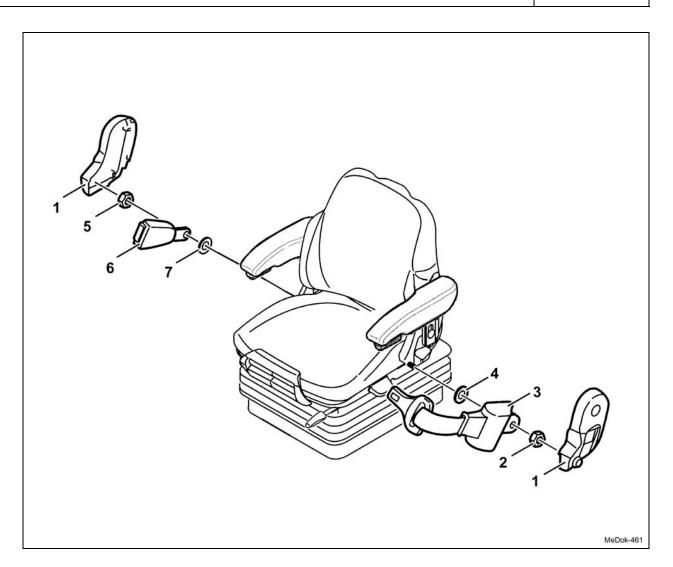
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- (6) Seat belt buckle
- (7) Washer



2.7 Lap belt – removal and installation

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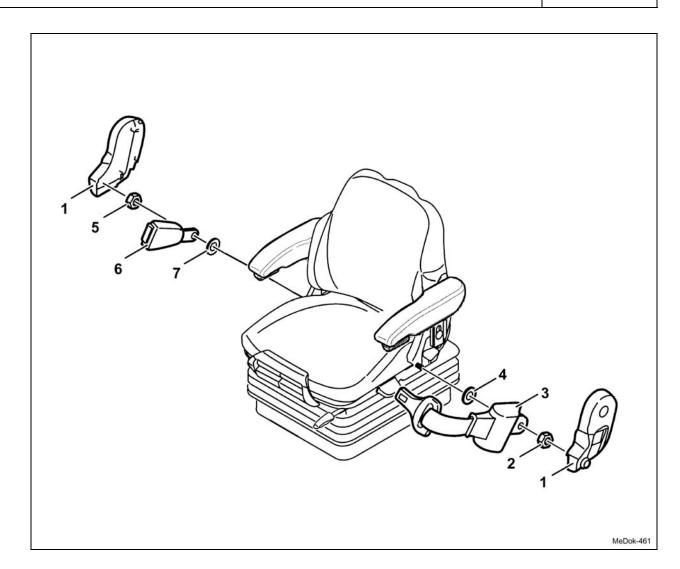


REMOVAL/INSTALLATION

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Removal, installation

- 1 Remove the cover (1).
- Unscrew the hexagon nut (2).Installation note:Hexagon nut (2), 50 Nm tightening torque.
- 3 Remove the lap belt (3) and the washer (4).
- Unscrew the hexagon nut (5).
 Installation note:
 Hexagon nut (5), 50 Nm tightening torque.
- 5 Remove the seat belt buckle (6) and the washer (7).
- 6 Re-install the components in the reverse order of their removal.



2.8 Storage box – removal and installation

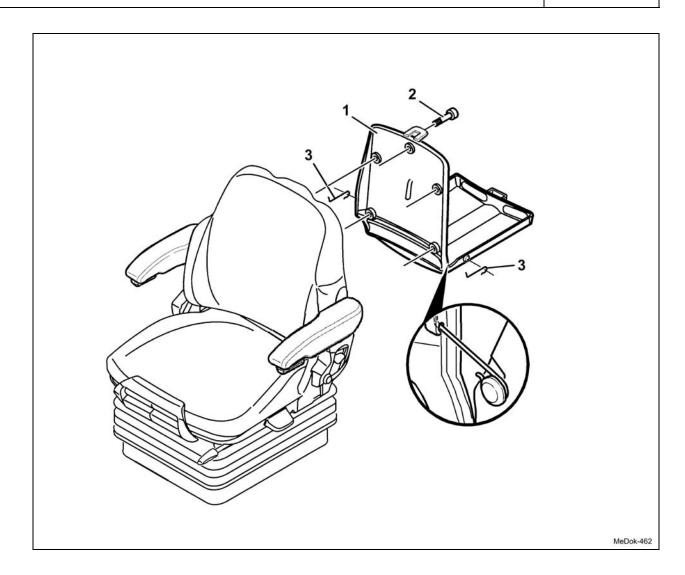
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- (1) Storage box
- (2) Screw
- (3) Hook



2.8 Storage box – removal and installation

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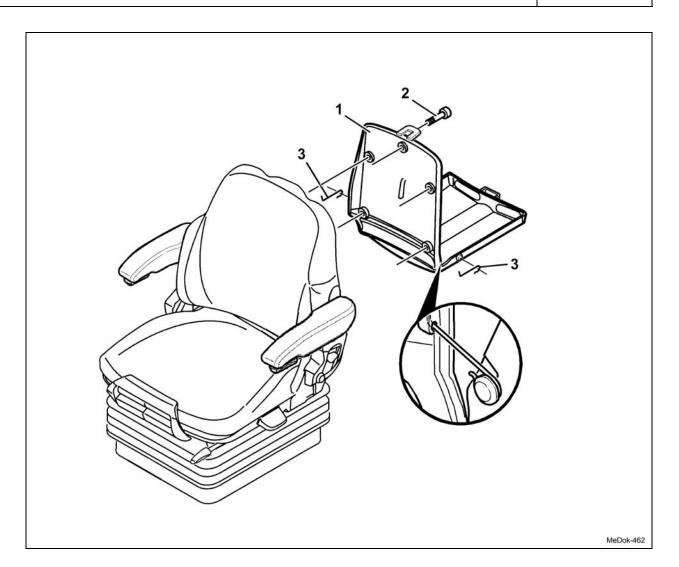


REMOVAL/INSTALLATION

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Removal, installation

- 1 Open the storage box (1).
- 2 Remove the hook (3).
- 3 Undo the screws (2) and remove the storage box (1).
- 4 Re-install the components in the reverse order of their removal.



2.9 Backrest – removal and installation

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- 2.9.1 Backrest removal and installation (Upper seat part S721; S731; S741)
- 2.9.2 Backrest removal and installation (Upper seat part S722; S732; S742)

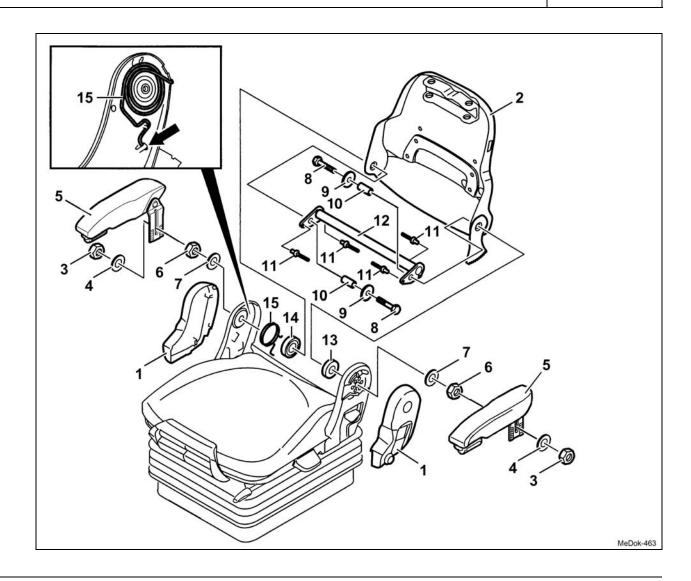
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- 1) Cover
- (2) Backrest
- (3) Hexagon nut
- (4) Washer
- (5) Armrest
- (7) Washer
- (8) Hexagon bolt
- (9) Washer
- (10) Spacer sleeve
- (11) Blind rivet
- (12) Reinforcing tube
- (13) Washer
- (14) Washer
- (15) Torsion spring



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- 1 Removal of the backrest upholstery (see chapter 2.1).
- 2 Seat with seat heater:

Remove the seat heater cables and switch (see chapter 2.5).

3 Seat with headrest:

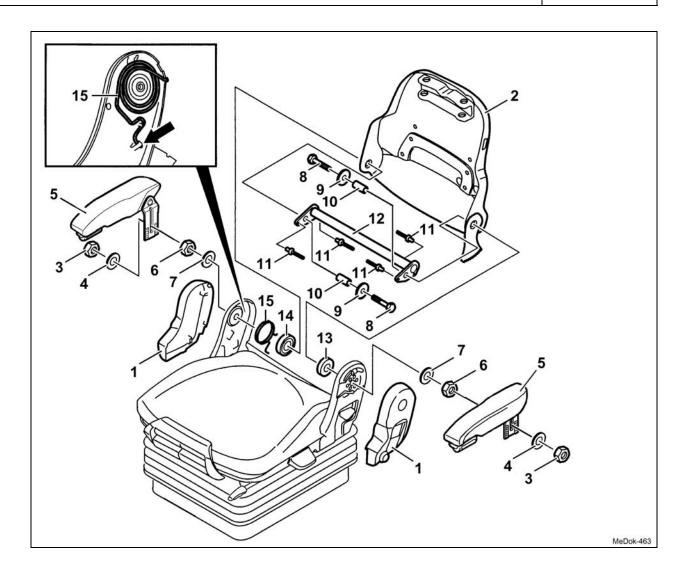
Remove the headrest (see chapter 2.4).

4 For seat with a backrest adjustment with lever in front:

Remove the backrest adjustment (see chapter 2.10.2).

Removal and installation

- 5 Remove two covers (1).
- 6 Fold the backrest (2) forwards.

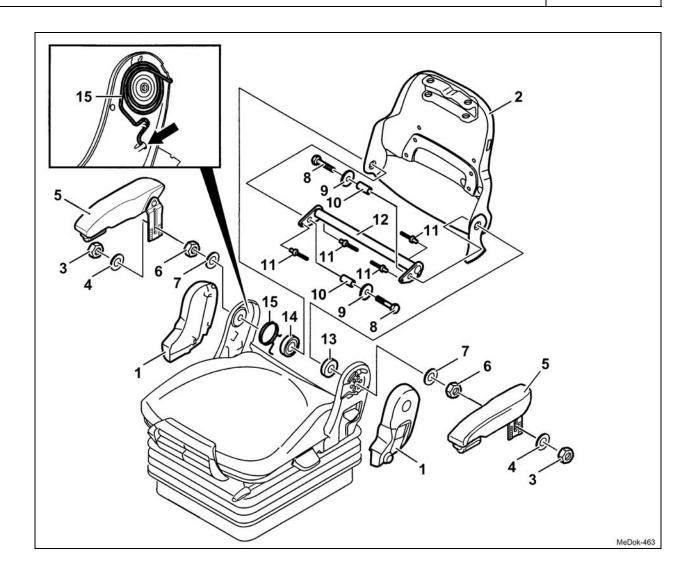


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REMOVAL/INSTALLATION

- 7 Unscrew two hexagon nuts (3) and take off two washers (4) and two armrests (5).
- 8 Unscrew two hexagon nuts(6), take off two washers (7).
 Installation note:
 Hexagon nut (6), 25 Nm.
- 9 Unscrew two hexagon bolts (8), two washers (9) and remove two spacer sleeves (10).
- 10 Drill off four blind rivets (11)and remove the reinforcing tube (12).



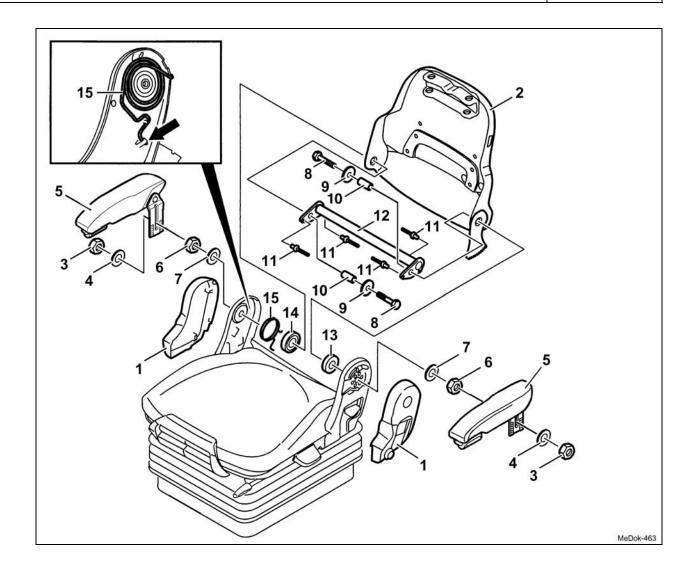
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GRAMMER

REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

- 11 Remove the backrest (2), washers (13), (14) and the torsion spring (15). **Installation note:**Position the torsion spring (15) in the plate's groove (arrow).
- 12 The installation is performed in reverse order.



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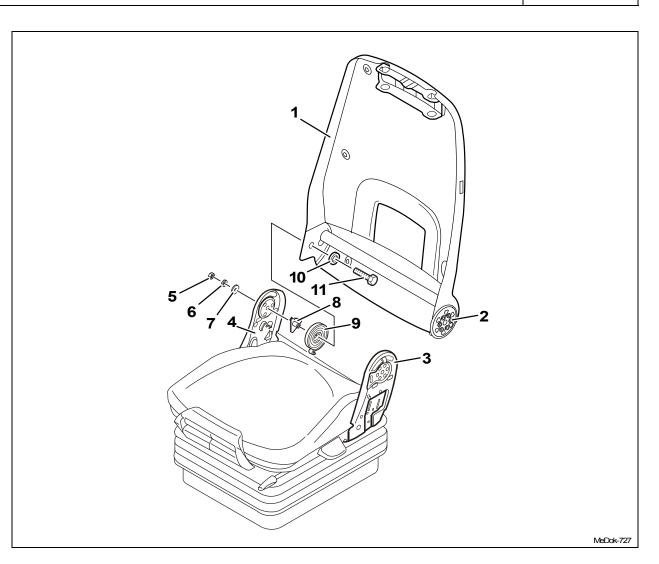


REMOVAL/INSTALLATION

TABLE OF CONTENTS GR

- 1) Backrest
- (2) Backrest adjustment
- (3) Backrest support (seat plate) left
- (4) Backrest support (seat plate) right
- (6) Washer
- (7) Washer
- (8) Bearing
- (9) Torsion spring
- (10) Washer
- (11) Hexagon bolt

1 Remove the backrest cushion (see chapter 2.1).



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REMOVAL/INSTALLATION

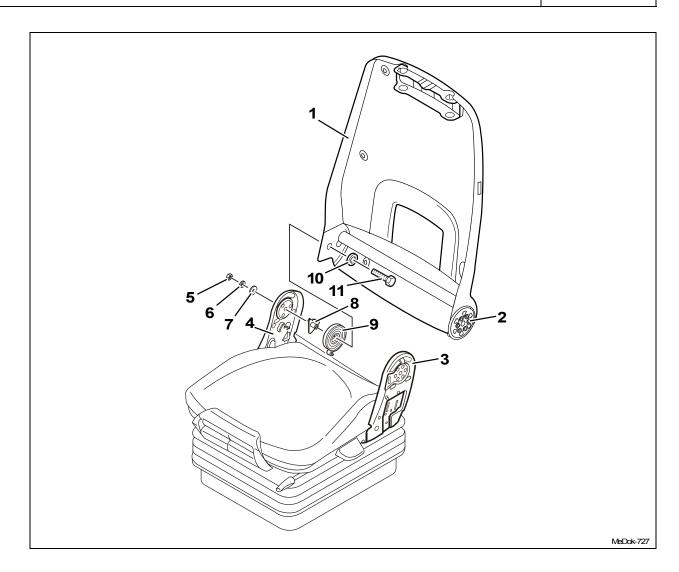
TABLE OF CONTENTS GR

- 2 Seat with seat heater: Remove the seat heater cables and switch (see chapter 2.5).
- 3 Remove the armrests (see chapter 2.6).
- 4 For seat with the backrest adjustment with lever in front: Remove the backrest adjustment (see chapter 2.10.2).

Removal and installation

5 Unscrew the hexagon nut (5) and remove the washers (6), (7).

Installation note:
Hexagon nut (5), 25 Nm.



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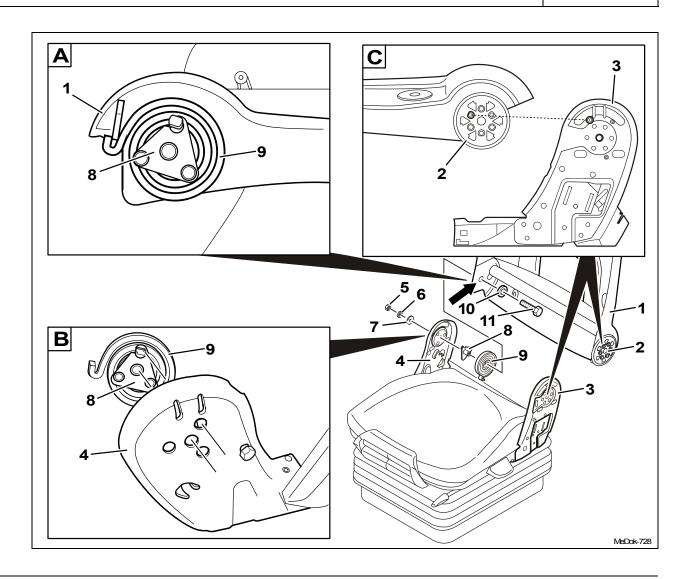
REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

- 6 Knot out the hexagon bolt (11) and remove the washer (10).
- 7 Press the backrest (1) slightly to the left and take it off upwards.

Installation note:

- The big cylindrical stamping on the backrest adjustment (figure C/2) must engage into the big positional bore hole on the backrest support on the left side (figure C/3).
- The integral catch on the backrest (figure A/1) must engage into the torsion spring (figure A/9).



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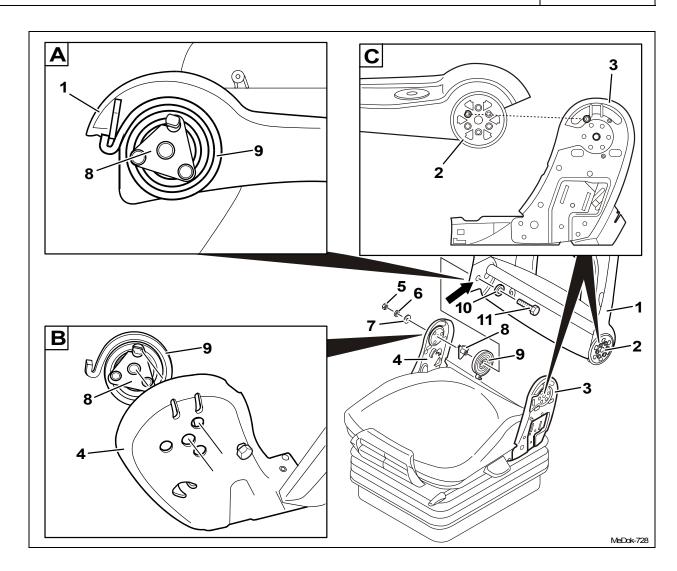
REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

8 Remove the bearing (8) and the torsion spring (9) from the backrest (1).

Installation note:

- Oil the bearing point (arrow) on the backrest (1) for the bearing (8) with acid-free multiple-purpose lubricant.
- The integral hook on the bearing (figure B/8) must be inserted into the upper hole on the backrest support on the right side (figure B/4).
- 9 The installation is performed in reverse order.



2.10 Backrest adjustment – removal and installation Page 1 of 1



- 2.10.1 Backrest adjustment removal and installation (backrest adjustment with lever on the side)
- 2.10.2 Backrest adjustment removal and installation (backrest adjustment with lever in front)

2.10.1 Backrest adjustment – removal and installation (Backrest adjustment with lever on the side)

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REMOVAL/INSTALLATION

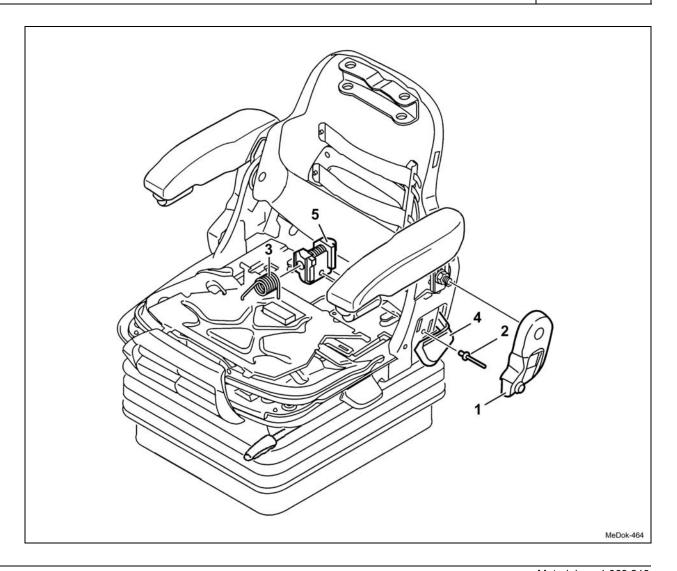
TABLE OF CONTENTS

- (1) Cover
- (2) Blind rivet
- (3) Spring
- (4) Lever
- (5) Gear segment

1 Remove the seat pad and backrest upholstery (see chapter 2.1).

Removal and installation

- 2 Remove the cover (1).
- 3 Knock off the blind rivet (2), remove the spring (3) and the gear segment (5).



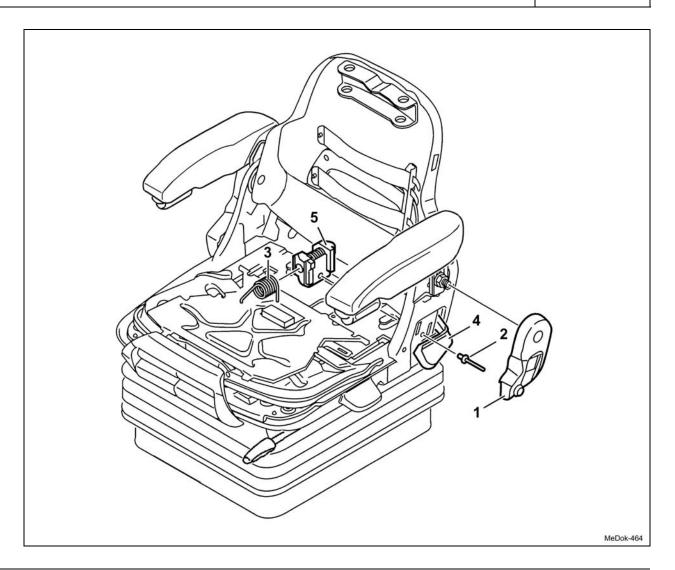
2.10.1 Backrest adjustment – removal and installation (Backrest adjustment with lever on the side)

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REMOVAL/INSTALLATION

- 4 Turn the lever (4) and withdraw it.
- 5 The installation is performed in reverse order.



2.10.2 Backrest adjustment – removal and installation (Backrest adjustment with lever in front)

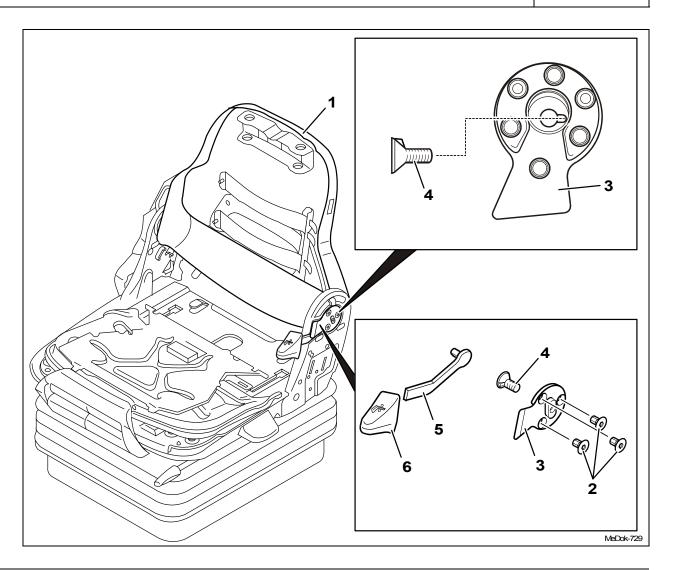
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REMOVAL/INSTALLATION

- (1) Backrest
- (2) Flat-headed screw...... 12 Nm
- (3) Adaptor plate
- (4) Flat-headed screw
- (5) Lever
- (6) Handlereplace, if necessary

- 1 Removal of the backrest upholstery (see chapter 2.1).
- 2 Removal of the armrest (see chapter 2.6).



2.10.2 Backrest adjustment – removal and installation (Backrest adjustment with lever in front)

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REMOVAL/INSTALLATION

TABLE OF CONTENTS

Removal and installation

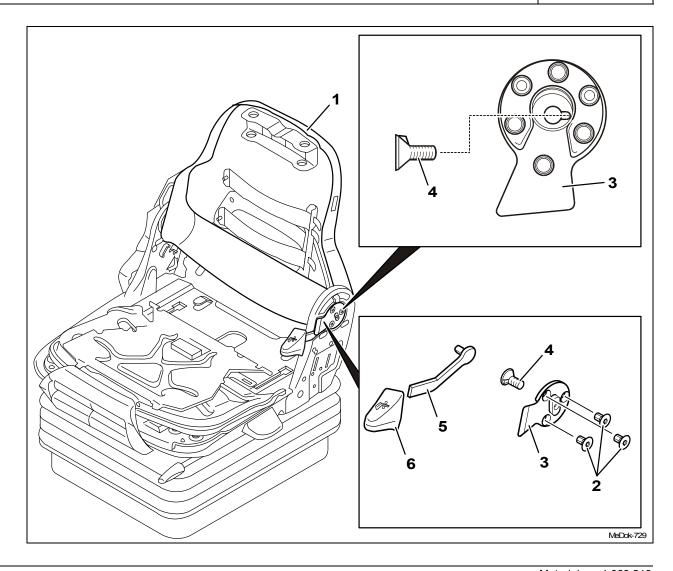
- 3 Fold the backrest (2) forwards.
- 4 Unscrew three flat-headed screws (2), remove the adaptor plate (3) and the flat-headed screw (4).

Installation notes:

- Flat-headed screw (2), 12 Nm.
- The lifter of the flat-headed screw (4) must engage into the nut of the adaptor plate (3).
- 5 Remove the lever (5) for the backrest adjustment.
- 6 Replace the handle (6) or the lever (5):

Dismount the handle (6) from the lever (5).

7 The installation is performed in reverse order.



2.11 Seat top assembly – removal and installation of the entire assembly

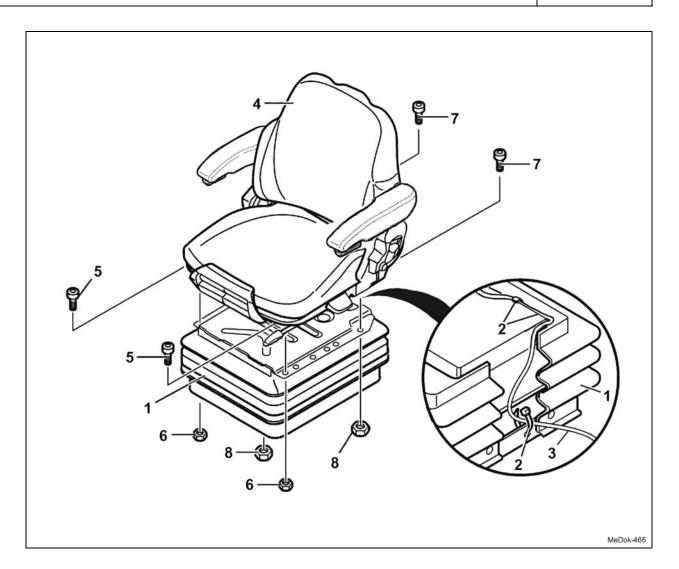
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REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

- 1) Bellows
- (2) Cable tie
- (3) Cable
- (4) Seat top assembly
- (5) Hexagon socket screw..... to be replaced, 25 Nm
- (6) Hexagon nut
- (7) Hexagon socket screw..... to be replaced, 25 Nm
- (8) Hexagon nut



2.11 Seat top assembly – removal and installation of the entire assembly

Page 2 of 3



REMOVAL/INSTALLATION

TABLE OF CONTENTS GR

Removal, installation

1 Loosen the bellows (1) from the suspension system and lay it down.

2 Seat with seat heater:

- 2.1 Remove the seat pad (see chapter 2.1).
- 2.2 Open the cable tie holding the electric cable in the seat plate.
- 2.3 Pull out the seat heater cable from the seat plate in downward direction.

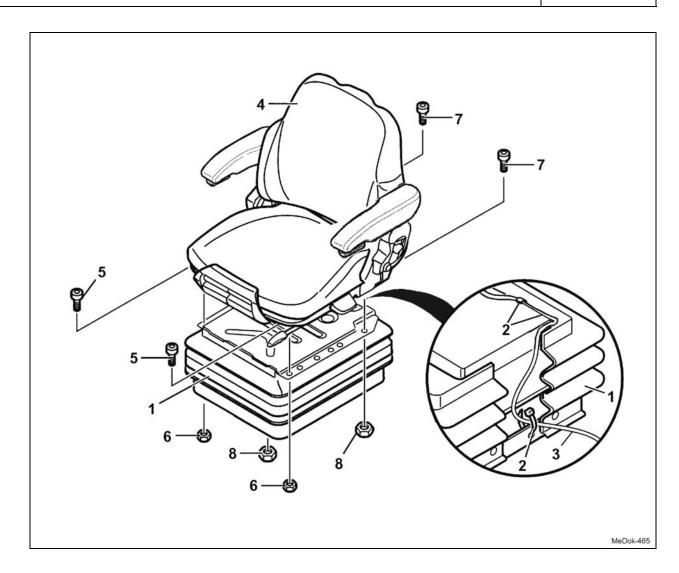
3 Seat with seat switch:

Cut open the cable ties (2) and withdraw the cable (3) from the spring system.

Installation note:

Lay the cable so that there is slack in it.

4 Push the seat top assembly (4) backwards.



2.11 Seat top assembly – removal and installation of the entire assembly

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REMOVAL/INSTALLATION

TABLE OF CONTENTS GR

5 Undo the hexagon socket screws (5) at the front and remove the hexagon nuts.

Installation note:

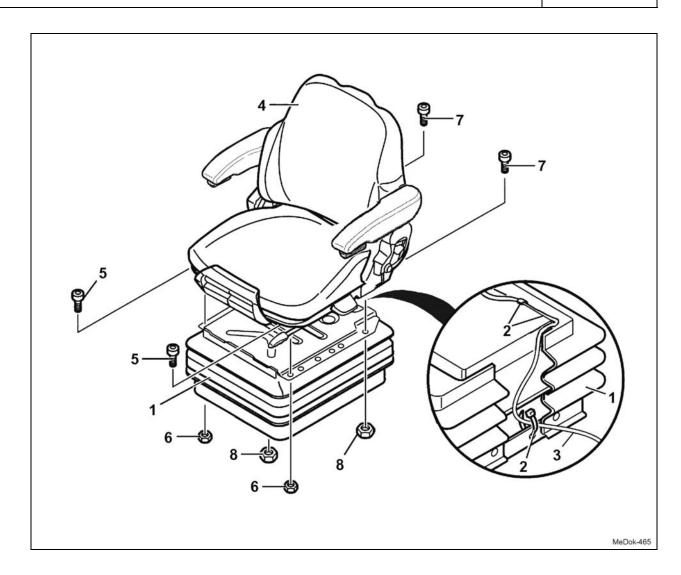
Replace the hexagon nuts (5) with new ones, 25 Nm tightening torque.

- 6 Push the seat top assembly (4) forwards.
- 7 Undo the hexagon socket screws (7) at the rear and remove the hexagon nuts (8).

Installation note:

Replace the hexagon socket screws (7) with new ones, 25 Nm tightening torque.

- 8 Remove the seat top assembly (4).
- 9 Re-install the components in the reverse order of their removal.



2.12 Seat switch – removal and installation

Page 1 of 1



- 2.12.1 Seat switch removal and installation (seat without seat angle and seat depth adjuster)
- 2.12.2 Seat switch removal and installation (seat with seat angle and seat depth adjuster)

2.12.1 Seat switch – removal and installation (seat without seat angle and seat depth adjuster)

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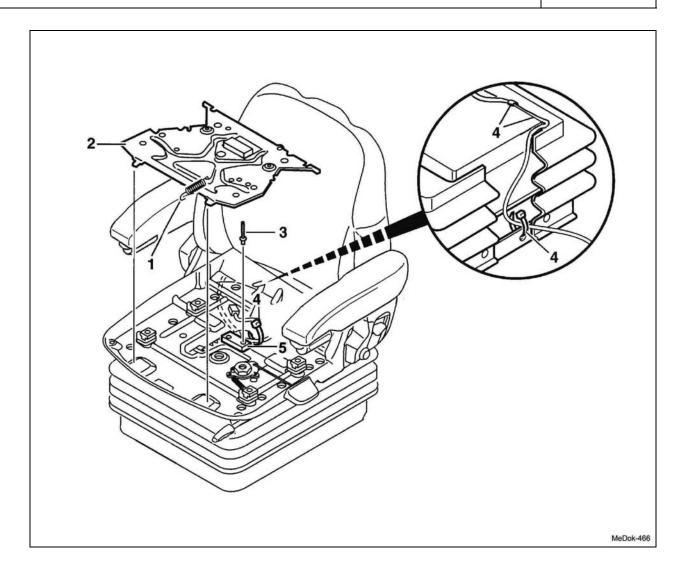


REMOVAL/INSTALLATION

TABLE OF CONTENTS

- (1) Spring
- (2) Switch-plate
- (3) Rivet
- (4) Cable tie
- (5) Seat switch

1 Remove the seat pad (see chapter 2.1).



2.12.1 Seat switch – removal and installation (seat without seat angle and seat depth adjuster)

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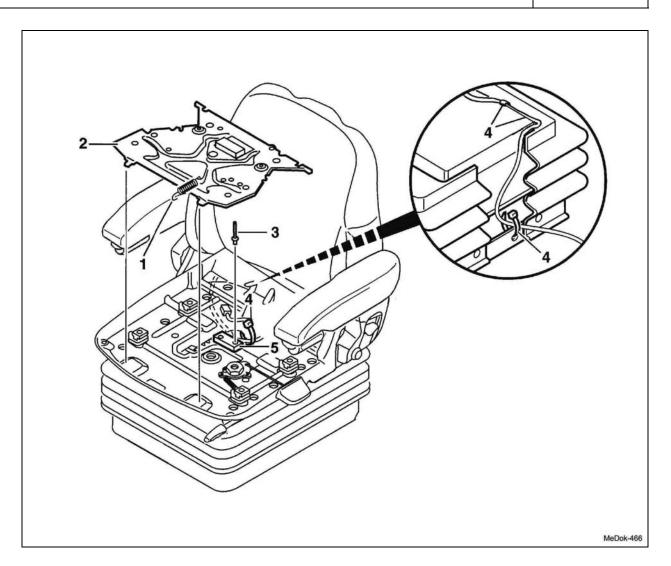


REMOVAL/INSTALLATION

TABLE OF CONTENTS

Removal, installation

- 2 Remove the spring (1).
- 3 Tilt the switch-plate (2) forwards and remove it.
- 4 Drill off the rivet (3).
- 5 Cut open all cable ties (4) and remove the seat switch (5) and the cable. Installation note: Lay the cable so that there is slack in it.
- 6 Re-install the components in the reverse order of their removal.



2.12.2 Seat switch – removal and installation (seat with seat angle and seat depth adjuster)

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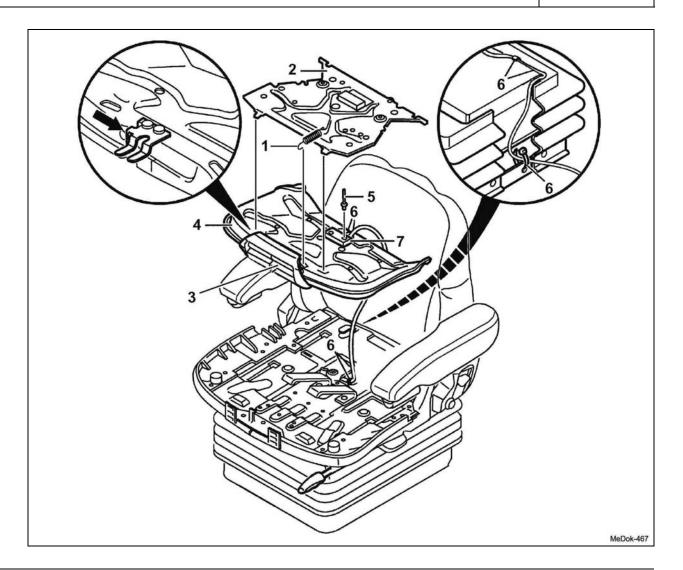


REMOVAL/INSTALLATION

TABLE OF CONTENTS G

- (1) Spring
- (2) Switch-plate
- (3) Lever for seat angle adjustment
- (4) Flexible support plate
- (5) Rivet
- (6) Cable tie
- (7) Seat switch

1 Remove the seat pad (see chapter 2.1).



2.12.2 Seat switch – removal and installation (seat with seat angle and seat depth adjuster)

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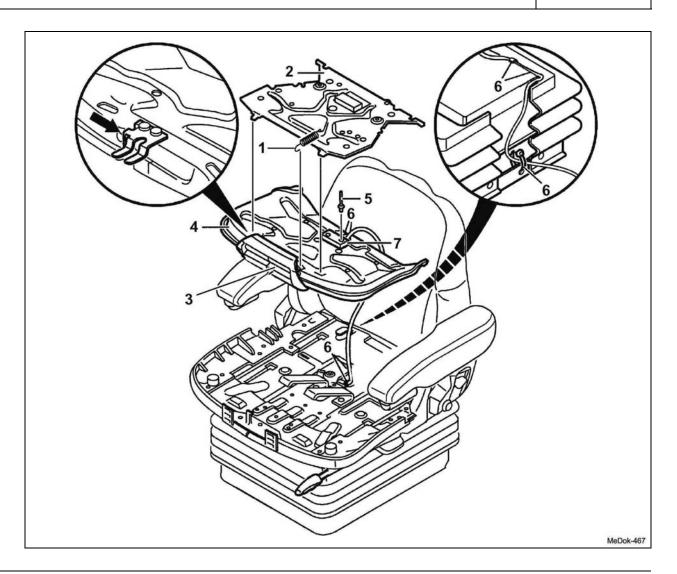


REMOVAL/INSTALLATION

TABLE OF CONTENTS

Removal, installation

- 2 Remove the spring (1).
- 3 Tilt the switch-plate (2) forwards and remove it.
- 4 Press the spring plate (arrow) inwards, operate the lever for seat angle adjustment (3), tilt the flexible support plate upwards and remove it.
- 5 Drill off the rivet (5).
- Open all cable ties (6) and withdraw the seat switch (7) and the cable.
 Installation note:
 Lay the cable with sufficient slack.
- 7 Re-install the components in the reverse order of their removal.



2.13 Seat angle and seat depth adjuster– removal and installation

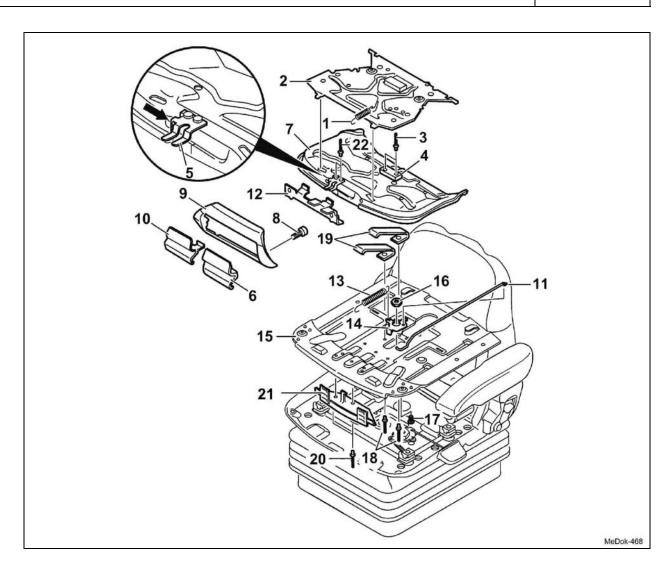
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REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

- (1) Spring
- (2) Switch-plate
- (3) Rivet
- (4) Seat switch
- (5) Spring steel sheet
- (6) Lever for seat angle adjustment
- (7) Flexible support plate
- (8) Hexagon socket screw
- (9) Cover
- (10) Lever for seat depth adjustment
- (11) Linking rod for seat depth adjustment
- (12) Locking lever
- (13) Spring
- (14) Lever
- (15) Plate



2.13 Seat angle and seat depth adjuster- removal and installation

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REMOVAL/INSTALLATION

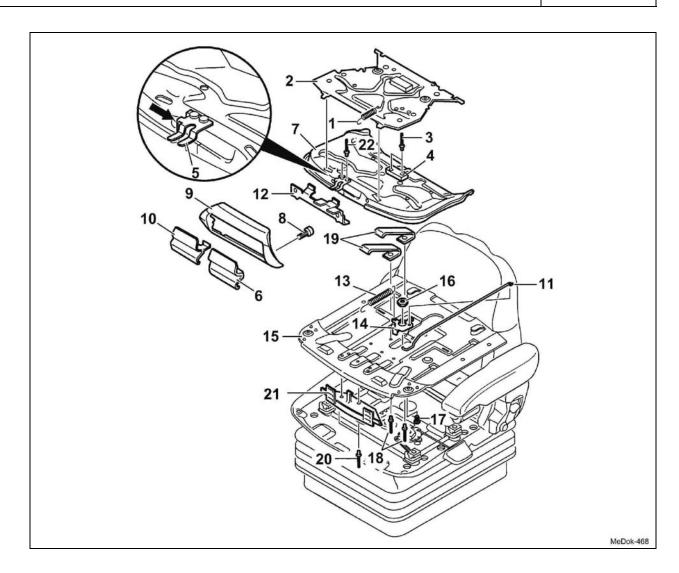
TABLE OF CONTENTS GRA

- (16) Nut
- (17) Screw
- (18) Rivet
- (19) Spring steel sheet
- (20) Rivet
- (21) Locating element
- (22) Rivet

1 Remove the seat pad (see chapter 2.1).

Removal, installation

- 2 Seat with seat switch:
- 2.1 Disconnect the spring (1).



2.13 Seat angle and seat depth adjuster – removal and installation

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REMOVAL/INSTALLATION

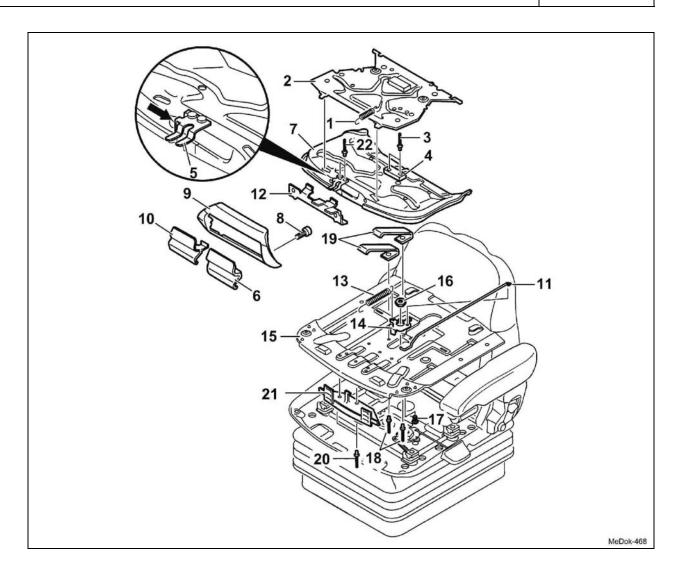
TABLE OF CONTENTS GR

- 2.2 Tilt the switch-plate (2) forwards and remove it.
- 2.3 Drill off the rivet (3) and remove the seat switch (4).
- 3 Press the spring plate (5) inwards (arrow), operate the lever for seat angle adjustment (6), swivel the flexible support plate upwards and remove it.

Installation note:

Fit in the linking rod (11) for seat depth adjustment.

- 4 Drill off the rivet (22) and remove the spring steel sheet (5).
- 5 Unscrew the hexagon socket screws (8), remove the cover (9), the levers for seat angle and seat depth adjustment (6, 10), the linkage rod (11) and the locking lever (12).



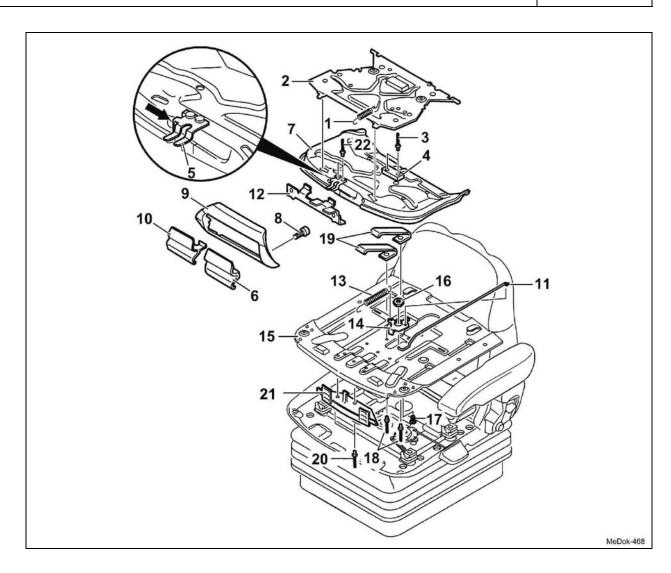
2.13 Seat angle and seat depth adjuster – removal and installation

Page 4 of 4



REMOVAL/INSTALLATION

- 6 Remove the spring (13).
- 7 Turn the lever (14) clockwise until it snaps-in, pull the plate (15) to the very front and remove it.
- 8 Remove the covers on the right and left side (chapter 2.15).
- 9 Unscrew the nut (16), remove the lever (14) and the screw (17).
- 10 Drill off the rivet (18) and remove the spring steel sheets (19).
- 11 Drill off the rivet (20) and remove the locating element (21).
- 12 Re-install the components in the reverse order of their removal.



2.14 Swivel adaptor and seat pan – removal and installation

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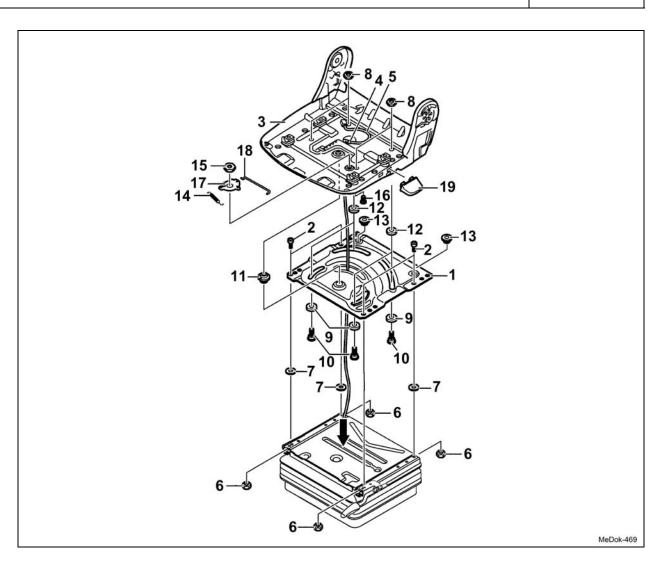
- 2.14.1 Swivel adaptor and seat pan removal and installation (seat with integrated swivel adaptor)
- 2.14.2 Swivel adaptor and seat pan removal and installation (seat with external swivel adaptor)

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REMOVAL/INSTALLATION

- (1) Integrated swivel adaptor
- (2) Screw
- (3) Seat plate
- (4) Cable tie
- (5) Seat heater cable
- (6) Hexagon nut
- (7) Washer
- (8) Hexagon nut
- (9) Washer
- (10) Hexagon socket screw to be replaced, 25 Nm
- (11) Bushing
- (12) Washer
- (13) Slide washer
- (14) Spring
- (15) Nut



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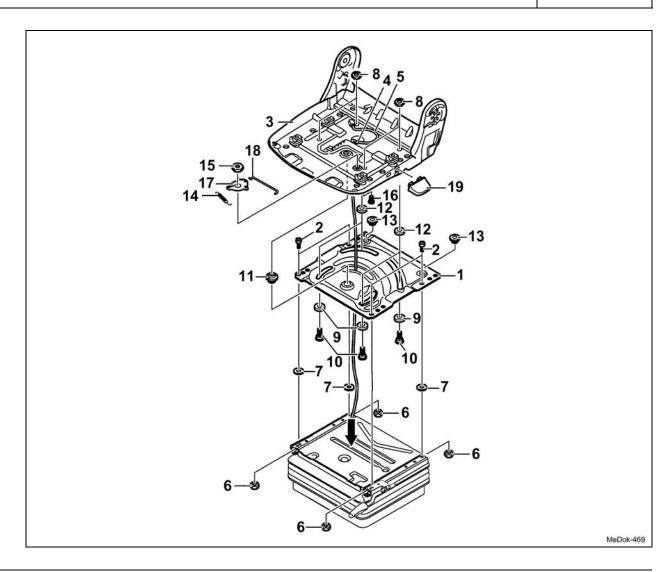
REMOVAL/INSTALLATION

TABLE OF CONTENTS

- (16) Flat-headed screw
- (17) Lever
- (18) Linkage rod
- (19) Handle

- 1 Remove the seat pad and backrest upholstery (chapter 2.1).
- 2 When replacing the seat plate: Remove the backrest (chapter 2.9).
- 3 Seat with seat switch: Remove the seat switch (see chapter 2.12).
- 4 Seat with seat angle and seat depth adjuster:

Remove the seat angle and seat depth adjuster (chapter 2.13).



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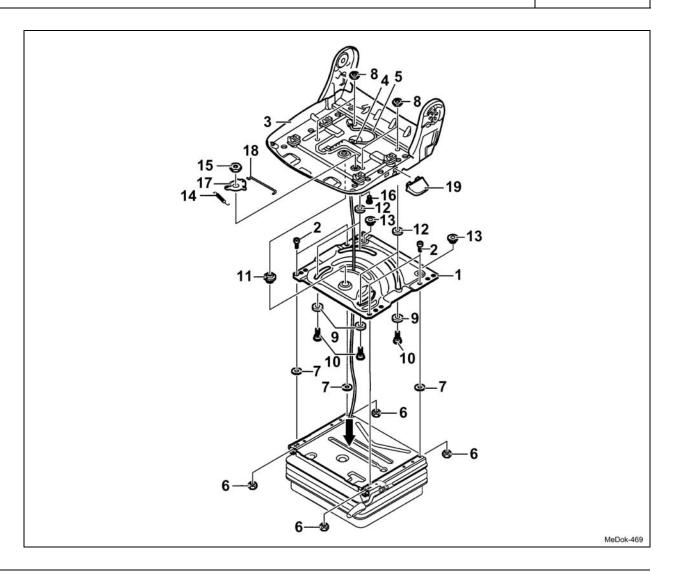


REMOVAL/INSTALLATION

TABLE OF CONTENTS

Removal, installation

- 5 Turn the swivel adaptor (1) and the seat plate (3) to the side.
- 6 Push the seat forwards or backwards and undo the screws (2).
- 7 Remove the seat plate (3) and the integrated swivel adaptor (1).
- 8 Seat with seat heater:
 Cut open the cable ties (4) and pull out the seat heater cable (5) in a downward direction.
- 9 Remove the hexagon nuts (6) and the washers (7).



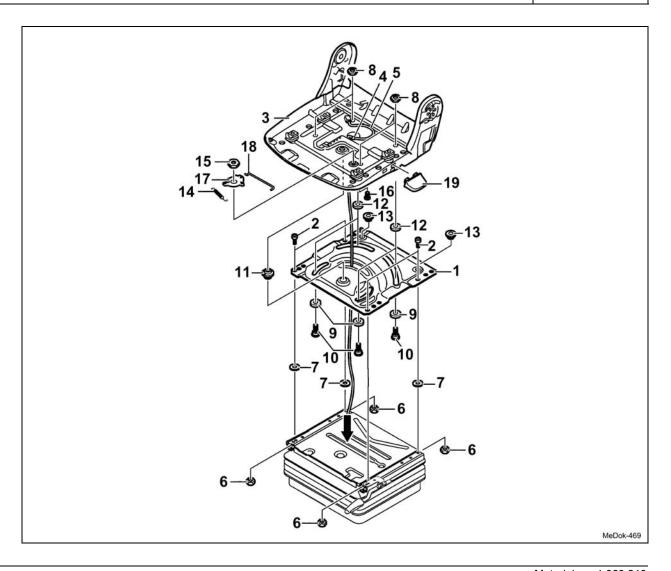
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REMOVAL/INSTALLATION

- 10 Unscrew the hexagon nuts (8), remove the washers (9) and the hexagon socket screws (10).

 Installation notes:
 - Replace the hexagon socket screws (10) with new ones, 25 Nm tightening torque.
 - The swivel adaptor must be turnable with a torque of max. 30 Nm.
- 11 Remove the seat plate (3) and the washers (12).
- 12 Remove the bushing (11) and the slide washers (13).
- 13 Remove the spring (14).

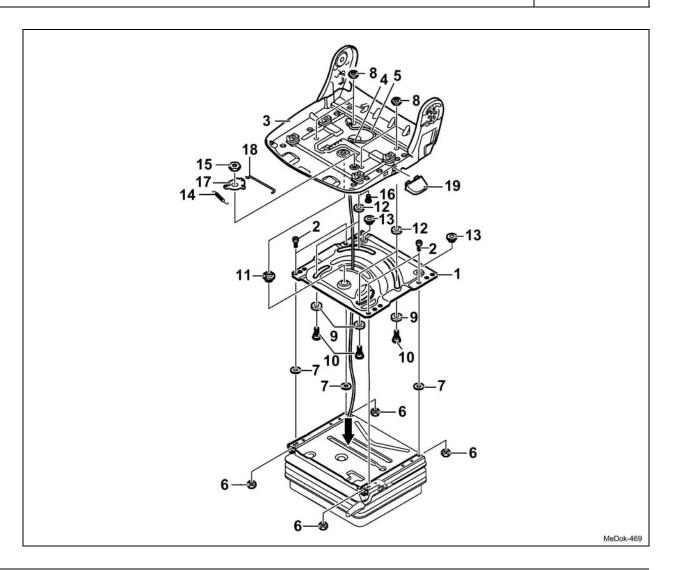


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REMOVAL/INSTALLATION

- 14 Unscrew the nut (15) and remove the flat-headed screw (16).
- 15 Unhook the lever (17) from the linkage rod (18) and remove it.
- 16 Remove the linkage rod (18) and the handle (19).
- 17 Re-install the components in the reverse order of their removal.

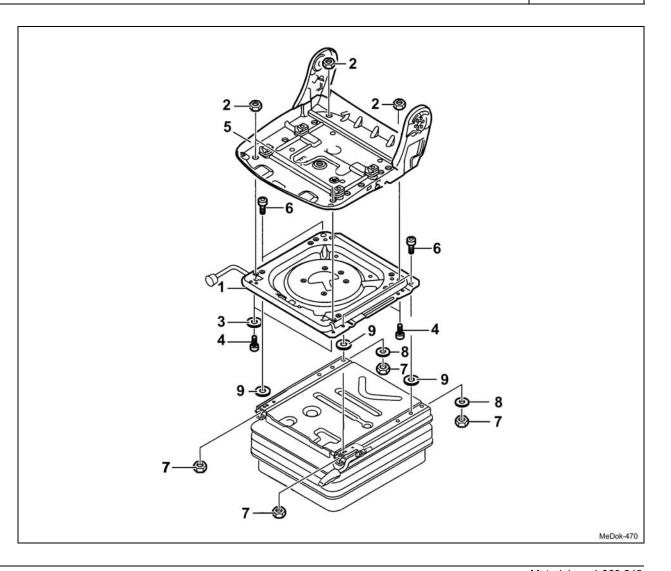


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REMOVAL/INSTALLATION

- 1) External swivel adaptor
- (2) Hexagon nut
- (3) Washer
- (4) Hexagon socket screw..... to be replaced, 25 Nm
- (5) Seat plate
- (6) Hexagon socket screw..... to be replaced, 25 Nm
- (7) Hexagon nut
- (8) Washer
- (9) Washer



2.14.2 Swivel adaptor and seat pan – removal and installation (seat with external swivel adaptor)

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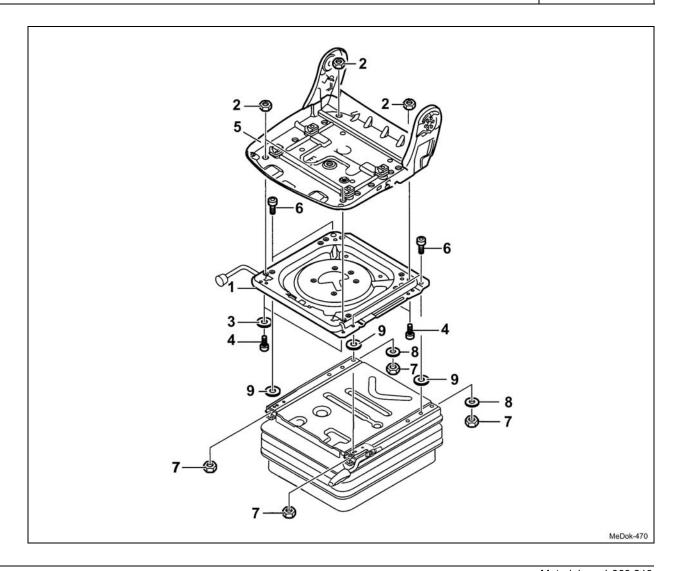
REMOVAL/INSTALLATION

TABLE OF CONTENTS

- 1 Remove the seat pad and backrest upholstery (chapter 2.1).
- 2 When replacing the seat plate: Remove the backrest (chapter 2.9).
- 3 Seat with seat switch: Remove the seat switch (see chapter 2.12).
- 4 Seat with seat angle and seat depth adjuster:
 Remove the seat angle and seat depth adjuster (chapter 2.13).

Removal, installation

5 Turn the external swivel adaptor (1) and the seat plate (5) to the side.



2.14.2 Swivel adaptor and seat pan – removal and installation (seat with external swivel adaptor)

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REMOVAL/INSTALLATION

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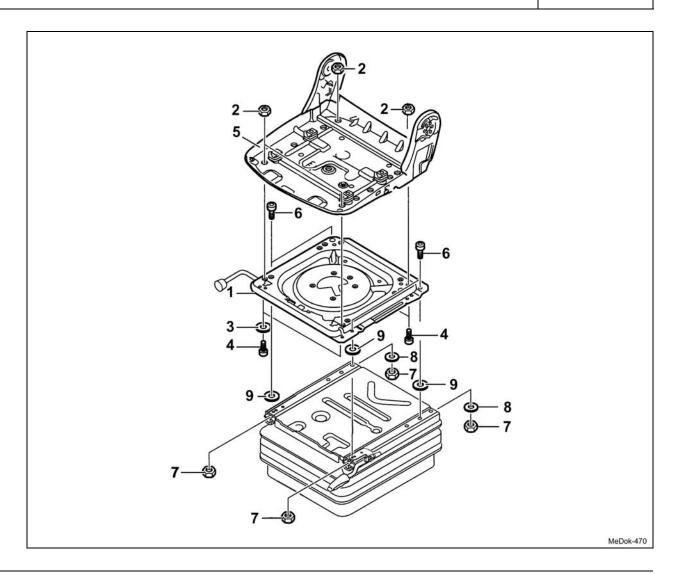
- 6 Unscrew the hexagon nuts (2), remove the washers (3) and the hexagon socket screws (4).

 Installation note:
 - Replace the hexagon socket screws (4) with new ones, 25 Nm tightening torque.
- 7 Remove the seat plate (5).
- 8 Unscrew the hexagon socket screws (6) and remove the hexagon nuts (7) and the washers (8).

Installation note:

Replace the hexagon socket screws (6) with new ones, 25 Nm tightening torque.

- 9 Remove the external swivel adaptor (1) and the washers (9).
- 10 Re-install the components in the reverse order of their removal.



2.15 Covers – removal and installation

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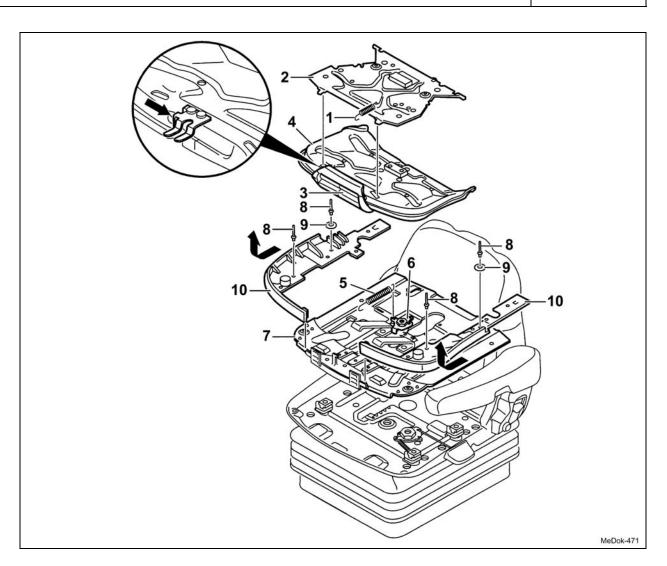


REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

- 1) Spring
- (2) Switch-plate
- (3) Lever for seat angle adjustment
- (4) Flexible support plate
- (5) Spring
- (6) Lever
- (7) Plate
- (8) Rivet
- (9) Washer
- (10) Cover

1 Remove the seat pad (see chapter 2.1).



2.15 Covers – removal and installation

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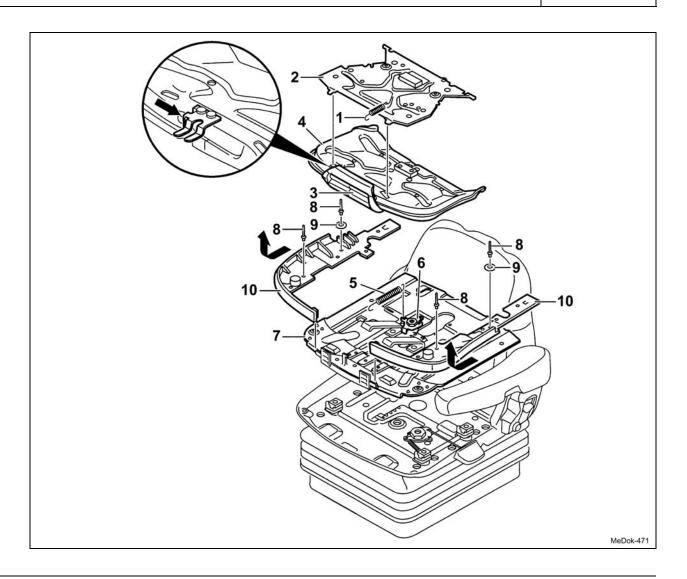


REMOVAL/INSTALLATION

TABLE OF CONTENTS GR

Removal, installation

- 2 Seat with seat switch:
- 2.1 Remove the spring (1).
- 2.2 Tilt the switch-plate (2) forwards and remove it.
- 3 Press the spring plate (arrow) inwards, operate the lever for seat angle adjustment (3), swivel the flexible support plate (4) upwards and remove it.
- 4 Remove the spring (5).
- 5 Turn the lever (6) clockwise until it snaps-in, pull the plate (7) to the very front and remove it.



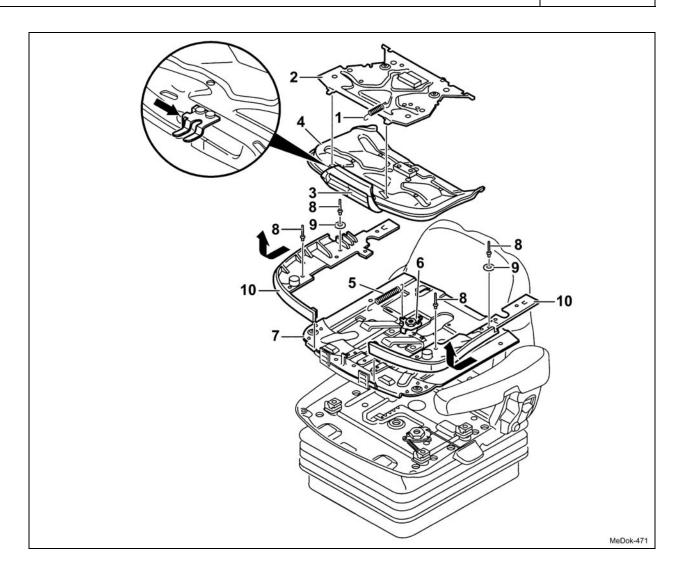
2.15 Covers – removal and installation

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REMOVAL/INSTALLATION

- 6 Drill off the rivet (8) and remove the washers (9).
- 7 Unhook the covers (10) by pulling them forwards and remove them in an upward direction.
- 8 Re-install the components in the reverse order of their removal.



2.16 Slide rails – removal and installation

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TABLE OF CONTENTS

- 2.16.1 Slide rails removal and installation (seat without swivel adaptor)
- 2.16.2 Slide rails removal and installation (seat with swivel adaptor)

2.16.1 Slide rails – removal and installation (seat without swivel adaptor)

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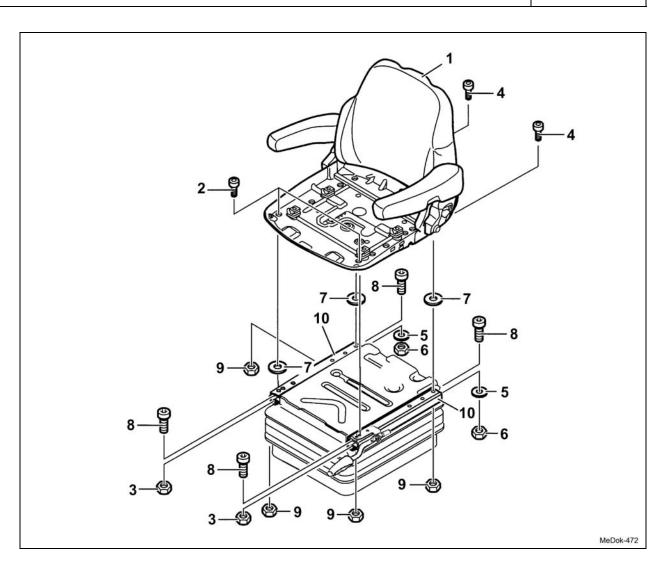


REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

- 1) Seat top assembly
- (2) Hexagon socket screw..... to be replaced, 25 Nm
- (3) Nut
- (4) Hexagon socket screw..... to be replaced, 25 Nm
- (5) Washer
- (6) Nut
- (7) Washer
- (8) Hexagon socket screw..... to be replaced, 25 Nm
- (9) Nut
- (10) Slide rail

1 Remove the seat pad (see chapter 2.1).



2.16.1 Slide rails – removal and installation (seat without swivel adaptor)

Page 2 of 3



REMOVAL/INSTALLATION

TABLE OF CONTENTS GR

Removal, installation

- 2 Push the seat top assembly (1) as far back as possible.
- 3 Unscrew the hexagon socket screws (2) and remove the nuts (3).

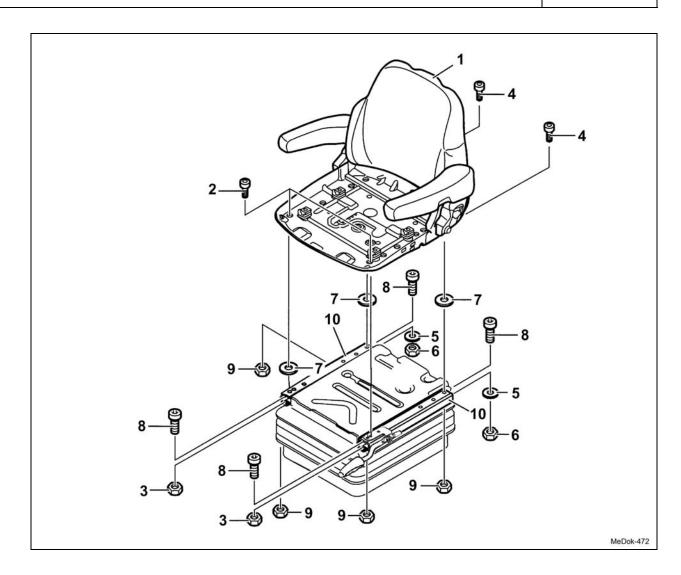
Installation note:

Replace the hexagon socket screws (2) with new ones, 25 Nm tightening torque.

- 4 Push the seat top assembly (1) as far forward as possible.
- 5 Unscrew the hexagon socket screws (4), remove the washers (5) and nuts (6).

Installation note:

Replace the hexagon socket screws (4) with new ones, 25 Nm tightening torque.



2.16.1 Slide rails – removal and installation (seat without swivel adaptor)

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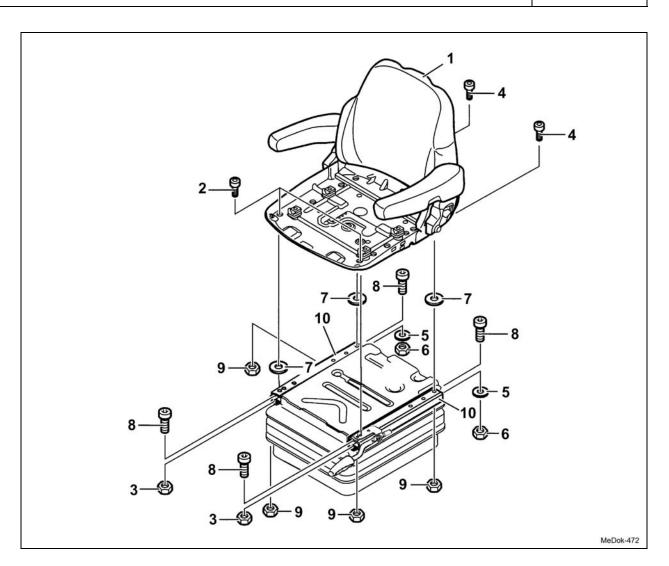
REMOVAL/INSTALLATION

TABLE OF CONTENTS GR

- 6 Remove the seat top assembly (1) and remove the washers (7).
- 7 Disconnect the bellows from the upper part of the suspension system and lay it down.
- 8 Unscrew the hexagon socket screws (8) and remove the nuts (9).
 Installation note:
 Replace the hexagon socket screws (8) with new ones, 25 Nm tightening
- 9 Remove the slide rails (10).

torque.

10 Re-install the components in the reverse order of their removal.



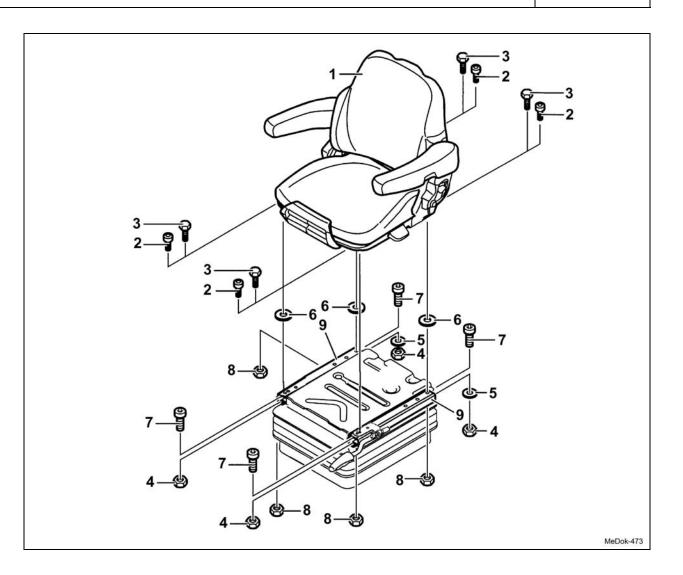
2.16.2 slide rails – removal and installation (seat with swivel adaptor)

Page 1 of 3



REMOVAL/INSTALLATION

- 1) Seat top assembly
- (2) Hexagon socket screw..... to be replaced, 25 Nm
- (3) Hexagon screw..... to be replaced, 25 Nm
- (4) Nut
- (5) Washer
- (6) Washer
- (7) Hexagon socket screw..... to be replaced, 25 Nm
- (8) Nut
- (9) Slide rail



2.16.2 slide rails – removal and installation (seat with swivel adaptor)

Page 2 of 3



REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

Removal, installation

- 1 Turn the seat top assembly (1) to the side
- 2 Seat with external swivel adaptor: Unscrew the hexagon socket screws (2), remove the nuts (4) and the washers (5).

Installation note:

Replace the hexagon socket screws (2) with new ones, 25 Nm tightening torque.

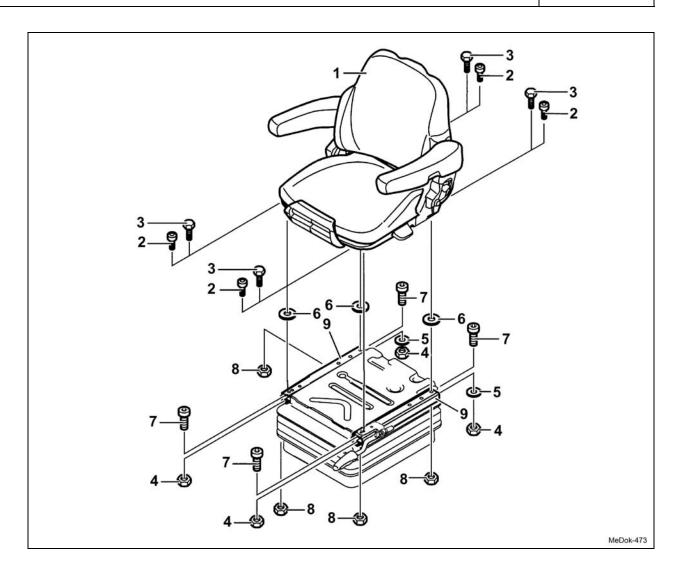
3 Seat with integrated swivel adaptor:

Undo the hexagon socket screws (3),remove the nuts (4) and the washers (5).

Installation note:

Replace the hexagon socket screws (3) with new ones, 25 Nm tightening torque.

4 Remove the seat top assemlyb (1) and the washers (6).



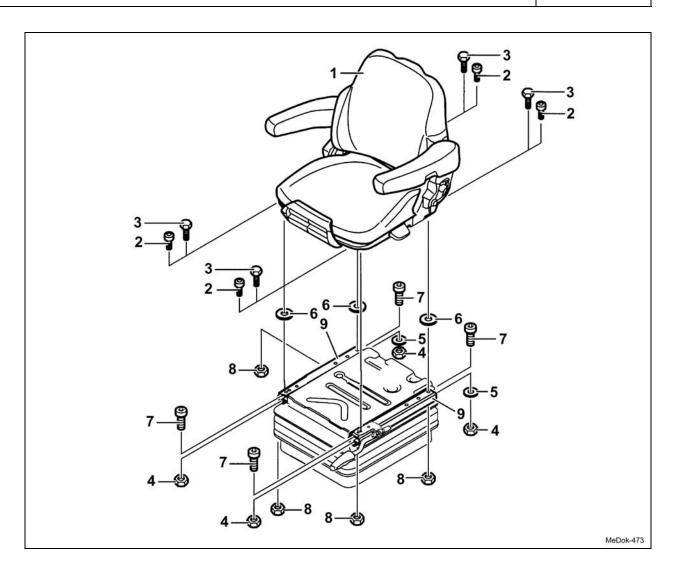
2.16.2 slide rails – removal and installation (seat with swivel adaptor)

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REMOVAL/INSTALLATION

- 5 Disconnect the bellows from the upper part of the suspension system and lay it down.
- 6 Unscrew the hexagon socket screws (7) and remove the nuts (8).
 Installation note:
 Replace the hexagon socket screws (7) with new ones, 25 Nm tightening torque.
- 7 Remove the slide rails (9).
- 8 Re-install the components in the reverse order of their removal.

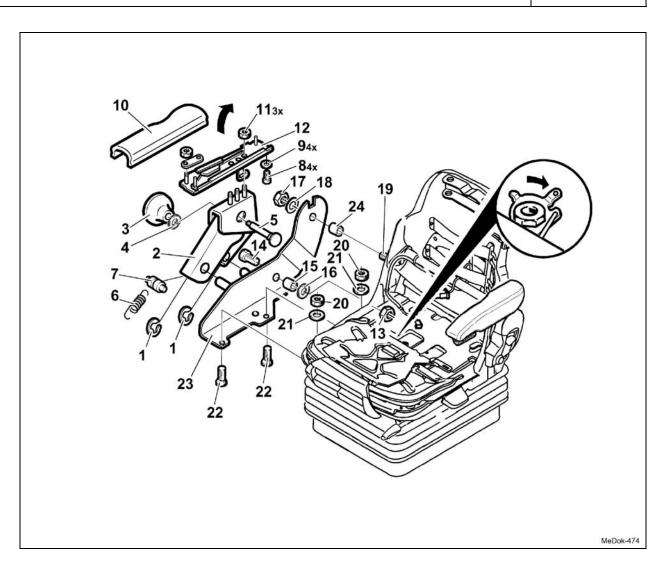


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REMOVAL/INSTALLATION

- (1) Circlip
- (2) Multi-function armrest
- (3) Locking knob
- (4) Washer
- (5) Screw
- (6) Tension spring
- (7) Latching bolt
- (8) Oval-head screw to be replaced, 6 Nm
- (9) Washer
- (10) Armrest pad
- (11) Hexagon nut to be replaced, 10 Nm
- (12) Plate
- (13) Hexagon nut 50 Nm
- (14) Hexagon screw



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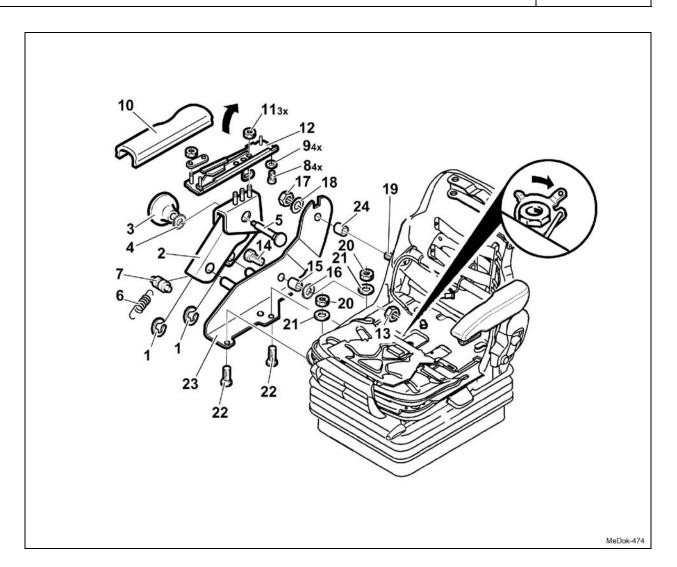


REMOVAL/INSTALLATION

TABLE OF CONTENTS GRA

- (15) Spacer
- (16) Washer
- (18) Washer
- (19) Screw
- (21) Washer
- (22) Screw
- (23) Support
- (24) Spacer

1 Remove the seat pad and backrest upholstery (chapter 2.1).



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REMOVAL/INSTALLATION

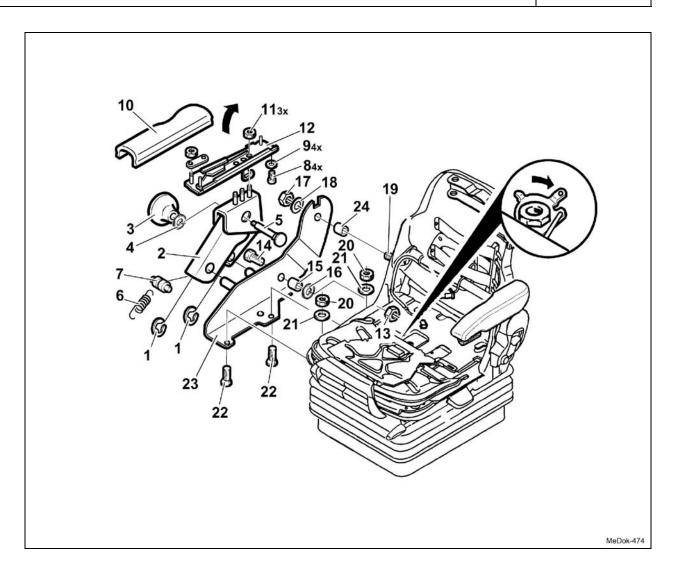
TABLE OF CONTENTS GR

Removal, installation

- 2 Bring the seat depth adjustment to the most forward position.
- 3 Seat with seat switch:
 Loosen the fixation of the seat switch
 cable and pull the cable through the
 seat plate.
- 4 Operate the locking lever (arrow) manually until it engages; move the seat angle and seat depth adjuster to the front as far as possible and remove it from the seat plate.

Installation notes:

- Avoid kinking or abrasion of the cable on sharp edges.
- Make sure that the cable isn't pulled tight.



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REMOVAL/INSTALLATION

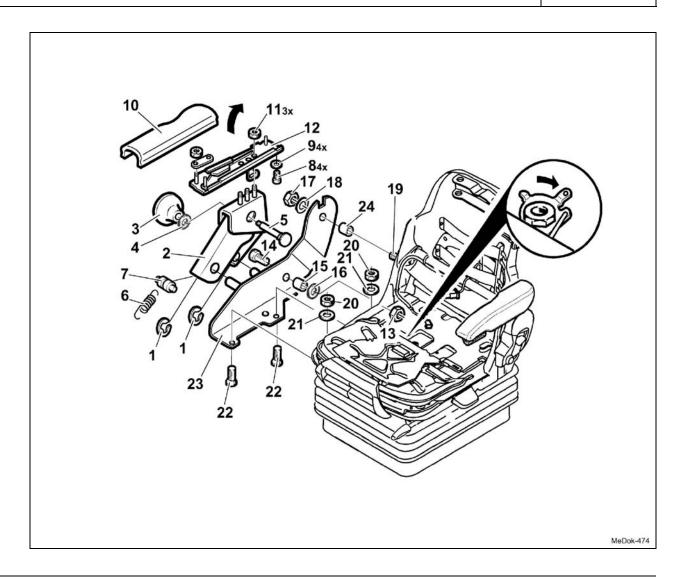
TABLE OF CONTENTS GR

- 5 Remove the circlips (1), pull the multifunction armrest (2) from the bearing bolts of the support (23).
- 6 Unscrew the locking knob (3), remove the washer (4) and pull out the screw (5).
- 7 Fold the armrests backwards (arrow), unhook the tension spring (6), slide the latching bolt (7) backwards and remove it to the side.
- 8 Turn out the oval-head screws (8) and remove the washers (9).

Installation note:

Replace the oval-head screws (8) with new ones, 6 Nm tightening torque.

9 Remove the armrest pads (10).



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REMOVAL/INSTALLATION

TABLE OF CONTENTS GR

10 Unscrew the hexagon nuts (11) and remove the plate (12).

Installation note:

Replace the hexagon nuts (11) with new ones, 10 Nm tightening torque.

11 Unscrew the hexagon nut (13). Withdraw the hexagon nut (14), the spacer tube (15) and the washer (16).

Installation note:

Hexagon nut (13), 50 Nm tightening torque.



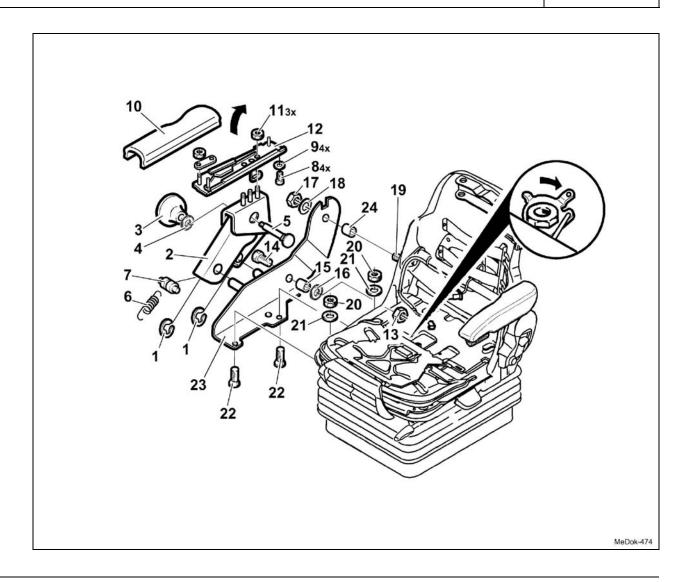
ATTENTION!

Do not pull out the screw (19)!

12 Unscrew the hexagon nut (17) and remove the washer (18); if necessary hold up with the screw (19).

Installation note:

Hexagon nut (17), 25 Nm tightening torque.



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REMOVAL/INSTALLATION

TABLE OF CONTENTS GR

13 Unscrew the hexagon nut (20) and remove the washers (21) and the screws (22).

Installation note:

Hexagon nut (20), 25 Nm tightening torque.

- 14 Remove the support (23).
- 15 Remove the sleeve tube (24).
- 16 Re-install the components in the reverse order of their removal.

