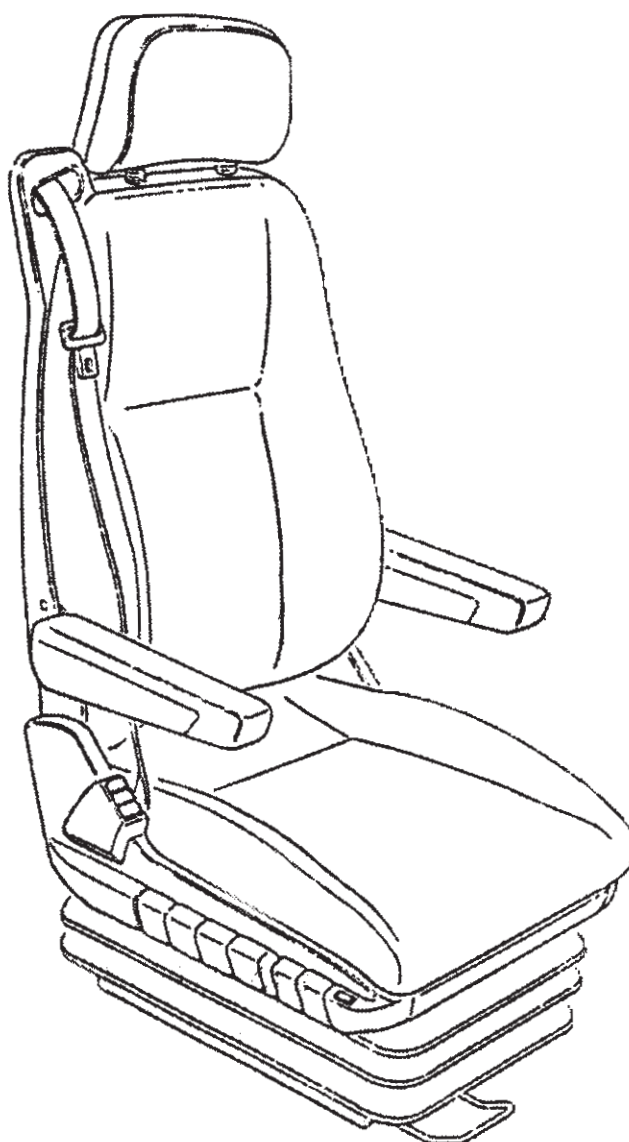


ISRI 6800 / 337



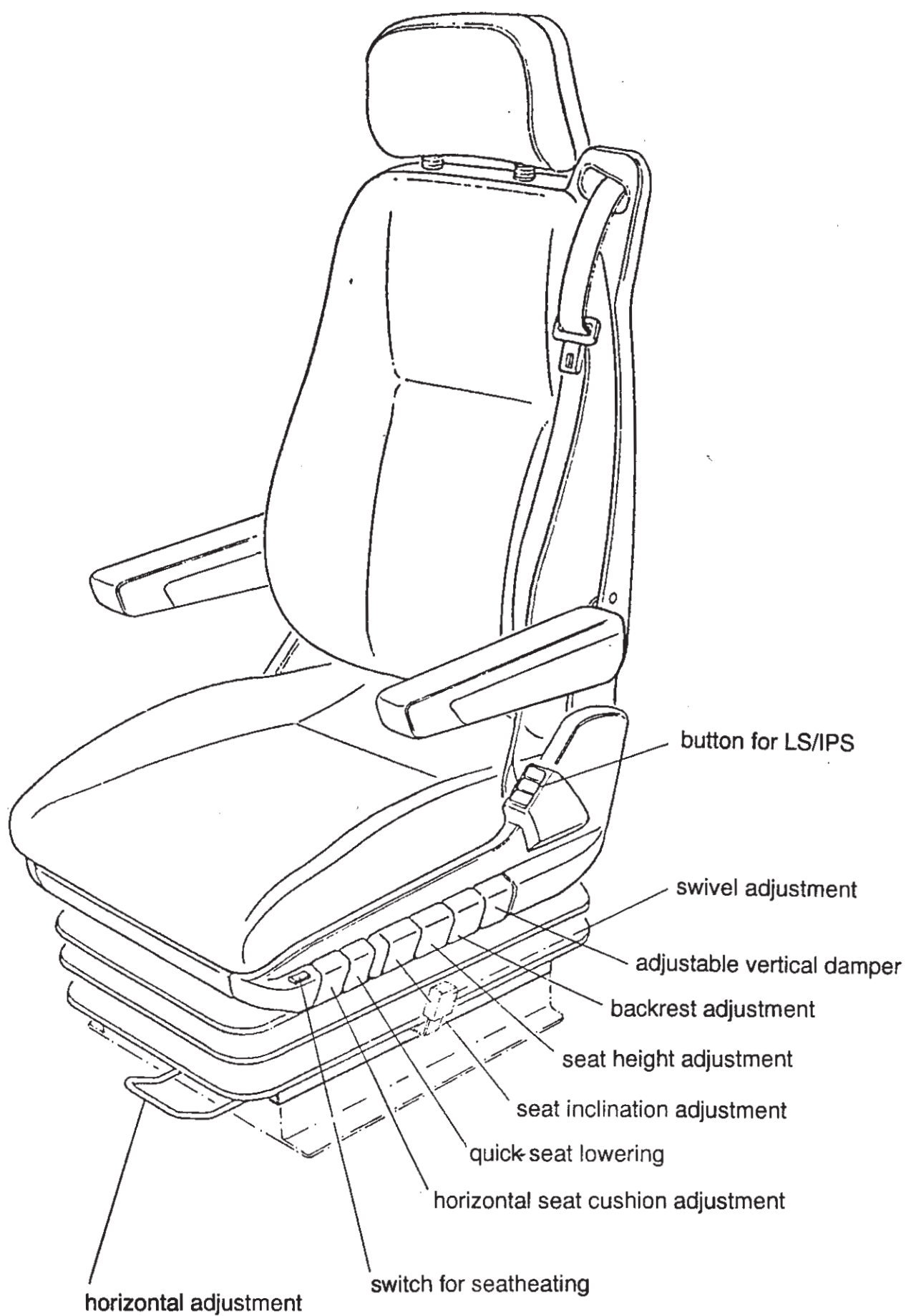
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Important hints:

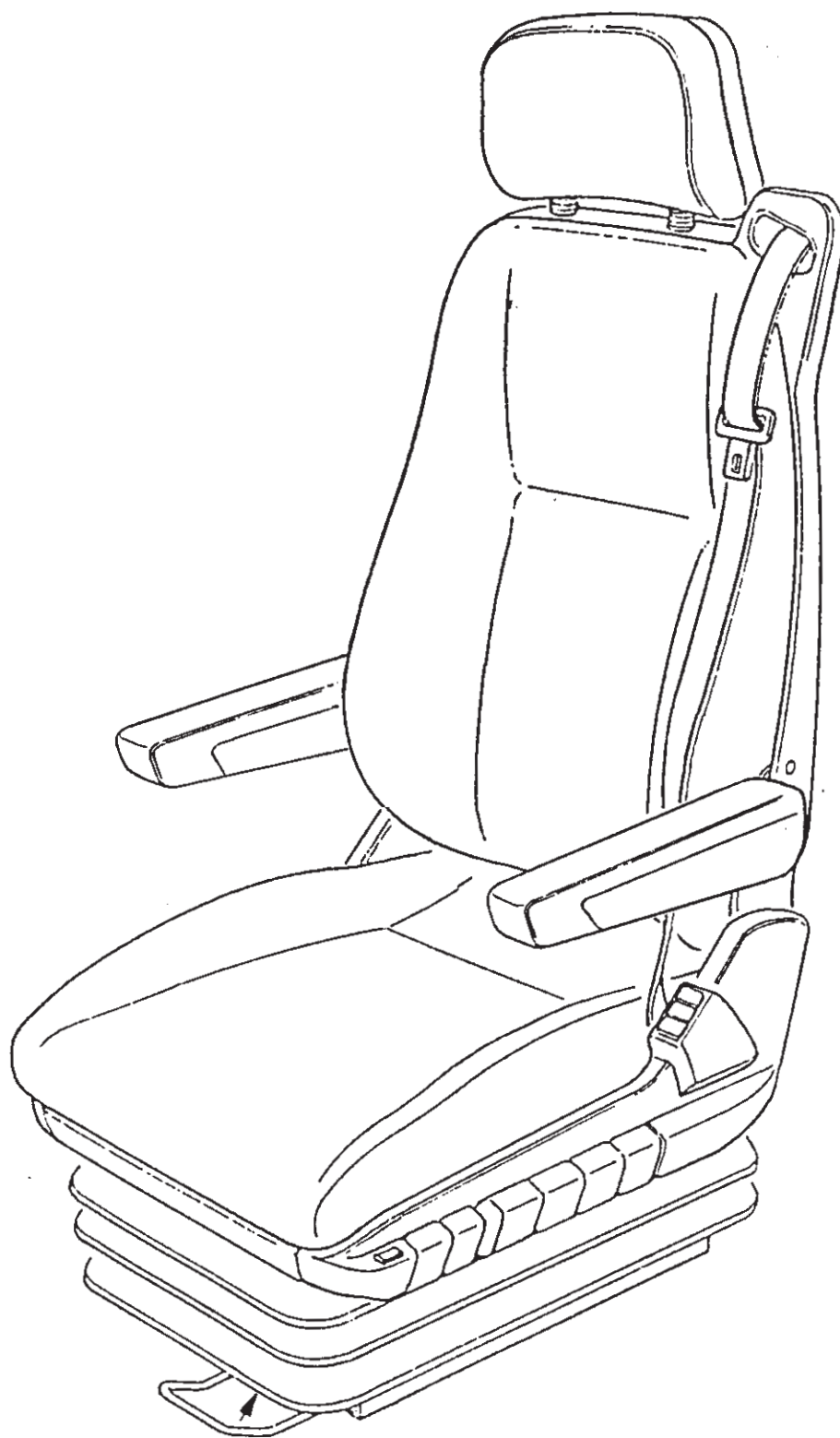
- seat repairs have to be carried out by competent staff only.
- the presentation in this booklet shows as a rule the left seat resp. the left seat side.
On the right seat resp. the right seat side the repair will be carried out accordingly.
- the description in the chapter explain the removal of sundry seat components.
The installation of these seat components generally happens in reverse sequence.
- fastening parts for hoses and cables (e.g. cable binder), as well as hose clamps won't be mentioned in detail.
Nevertheless it is necessary after repairs to put the laying of hoses and cables, as well as their fastening and securing, into original condition.
Just so pay attention to the correct attachment (coloured marking) when mounting the hoses.
- hoses and bowden cables must not be creased.
- at transport and storage pay attention to that the seat will be put down only flat onto the guide rails.
Airlines must not be creased in doing so.
- due to safety reasons pay attention to the correct positioning and to the observance of the tightening torques of the fixing screws when exchanging component parts, which lie within the flux line of the belt anchorage points.

Tightening torques: M8 = 20 Nm +5 Nm
 7/16"UNF-2B= 30 Nm +5 Nm

- roll off the belt from the roller, please note that the roller has to be positioned in assembling position corresponding mounted seat.
- after each repair a functional test and, if pneumatic parts are involved, a leaktest has to be effected.
- backrest in forward folded position must not be used as ascent help



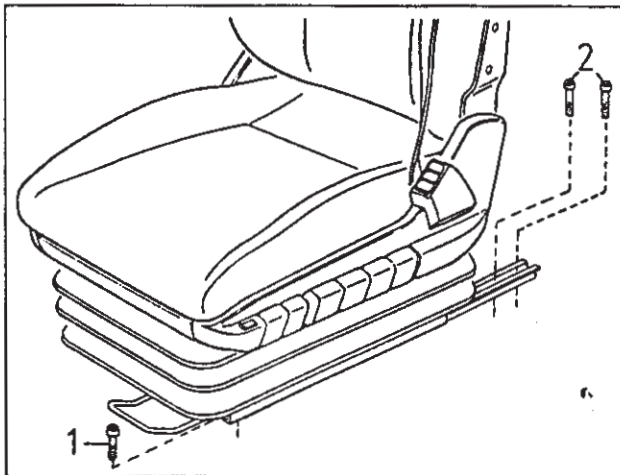
SERIAL NUMBER



Serial no. part no.

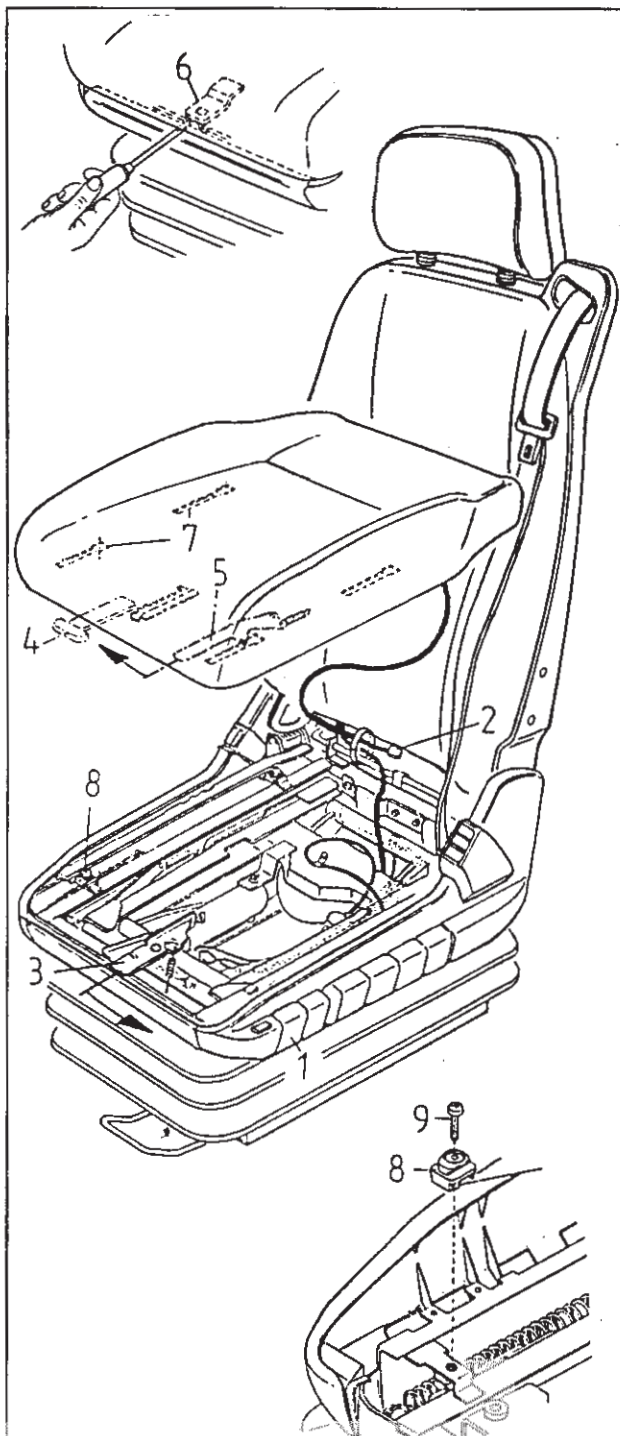
The serial number and the part number are located at the front lower frame of the suspension unit (it is visible, once the boot has been raised, resp. the seat was pushed forward), or at the seat subbase.

Please specify for spare part orders always.



Complete seat (figured: version without subbase)

- loosen air supply lines and if necessary electrical feeders.
- push seat to rearmost position, undo screws (1).
- push seat to foremost position and undo 4 screws (2).
- versions with subbase are screwed at the side angles of the subbase.



Seat cushion/ slides

- before removing the seat cushion, the electrical feeder (2) has to loosened if necessary

dismantling of seat cushion with horizontal seat cushion adjustment (lateral operation):

- lift up lever (1) and push seat to foremost position.
- push lever (3) in direction of arrow, hold fast, pull seat cushion forward and take it off.

dismantling of seat cushion with horizontal seat cushion adjustment (operation in front):

- lift up lever (4) and push seat cushion to foremost position.
- lift up lever (4) by means of screwdriver, pull seat cushion further forward and take it off upwards.

dismantling of seat cushion without horizontal seat cushion adjustment (old version):

- push lever (5) in direction of arrow and hold fast.
- pull seat cushion forward until stop and take it off upwards.

dismantling of seat cushion without horizontal seat cushion adjustment (new version):

- lift up lever (6) by means of screwdriver, pull seat cushion forward and take it off upwards.

mounting of seat cushion:

- put keyholes (7) of the guiding apertures (on bottom side of seat cushion) onto slides (8) of seatframe, press down seat cushion, at the same time lift up levers (1) (4) resp. push lever (5) in direction of arrow and hold fast, and push seat cushion in direction of backrest onto the slides (8).

Exchange of slides:

- dismantle seat cushion (s.a.).
- undo screws (9) and take off slides (8).

Slides (figured: version without subbase (C))

- remove seat (2.1.0).

version with swivel base + subbase (A):

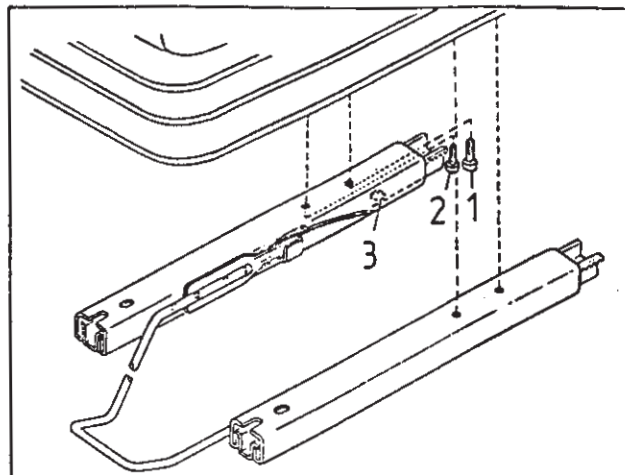
- adjust slides that way, that at each slide 3 screws for the subbase fastening and 3 screws for the fastening of the swivel base are accessible (2 screws in front and 4 screws in the rear area of the slides).

version without swivel base, with subbase (B):

fastening seatsided like version C, bolting to subbase acc. to version A.

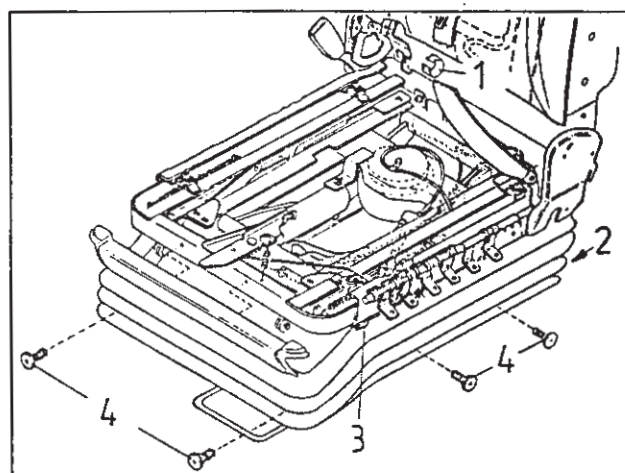
version without subbase (C): Adjust slides that way, that at each slide one screw (1) and one screw (2) is within reach through the mounting hole (3) in the lower slide profile.

- undo screws.
- At versions B and C pull slides backwards out of the front holders (seat sided).



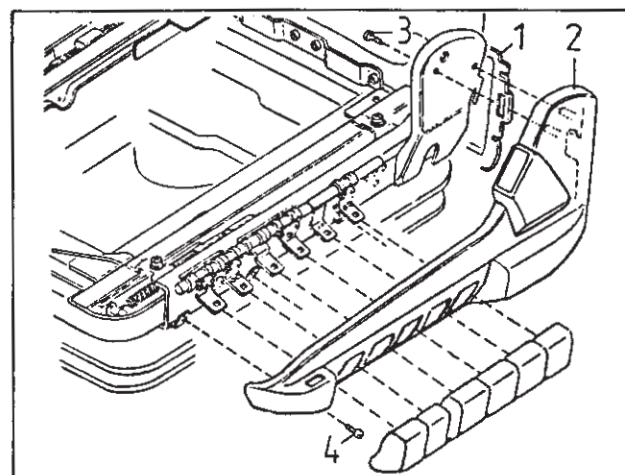
Bellow

- dismantle complete seat (2.1.0).
- dismantle seat cushion (2.1.0).
- dismantle side-, front- and rear plastic cover (2.2.0/2.3.0).
- remove bellow from the 4 clips (1) in the back at the cross tube and pull it off at the bottom from the disc washer (2) of the safety belt attachment.
- pull off bellow sideways from each of the 3 holding plates (3), and remove 6 knobs (4) from the left side, right side and front side of the lower frame.



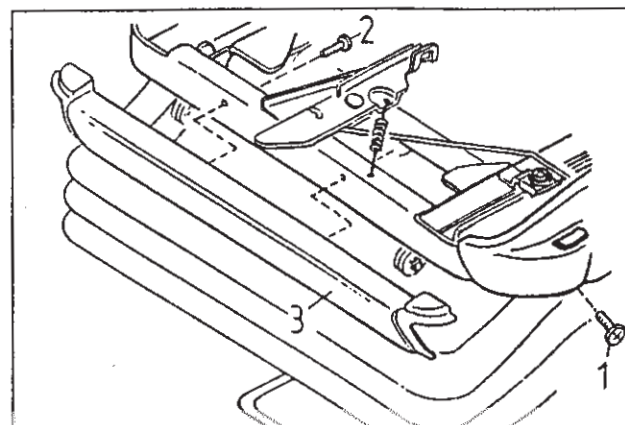
Side plastic covers

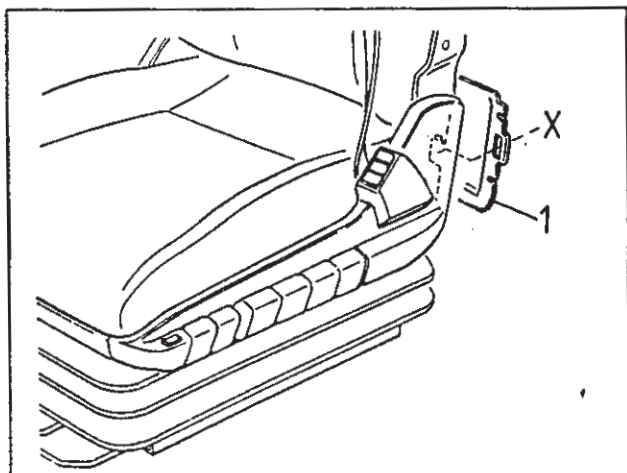
- dismantle seat cushion (2.1.0).
- unhook rear plastic cover (1) from side plastic cover (2).
- fold backrest completely forward, undo rear screws (3), fold back the backrest completely and undo front screws (3).
- pull off operating handles (only at operating side).
- if necessary, dismantle valve for lumbar support and switch for heating elements (only at operating side).
- undo screws (4).



front plastic cover

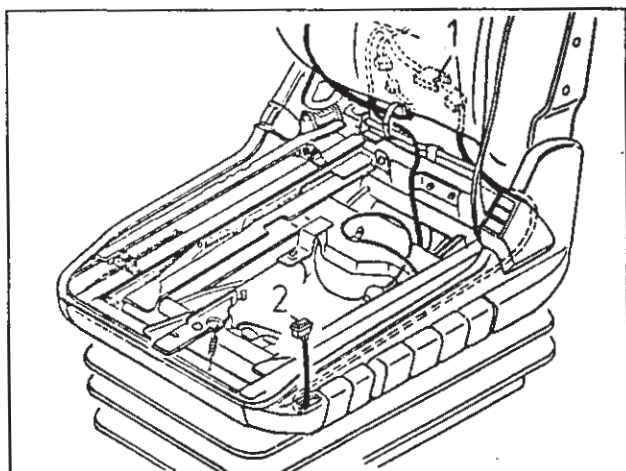
- dismantle seat cushion (2.1.0).
- bring inclination adjustment to upmost position.
- undo 2 screws (1) in front area of both side covers and the screws (2) of the front plastic cover (3)
- fold front plastic cover downwards out of the holding holes of the seat frame. In doing so, press apart the side covers a little bit and loosen bellow from cover





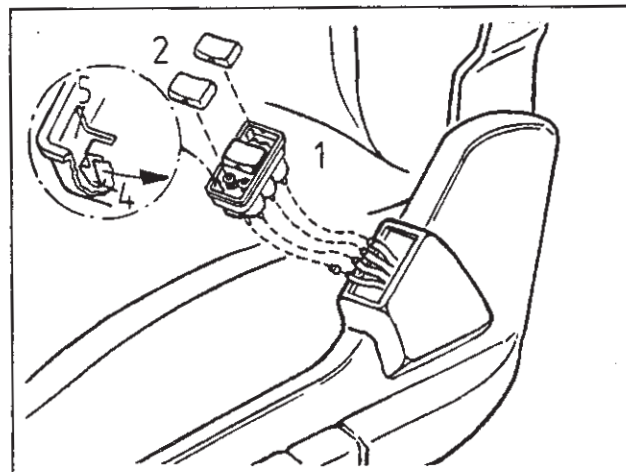
Rear plastic cover

- press in rear plastic cover (1) in area X on both sides, and unhook from side plastic covers.



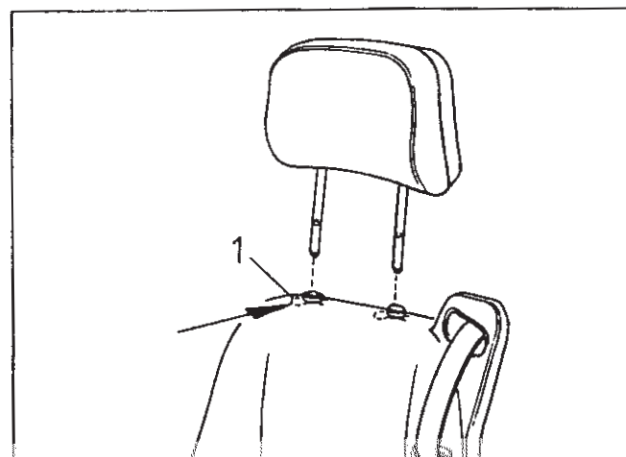
Switch for heating

- remove seat cushion (2.1.0).
- remove 2 screws (4) from side plastic cover (2.2.0).
- remove rear plastic cover (s.a.).
- loosen bellow in the back from 2 clips on the cross tube (2.2.0).
- separate plug connection (1) and press switch for heating (2) out of the side cover.



LS-valve

- dismantle seat cushion (2.1.0).
- remove 2 screws (3) from side plastic cover operating side (2.2.0).
- loosen both exterior rockers (2) from LS-valve.
- press hook (4) through opening (5) with screw driver in direction of arrow and unhook from side plastic cover.
- loosen hoses on LS-valve (1).

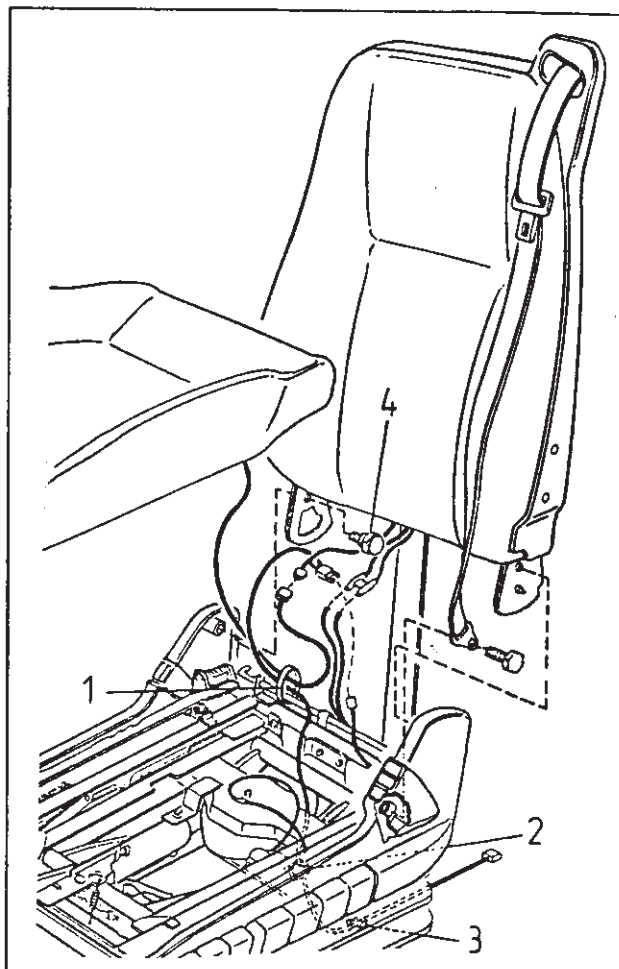


Headrest

- pull up headrest until stop.
- press in location spring (1) (sensible through the cushion) acc. to arrow and pull out headrest (at old versions the location spring has to be pressed in at both headrest bars).
- for assembly, push in headrest without pressure on the spring(s).

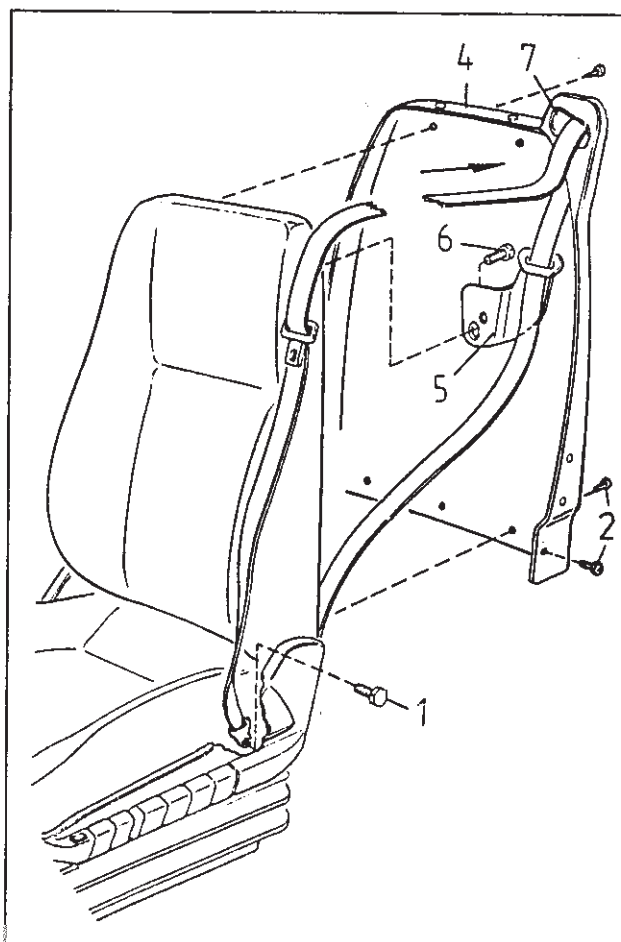
Backrest

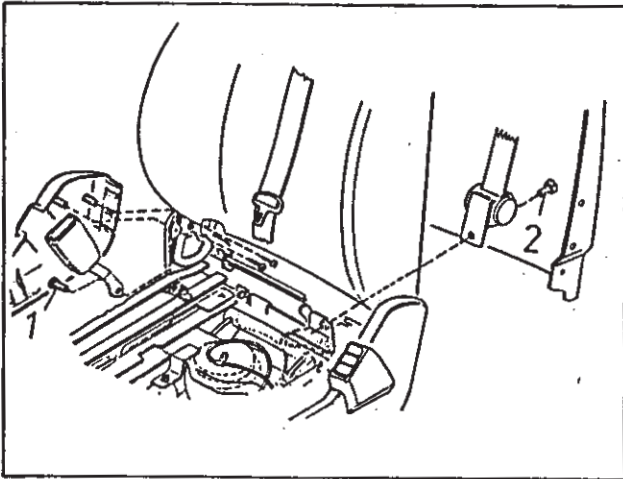
- remove seat cushion (2.1.0).
- remove backrest plastic cover (s.b.).
- If necessary, separate electr. Feeder and airlines to backrest.
- separate cable binder (1) (2) and remove fastening (3).
- unscrew axle bolt (4) and lever the squab bracket of the backrest out of the brackets of the seatframe.



Backrest plastic cover

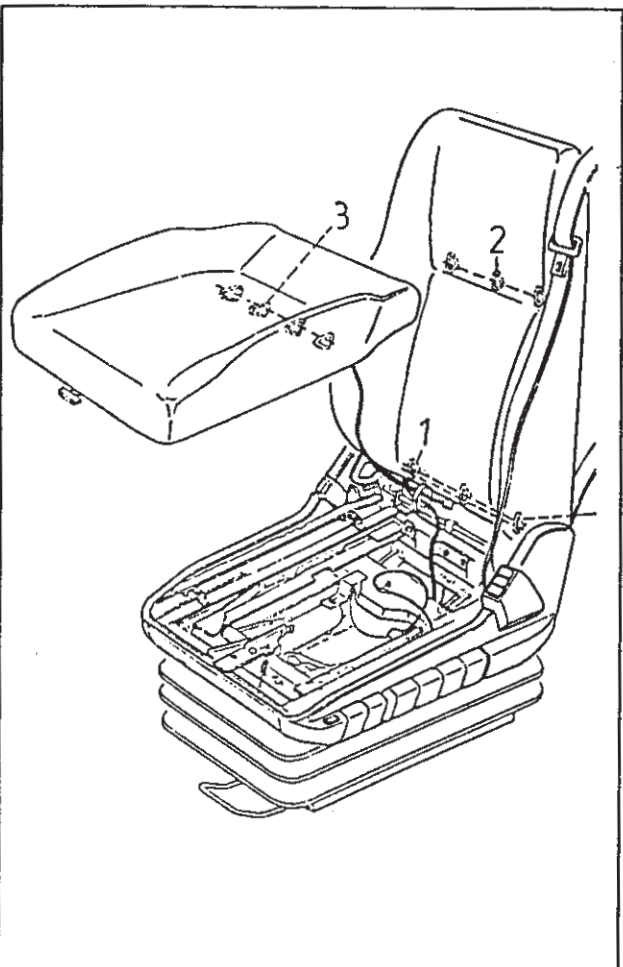
- loosen rear plastic cover from side plastic cover (2.3.0).
- fold backrest completely forward, undo rear screws (3), fold back the backrest completely and undo front screws (3).
- remove headrest and if necessary armrests.
- undo screw (1) of belt attachment (when exchanging the textilecover keep it mounted) and undo screws (2) of backrest plastic cover (4).
- pull out the belt a little bit, loosen backrest plastic cover at the bottom from the squab cushion and press upwards out of the belt reversing guide (5).
- At exchange of belt or backrest textile cover, the screw (6) of the belt reversing guide (5) has to be loosened in addition.
- push belt along with belt tongue and anchor plate through aperture (7) of cover.





3-point-belt

- dismantle backrest plastic cover (2.4.0).
- remove side plastic cover opposite side (2.2.0).
- undo screw (1) for buckle attachment.
- remove rear plastic cover (2.3.0) and undo screw (2) of the belt retractor attachment.



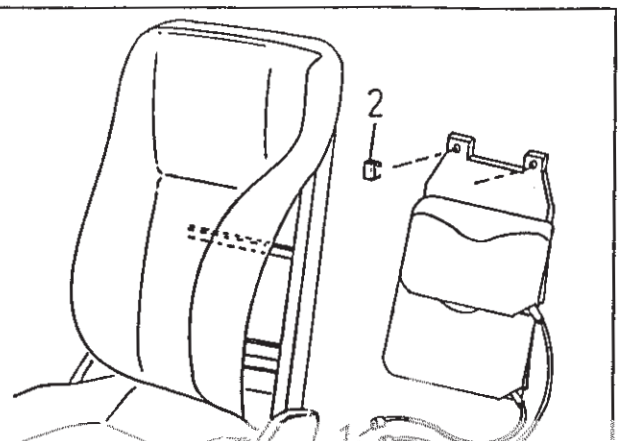
Backrest cover/ seat cushion cover

backrest cover:

- dismantle backrest plastic cover (2.4.0).
- bend clamps (1) open at the lower backrest cross tube and pull up to the pocket.
- loosen clamps (2) of pocket attachment from the wire inside the pad and take off the cover.

Seat cushion cover:

- dismantle seat cushion (2.1.0).
- lever the cover out of the circumferential crease at the seat pan edge.
- loosen pocket clamps (3) from the wire inside the pad.



Aircushion for lumbar support

- remove rear plastic cover (2.3.0).
- dismantle backrest plastic cover (2.4.0).
- partially remove backrest textile cover (s.a.), but without loosening the pocket.
- Remove pad (if necessary with heating elements) until air cushion is within reach.
- disconnect air lines from connector (1).
- press out 2 clips (2).

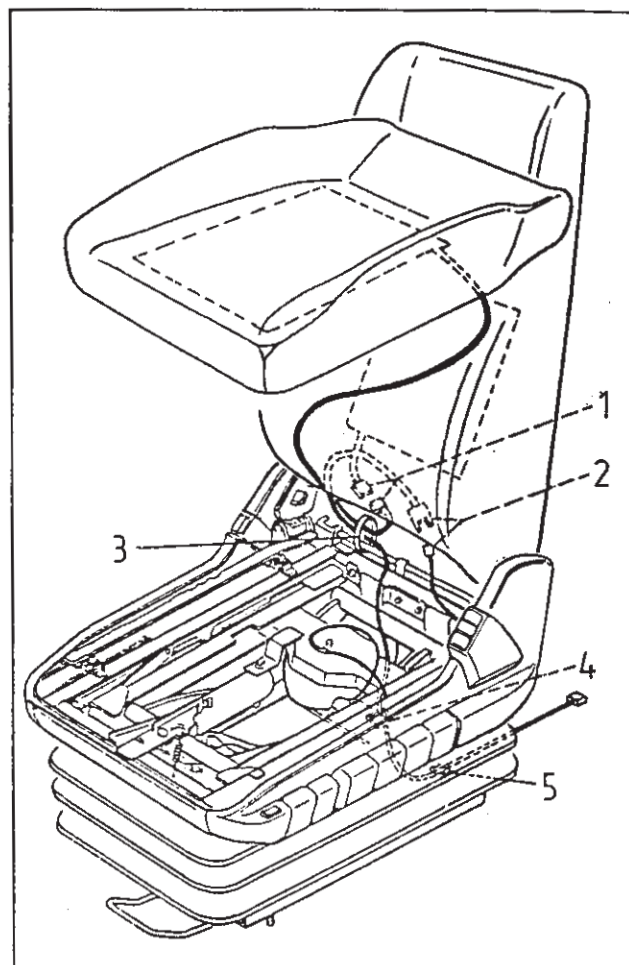
Heating elements

heating element backrest:

- remove seat (2.1.0).
- remove rear plastic cover (2.3.0).
- dismantle backrest plastic cover (2.4.0).
- remove backrest textile cover (2.5.0).
- cut feeders (1)(2) and loosen attachments (3)(4)(5).
- carefully pull heating elements off the pad.
- at mounting, fix heating elements with double-sided adhesive tape.

heating element seat cushion:

- remove rear plastic cover (2.3.0).
- loosen electr. feeder (1) and cut attachment (3).
- dismantle seat cushion (2.1.0).
- remove seat textile cover (2.5.0).
- carefully pull heating elements off the pad.
- at mounting, fix heating elements with double-sided adhesive tape.

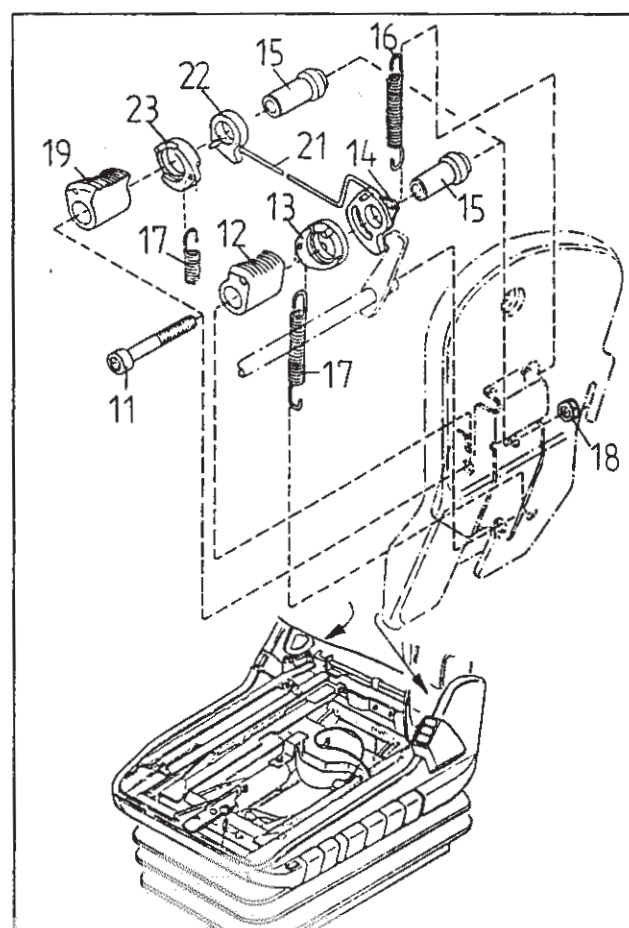


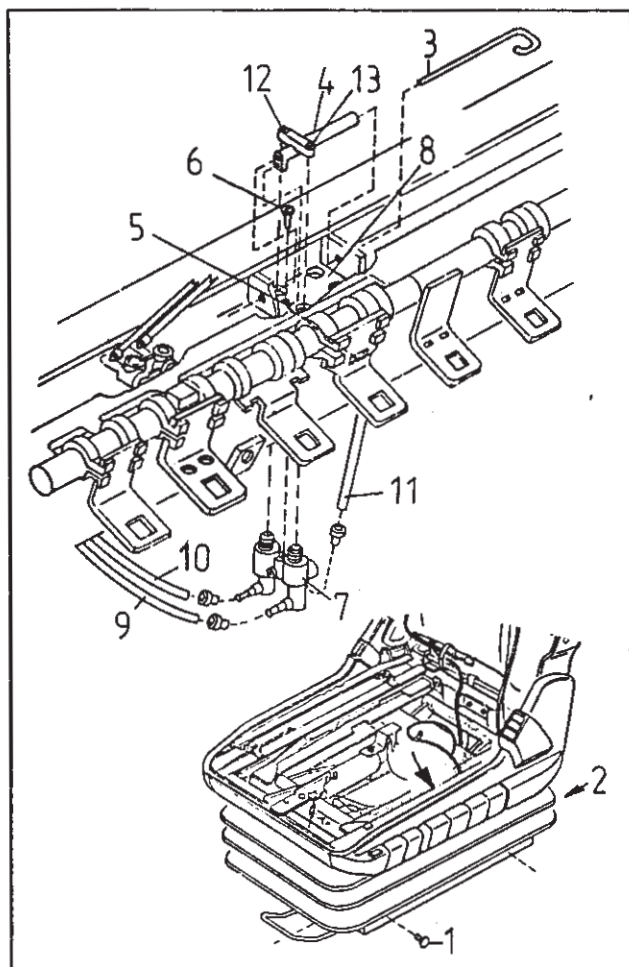
Backrest latching

- dismantle seat cushion (2.1.0).
- loosen tension spring (17) from part (13) and (23), unhook tension spring (16) from pan.
- dismantle side plastic cover operating side (2.2.0).
- unscrew belt retaining plate (1) from frame.
- loosen screws (11) and nuts (18).
- pull screws (11) out of the parts of the backrest latching (remove latching parts in connection if possible, because they can illustrate the assignment of the new parts if necessary).

• Hint:

toothsegment (12), chrome= for operating side
toothsegment (19), yellow= for opposite side
carrier (13), nature= left hand
carrier (23), black= right hand
disc cam (14), natur= left hand,
black = right hand
disc cam (22), black= right hand
nature= left hand





Valve for height adjustment

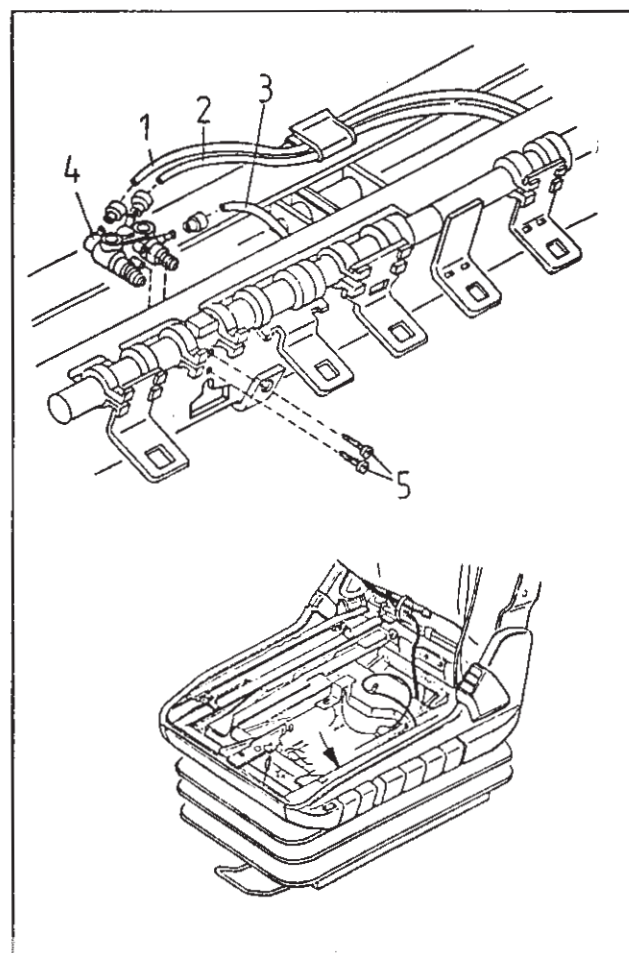
- adjust suspension unit to upmost position and secure against lowering with a 150 mm long distance piece.
- remove seat cushion (2.1.0).
- pull off 3 knobs (1) of bellow fastening and loosen bellow in the back, at the bottom off the disc washer (2) of the safety belt fastening.
- remove valve axle (3) out off rocker (4) and loosen tension wire (5) off rocker.
- undo screw (6) from valve (7), and take valve downwards off the holding plate (8) and seatframe.
- pull off hoses (9)(10)(11) after loosening of clamping sleeves.

Testing:

- operate lever upwards - variable cylinder retracts.
- press down lever - variable cylinder extends.

Adjustment:

- pull up lever and undo screw (12) until air escapes, then screw in until valve closes.
- Repeat this process with screw (13).
- in middle position a slightly play should be at hand.

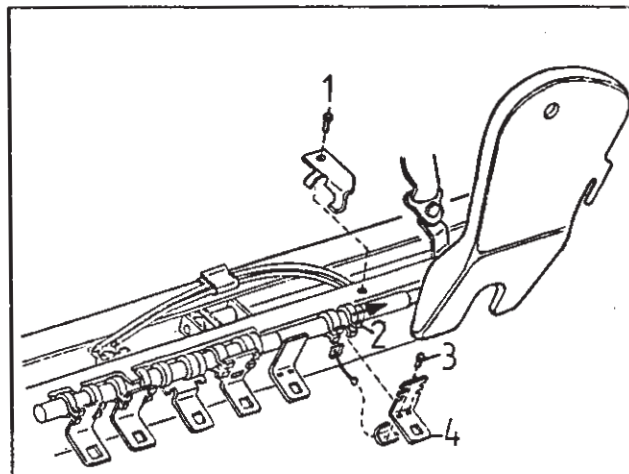


Valve for seat lowering

- dismantle seat cushion (2.1.0).
- remove lever for seat lowering (2.7.0, incl. handle).
- mark the assignment of the hoses to the valve connections to avoid mistakes when mounting the new valve.
- pull hoses (1) (2) (3) off the valve (4) after loosening the hose clamps.
- undo screws (5).

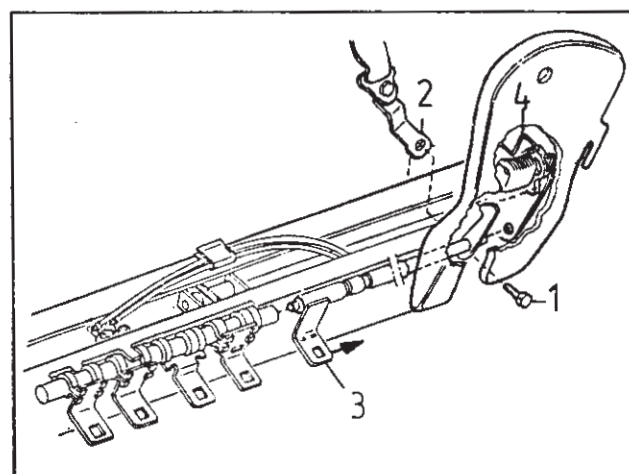
Lever for damper adjustment

- remove seat cushion (2.1.0).
- loosen screw (1) and take off plate.
- shift lever bearing (2) sideways.
- loosen 2 screws (3) of bowdencable fastening and take off lever (4).
- grease ball of bowdencable when mounting.



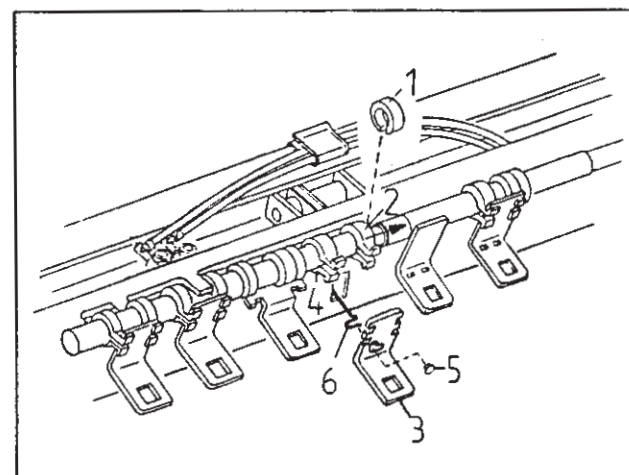
Lever for backrest adjustment

- dismantle lever for damper adjustment (s.a.).
- dismantle backrest (2.4.0).
- remove cover operating side (2.2.0).
- loosen screw (1) of beltholder plate (2).
- press lever (3) in direction of arrow and push trunnion out of guiding.
- unhook bar and take it off (when new bar is put in, the wire (4) must be pressed in direction of backrest latching, so that the toothsegment swings to the side)



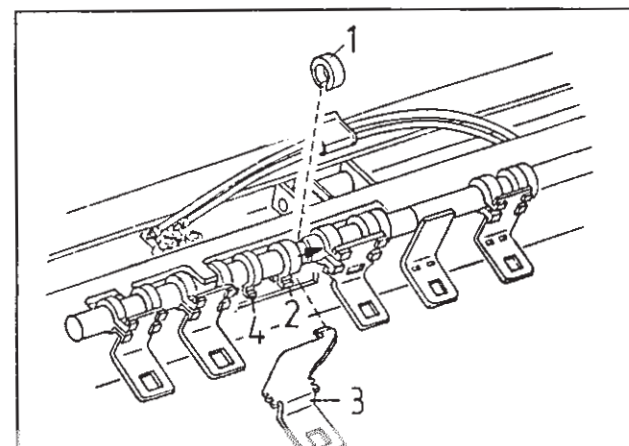
Lever for height adjustment

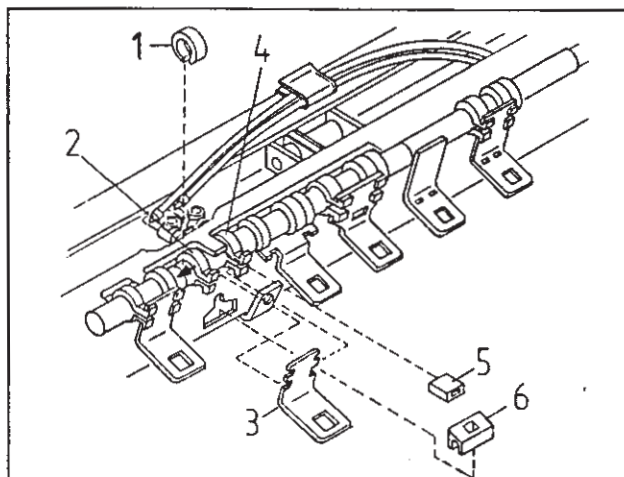
- remove distance clamp (1).
- push out lever bearing (2) sideways.
- pull lever (3) sideways off lever bearing (4).
- remove plug (5) and unhook lever (6).



Lever for inclination adjustment

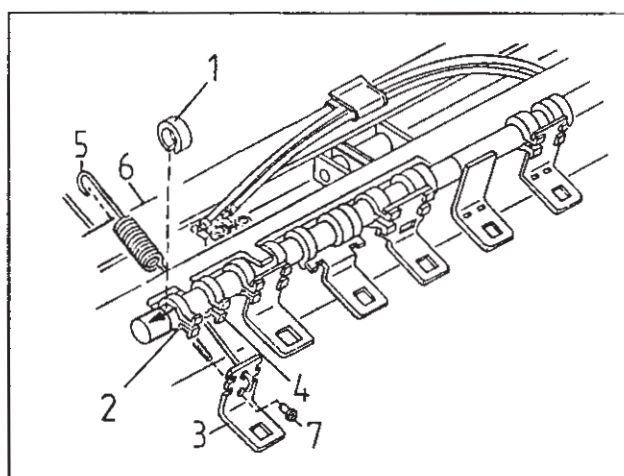
- remove distance clamp (1).
- push out lever bearing (2) sideways.
- pull lever (3) sideways off lever bearing (4).





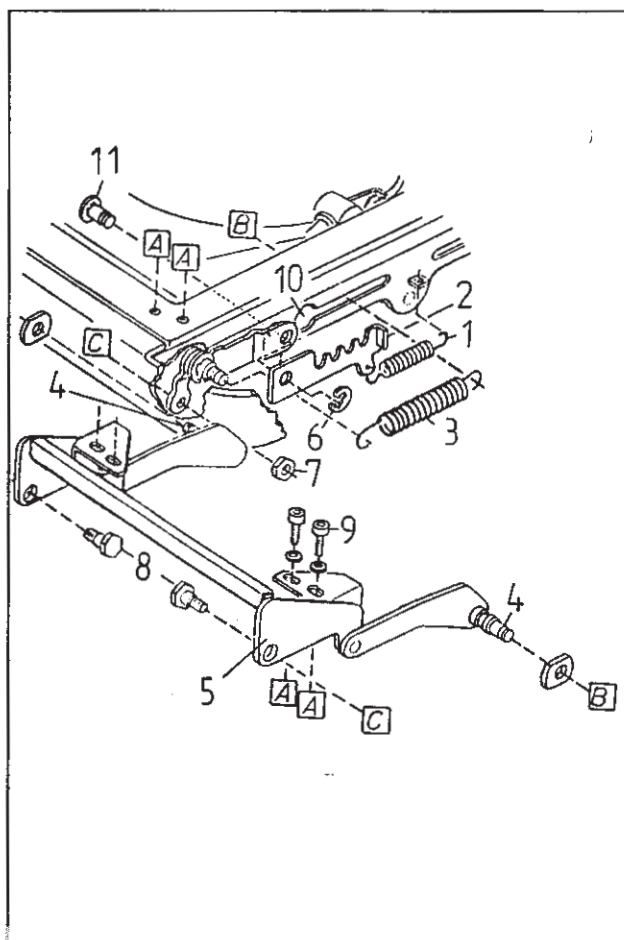
Lever for lowering

- dismantle seat cushion (2.1.0).
- remove distance clamp (1).
- push out lever bearing (2) sideways and distort that way, that lever (3) can be pulled out of the lever bearing (4).
- if necessary, change stop (5) and latch slide block (6).



Lever for horizontal seat cushion adjustment

- dismantle seat cushion (2.1.0).
- remove distance clamp (1).
- push lever bearing (2) sideways off the lever (3).
- push lever (3) off lever bearing (4).
- unhook spring (5) off the profile of seatframe (6).
- loosen adjusting screw (7) from transmission rod.
- take lever (3) out of the seatframe and unhook spring (5).
- at mounting of new lever, the adjusting screw (7) has to be adjusted that way, that the lever for the horizontal seat cushion adjustment latches clearly in and out.



Bracket/ toothbar for inclination adjustment

bracket :

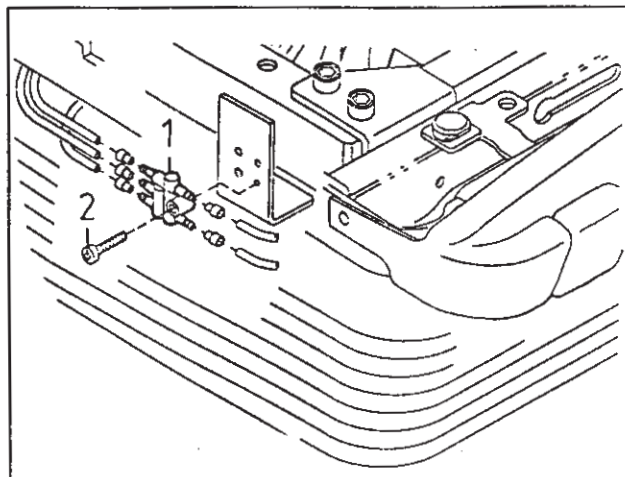
- loosen bellow in front at the seatframe (2.2.0).
- adjust height- and slope adjustment in upmost position and secure seatframe against lowering.
- unhook tension spring (1) at the toothbar (2) and tension springs (3) at the latch bolts (4) of the bracket (5), left side and right side.
- dismantle retaining washer (6) and remove toothbar (2).
- unscrew nuts (7) and remove screws (8).
- undo 4 screws (9), shift the bracket within the elongated holes of the seatframe that way, that one latch bolt (4) can be levered out through aperture (10) and subsequently be pressed downwards.
- pull opposite bracket-latch bolts out off the corresponding aperture.

Toothbar (2):

- dismantle seat cushion (2.1.0).
- secure suspension unit with a distance piece in upmost position and loosen bellow at a time in the lower area of the operating and front side.
- lock seat by means of inclination adjustment in highest slope position.
- unhook spring (1) and dismantle retaining washer (6).
- press out bearing bolt (11) towards seat interior.

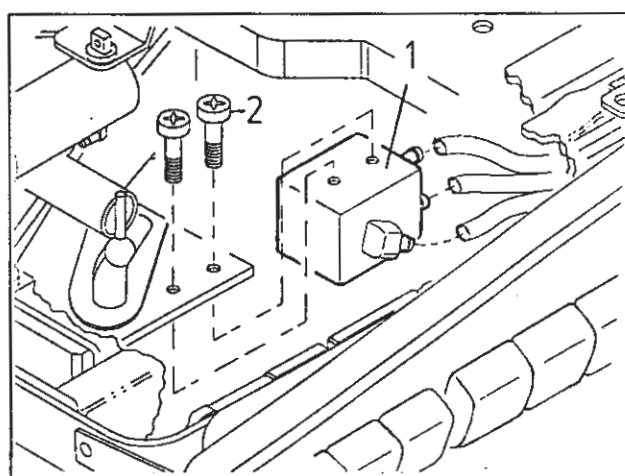
Shuttle valve

- dismantle seat cushion (2.1.0).
- dismantle front cover (2.2.0).
- adjust seat inclination in upmost position.
- loosen bellow in front at the seatframe.
- undo screw (2).
- pull 5 hoses off the OR-element (1).



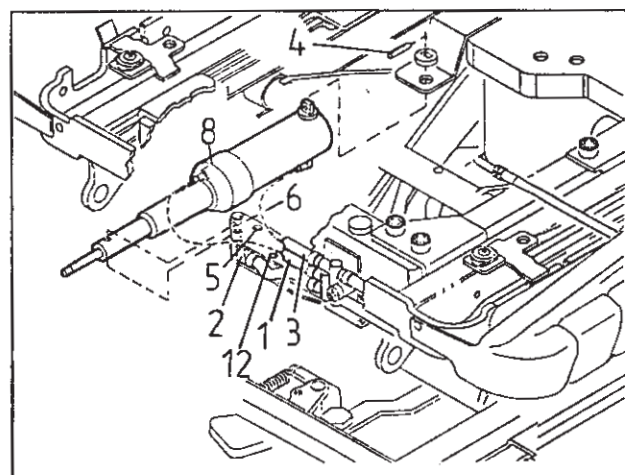
Level control valve

- dismantle seat cushion (2.1.0).
- undo 2 screws (2).
- pull 3 hoses off the level control valve (1).



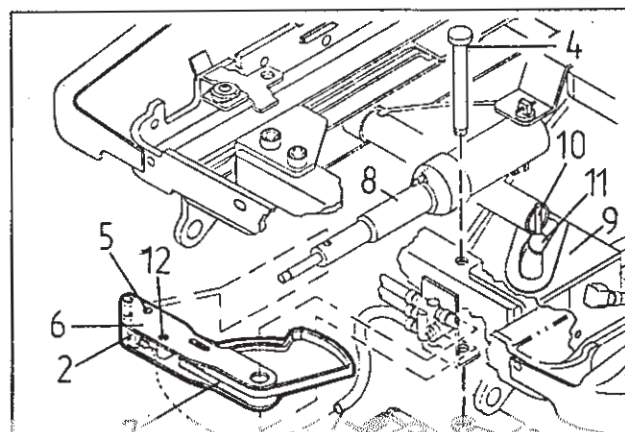
Variable cylinder

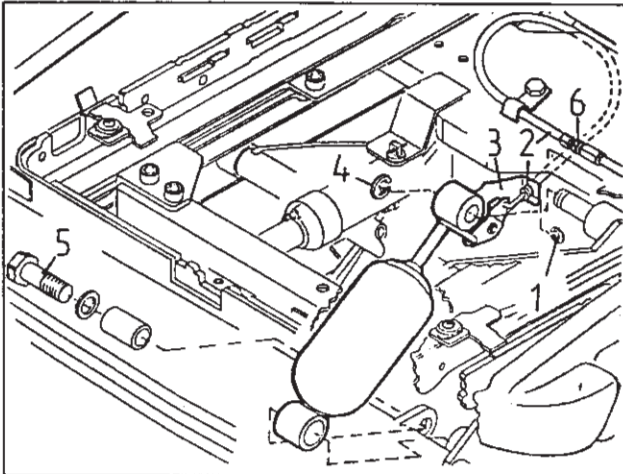
- dismantle seat cushion (2.1.0).
- remove front cover (2.2.0) and loosen bellow in front.
- secure suspension unit against lowering in highest position.
- pull hoses (1) and (3) off the variable cylinder.
- remove cylindrical pin (4).
- loosen screw (5), press apart the holder (6) of the control washer unit a little bit and take away the variable cylinder.
- at mounting, only slightly tighten screw (5).
- pull lever for height adjustment upwards, in doing so, check if ram of locating cylinder (2) is free-mobile.
- if not, loosen screw (5) a little bit and if necessary screw (12).



Control washer unit

- dismantle seat cushion (2.1.0).
- remove front cover (2.2.0) and loosen bellow in front.
- secure suspension unit against lowering in highest position.
- pull off hose (1) at locating cylinder (2).
- remove circlip (3) and take away bolt (4).
- loosen screw (5), press apart the holder of the control washer unit (7) a little bit and pull it off the cylinder (8).
- guiding plate (9) must not slip from trunnion (10).
- if it does, push ball (11) onto trunnion (19) again.
- secure suspension unit against lowering in highest position.
- at mounting, only slightly tighten screw (5).
- pull lever for height adjustment upwards, in doing so, check if ram of locating cylinder (2) is free mobile.



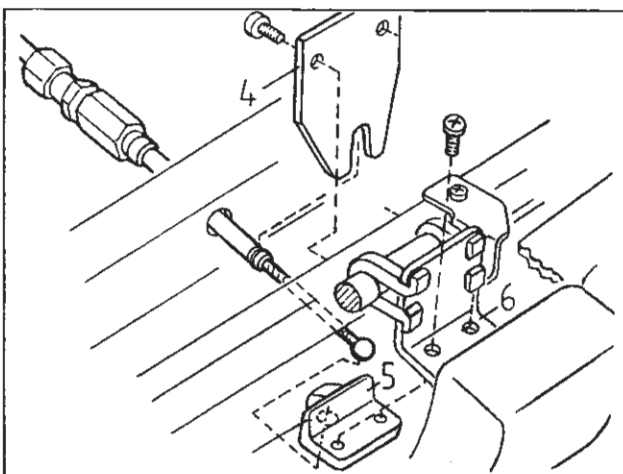


Vertical damper

- push seat forward and dismantle seat cushion (2.1.0).
- remove retaining washer (1) in lowest position of suspension unit.
- lever bowden cable (2) out of the fastening (3) in upmost position of suspension unit.
- remove retaining washer (4).
- secure suspension unit against lowering in highest position.
- loosen bellow in the front at the bottom and undo screw (5). At new versions a retaining washer has to be removed instead of screw (5).

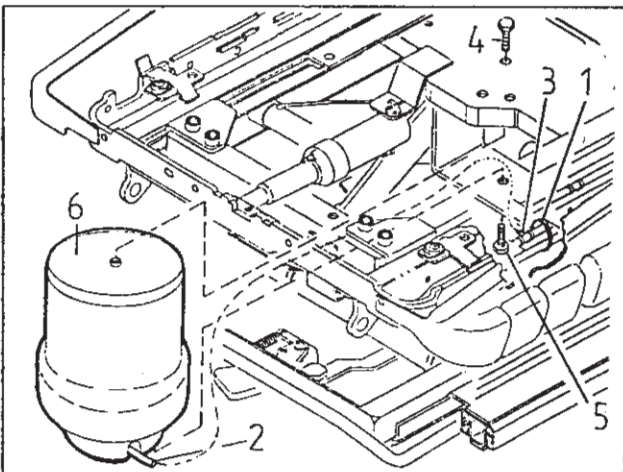
Notice:

- before mounting of seat cushion, loosen locking nut (6).
- adjust bowden cable (2) that way, that in upmost position of adjusting lever, the hardest vertical damping will be achieved.
- tighten locking nut (6) again.



Shock absorber adjustment

- dismantle seat cushion (2.1.0).
- remove retaining washer (1) in lowest position of suspension unit (s.a.).
- lever bowden cable (2) out of the fastening (3) in upmost position of suspension unit (s.a.).
- unscrew holding plate (4) off the seatframe.
- remove fastening (5) of adjusting lever (6) and loosen bowden cable out of the fastening (5).
- before mounting, grease the bowden cable ball.
- before mounting the seat cushion, adjust bowden cable (s.a.).

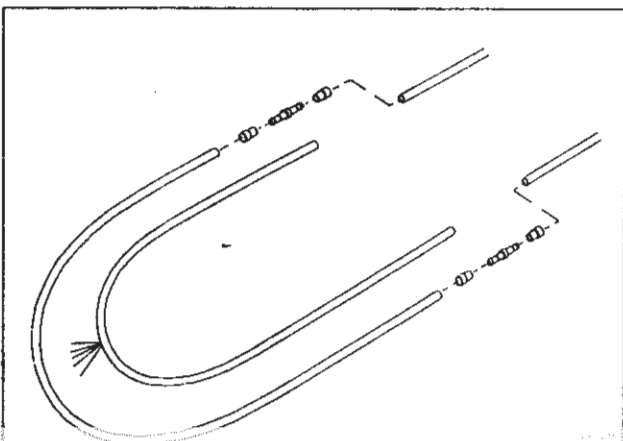


Airspring

- remove complete seat (2.1.0).
- dismantle seat cushion (2.1.0).
- rip cable binder (1).
- pull hose (2) off the spreader (3).
- undo screws (4) and (5).
- take air spring (6) incl. hose (2).

notice:

- do not mount air spring twisted!
- if necessary, slightly loosen screw (4) and spring suspension unit in and out under pressure.
- tighten again screw (4), likewise when air spring is under pressure.



Repairset airlines

- tubings are to be repaired by means of sundry hose pieces and couplings.
- commit the line laying aswell as the fixing to your memory and keep in case of repair.
- Cut out damaged sections of the hose.
- take suitable hose piece out of the repairset and cut off the length needed.
- then put into the airline by means of couplings and hose clamps.
- do not mount couplings into close bends of an airline, but if need be use longer hose pieces to shift cutting sections to a straight line section.

General

this troubleshooting instruction serves for the fault detection of pneumatic elements of the series.

ISRI 6800.

The table shown below contents basic failure causes, to which it will be referred in detail on the following pages.

The markings behind the components are taken from the circuit diagram.

	fault description	inspection	remedy	notice
A		check air supply from vehicle to the seat.		supply with sufficient compressed air and unhindered bleeding must be given.
B		check hoses for kinks.	remove kink, if necessary repair it by repair kit "air lines".	
C		check hose connections acc. to circuit diagram.	if necessary, change the reversed hoses.	
D		handle for vertical lowering must be in upmost position.		

	fault description	inspection	remedy	notice
1	seat does not go up.	See page 1, A-D		defect not repaired: go on with 1b
1b		the rams of the level control valve do not lie on the control washer end face.	Pull up seat to upmost position.	
2	seat swings (no-load) independently up and down			no defect of function, increased internal friction inside the system.
3	seat swings (loaded) independently up and down	check pneumatic-system for density (level control valve, air spring, air lines).	Exchange component resp. repair air line (acc. to repair kit "air lines").	Defect not repaired: go on with 3b
3b		locating cylinder has to move back to starting-position independently (see circuit diagram, picture (1), elongated hole X).	loosen fixing screws of locating cylinder and tighten them again slightly (2Nm).	
4	seat height adjustment without function.	pull up/push down lever: cylinder (4) moves in/out		go on with page 1, A-D
		cylinder (4) does not move in/out		go on with 4b
4b		pull off hoses from cylinder (4). Pull up lever: air escapes from hose (16). Press down lever: air escapes from hoses (16,17).		Exchange cylinder (4).
		Air does not escape.		Go on with 4c.

	fault description	inspection	remedy	notice
4c		check ram operation of valve for height adjustment (7): Ram will be pressed in at operation.		Go on with 4d
		Ram will not be pressed in.	Exchange operating lever.	
4d		pull hoses 9 and 11 off valve (7): air escapes when operating the lever.		Go on with 4e
		air does not escape when operating the lever.	Exchange valve (7)	
4e		check or-element (2): pull of hoses 5 and 6 and operate height adjustment upwards resp. downwards. Air escapes from hose 5 resp. 6.	Exchange or-element (2).	
5	seat goes to upmost position and suspension doesn't work.	See page 1, C		
6	seat bleeds permanently out of exhaust air line E and remains in upmost position.	See page 1, C		
7	seat is resilient, but cannot be lowered by vertical lowering.	Check hose 19 for kinks.	Remove kink. Resp. repair it by repair kit "air lines". If necessary exchange vertical lowering (8).	

key:

hose colours and hose functions seat pneumatics

permanent pressure from vehicle

black air supply from the vehicle to the
 - drain valve ⑧1
 - IPS-valve ⑥25

only pressure, when operating the lowering valve (handle on top)

red from the lowering valve ⑧2 to the
 - valve for height adjustment ⑦10
 - level control valve ③14

for the ventilation and bleeding of the airspring and the secondary air volume

brown/black from the level control valve ③12 via
 -secondary air volume ⑨29/30
 -to the air spring ⑤18

for the bleeding of the system (seat lowering, handle below)

brown from secondary air volume ⑨29 to the
 - lowering valve ⑧19

for the bleeding of the air spring and the secondary air volume when suspension is working

grey from the level control valve ③13 via
 -remaining pressure valve ⑩31/32 to the
 -vehicle

hose colours and hose functions height adjustment

lift up seat

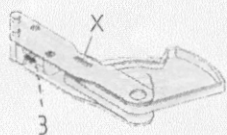
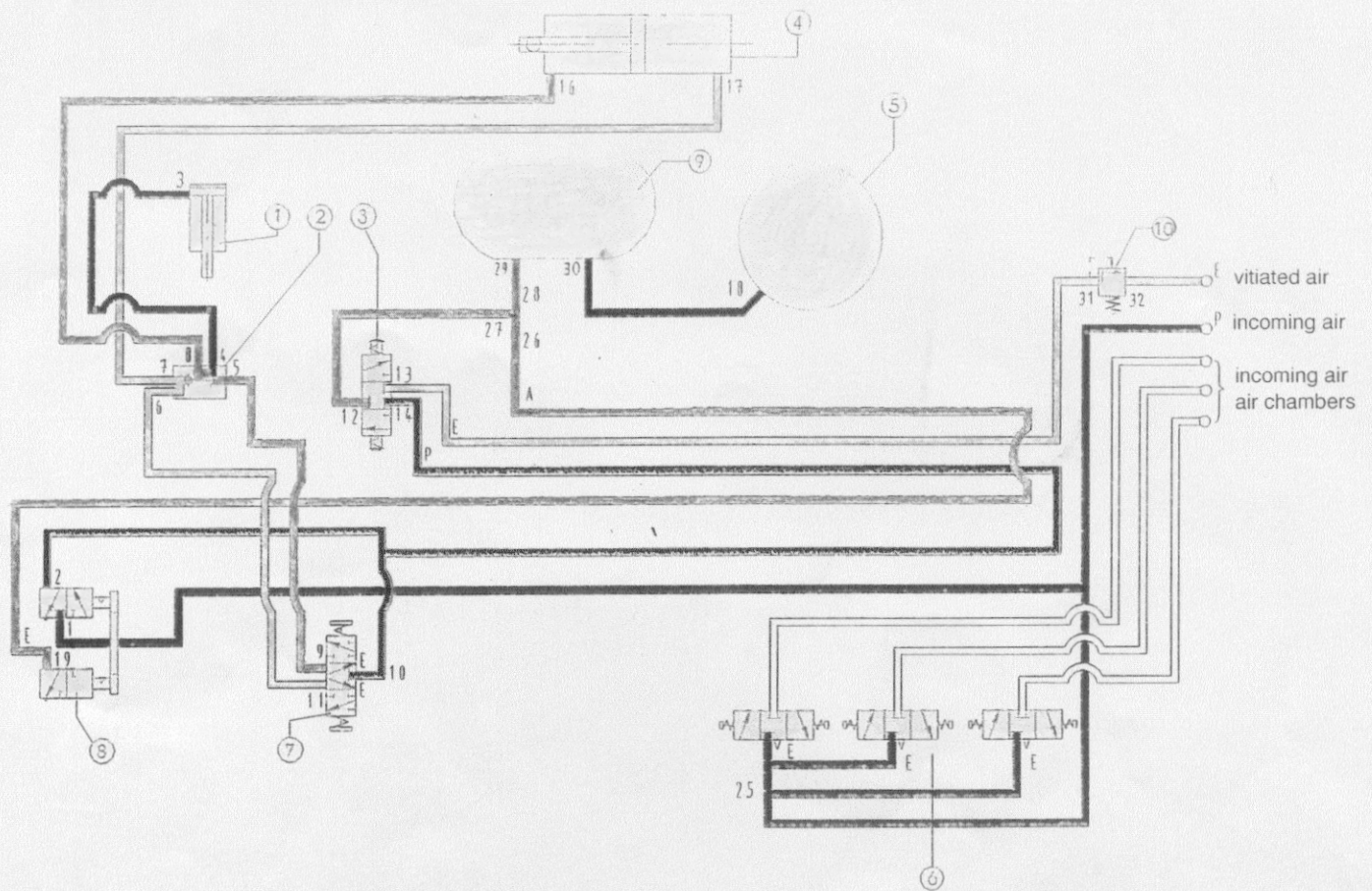
brown from the control valve ⑦9 to the
 - or-element (shuttle-valve) ②5
 - or-element (shuttle-valve) ②8
 - variable cylinder ④16

lower seat

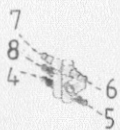
grey from the control valve ⑦11 to the
 - or-element (shuttle-valve) ②6
 - or-element (shuttle-valve) ②7
 - variable cylinder ④17

lift up and lower seat

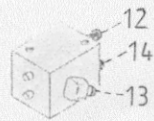
black or-element (shuttle-valve) ②4 to the
 - location cylinder ①3



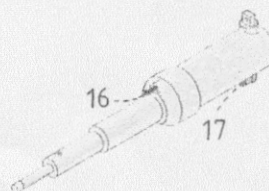
1
control washer
unit



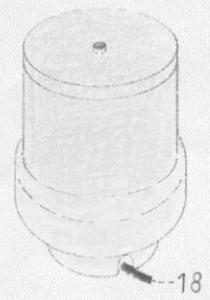
2
shuttle valve
(OR-element)



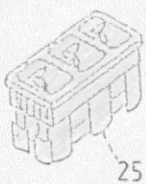
3
lever control valve



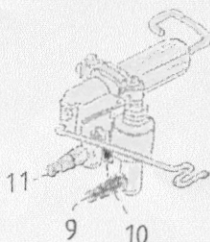
4
variable cylinder



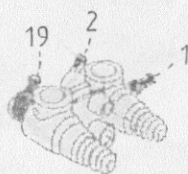
5
air spring



6
LS-valve



7
valve for
height adjustment



8
vertical
lowering