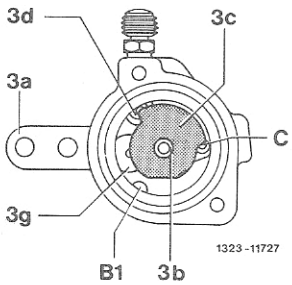
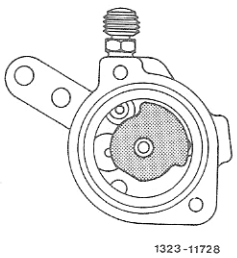
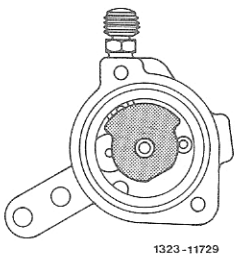
Functional positions of level controller (version starting 9/85)



Neutral
Vehicle in level position; lever in center position



Filling
Vehicle rear end lowered after loading; lever above center position



Return flow
Vehicle rear end raised after unloading; lever below center position

3a Lever
3b Control shaft
3c Control disk
3d Return flow valve
3g Pressure relief valve

B1 Pressure duct from pressure oil pump
C Return flow valve to fluid reservoir

„Neutral" position

Oil entering via feed duct (B1) is returned without pressure to fluid reservoir via return flow duct and return flow line (C). Return flow valve (3d) remains closed.

„Filling" position

Control disk (3c) has closed return flow duct (C). Under influence of respective pressure, the oil is guided to the suspension elements via pressureless ball check valve (3f) and duct (B2). Raising of vehicle rear end into level position will once again attain „neutral". The system is protected against overload by the pressure relief valve (3g) which opens when the max. permissible pressure is attained.

„Return flow" position

Control disk has opened return flow valve (3d). This will lower the pressure prevailing in suspension elements. The oil flows through the opened return flow valve and via the fully opened return flow duct (C) back to fluid reservoir together with the oil delivered by pump. When the level position of the vehicle has once again been attained, the control disk will close return flow valve (3d). Provision of the basic pressure required for function of spring struts as shock absorbers is attained independent of position of controller by the outer compression spring of the return flow valve (3d) pushing the return flow valve out of range of control disk when pressure in suspension element drops below a given value, so that the pressure cannot drop any further.