Technical Messenger

Workshop Information

MAHLE

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Issue no. 08/2017: Bleeding the fuel system following a filter change

If the fuel filter in a vehicle is changed, several important points must be taken into account. One of the most common defect sources is residual air in the fuel injection system. If this air becomes unclean or is not bled at all, it can quickly lead to serious damage.

Modern diesel engines are particularly sensitive because injectors and high-pressure pumps run dry within a very short time without the lubricating diesel fuel.

Most engines can be bled by **activating the fuel pump**, e.g. by switching the ignition on and off several times, using a diagnostic device, or by directly energising the fuel pump.

Another established method is **manual bleeding**. A hand pump is already integrated in the fuel system of some vehicles. In others, the air must be manually sucked out of the system using a vacuum pump.

In general, new filters should be filled with clean fuel before assembly to prevent dry running—this also reduces the subsequent bleeding requirement.

To prevent undesired air intake, care should also be taken when dewatering the diesel fuel filter (e.g. KL 154). After loosening the drain screw and sucking the water away, the screw must be retightened with the correct torque. If it is tightened too much, the sealing ring may become deformed, leading to fuel leaking out and air getting into the system.

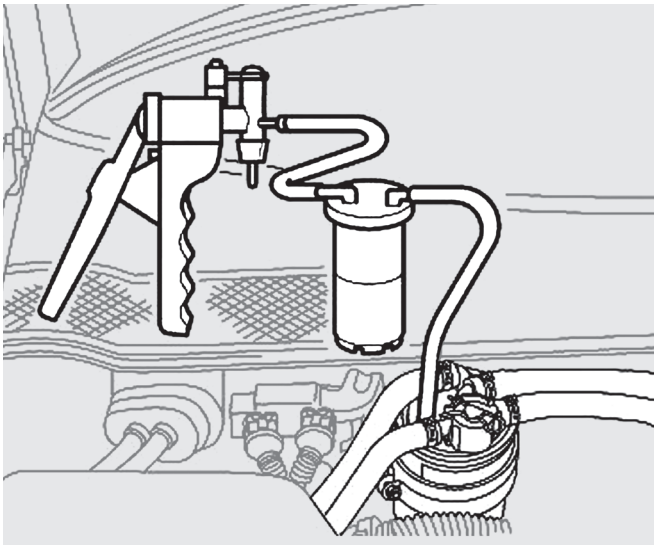

Figure 1: Bleeding using a commercial vacuum pump.

Figure 2: Sealing of the drain screw on the diesel fuel filter KL 154.

Figure 3: Pinching off the lines prevents air from penetrating into the fuel system.

Important: Fuel lines must be disconnected using an appropriate tool before opening the system! To prevent overload damage to the starter motor, it is strongly recommended that the engine is not bled by starting it!

›› Also see Issue no. 02/2017 – Starter motor failure due to overload