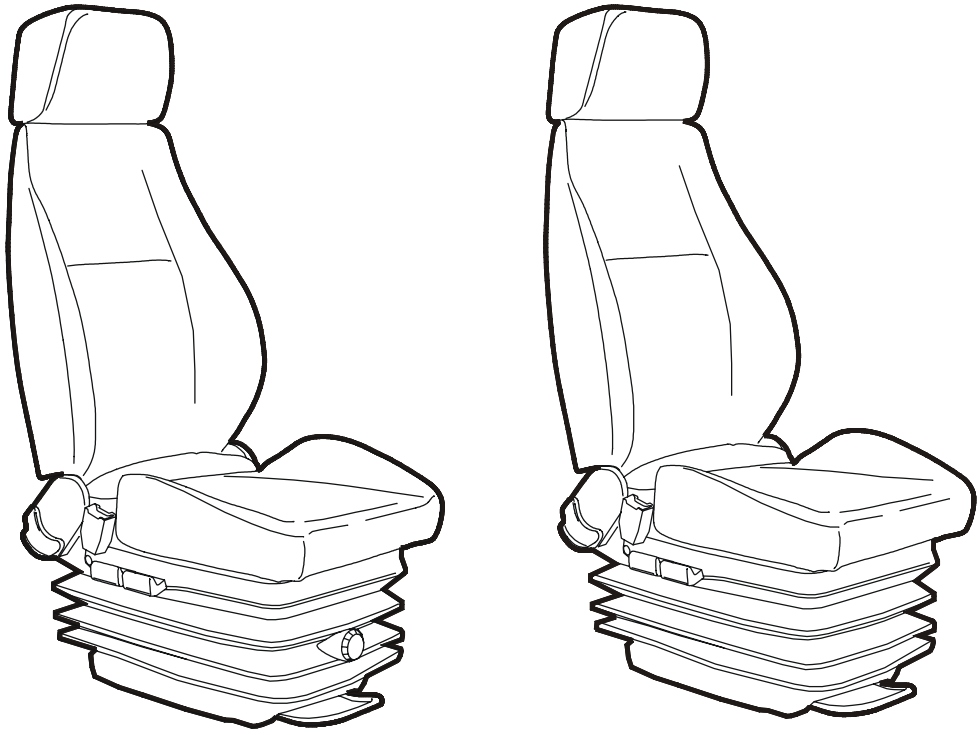
ESTEBAN



WORKSHOP MANUAL

DRIVER SEATS ISRI
6000/517
6500/517

0.- INDEX

1.- GENERAL RECOMMENDATIONS :

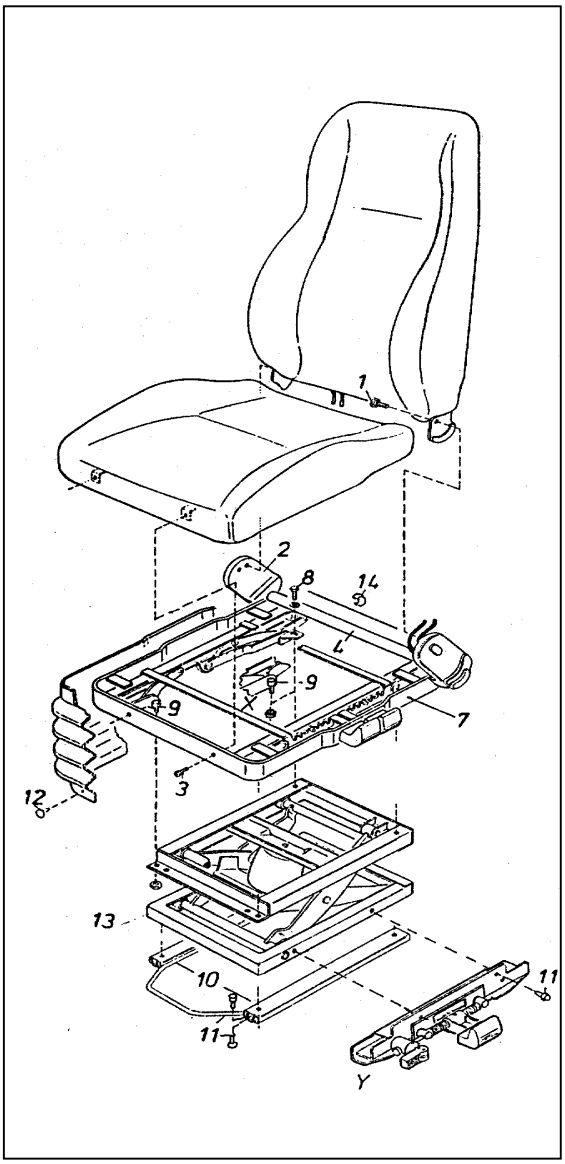
- Remember seat number and series must be specified in spare part orders.
- Seat repairs are to be carried out by qualified personnel.
- The lefthand side seat repair is illustrated in this catalogue, the righthand is repaired in like manner.
- Replacement of several parts are detailed in the following sections, installations are carried out exactly opposite.
- Remove compressed air connector prior to changing component control.
- After repairs, pneumatic lines and electric cables are to be assembled and secured as they were originally.
- Subsequent to each repair, a functional test is done and a leak test is also to be done if there are pneumatic parts
- Tubes and cables must not be folded.
- Do not stand on seat with backrest reclined .
- Inside more details are offered together with diagrams to carry out changes.

CONNECTION DATA:

OPERATING PRESSURE RANGE:	7-10 bar
COLOUR:	Black: compressed air (P hose) Grey: exhaust air (E hose)
OPERATING PRESSURE RANGE:	7.....10 bar
HEATING:	Operating voltage 12V / 24V Power up ca. 22ºC Cut off ca. 39ºC

2.- FAILURE LOCATION

FAILURE DESCRIPTION		CAUSE	SOLUTION
Seat does not rise		Leakage in tubes and connectors	Change tube or connecter, and where necessary repair
		Air leak:	
		Neither valve nor actioning function	Change valve
		Valve, gas spring or air tubes have leaks	Change faulty part
Seat rises to highest position		***Gas spring absolutely full:***	
		Neither valve nor actioning function	Change valve
		Exit air tube or connecter blocked	Change tube or connecter, and where necessary repair
Lumbar support does not function		Entrance air tube or connecter blocked	Change air tube or connecter, and where necessary repair
		LS valve does not function	Change LS valve
		Deflating noises (LS valve, tube or connector losses)	Change faulty part
Mechanical functioning mechanism goes hard		Foreign body in pulley	Clean and grease pulley (note: grease front part only)
Seat rises brusquely		Oily damper, check tensor and compression force.	Change damper
		Faulty damper	Change damper



Backrest

Loosen screws(1).
Fold front seat.
If assembled disconnect electrical and pneumatic line connectors.
Unhook backrests from side platform.(2).

Cushion (without cushion adjustment)

Unscrew two screws (3) and remove cushion from crossed housing tube.
Remove connection plugs from electric cables if necessary.

Cushion (With cushion adjustment)

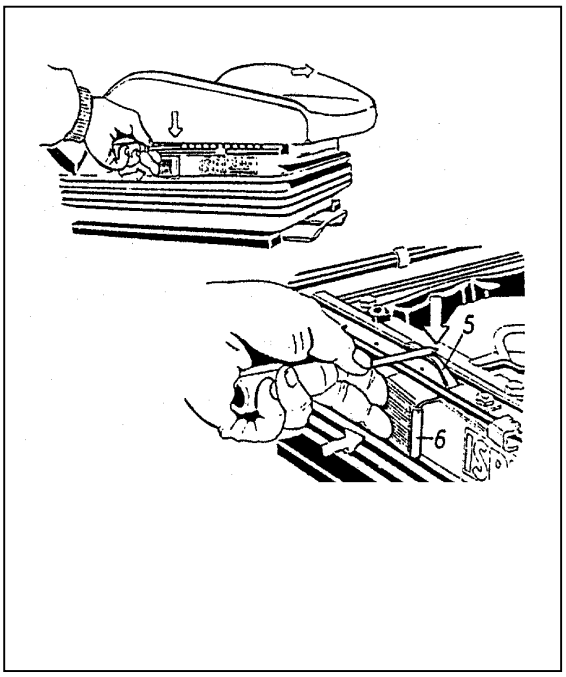
Move cushion to forward position.
Press down on retain spring (5) towards one of the cushion slide side openings. Likewise press release button (6).
Pull cushion as far forward as possible.

Seat housing

Remove cushion and backrest (see previous sections).
Remove housing bellows.
Loosen nut (8) and (9) (detail X for ISRI 6000).
Disconnect electrical and pneumatic line connectors if necessary.

Suspension

Remove cushion (as explained above).
Remove bellows underneath the suspension unit housing (13).
Disconnect electrical and pneumatic lines if necessary.
Loosen nuts (8) and (9) from housing (7).
Dismantle horizontal adjustment.

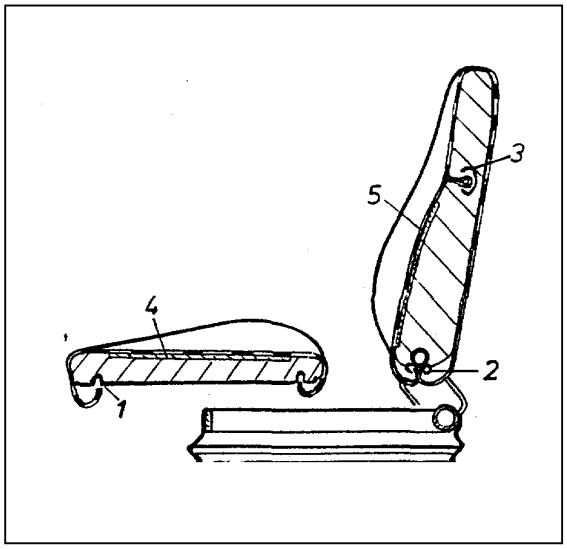


Horizontal adjustment

Push slides upwards and back (10), remove nuts (11) (slides Type A for ISRI 1000 must be screwed as in diagram Y to the metallic housing).

Accordion bellows

Remove vehicle seat.
Remove plugs (12) from seat housing (7) and suspension system underneath housing (13) , likewise the four clamps (14) of the crossed housing tube (4).

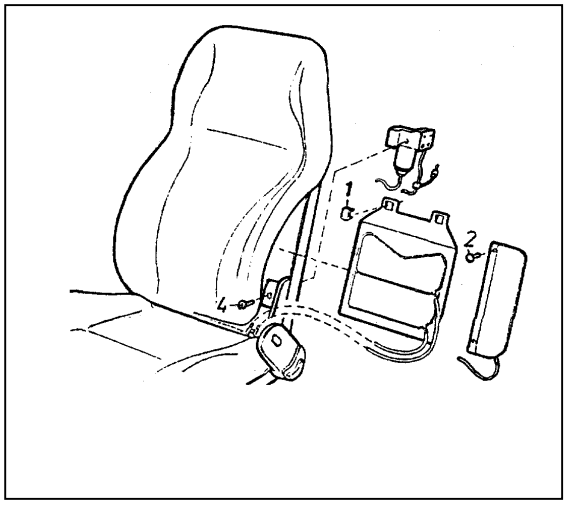


Cushion covering/ Heating

Remove cushion (see page 3.1.0).
Remove circular loop covering (1) from under the seat.
Carefully remove heating elements (4) from the pad (use knife to separate if necessary).
Secure heating elements with double-faced adhesive tape.

Backrest heating covering / Elements

Remove cushion (see page 3.1.0).
Remove backrest section C covering (2) from backrest structure pushing upwards.
Release clamps (3) from wire inside pad (cutting if necessary).
Heating elements (5) (same as for seat cushion) do not remove covering securing clamps.

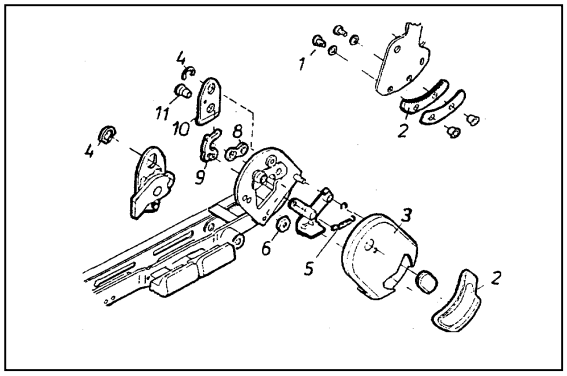


Lumbar support air chamber (LS/IPS) / Compressor

LS/IPS
Remove part of backrest covering (same as above but without clamps(3)).
Disconnect pneumatic lines in connector.
Release backrest pad from housing part.
Release retain clips (1) for LS chamber and retainer plugs if they exist (2) for the side chambers.

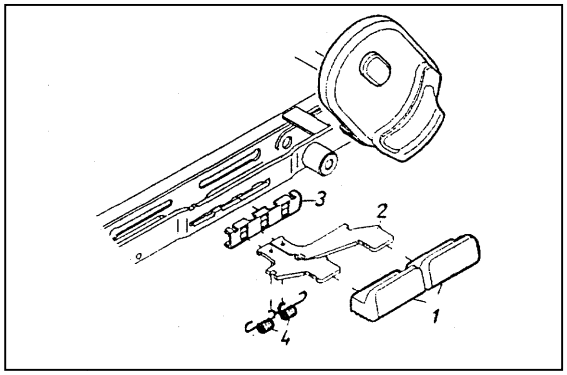
Compressor

Remove part of backrest covering.
(same as above but without clamps (3)).
Remove backrest from structure.
Disconnect pneumatic lines from connector.
Cut electric feed cable from the compressor.
Remove screws (4).



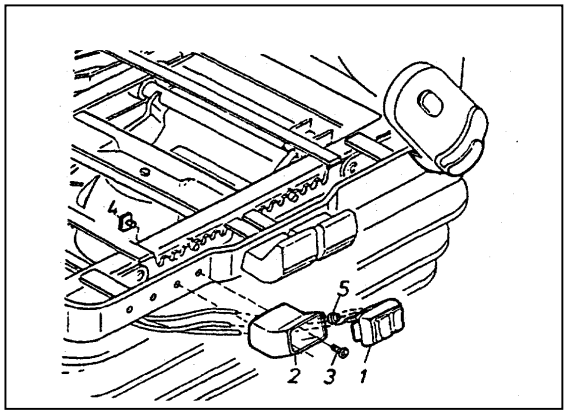
Bolt mechanism for backrest

Remove backrest (see page 3.1.0).
Remove screws (1) for toothed segment (2).
For welded versions, change is conditioned to feasibility (probably better to contact ISRI service ISRI).
Release cushion (see page 3.1.0).
Release Cir-clip (4).
Release tension spring (15).
For nut versions: loosen nut (6) and remove parts (8), (9), (10) and (11).



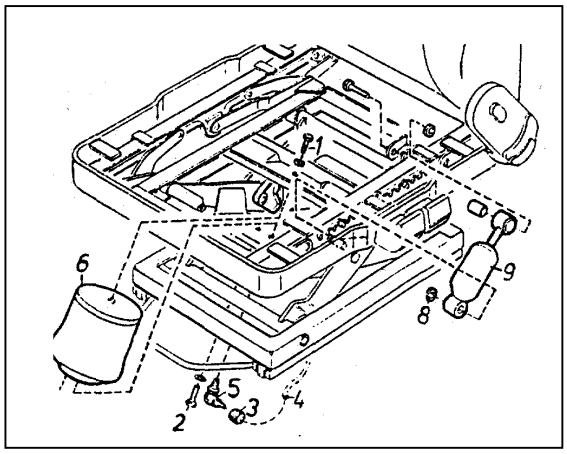
Reclination adjustment and height handles

Remove lever handle (1).
Release housing bellow where lever is located.
Remove slide lever support (3) from seat structure and unhook tension spring.



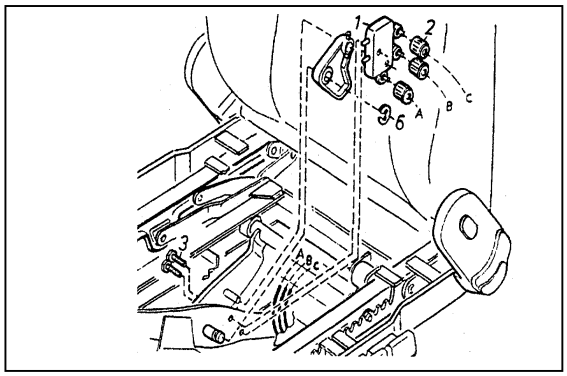
Lumbar support valve LS (2 buttons) IPS(3 buttons)

Remove cushion (see page 3.1.0).
Remove cushion adjustment slide, on the valve if necessary.
Remove housing valve (1) (not always possible without breaking valve and support.
Unscrew screws (3) until removal and remove support.
Remove hose clamp (5) from tube middle.(PU D= 3 mm)
Warning: This pneumatic tube is continually pressurised (vehicle air supply).
Disconnect pneumatic lines from valve connectors.



Pneumatic cushion

Release vehicle seat (separate pneumatic lines).
Release cushion (see page 3.1.0).
Safety suspension unit must be in upmost position.
Remove spring from under housing. Release hose nut (3) and separate tube.
Remove pneumatic cushion angular connector.
Remove pneumatic cushion from suspension.
Do not assemble pneumatic cushion twisted. Loosen screw (1) a bit.
Release and compress low pressure suspension unit.
Hermetically screw nut (1) while pneumatic cushion is pressurised.



Vertical damper

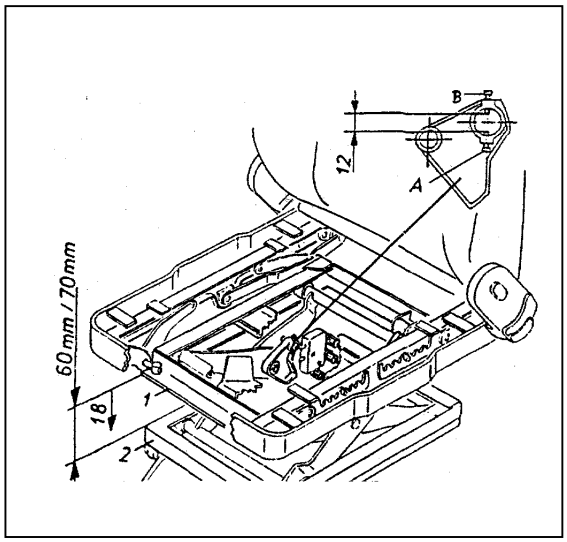
Ensure suspension unit in highest part.
Remove cushion (see page 3.1.0).

Valve (1)

Unscrew knobs (2) and separate from tubes.
Loosen two nuts (3) away from the valve (1).

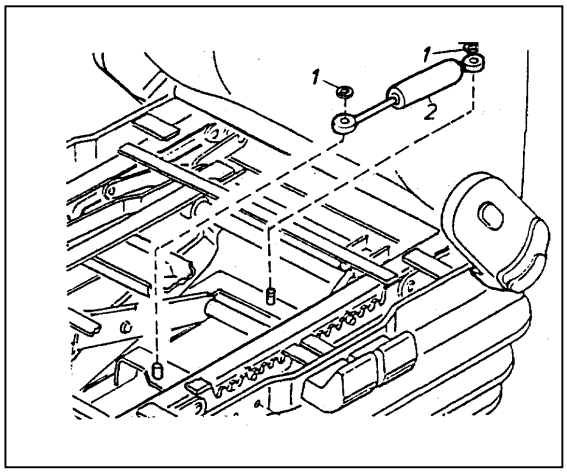
Control disc

Release retainer washer (6).
Warning : Bear in mind adjustment instructions for control disc installation.



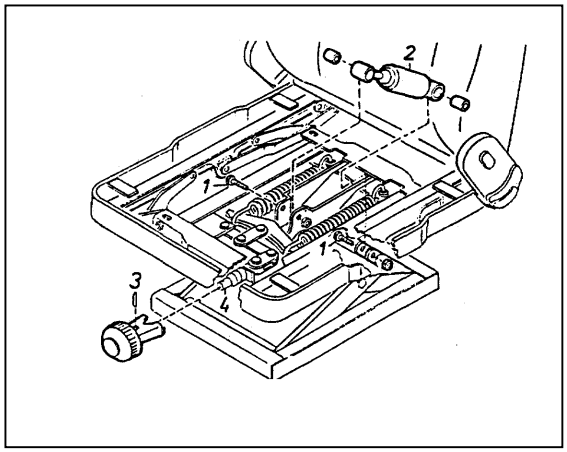
Adjustment instructions for control disc

Remove seat cushion and loosen under front section.
Apply weight to seat and lower it until a distance of 60 mm. (for vehicle seats) and 70 mm (for bus seats) respectively, between suspension unit upper (1) and lower (2) structures.
Lower seat a bit more until pressure supply via valve commences.
Distance travelled to this point must be 18mm below previous position (60mm /70mm less 18mm).
Otherwise (A) and (B) screw adjustments must be made as follows:
Tighten screw (A), if lowered more than 18mm.
Loosen screw (A), if less than 18 mm.(One screw turns equals a height variation of 2 mm.).
Adjust screw (B) to a distance of 12 mm from screw (A).



Closure for horizontal adjustment

Release cushion (see page 3.1.0).
Take height adjustment to highest point.
Remove the 2 retainer washers (1) .



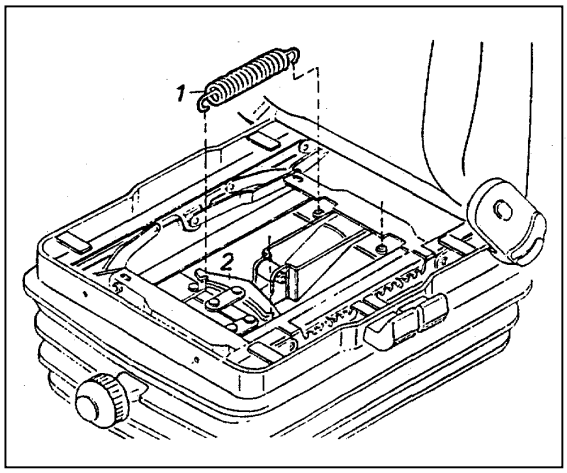
Vertical closure /Knob

Vertical closure

Release cushion (see page 3.1.0) and slightly loosen.
Loosen two nuts (1) and remove closure (2).

Knob

Release cushion (see page 3.1.0) and slightly loosen.
Use a pointer to take bolt (3) from grip (4) (This can be reached opening knob support).



Tension spring

Release cushion (see page 3.1.0) and slightly loosen.
Ensure suspension units against drops
Adjust knob to lowest weight.
Release one of the support springs (1) (2) using the appropriate lever.
Unhook the second spring.

4.- TABLE OF REPAIR TIMES

TASK DESCRIPTION		Item repair time
Nº	**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 adjustment roller	18
8	Change element O (selective valve)	24
9	Change control disc	24
10	Change Bowden cable	30
11	Change reclining control	18
12	Change height regulation control	18
13	Change backrest control	6
14	Change control	6
15	Change cushion elevation adjustment anchoring	12
16	Change lumbar support	60
17	Change Cousin slide	24
18	Adjust slides	12
19	Change side trim	12
20	Change front trim	12
21	Change bellows	54
22	Change frame	30
23	Change cushion cover	36
24	Change backrest cover	48
25	Change cushion	6
26	Change backrest	18
27	Change cushion heating element	24
28	Change backrest heating element	24
29	Change heating control	18
30	Change three-point belt	30
31	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.