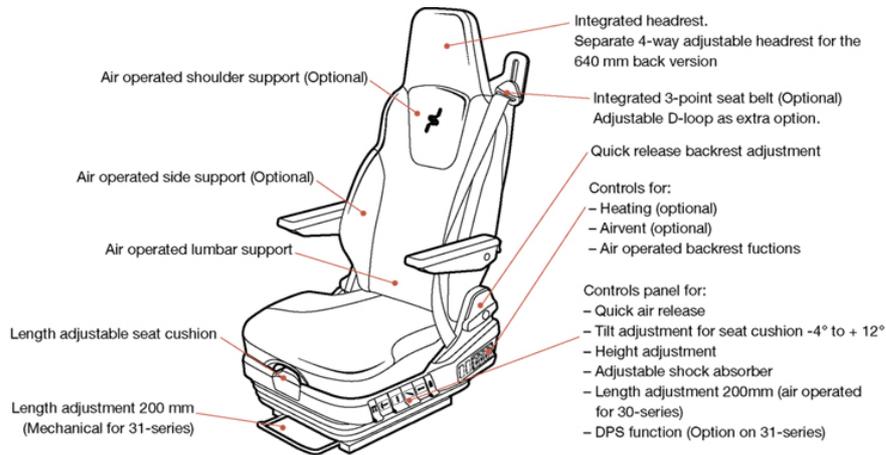
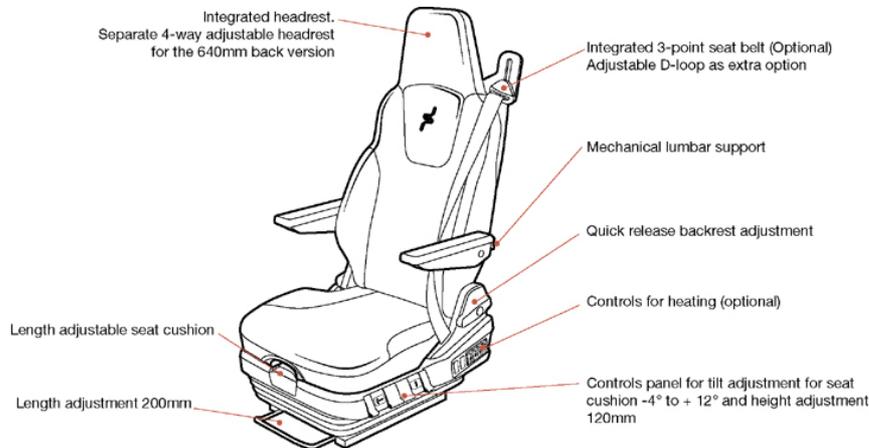


30-/31 series

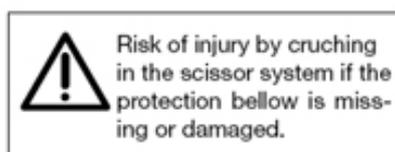


34- series



This service manual is a complement to your user manual and guidance for daily inspection and easier repairs, note that some technical knowledge will be necessary to carry out these repairs.

Be extra carefully when you are working with repairs in the suspensions scissor system, this can cause injuries by incorrect handling, for more information see safety instruction at page 3.

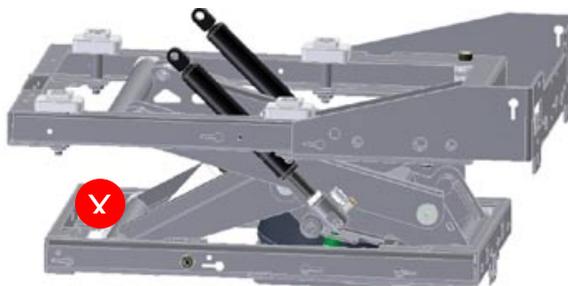


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Safety instruction – Read this

Be extra carefully when you are working with repairs in the suspensions scissor system, this can cause injuries by incorrect handling. When working in scissor system always secure the system by adjust the seat to it's highest position and place a robust object in one of the bottom frame rails in front of the scissors bearing to block the scissors, this to make the seat keep it's position in case of air drop out or failure in gas spring, see red dot in picture marked "x".



1.1

Daily inspection

Make sure that no seat functions are blocked by foreign objects. Check that all belt components are undamaged. Replace the whole belt kit in case of:

- cut or frayed strap
 - worn or damaged hardware including anchor points
 - buckle or retractor (if fitted) malfunction
 - loose strap stitchings
- If the seat does not retain in the adjusted height position, check that there is no leakage in the air system.



1.2

Every 125th hour:

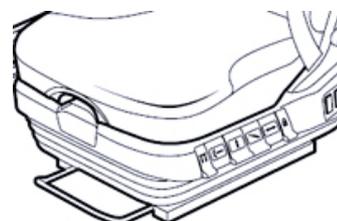
Check all seat functions with respect to satisfactory function of: Length adjustment, height adjustment, tilting adjustment, backrest adjustment, air valve and safety belt (see chapter 2, control devices).



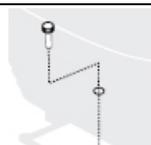
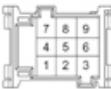
1.3

Every 1000th hour:

Check the sliding rail clearance; max. 1 mm lengthways and max. 1 mm sideways. Replace the sliding rails if these values are exceeded, see point 3.4. Lubricate the sliding rails, see point 3.1. Make sure that no oil leaks from the shock absorber. In such case, replace the absorber. Check the safety belt (see point 1.1). Check the floor attachment and that there are no loose bolts.



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<p>2.1 Height adjustment Check the function of raising and lowering the seat. Also check that the seat remains in the height setting and that the suspension is satisfactory. If the raising and lowering functions do not work properly or if the suspension is not satisfactory, check that the inlet air is in function and does not leak. In case of defective function, contact a service technician.</p>	
<p>2.2 Length adjustment Push the seat into its end positions and make sure that it runs freely. Lubricate the sliding rails regularly, e.g. with Texando 20 or similar. First clean with a lint free cloth. If the sliding rails have a clearance exceeding 1 mm lengthways or sideways, they shall be replaced. Check that the inlet air is in function and does not leak. In case of damage or leakage, contact a service technician.</p>	
<p>2.3 Attachment Make sure that no bolts are loose. Check the attachment of the seat against floor or frame.</p>	
<p>2.4 Backrest adjustment Check that the back rest controls are undamaged and not defect. In case of damage, replace the control device or contact a service technician.</p>	
<p>2.5 Tilting function Check that the tilting function works properly, i.e. the seat can be tilted forwards and backwards. Check that the inlet air is in function and does not leak. In case of damage or leakage contact a service technician.</p>	
<p>2.6 Shock absorber Check that the seat suspension is in function, i.e. that the suspension is harder when moving the console button upwards and softer when moving it downwards. In case of defective function, contact a service technician.</p>	
<p>2.7 Connections Check that no connections (air/electricity), hoses and cables are defect. In case of visual damage, contact a service technician.</p>	

3.1

Lubrication of slide rails

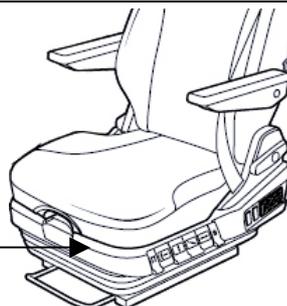
Lubricate the sliding rails regularly, e.g. with Texando 20 or similar. First clean with a lint free cloth. If the sliding rails have a clearance exceeding 1 mm lengthways or sideways, they shall be replaced.. See point 3.4.



3.2

Dismount of seat cushion

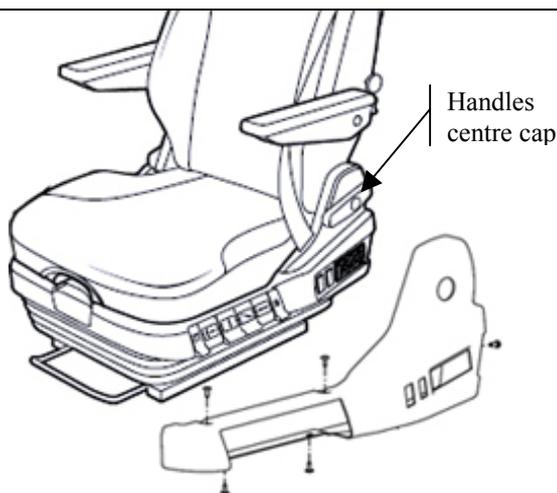
Losen vecro tape between the seat cushions back and the backrest, this is easiest done from behind.
Adjust the seat cushion to it's front position.
Locate the lock under the seat cushion on it's left side in driving direction, see the arrow, and push the lock up against the seat cushion. Pull the cushion one bit more to the front and lift it up.
Note that it in the right position is easy to lift the cushion, if there is friction the seat plate will risk to be damaged.



3.3

Dismount side cover

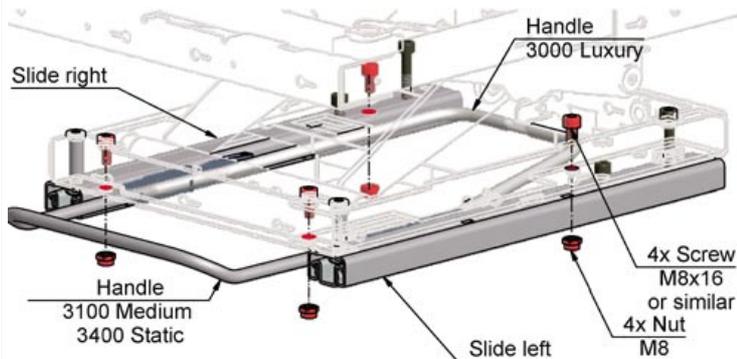
Dismount seat cushion as in point 3.2.
Dismount the release handle for the backrest adjustment by carefully remove the centre cap with for example a small screwdriver and pull out the handle.
Dismount the torx screw at the covers backside.
Dismount plastic rivet by removing the rivets centre locking (early version) or dismount the screws (later version), 2pcs at the covers upper side, and 2pcs under the cover. Remove the cover.



3.4

Replacement of slide rails

Detach the seat from floor or seat base.
Dismount protection bellow by sliding the fastenings against the oblong holes openings.
Secure the bottom frame by mounting 4 screws in the open holes as shown in the picture, otherwise the frame risk to separate.
Dismount the release handle by stretch it together.
Dismount the screws to the slide rails, 3 at each side.
Reassemble the slide rails, release handle and protection bellow in reversed order.



3.5

Replacement of gas springs for tilt

Dismount seat cushion as in point 3.2.

Adjust the seat to it's highest position and tilt the seat maximum backwards.

Loosen the protection bellow as in point 3.4, so you can reach the lower fastening taps.

Only change one gas spring at the time so the seat is keeping it's position.

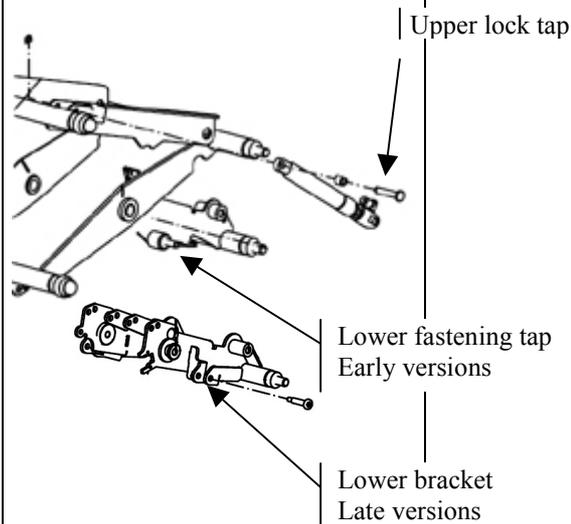
Dismount the upper locking tap by removing the locking washer. Release the wire from it's bracket or the air hose by pushing in the plastic ring at the connector.

For later versions; loosen lower assembly screw and replace gas spring.

For earlier wire released gas spring; remove the starloc washer at the lower fastening tap and replace gas spring.

For earlier air controlled gas spring; thread the gas springs piston stem out of the release head and replace gas spring, when reassembling, thread in the piston stem until you feel friction, then tread out one half turn again. If the gas springs release head has to be replaced, please contact Be-Ge for replacing.

Reassemble in reversed order.



3.6

Replacement of shock absorber

Dismount seat cushion as in point 3.2

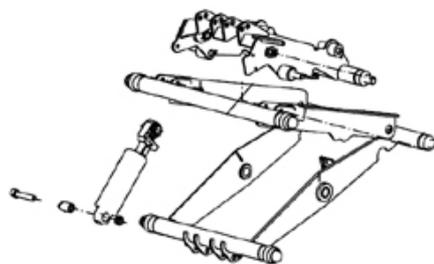
For main shock absorber; loosen the wire cover from the bracket at the absorber by carefully bending up the notch until you can slide the wire out, then loosen the the wire end from the adjustment lever.

For DPS absorber; dismount the air hose by pushing in the plastic ring at the connector and pull out the hose.

When wire / air hose is removed, dismount the upper and lower fastening bolt and replace the absorber.

Montering sker i omvänd ordning.

Reassemble in reversed order.



3.7

Replacement of air spring

Detach the seat from floor or seat base.

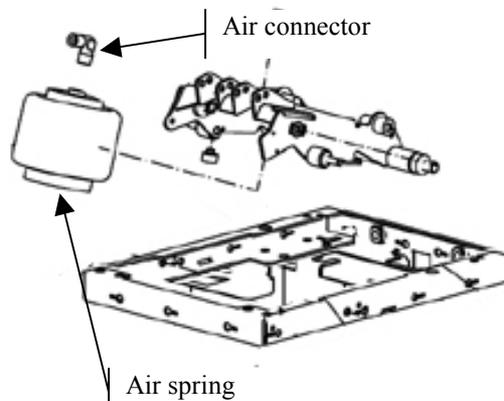
Dismount seat cushion as in point 3.2.

If the seat is equipped with DPS function, disassemble the main shock absorber by dismounting the upper and lower fastening bolts and put the absorber aside to get some free space.

Tilt the seat maximum backwards.

Adjust the seat to it's highest position and place a robust object in one of the bottom frame rails in front of the scissors bearing to block the scissors, this to make the seat keep it's position when the air is released.

Continuation on next page



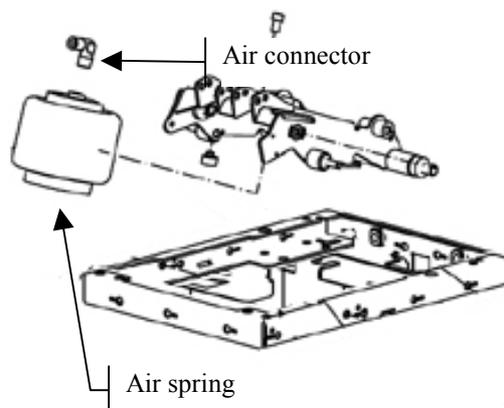
Continuation. 3.7 Replacement of air spring

Release the air out of the spring by activating the quick evacuation, or for the Push-Pull system, press the button for lowering the seat.

Check so the scissors are stable locked in it's position. Dismount the air hose by pushing in the plastic ring at the connector and pull out the hose, then screw out the connector of the air spring.

Dismount the upper and lower fastening screw of the air spring and pull out the air spring in front of the transverse tube in the upper scissor.

Reassemble in reversed order, note that it's required to apply blue Loctite 243 at the connectors treads before reassembling it.

**3.8****Replacement of controls**

Dismount seat cushion as in point 3.2.

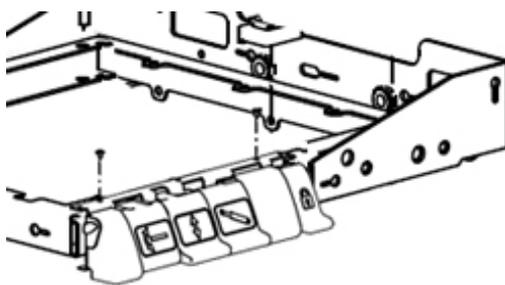
Dismount the side cover as in point 3.3.

Dismount the two upper screws and angle the panel out, when the brackets upper part has passed the seat frame, press the down the panel so the lower attachments are released.

Loosen the air hoses from the valves dismount the wires.

Wire for mechanical tilting is dismounted by loosen the wire from the handle and pressing together the covers plastic lockers.

Other wires are dismounted by loosen the wire from the handle and sliding the covers fastening against the oblong holes openings.

**3.9****Replacement of valve in controls**

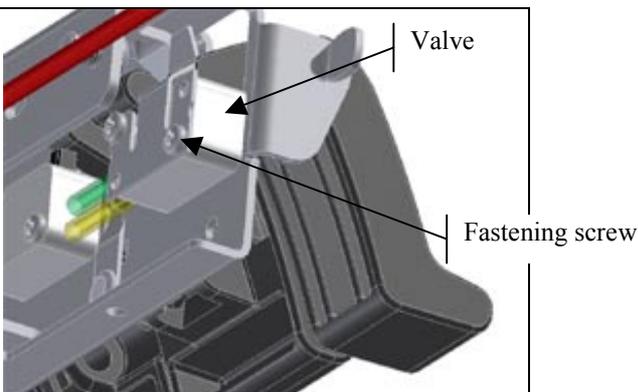
Dismount seat cushion as in point 3.2.

Dismount the side cover as in point 3.3.

Dismount the controls as in point 3.8, loosen wires and air hoses is normally not required.

Loosen the air hose to the valve that is to be replaced and disassemble by dismounting fastening screws.

(Picture shows the panel from behind).



3.10

Replacement of seat trim

Dismount seat cushion as in point 3.2.

Drill rivets at the front handles cover and remove the cover. The trim is assembled by the sewed plastic ledge around the seat plates underside.

Start in the back at the ledges ends, see arrow fig 1, to bend out the ledge from the groove. As the ledge is locked by barbs in the seat plates outside, see arrow fig 3, press the ledge inward to avoid destructing the barbs.

When the whole ledge is released, pull the trim off the foam. The trim also has a sewed in ledge in the seams at the seat area, this has to be carefully pulled out off the plastic clips in the foam.

Before you start reassembling the trim, check so the barbs have the correct shape, see arrow fig 3, otherwise adjust carefully with pliers or a screw driver.

Reassemble in reversed order.

After reassembling of trim, check so the barbs are locking the ledge.

Rivet the handle cover with two new rivets 3,2*6mm (art.no.653004).

Fig 1



Fig 2

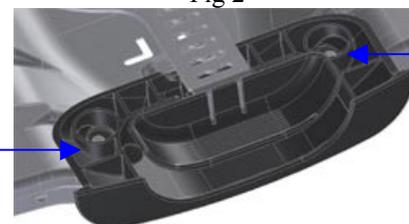
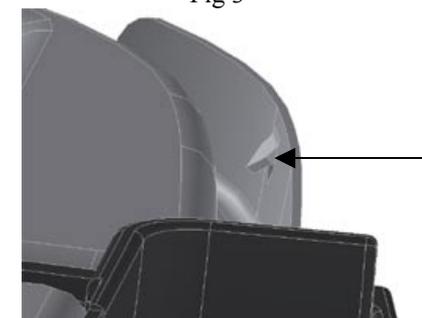


Fig 3



3.11

Replacement of back trim

Dismount seat cushion as in point 3.2.

Dismount any armrests and d-loop for seat belt.

For low back; Disassemble any headrest and headrest socket.

Lean the backrest maximum forward and unzip the trim at the back.

Separate the locking ledge at the trims underside, see black arrow.

For backrest with shoulder support; Loosen the shoulder supports two elastic ribbons by dismounting the metal hooks in the back of the frame. Lean out the shoulder support manually and lift it up as soon as it has passed the ambient foam and trim.

Loosen the metal thread from the plastic clips, see blue arrows. Pull up the metal thread from the holes in the backframe, note how the upper thread is locking the lower. Dismount the trim and pull out the ledges that is sewed into the seams from it's plastic clips in the foams front side. Reassemble in reversed order.



4.1

Assembly of armrests

The backrest is always prepared for assembling armrests with three holes and welded nuts at each side of the backrest.

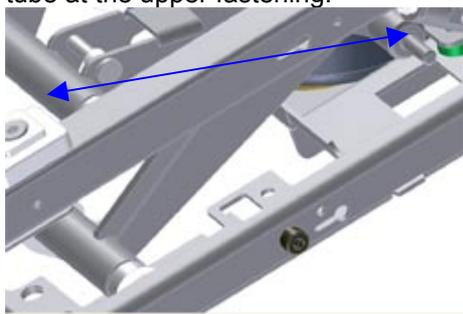
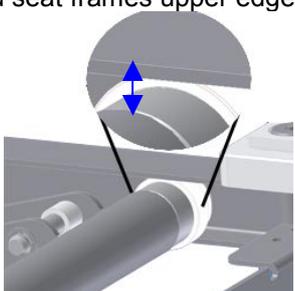
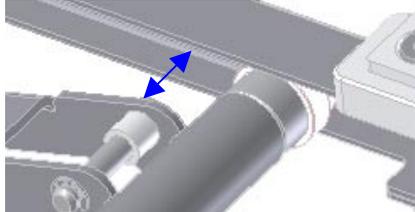
The lowest hole is placed about 50mm from the side covers upper edge.

Locate the holes by feeling trough the trim. Armrests will be assembled by three screws that are screwed trough the trim, it simplifies to make some small holes in the trim with, for an example, small screwdriver to not loose the positions.



5.1

Tolerances in scissor system

Tolerance	Max play	Instruction for measure
Gas spring tilt	0,4mm	Measure is to be taken between lower fastening for gas spring and transversal tube at the upper fastening. 
Scissor system vertically	0,4mm	Measure is to be taken between transversal tube for upper bearing in the front and seat frames upper edge. 
Scissor system horizontal	0,3mm	Measure is to be taken between upper fastening for gas spring and for tilting and seat frames inner edge. 

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Moment table

Item	Art no	Qty	Belonging to	Tightening moment with torque wrench, Nm	Remarks
Spacer screw M8 (pressed)	631101	2	Sliding rails	24	
Screw MC6S M8x45 SV.KR 8.8	423021	2	Sliding rails	24	
Screw MC6S GF M8x16 SV.KR	650102	2	Sliding rails	24	
Screw MC6S GF M8x16 SV.KR	650102	2	Bottom frame	24	
Bearing bolt M10 (pressed)	500396	2	Scissors system	47	
Bearing bolt M10 (pressed)	631299	2	Scissors system	47	
Spacer screw M8 (pressed)	631100	4	Upper frame	24	
Screw MC6S M8x45 SV.KR 8.8	423021	2	Upper frame	24	
Screw MF6S M8x20 SV.KR 10.9	310930	4	Backrest frame	33	
Screw MC6S GF M8x16 SV.KR	650102	2	Air spring	2	
Screw MC6S M8x40 FZB 8.8	650066	1	Shock absorber	24	
Screw MC6S M8x45 SV.KR 8.8	423021	1	Shock absorber	24	
Screw RXS ST3.5x19 SV.KR POZ	650018	4	Hose kit	(1)	
Screw MRT-TT M4x20 FZB	650156	2	Hose branching	(3)	
Screw MRT-TT M5x12 SV.KR	650126	2	Console, housing	(5)	
Screw RTS ST3.5x6.5 FZB	650152	2	Control button console	(1)	
Screw MRT-TT M5x8 FZB	650088	2	Control button console	(5)	
Screw RTK ST2.9x16 FZB	650155	2 - 10	Control button kit	(1)	
Screw WN156-3 M4x12 FZB	650095	1 - 4	Control button kit	(1)	
Screw UNF 7/16x19	650051	4	Belt	47	Belt seats
Screw UNF 7/16	-	4	3-point belt	47	Belt seats
Screw M6S M10x20 FZB 8.8	650153	2	D-loop	47	Belt seats
Screw M6S M10x20 FZB 8.8	650153	3	Adjustable D-loop	47	Belt seats
Screw UNF 7/16x45 FZB 8.8	650157	1	Adjustable D-loop	47	Belt seats
Screw WN156-3 M4x12 FZB	650095	3	Adjustable D-loop	(1)	Belt seats
Screw MF6S M4x14 FZB 10.9	650076	1	Adjustable D-loop	(3)	Belt seats
Screw MFX M3x12 SV.KR 4.8	501121	2	Fan adjustment	(0.5)	Airvent
Screw WN 156-3 M4x12 FZB	650095	6	Headrest frame	1.4	Headrest
Screw MRT-TT M5x8 FZB	650088	4	Console, housing	(5)	

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Trouble shooting plan for authorized service staff

Problem	Possible reason	Remedy
3000: Seat tilt not adjustable	Air valve leakage The air connection hose is not properly mounted The air connection hose is squeezed The air supply is out of function	Replace the valve Check that air connection hose is mounted and correctly connected to the seat Replace the air connection hose Check the pressure air supply in the vehicle
3100/3400: Seat tilt not adjustable	Defect wire	Replace the wire
3000/3100: The seat's height adjustment/suspension does not function or does not work properly	Air valve leakage The air connection hose is not properly mounted The air connection hose is squeezed The air supply is out of function Defect air spring	Replace the valve Check that air connection hose is mounted and correctly connected to the seat Replace the air connection hose Check the pressure air supply in the vehicle Replace the air spring
3400: The seat's height adjustment/suspension does not function or does not work properly	Defect wire Defect gas spring	Replace the wire Replace the gas spring
3000/3100: Shock absorber seems to have to much play	Defect shock absorber Defect shock absorber bushings Defect wire	Replace the shock absorber Replace the bushings Replace the wire
The sliding rails seem to have to much play	Defect bearing balls in the rails	Replace the sliding rails
The sliding rails seem stiff	The rails do not run freely from the basement Dirty rails	Check that there are spaces between seat and basement Clean and re-lubricate the rails
3000: The seat's sliding rails are not released	Air valve leakage The air connection hose is not properly mounted The air connection hose is squeezed The air supply is out of function	Replace the valve Check that the air connection hose is mounted and correctly connected to the seat Replace the air connection hose Check the air pressure supply in the vehicle
The seat length adjustment does not lock	Defect locking mechanism	Replace the locking mechanism
3000/3100: DPS function - locking mechanism out of order	Defect locking mechanism Air valve leakage The air connection hose is not properly mounted The air connection hose is squeezed The air supply is out of function	Replace the locking mechanism Replace the valve Check that air connection hose is mounted and correctly connected to the seat Replace the air connection hose Check the pressure air supply in the vehicle
3000/3100: Lumber/side support/shoulder cover	Air connection leakage Defect bellows The hose is squeezed	Replace the hose Replace the bellows Replace the hose
The heating out of order	Not cold enough	The heating coil at the seat thermostat is cooled to 10°C in level 1 and 28°C in level 2. Replace the seat cushion if still out of function.