



Fault diagnosis

Hydraulic braking and levelling systems

Operation 1

Check the reservoir mineral oil level, after ensuring that the car is unladen.

Mineral oil level low.

Top-up the reservoirs to the correct level and bleed the hydraulic systems.

Check the hydraulic pipes and units for leakage.

Rectify any leakage as necessary and bleed the hydraulic systems.

Check the brake pads for wear.

Replace worn or defective brake pads.

Operation 2

Depressurize the system as described in Section G3.
Fit pressure gauge RH9727 GMF into each service point within the relevant system.
Start the engine and allow it to idle at approximately 1000 rev/min.
Carefully observe the pressure gauge.

The correct behaviour of the gauge is as follows.
The gauge needle should immediately rise to between 31 bar and 62 bar (450 lbf/in² and 900 lbf/in²) indicating a satisfactory nitrogen gas pressure in the accumulator sphere. The pressure should then slowly rise to between 165 bar and 180 bar (2393 lbf/in² and 2610 lbf/in²). At this pressure the accumulator cut-out valve should actuate and the pump cease to charge the accumulator.
After the cut-out pressure has been reached note the pressure to which the gauge settles. This settling takes up to one minute and the pressure should not be more than 10 bar (150 lbf/in²) below the cut-out pressure. The pressure should then remain steady unless the brake pedal is applied or the levelling system actuated. Fit a bleed tube onto the bleed screw of the gauge connecting pipe. Open the bleed screw and allow the pressure gauge reading to fall. When the pressure has fallen to between 140 bar and 155 bar (2030 lbf/in² and 2248 lbf/in²) the accumulator control valve should allow the hydraulic pump to recharge the accumulator. This indicates the correct build up and cut-out of the accumulator and that the system is functioning correctly.

If on first starting the engine, the pressure gauge needle fluctuates violently, rapidly climbs to 172 bar (2500 lbf/in²) and then immediately falls to zero on application of the brake pedal, a complete loss of nitrogen gas pressure from the accumulator sphere is indicated.
In the event of the nitrogen gas pressure of the accumulator being less than 31 bar (450 lbf/in²) the accumulator sphere must be renewed.

Renew the accumulator sphere (see Section G9). Carry out Operation 2 to check operation of accumulator.

If the pressure continues to fall after the accumulator has reached the cut-out pressure of between 165 bar and 180 bar (2393 lbf/in² and 2610 lbf/in²) and then settles, an internal leak is indicated.
If observation of the gauge shows that the pump is still pumping (needle fluctuating with the pump pulses) without giving a rise in pressure, then there is a leak equal to the pump flow at that pressure. Pump 'cut-out' indicated by the change of audible note of the pump can be heard, if the end of the engine dipstick is placed on top of the pump and used as a hearing aid.

Carry out Operation 3.
To verify an accumulator internal leak, or pump malfunction.

The warning lamp(s) remain on.
The hydraulic pressure has built up normally, indicating a fault in the warning lamp circuit.

Check the warning lamp circuit and rectify as necessary (refer to the Electrical Manual TSD 4701, Section 20).