

WORKSHOP MANUAL

DRIVER SEATS ISRI
6800/337

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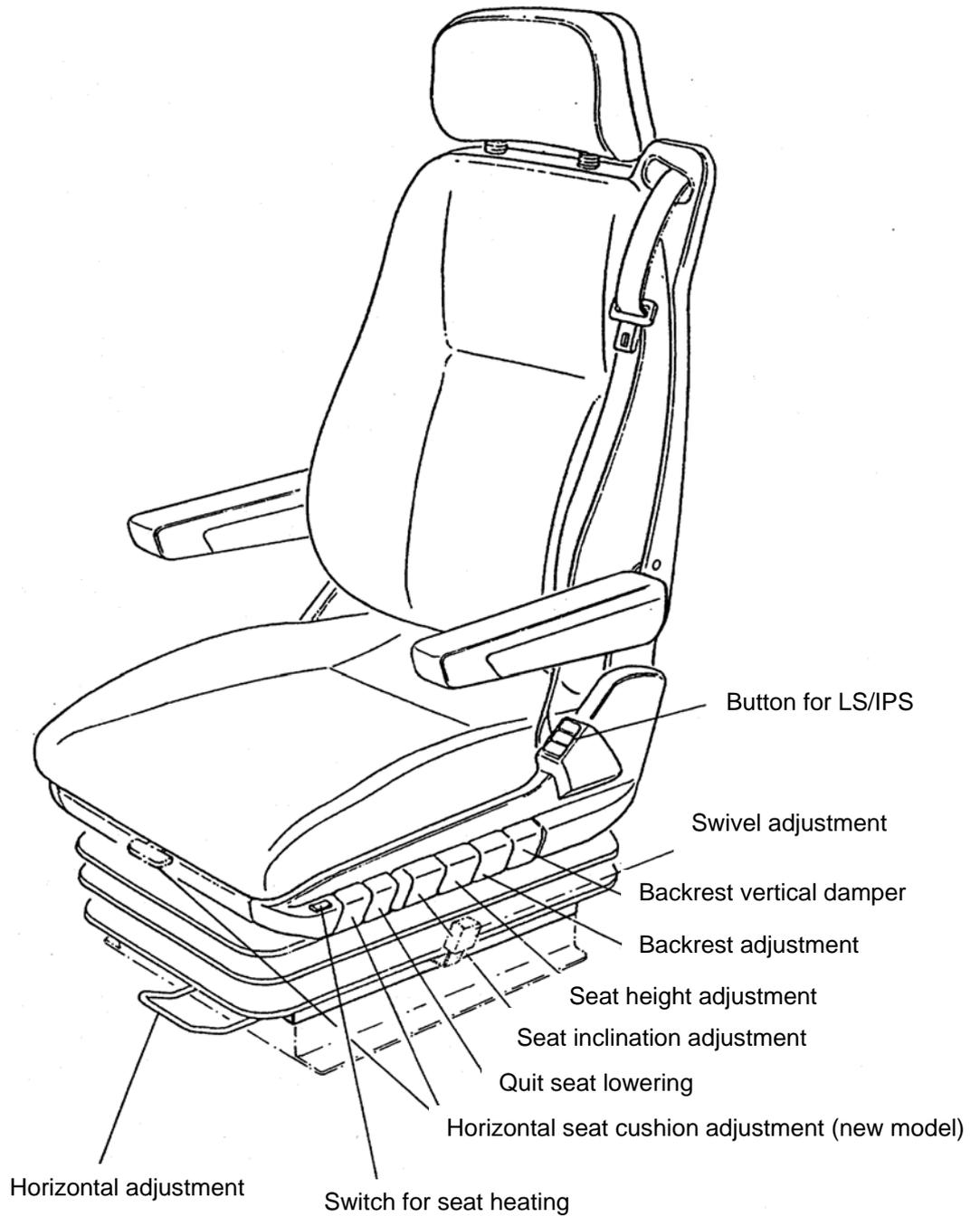
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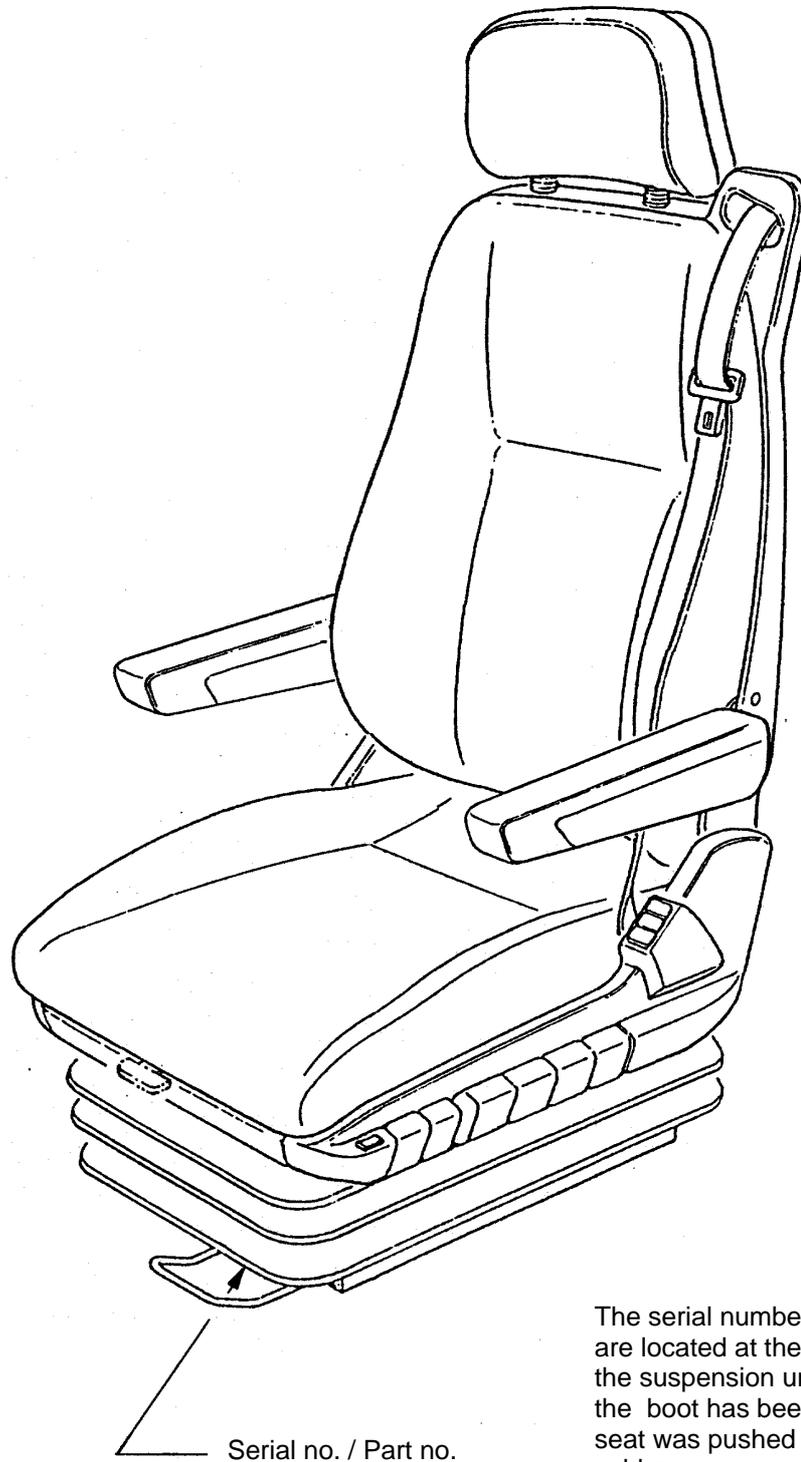
1.- IMPORTANT HINTS:

- Seat repair has 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.
- The description in the chapter explains 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 will not 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 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 screw when exchanging points component parts, which lie within the flux line of the belt anchorage points.

Tightening torques:	M 8	=	20 Nm + 5 Nm
	7/16"UNF-2B	=	30 Nm + 5 Nm

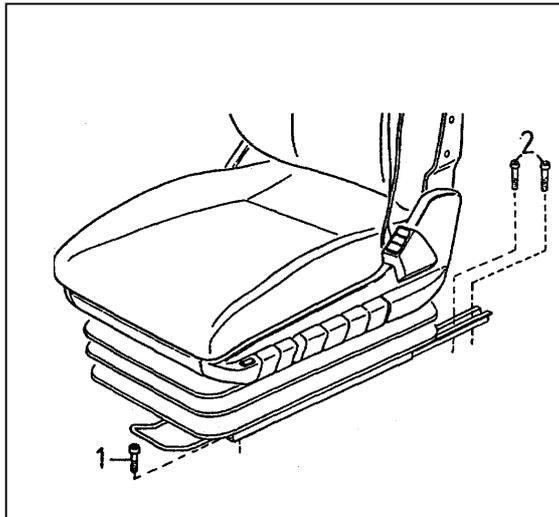
- Roll off the belt from the roller, please not that the roller has to be positioned in assembling position corresponding mounted seat.
- After each repair a functional test and, if pneumatic parts are involved, a leak test has to be effected.
- Backrest in forward folded position must not be used as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



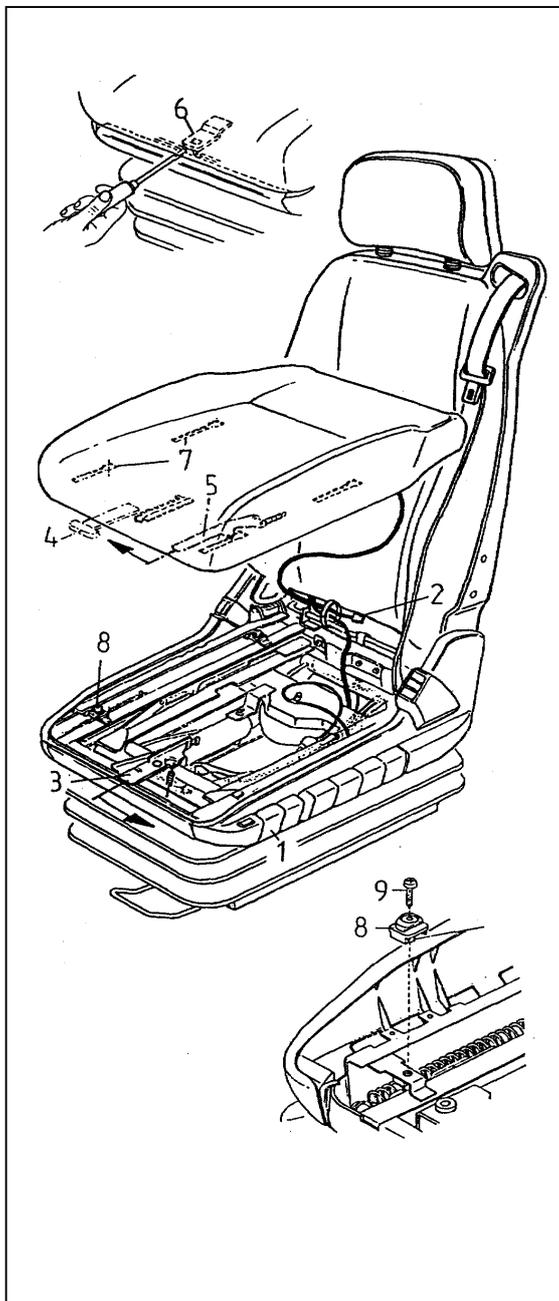


The serial number and the part number are located at the front lower frame of the suspension unit (it is visible, once the boot has been raised, resp. The seat was pushed forward), or at the seat subbase.

Please specify for spare part order always.


4.1.-Complete seat (figured: version without subbase)

Loosen air supply lines 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.


4.2.-Seat cushion / slides

Before removing the seat cushion, the electrical feeder (2) has to be loosened if necessary.

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

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 and take it off upwards.

Dismantling of seat cushion without horizontal seat cushion adjustment (all 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):

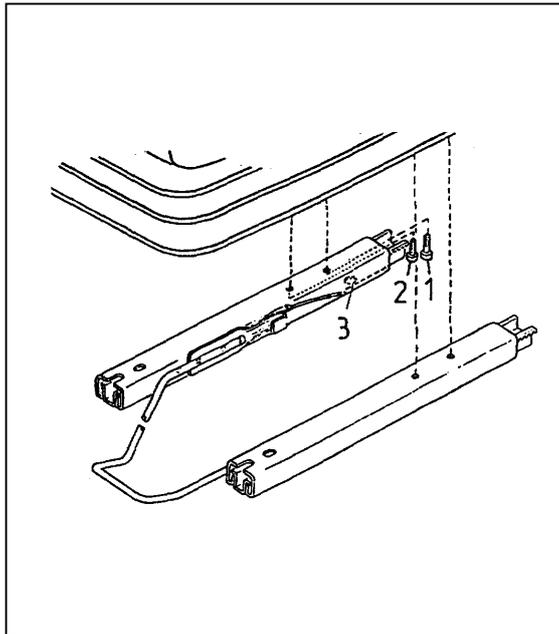
Lift up lever (6) by means of screwdriver, pull seat cushion forward and take it off upwards.

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).


4.3.-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).

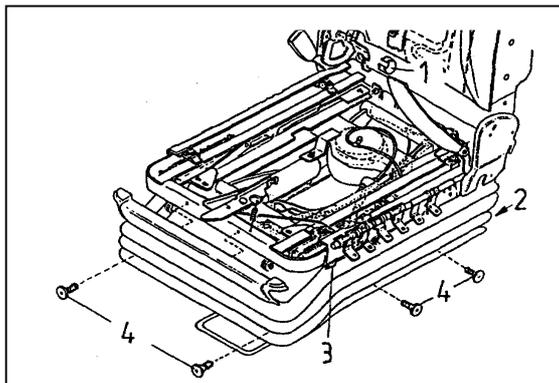
Version without swivel base, with subbase (B):

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.

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


4.4.-Below

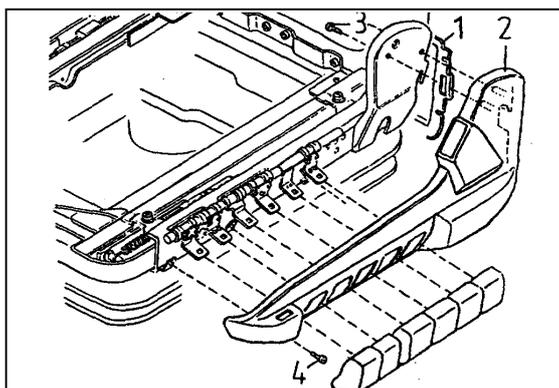
Dismantle complete seat (2.1.0).

Dismantle seat cushion (2.1.0).

Dismantle side-, front- and rear plastic cover (2.2.0/2.3.0).

Remove below 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 sidewards from each of the 3 holding plates (3), and remove 6 knobs (4) from the left side, right and front side of the lower frame.


4.5.-Side plastic covers

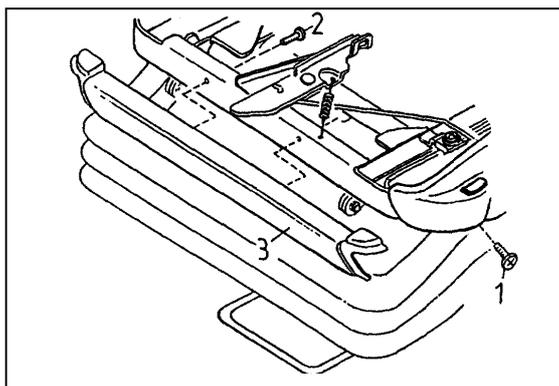
Dismantle seat cushion (2.1.0) Unhook rear plastic cover (1) from side plastic cover (2).

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).

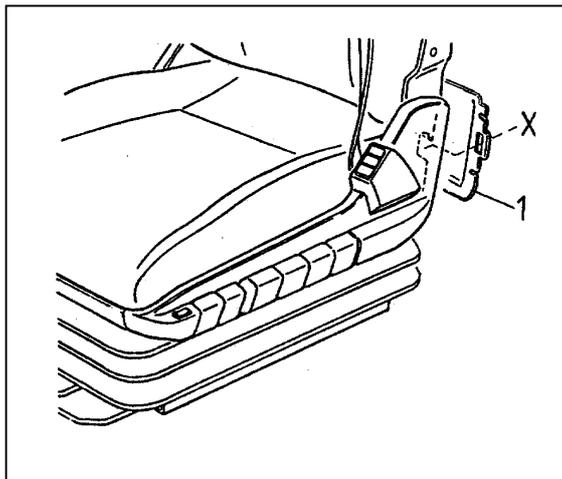

4.6.-Front plastic cover

Dismantle seat cushion (2.1.0).

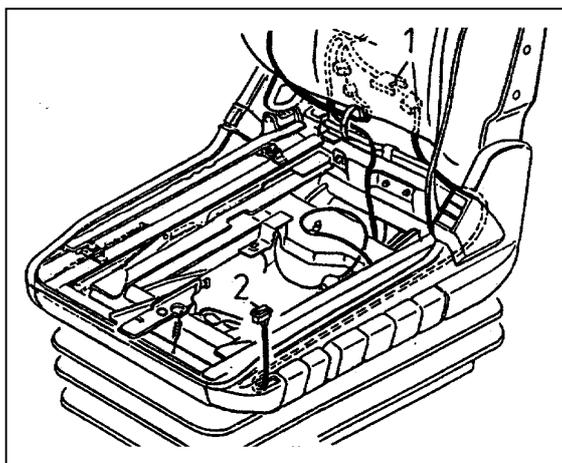
Bring inclination adjustment to upmost position.

Undo 2 screws (1) in front area of both side covers and the screws (2) of the front plastic cover (3).

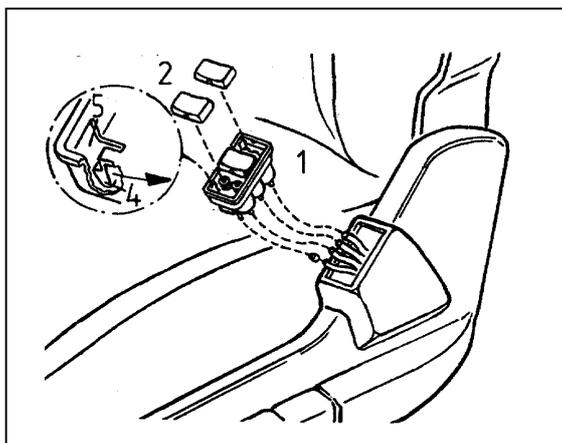
Fold front plastic cover downwards out to the holding holes of the seat frame. In doing so, press apart the side covers a little bit and loosen below frame cover


4.7.-Rear plastic cover

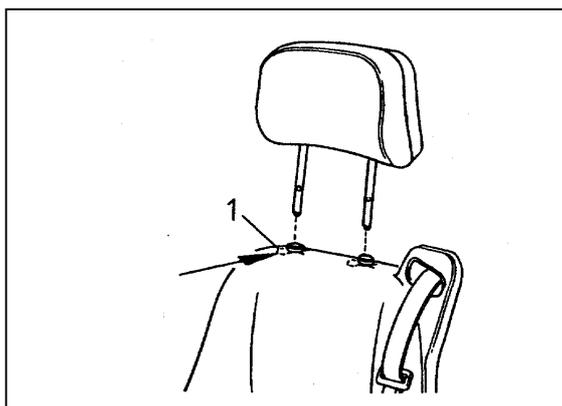
Press in rear plastic cover (1) in area X on both sides, and unhook from side plastic covers.


4.8.-Switch for heating

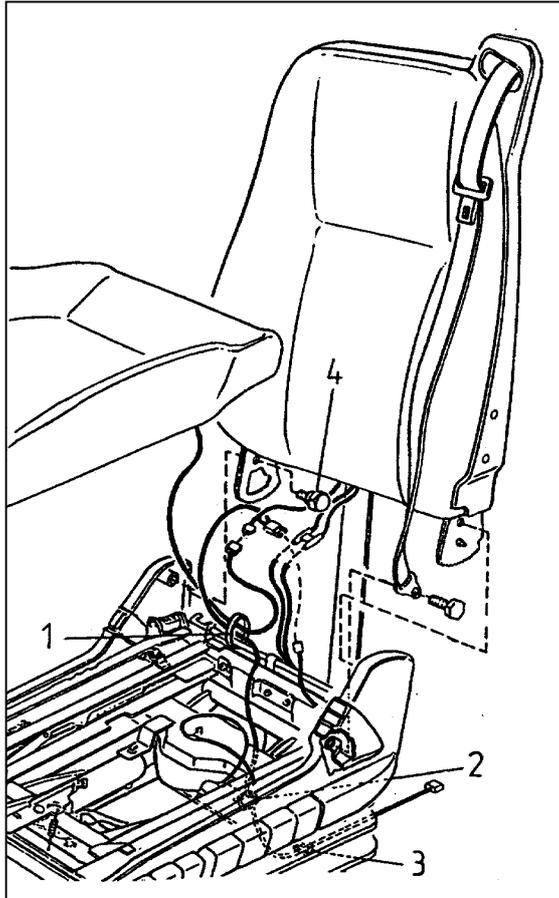
Remove seat cushion (2.1.0).
Remove 2 screws (4) from side plastic cover (2.2.0).
Remove rear plastic cover (s.a.).
Loosen below in the back from 2 clips on the cross tube (2.2.0).
Separate plug connection (1) and press switch for heating (2) out of the side cover.


4.9.-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 hose on LS-valve.

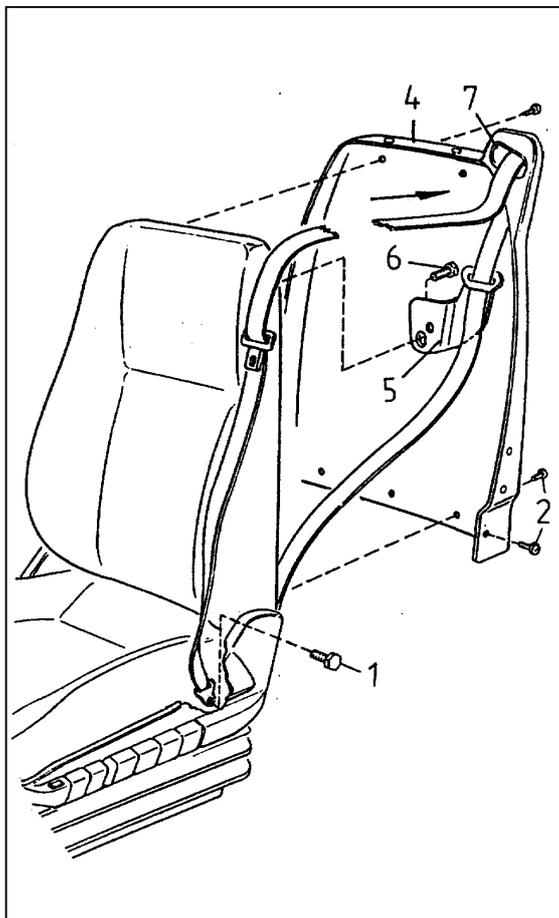

4.10.-Headrest

Pull up headrest until stop.
Press in location spring (1) (sensible through the cushion) acc. To arrow and pull out headrest (at old version the location spring has to be pressed in at both headrest bars).
For assembly, push in headrest without pressure on the spring(s).



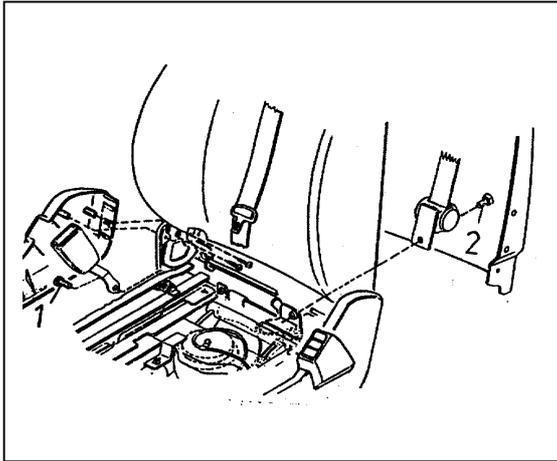
4.11.-Backrest

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 square bracket of the backrest out of the backrest of the seatframe.



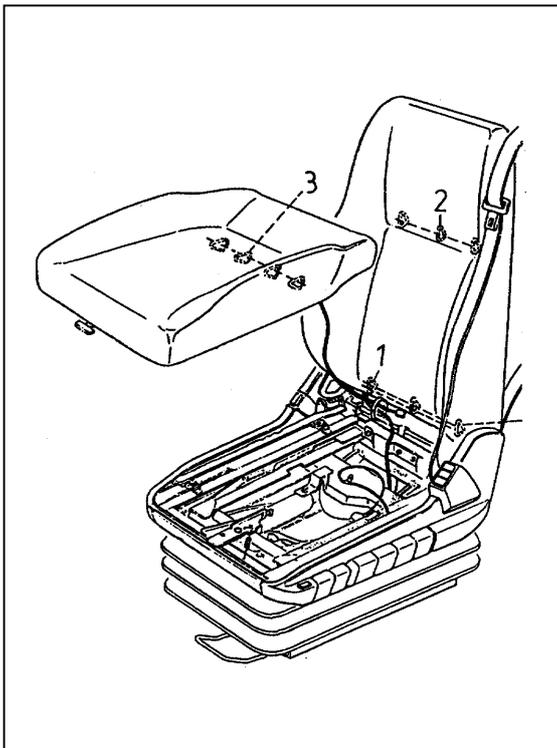
4.12.-Backrest plastic cover

Loosen rear plastic cover from side plastic cover (2.3.0).
 Fold backrest completely forward, undo rear screws (3), fold backrest completely and undo front screws (3).
 Remove headrest and if necessary armrests.
 Undo screw (1) of belt attachment (when exchanging the textile cover 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 square cushion and press upwards out of the belt reserving guide (5).
 At exchange of belt or backrest textile cover, the screw (6) of the belt reserving guide (5) has to be loosened in addition.
 Push belt along with belt tongue and anchor plate through aperture (7) of cover.



4.13.-3-point-belt

Dismantle backrest plastic cover (2.4.0).
 Remove side plastic cover opposite side (2.2.0).
 Remove rear plastic cover (2.3.0) and undo screw (2) of the belt retractor attachment.



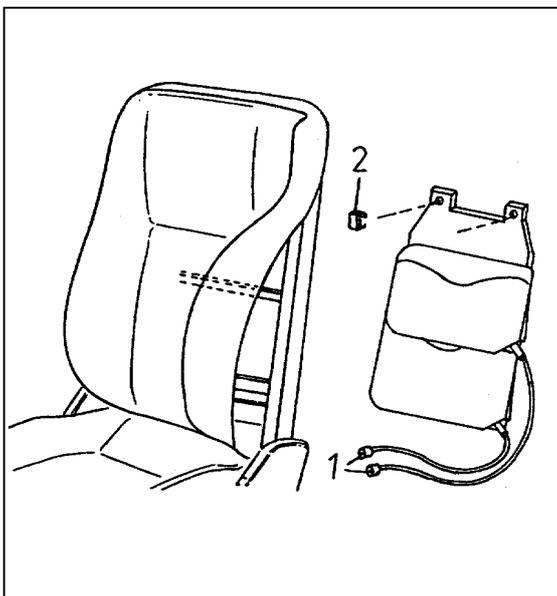
4.14.-Backrest cover / seat cushion cover

Backrest cover:

Dismantle backrest plastic cover (2.4.0).
 Bend clamps (1) open at the lower backrest cross tube and pull up into the pocket.
 Loosen clamps (2) of pocket attachment from the wire inside the pad and take off the cover.

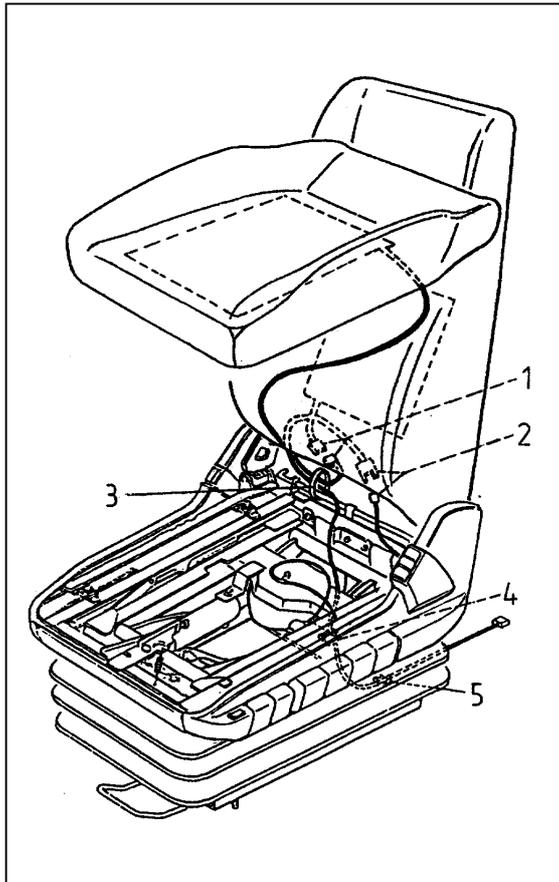
Seat cushion cover:

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.



4.15.-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 aircushion is within reach.
 Disconnect air lines from connector (1).
 Press out 2 clips (2).



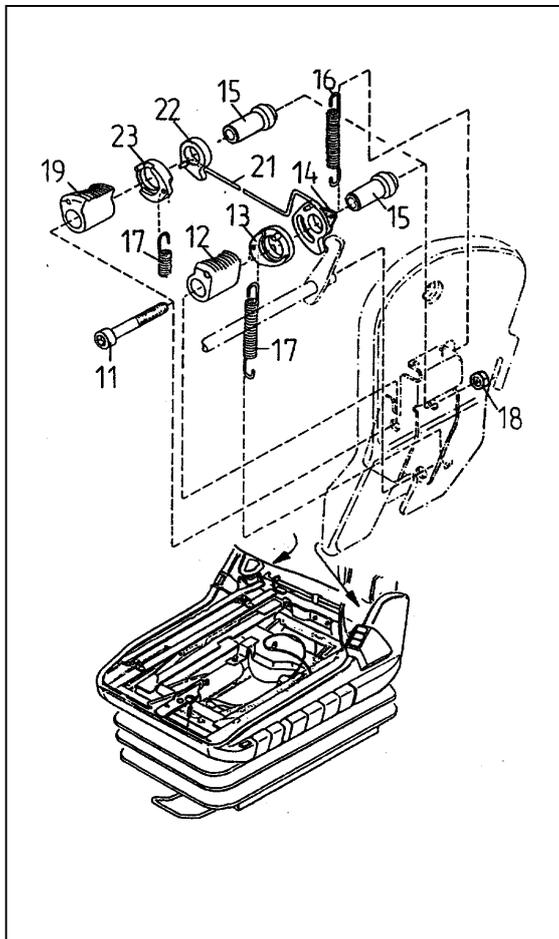
4.16.-Heating elements

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-side adhesive tape.

Heating element seat cushion:

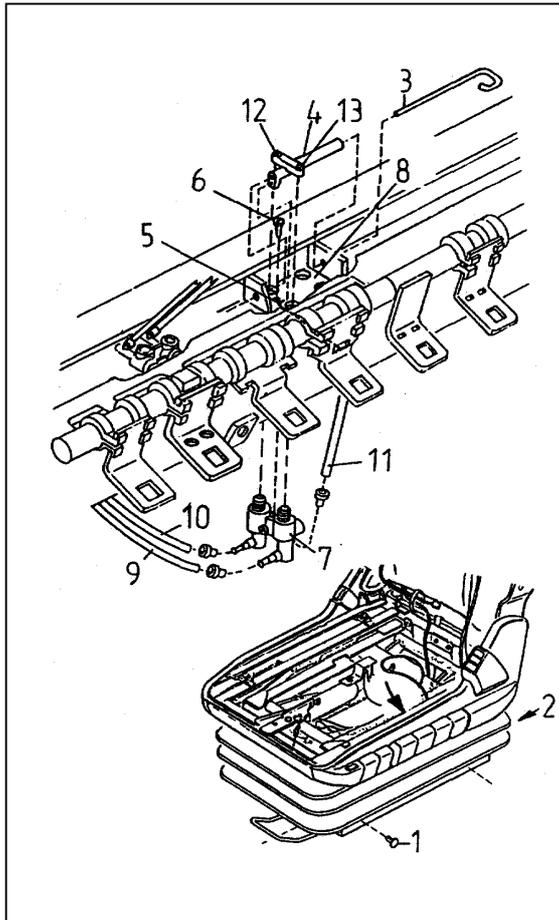
Remove rear plastic cover (2.3.0).
 Loosen electr. Feeder (1) and cut attachment (3).
 Dismantle seat cushion (2.1.0).
 Remove seat textile cover (2.5.0).
 Carefully pull heating elements off the pad.
 At mounting, fix heating elements with double-side adhesive tape.



4.17.-Backrest latching

Dismantle seat cushion (2.1.0).
 Loosen tension spring (17) from part (13) and (23), unhook tension spring 816 from pan.
 Dismantle side plastic cover operating side (2.2.0).
 Unscrew belt retaining plate (1) frame.
 Loosen screws (11) out of parts of the backrest latching (remove latching parts in connection if possible, because they can illustrate the assignment of the new parts if necessary).

- | | |
|---------------------------|----------------------|
| Toothsegment (12), chrome | = for operating side |
| Toothsegment (19), yellow | = for opposite side |
| Carrier (13), nature | = left |
| Carrier (23), black | = right |
| Disc cam (14): nature | = left |
| Black | = right |
| Disc cam (22): black | = right |
| Nature | = left |


4.18.-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 below fastening and loosen below 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:

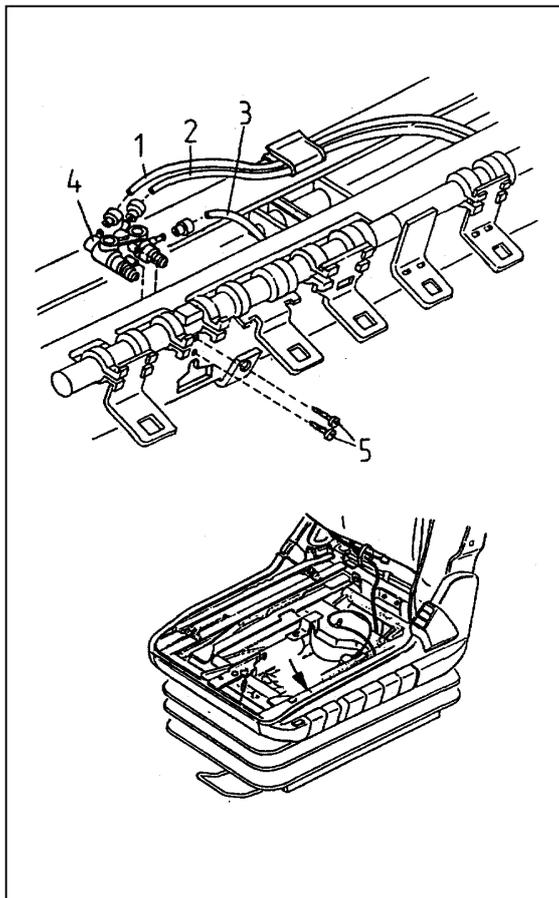
Operate lever upwards - variable cylinder retracts.
Press down lever - variable cylinder extends.

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.


4.19.-Valve for seat lowering

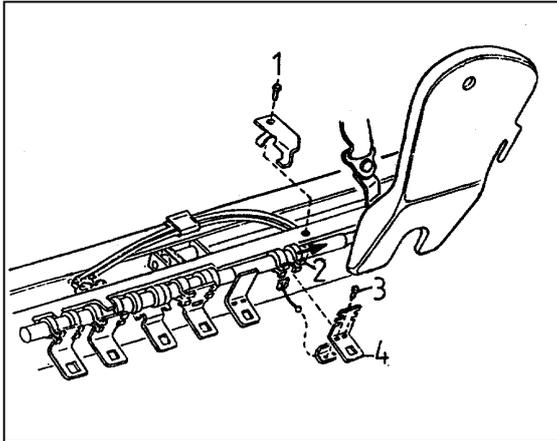
Dismantle seat cushion (2.1.0).

Remove lever for seat lowering (2.7.0, incl. Handle).

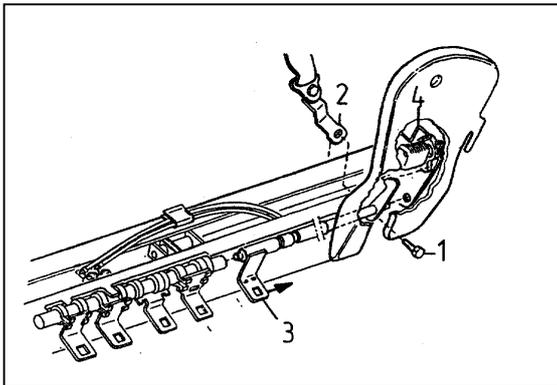
Mark the assignment of the hoses to the valve connections to avoid mistakes when mounting the new valve.

Pull hoses (1) (2) (3) off the valve (4) after loosening the hose clamps.

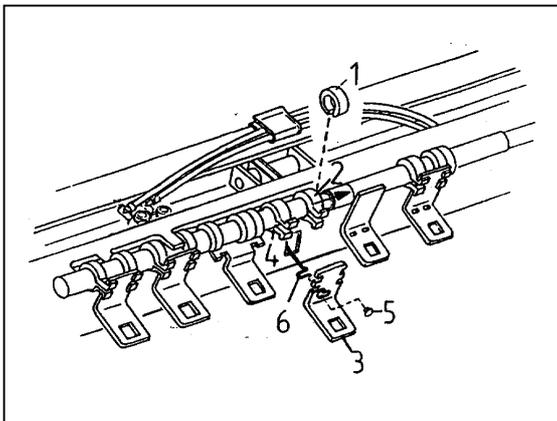
Undo screw (5).


4.20.-Lever for damper adjustment

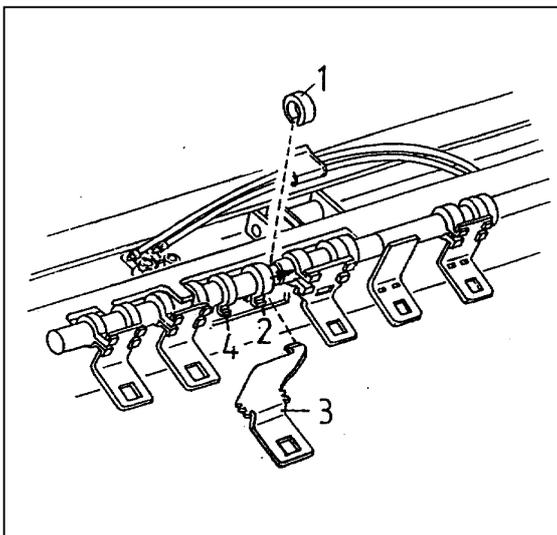
Remove seat cushion (2.1.0).
Loosen screw (1) and take off plate.
Shift lever bearing (2) sideways.
Loosen 2 screws (3) of Bowden cable fastening and take off lever (4).
Grease ball of Bowden cable when mounting.


4.21.-Lever for backrest adjustment

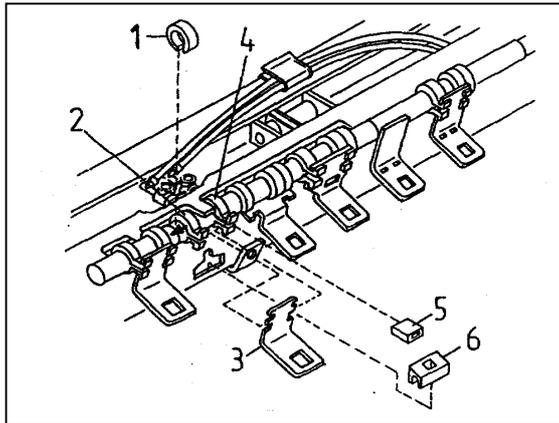
Dismantle lever for damper adjustment.
Dismantle backrest (2.4.0).
Remove cover operating side (2.2.0).
Loosen screw (1) of beltholder plate (2).
Press lever (3) in direction of arrow and push trunion out of guiding.
Unhook bar and take it off (when new bar is put in, the wire (4) must be pressed in direction of backrest latching, so that the toothsegment swings to the side).


4.22.-Lever for height adjustment

Remove distance clamp (1).
Push out lever bearing (2) sideways.
Push lever (3) sideways off lever bearing (4).
Remove plug (5) and unhook lever (6).


4.22.-Lever for inclination adjustment

Remove distance clamp (1).
Push out lever bearing (2) sideways.
Pull lever (3) sideways off lever bearing (4).

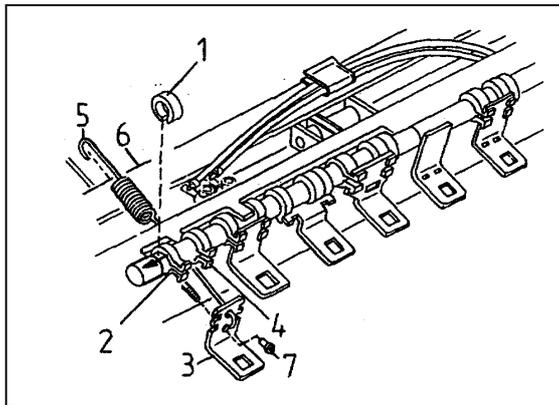

4.23.-Lever for lowering

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).


4.24.-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).

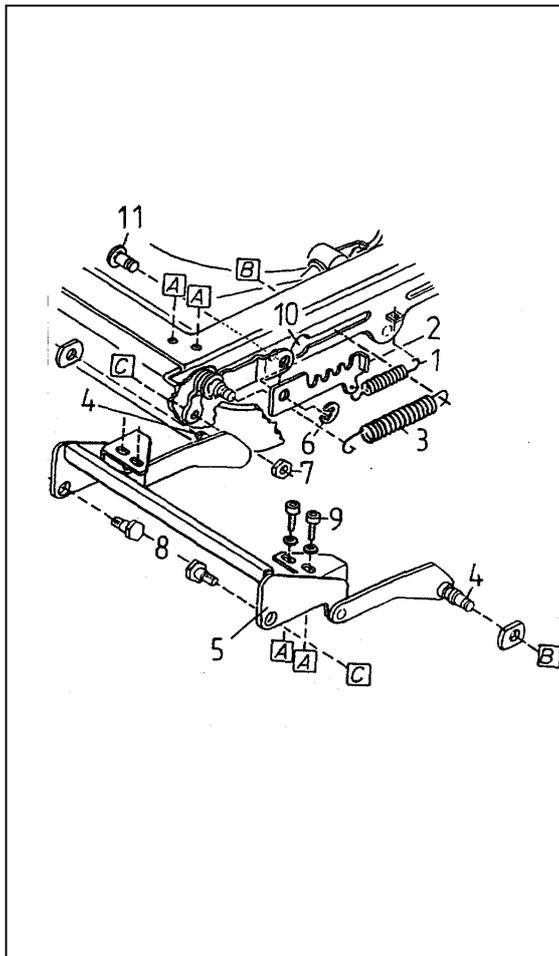
Push lever (3) off lever bearing (4).

Unhook spring (5) off the profile of seatframe (6).

Loosen adjustment screw (7) from transmission rod.

Take lever (3) out of the seatframe and unhook spring (5).

Notice: 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..


4.25.-Bracket / toothbar for inclination adjustment
Bracket:

Dismantle seat cushion (2.1.0).

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 toothbar (2).

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):

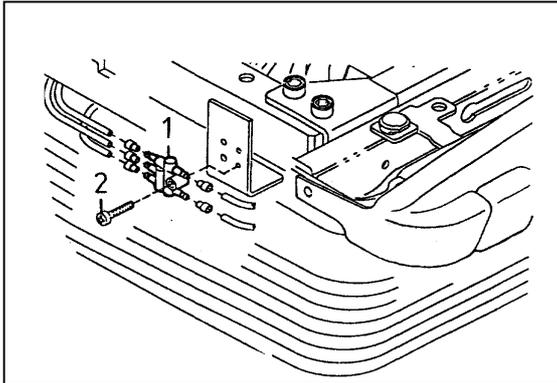
Dismantle seat cushion (2.1.0).

Secure suspension unit with a distance piece in upmost position and loosen below at time in the lower area of the operating and front side.

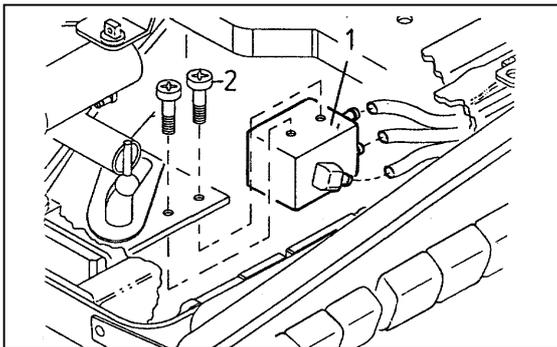
Lock seat by means of inclination adjustment in highest slope position.

Unhook spring (1) and dismantle retaining washer (6).

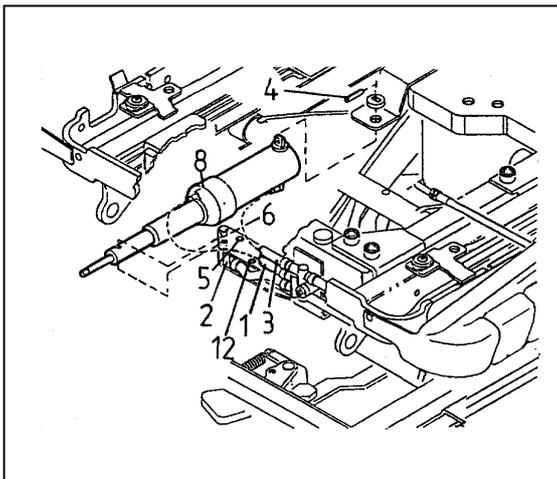
Press out bearing bolt (11) towards seat interior.


4.26.-Shuttle valve

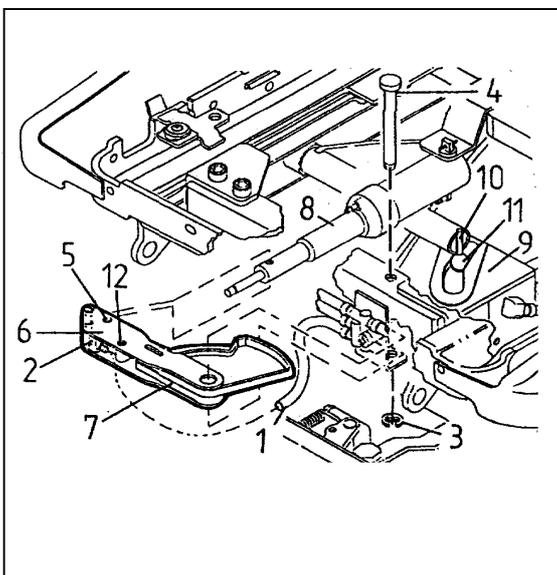
Dismantle seat cushion (2.1.0).
 Dismantle front cover (2.2.0).
 Adjust seat inclination in upmost position.
 Loosen below in front at the seatframe.
 Undo screw (2).
 Pull 5 hoses off the OR-element (1).


4.27.-Dismantle control valve

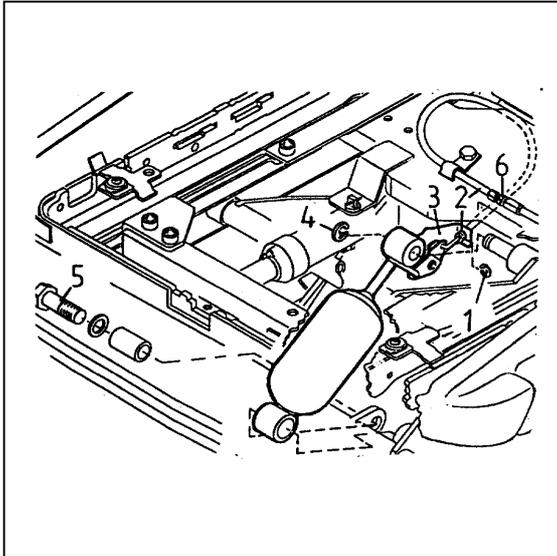
Dismantle seat cushion (2.1.0).
 Undo 2 screws (2).
 Pull 3 hoses off the level control valve (1).


4.28.-Variable cylinder

Dismantle seat cushion (2.1.0).
 Remove front cover (2.2.0) and loosen below 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 a 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.

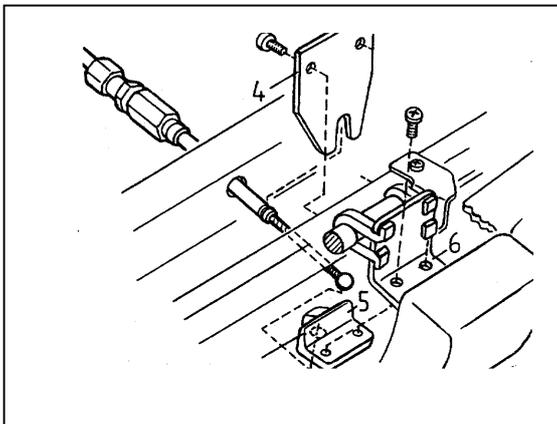

4.29.-Control washer unit

Dismantle seat cushion (2.1.0).
 Remove front cover (2.2.0) and loosen below 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.
 If not, loosen screw (5) a little bit and if necessary screw (12).


4.30.-Vertical damper

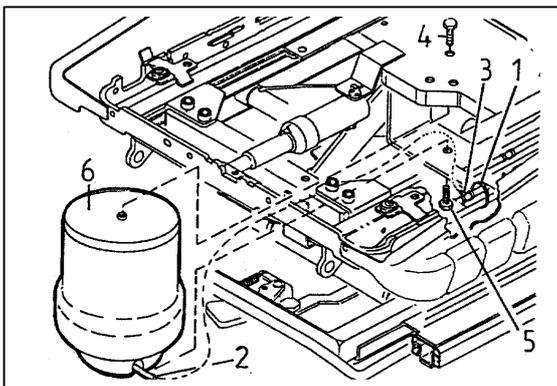
Push seat forward and dismantle seat cushion (2.1.0).
 Remove retaining washer (1) in lowest position of suspension unit.
 Lever Bowden cable (2) out of the fastening (3) in upmost position of suspension.
 Remove retaining washer (4).
 Secure suspension unit against lowering in highest position.
 Loosen below in the front at the bottom and undo crew (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).


4.31.-Shock absorber adjusment

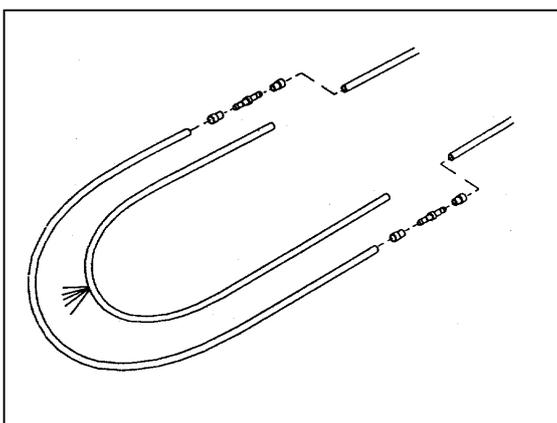
Dismantle complete seat (2.1.0).
 Remove retaining washer (1) in lowest position of suspension unit (s.a).
 Lever Bowden cable (2) out of the fastening (3) in upmost position of unit (s.a).
 Unscrew holding plate (4) off the seatframe.
 Remove fastening (5) of adjusting lever (6) and loosen Bowden cable out of the fastening (5).

Notice: Before mounting, grease the Bowden cable ball.
 Before mounting the seat cushion, adjust Bowden cable (s.a).

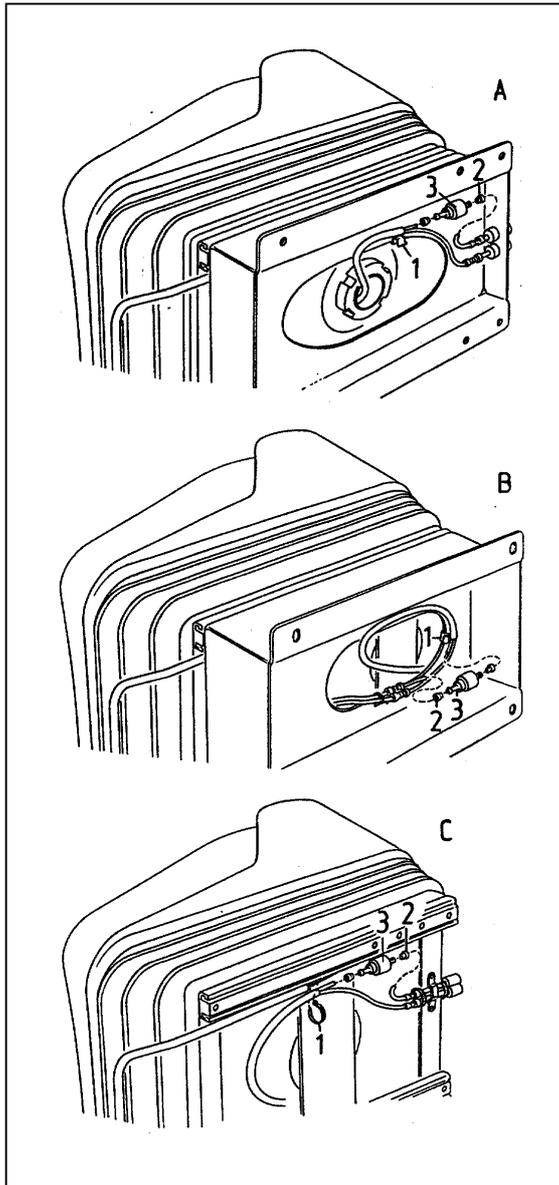

4.32.-Airspring

Remove complete seat (2.1.0).
 Dismantle seat cushion (2.1.0).
 Rip cable binder (19).
 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 loosed screw (4) and spring suspension unit in and out under press.
 Tighten again screw (4), likewise when air spring is under pressure.


4.33.-Repairs set airlines

Tubings are to be repaired by means of sundry hose pieces and couplings.
 Commit the line laying as well as fixing to your memory and keep in case of repair. Cut out damaged sections of the hose.
 Take suitable hose piece out of the repair set 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 used longer hose pieces to shift cutting sections to straight line section.


4.34.-Remaining pressure valve

Version A: Seats with swivel base + subbase

Version B: Seats without swivel base, with subbase.

Version C: Seats without swivel base, without subbase.

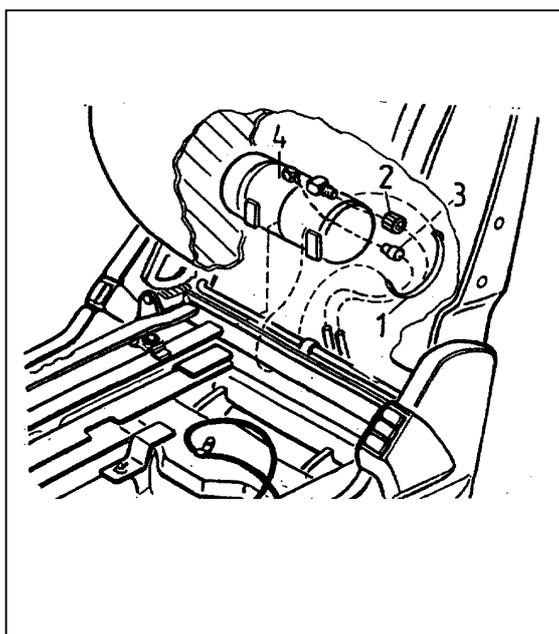
Remove seat from vehicle and turn around.

Loosen out of fixing clamps (1), at version C cut cable binder (1) to pieces.

Push clamping sleeves (2) off the spigots of remaining pressure valve (3) and pull off hoses.

Mount new valve with blue connecting nipple towards vehicle connecting side.

For hose securing use only new clamping sleeves (2).


4.35.-Secondary air volume

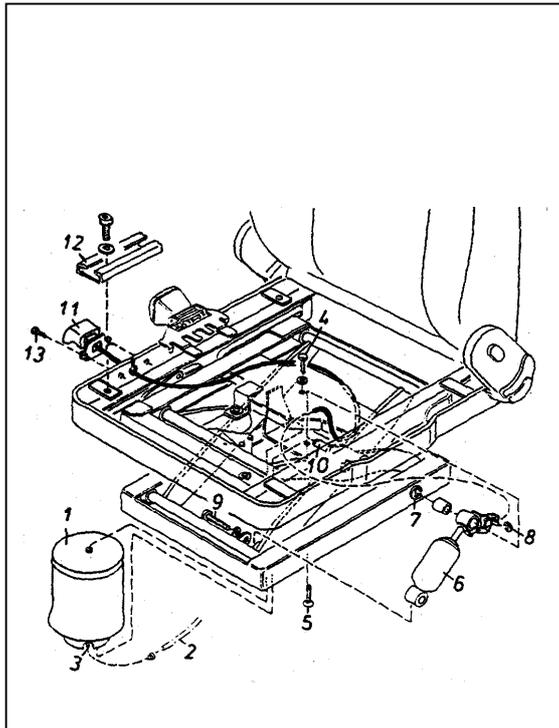
Separate compressed air and power supply (optimal heating).

Remove rear plastic cover (2.3.0).

Cut cable binder to pieces, loosen sleeve nut (2) as well as hose clamp (3) and pull hoses off the secondary air volume (4).

Renew felt plate.

Fix new secondary air volume to the seatframe by means of cable binders (1), without including the tension wire (5).



4.36.-Swivel system

Common operations : 1) to 8): disassemble seat (4.1.0).

2) to 8): partially loosen spring.

1) to 7): block swivel system in upmost position.

1) **Change the air spring (1)**

Unscrew pivoting leg and/or plate housing (separate air line). Release air line (2) from connection part (3). Remove screws (4) and (5).

Pull the pneumatic spring out from under the swivel system. Mount new pneumatic spring without twisting. (where necessary slightly loosen the screw (4) and activate the swivel system under pressure up and down. Tighten screw (4) with the pneumatic spring under pressure.

2) **Change the damper (6)**

Activate safety discs (7) and (8) upwards.

Block swivel system in highest position to stop it moving downwards. Remove screw (9), remove the damper from the pin (10), unhook the Bowden traction and pull damper out in a forward direction.

3) **Change cable traction using lever (11)**

Dismantle rail to adjust cushion depth (12) on lever side. Remove the 2 screws (13). Continue as for section 2 (Change the damper)

4) **Change control disc unit (19)**

Remove air line (2) from the latch roll (3). Activate safety ring (4) upwards and remove bolt (5). Loosen screw (6), Separate base (7) from control discs (8) and remove them from the adjustment roller (9). If the guide plate (10) comes off the trunnel (11), place the ball (12) located in the plate curve on top of the trunnel. Slightly tighten the screw (6) during assemble. Move the multi-function lever upwards to check whether the latch roller (3) moves freely. On the contrary slightly loosen the screw (6) and where appropriate the screw (13).

5) **Change the adjustment roller (9)**

Loosen air lines (14) and (15).

Remove roller bolt (16).

Loosen the screw (6), separate the base (7) from the control discs (8) and remove them from the adjustment roller. After assembly check latch roller(3) as in 4).

6) **Change axle bolts for the pliers**

Loosen the two nuts (17) and remove the bolts (18).

Note: Changing the axle bolts only makes sense if the boreholes in the pliers are undamaged.

7) **Change the level regulating valve (1)**

Loosen the screws (2).

Loosen the airlines (3) and (4).

Only slightly tighten screws during assembly (2) .

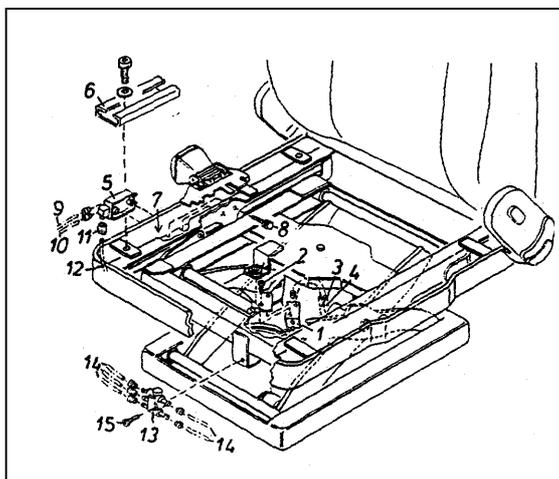
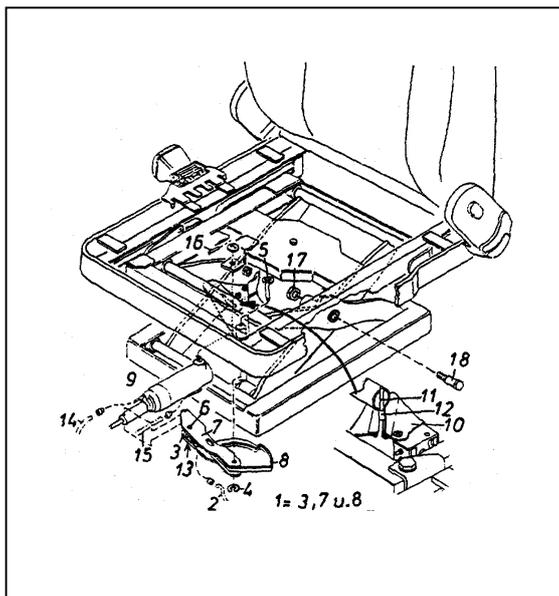
8) **Change height regulation valve (5)**

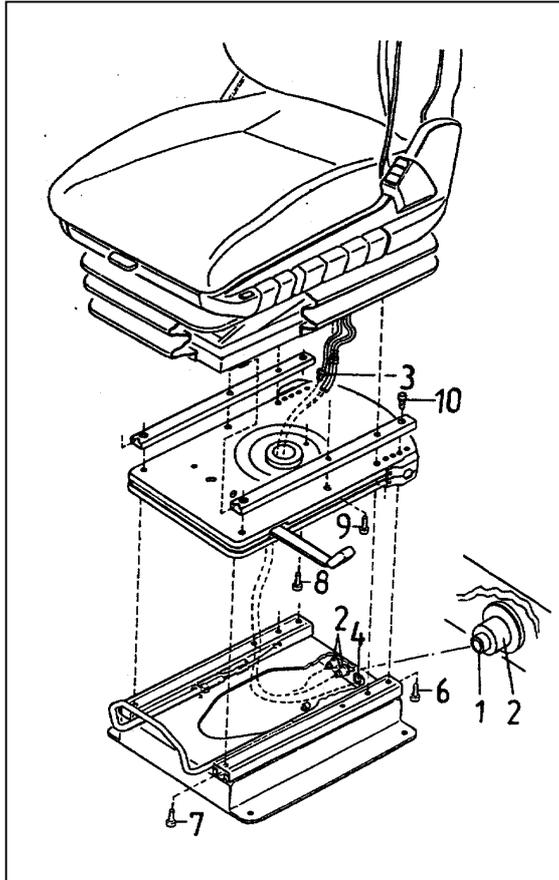
Dismantle rail to adjust cushion depth (6) on the lever side. Cut the cable ties (7). Loosen the screws (8) and remove the valve (5) downwards.

Loosen air lines (9) from the valve pipes. Undo the screw lid (11) and pull out the pipe (12).

9) **Change the selection valve (13)**

Loosen air lines (14). Remove the screw (15).





4.39.-Swivel base

Remove seat from vehicle.

Loosen air supply lines and if necessary electrical feeder.

Press in inner sleeve (1) of hose coupling (2) and pull out hoses.

If necessary, dismantle plug (3) of electrical feeder out of aperture (4).

Loosen lines out of fixing clamp (5).

Lift up lever for horizontal adjustment, push seat to rearmost position and undo screws (6).

Push seat to foremost position and undo screws (7).

Undo screw (8).

Undo 4 screws (9) (within reach by corresponding operation of swivel base).

Dismantle on the new swivel base the plastic cover in area of the hole for the screws (9).

Undo 4 screws (10).

5.- TROUBLESHOOTING; PNEUMATICS

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.

Verifications

	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		

Failures

	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 utmost position	
2	Seat swings (no-load) independently up and down			No defect or function, increased internal friction inside the system
3	Seat swings (loaded) independently up and down	Check pneumatic-systems for density (level control valve, air spring, air lines)	Exchange component resp. Repair air line (acc. To repair kit "air lines")	Defect of function, increased internal friction inside the system
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 (2Mn)	
4	Seat height adjustment without function	Pull up/push down lever: cylinder (4) moves in/out		Go on with page 5.1.0, 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		<p>Check ram operation of valve for height adjustment (7):</p> <p>Ram will be pressed in at operation</p>		Go on 4d
		Ram will not be pressed in	Exchange operating lever	
4d		<p>Pull hoses 9 and 11 off valve (7):</p> <p>Air escapes when operating the lever</p>		Go on 4e
		Air does not escape when operating the lever	Exchange valve (7).	
4e		<p>Check or-element ↑: pull of hoses 5 and 6 and operate height adjustment upwards resp. Downwards</p> <p>Air escapes rom hose 5 resp. 6</p>	Exchange or-element (2).	
5	Seat goes to upmost position and suspension doesn't work	See page 5.1.0, C		
6	Seat bleeds permanetly out of exhaust air line E and remains in upmost position	See page 5.1.0, C		
7	Seat is resilient, but cannot be lowered by vertical lowering	Check hose 19 for kinks	Remove kink. Res. repair it by repairing kit "air lines". If necessary exchange vertical lowering (8).	

6.- PNEUMATICS PLAN

Key:

Hose colours and hose functions seat pneumatics

Permanent pressure from vehicle

black air supply from the vehicle to the
- drain valve ≥ 1
- IPS-valve ± 25

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

red from the lowering valve ≥ 2 to the
- valve for height adjustment " 10
- level control valve $\rightarrow 14$

For the ventilation and bleeding of the air spring and the secondary air volume

brown/black from the lever control $\rightarrow 12$ via
- secondary air volume $\times 29/30$
- to the air spring $\circ 18$

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

brown from secondary air volume $\times 29$ a
- lowering valve ≥ 19

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

grey from the level control valve $\rightarrow 13$ via
- remaining pressure valve $\infty 31/32$ to the
- vehicle

Hose colours and hose functions height adjustment

Lift up seat

Brown from the control valve " 9 to the
- or-element (shuttle-valve) $\uparrow 6$
- or-element (shuttle -valve) $\uparrow 8$
- variable cylinder $\downarrow 16$

Lift up seat

brown from the control valve " 9 to the
- or-element (shuttle-valve) $\uparrow 5$
- or-element (shuttle-valve) $\uparrow 8$
- variable cylinder $\downarrow 17$

Lower seat

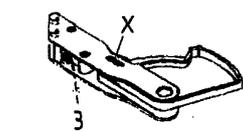
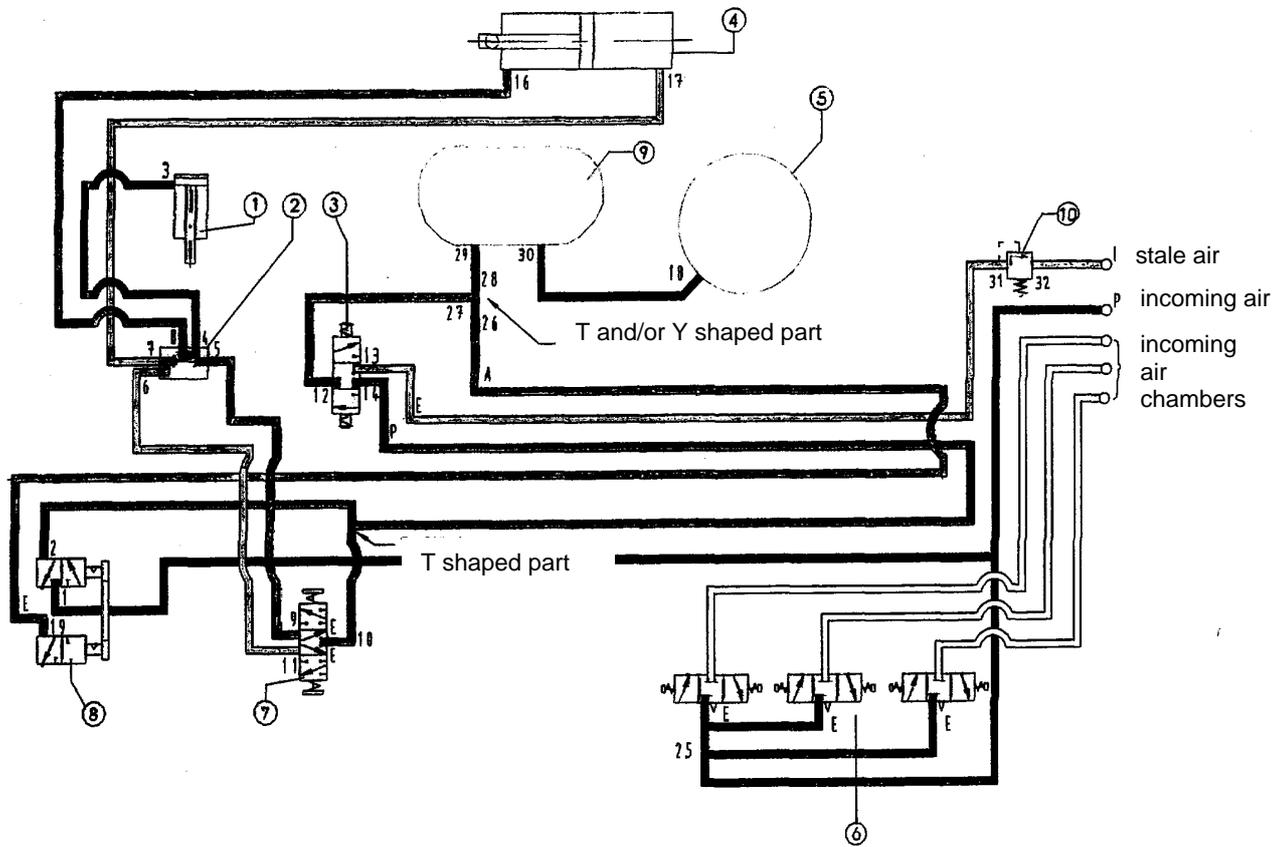
grey from the control valve " 11 to the
- or-element (shuttle-valve) $\uparrow 6$
- or-element (shuttle-valve) $\uparrow 7$
- variable cylinder $\downarrow 17$

Lift up and lower seat

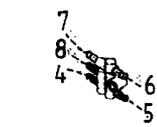
black or-element (shuttle-valve) $\uparrow 4$ to the



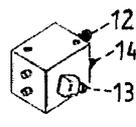
variable cylinder ← 3



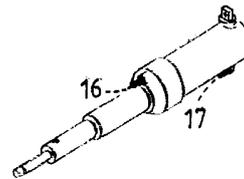
① Control washer unit



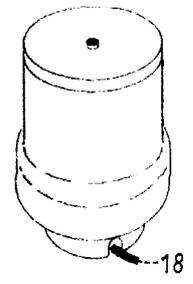
② Shuttle valve (OR-element)



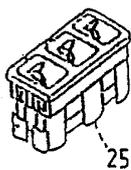
③ Lever control valve



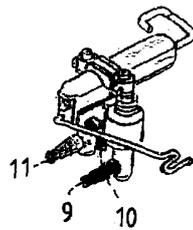
④ Variable cylinder



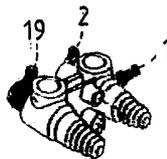
⑤ Air spring



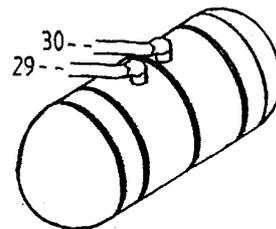
⑥ LS-valve



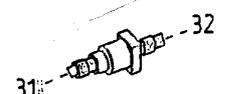
⑦ Valve for height adjustment



⑧ Vertical lowering



⑨ Secondary air volume



⑩ Remaining pressure valve

7.- TABLE OF REPAIR TIMES

TASK DESCRIPTION		Item repair time.
N°	Operation	(Minutes)
1	Change height adjustment valve	30
2	Change level adjustment valve	18
3	Change valve	18
4	Change pneumatic spring	36
5	Change gas spring	36
6	Change vertical trigger	18
7	Change crash buffer	12
8	Change crash buffer adjusting device	36
9	Change crash buffering system and adjust	54
10	Change adjusting cylinder	18
11	Change element O (selective valve)	24
12	Change control disc	24
13	Change Bowden cable	30
14	Change reclining control	18
15	Change height regulation control	18
16	Change backrest control	6
17	Change control	6
18	Change cushion elevation adjustment anchoring	12
19	Change lumbar support	60
20	Change Cousin slide	24
21	Adjust slides	12
22	Change side trim	12
23	Change front trim	12
24	Change bellows	54
25	Change frame	30
26	Change cushion cover	36
27	Change backrest cover	48
28	Change cushion	6
29	Change backrest	18
30	Change cushion heating element	24
31	Change backrest heating element	24
32	Change heating control	18
33	Change three-point belt	30
34	Change belt closure	18

Times shown on table established for workshop repair operations with the seat mounted on the bus.

Each time refers to a complete dismantling and assembly operation of the part considered.

Certain operations include others in their process whose times are also given on the table, however the total time is not an arithmetic sum of the individual times of the same, since the more complex ones also require the most basic ones be undergone, therefore the time of some, are already included in that of others.