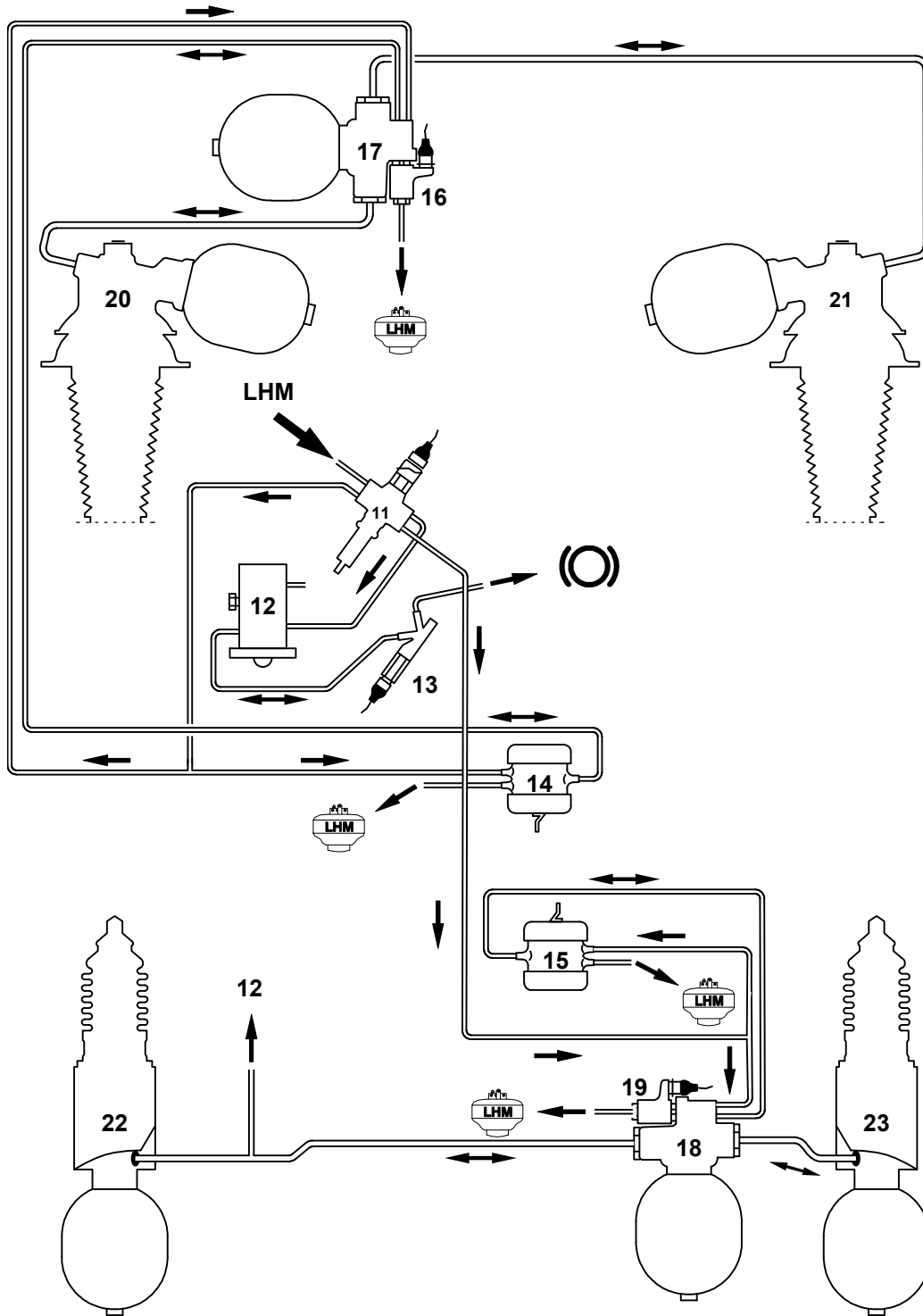


hydraulic specification : hydractive suspension

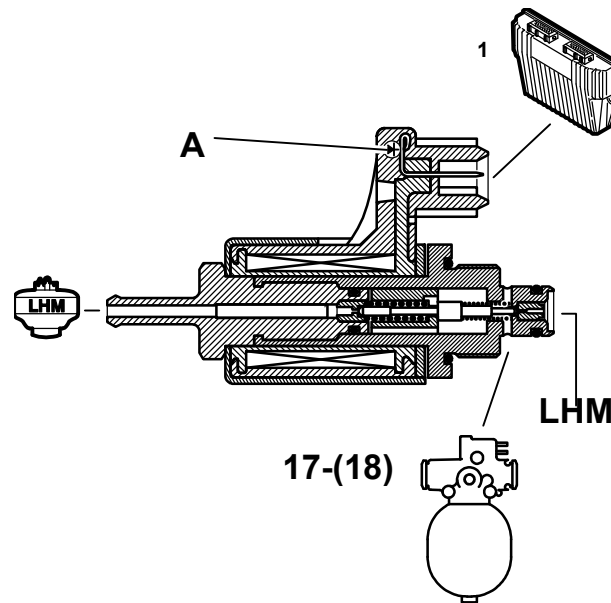


- Fig. : 1 -

1 Suspension electrovalves

Marked : (16) - (19).

Supplier : EATON.



- Fig. : 2 -

ECU (1) manages electrically and simultaneously electrovalves (16) and (19).

The electrovalves supply suspension regulators (17) and (18) with LHM fluid.

Currently closed at rest, the electrovalve includes a diode (A) with inverted poles, intended to limitate the overvoltages caused by the supply cut off.

Electrovalve energised :

- the ECU controls the operation of the electrovalve
- the suspension regulator is at the supply pressure

Electrovalve at rest :

- the ECU does not control the operation of the electrovalve
- the suspension regulator is linked with the hydraulic fluid reservoir

Supply voltage 2,6 volt.

Coil resistance value : 4 ohms.

Electrovalves (16) and (19) are identical.

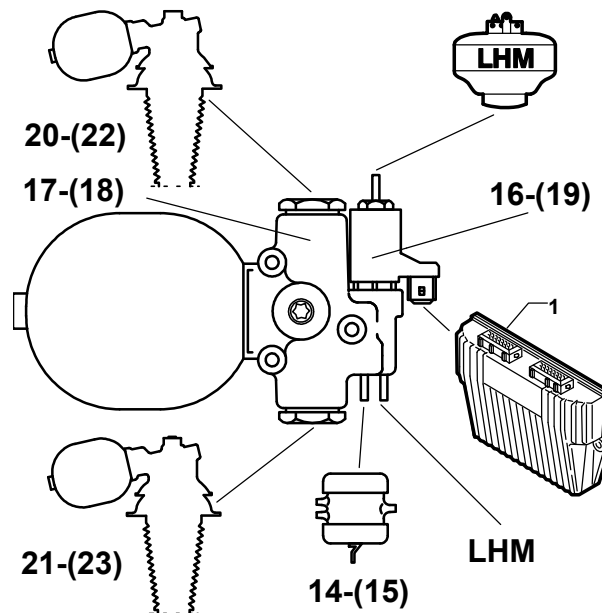
2 Suspension regulators

Suspension regulators (17) and (18) modify the state of the suspension according to :

- regulation electrovalves (16) and (19) which impose the "firm" or "soft" suspension mode
- height correctors (14) and (15) which adjust the body height in relation to the ground
- the regulator valves

In the "firm" state, each valve enables :

- the vehicle roll to be avoided
- the height corrections to be carried out



- Fig. : 3 -

The two front and rear "regulator+electrovalve" assemblies are identical . The pneumatic units are different.

3 Pneumatic unit

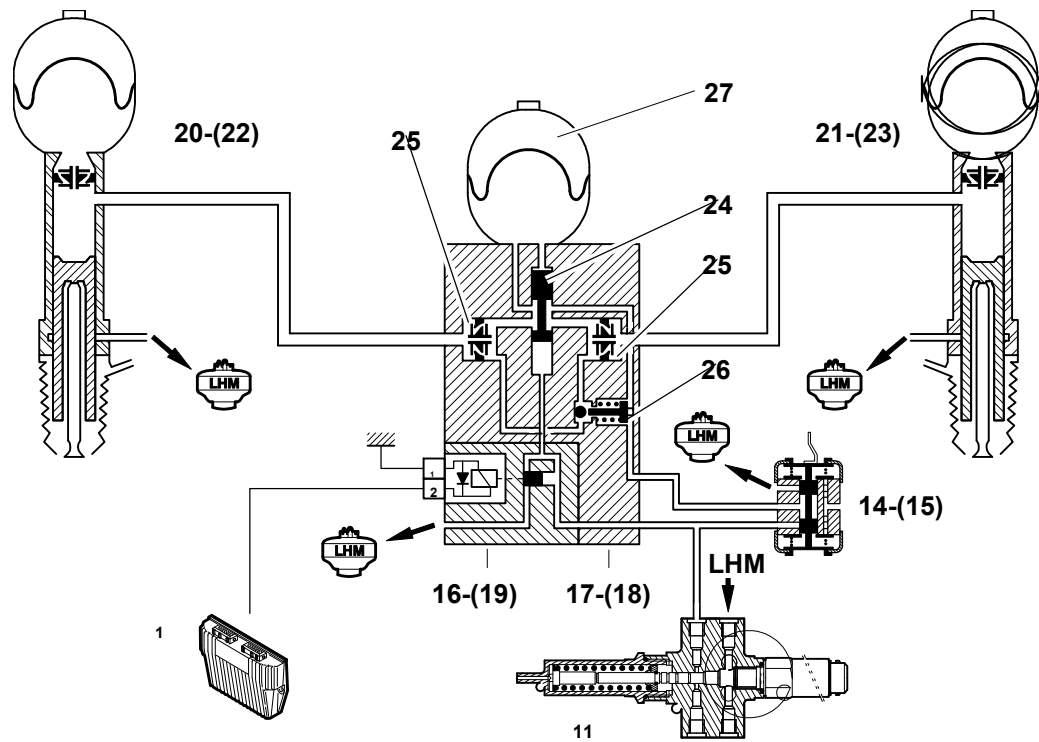
The hydractive suspension comprises 6 spheres, :

- one pneumatic unit per suspension component
- one pneumatic unit per suspension regulator

Two dampers are incorporated in each regulator.

Pneumatic unit.	Volume (cc).	Pressure (bars).	Damper centre hole Ø (in mm).
Front suspension strut.	400.	50 (+ 5 ; - 20).	0,6.
Rear suspension unit.	400.	30 (+ 5 ; - 10).	0,5.
Front suspension regulator.	500.	70 (+ 5 ; - 25).	1,1.
Rear suspension regulator.	400.	50 (+ 5 ; - 20).	1,1.

4 "soft" mode



- Fig. : 4 -

The electrovalve is electrically supplied by the ECU.

The supply pressure enters the regulator and pushes slide valve (24) upwards, connecting :

- the 2 suspension units
- additional sphere (27)
- the height corrector

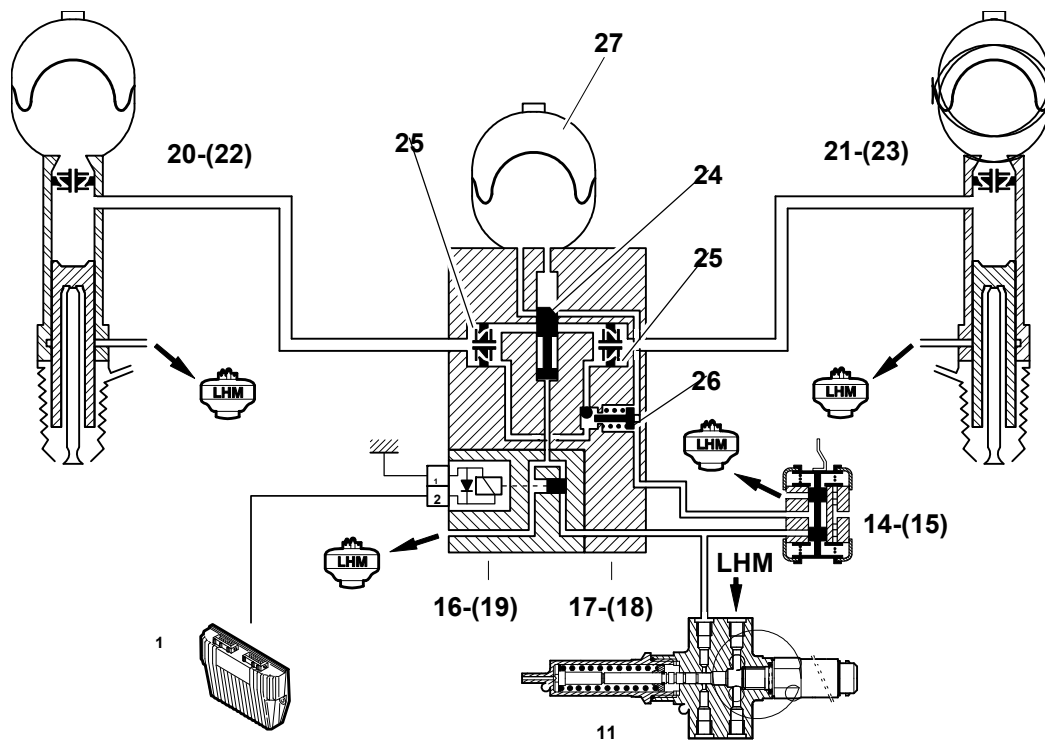
N.B. : During a height correction, the LHM fluid flows directly through dampers (25) to feed the suspension units.

Observations :

- in the "soft" state, valve (26) has no function
- the operating principle is the same for the front and rear circuits

The electrovalve is supplied.	
The suspension switches to the "soft" mode.	
"soft" suspension.	Connection with additional sphere.
"soft" damping.	The fluid circulates in the two dampers (25).
"soft" anti-roll.	The 2 suspension units are linked.

5 "firm" mode



- Fig. : 5 -

The electrovalve is not electrically supplied by the ECU.

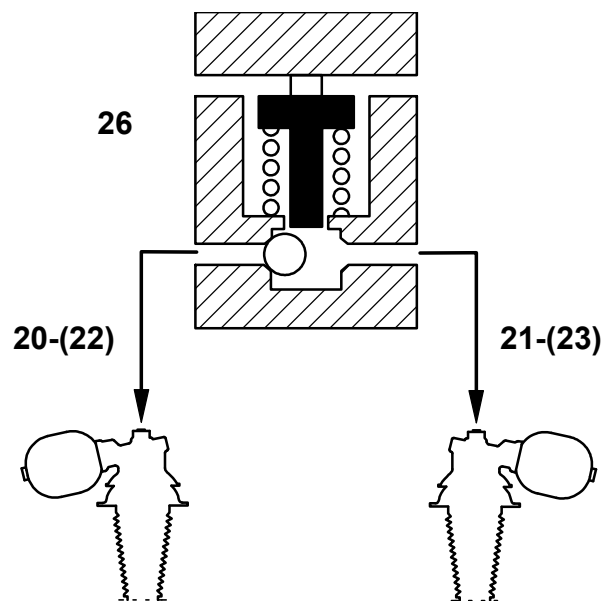
The pressure from additional sphere (27) pushes slide valve (24) downwards . The two, L.H. and R.H., suspension units are isolated from the supply and additional sphere.

Connection between the two suspension units is allowed, via valve (26), during a height regulation, only.

The electrovalve is not supplied.	
The suspension switches to the "firm" state.	
"firm" suspension.	Additional sphere (27) isolated.
"firm" damping.	Isolation of dampers (25).
"firm" anti-roll.	No connection between the suspension units.

5.1 Anti-roll function

In the "firm" mode, valve (26) enables the vehicle roll to be avoided.



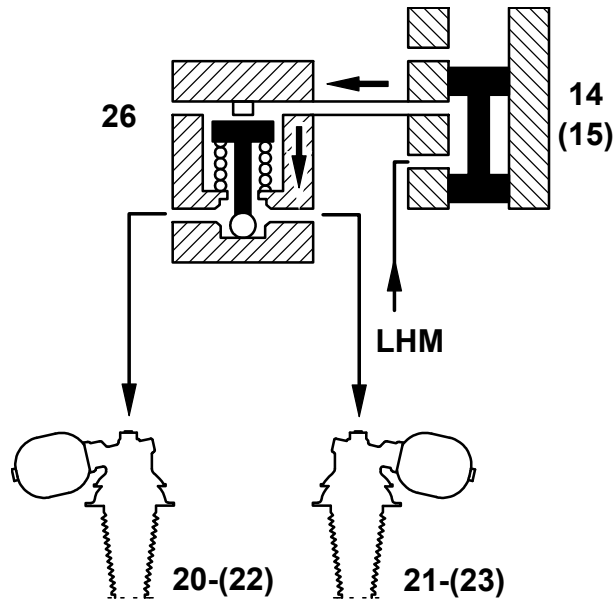
- Fig. : 6 -

It prevents the transfer of the LHM fluid between the 2 suspension units.

When the vehicle is rolling, the fluid tends to pass from a suspension unit to the other ; this causes the ball to move and block the passage; the suspension units are no longer interconnected.

5.2 Height correction function

In the "firm" state, valve (26) enables the height of the vehicle to be corrected . It allows the transfer of the LHM fluid from the height corrector to the suspension units.



- Fig. : 7 -

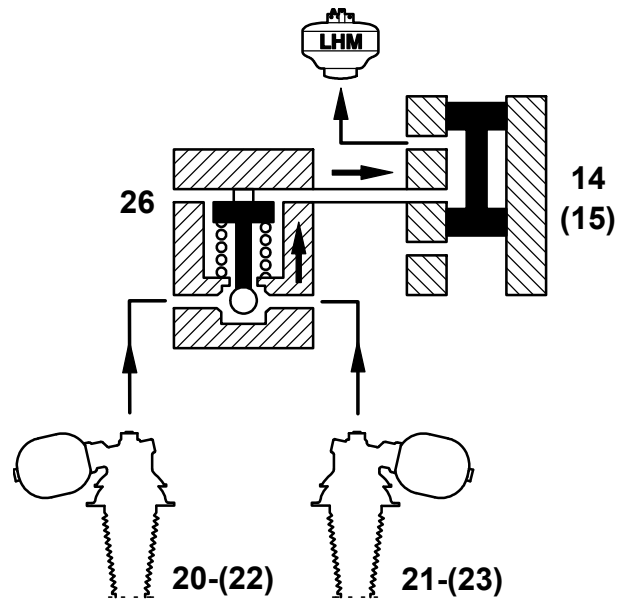
5.2.1 "fluid admitted" correction

The height corrector is in the "fluid admitted" position.

The supply pressure from the height corrector pushes the ball to the bottom of the valve.

The suspension units are supplied by the corrector.

5.2.2 "fluid expelled" correction



- Fig. : 8 -

The height corrector is in the "fluid expelled" position.

The ball is released in the valve housing.

The suspension units are linked with the hydraulic fluid reservoir.