

Flush and bleed the hydraulic steering system.

After working on the hydraulic steering system, the steering system must be flushed and bled.

Here are a few tips:

Cleanliness

Ensure utmost cleanliness, paying particular attention to the line connection areas. Soiling can be removed using TRW brake cleaner and a lint-free cloth. Steering systems are manufactured with tolerances of a few thousandths of a millimetre. The smallest particles of dirt can cause leaks and ultimately cause failure!

Self-protection and safety

Always wear the appropriate safety clothing and equipment. When replacing lines and hoses, make sure that they are laid properly and that the connections do not leak. Before removing the steering gear, move the steering wheel into the middle position and secure it there. All seals must always be replaced for safety reasons.

Flushing the system

Before the pump > steering gear pressure line (1) and the steering gear > tank return line (2) is connected to the steering gear, always fill the storage tank with fresh hydraulic fluid and allow it to run through the return line (2) into a drip pan. Afterwards seal the return line at the steering gear connection.

Never re-use old hydraulic fluid! Take suitable measures to prevent the motor from starting up. Caution! The vehicle manufacturer's repair instructions must be strictly observed! Allow the motor to run at starter motor speed and keep an eye on the filling level in the storage tank. If necessary, immediately top up the hydraulic fluid. Once the pressure side has also been flushed, remove the seal on the return line and fasten the lines to the steering gear again with new seals.

Bleeding the system

Fill the storage tank with hydraulic fluid up to the „MAX“ mark. Start the vehicle and run it at idle speed. In the process, make sure the filling level in the tank is correct. Directly after starting up, it may drop very quickly. After a few minutes the hydraulic system will have reached its operating temperature of >60 °C. Raise the vehicle so that the wheels do not touch the ground.

Now, at idling speed, slowly turn the steering 10-15 times from left to right without reaching the steering limit. Make sure that there is always sufficient hydraulic fluid in the pump's storage tank. If the fluid has a light brown or light red colour (illustration) and appears foamy or clouded, there is still air in the system.

In this case, wait at least 15 minutes with the vehicle motor shut off before you repeat the bleeding process.

Then fill the storage tank with hydraulic fluid up to the „MAX“ mark. A system which has not been properly bled can either emit a brief squeak or drone or a continuous dragging sound. In certain cases the steering wheel may „vibrate“. If there is still air in the system, check the line between the pump and the storage tank and/or the pump itself. After bleeding, clean the areas around the hose and line connections. After the test run, check that the filling level in the storage tank is correct and check the entire system for leaks.

Do not forget to align the axles.

