30 01 01 Checking clutch booster circuit

Caution
1. Checking accumulator
2. Checking valve (pressure−regulating valve)

CAUTION

Danger of material damage if the wrong fluid is used for the clutch hydraulic system!
Danger of damage to property if too much Pentosin CHF 11 S is filled or if Pentosin comes into contact with the coolant hoses when topping up or filling in!

- Fill Pentosin CHF 11 S only into the supply tanks!
- To prevent overfilling and, therefore, overflowing, check the specifications in the clutch, fluid levels description and observe them without fail!
- Multiple steering operations (manoeuvring) and/or actuating the clutch with the engine switched off change the fluid level in the engine−compartment reservoir! Fluid level rises. In this case, the engine must be run for approx. 20 seconds immediately prior to the fluid level check!
- If coolant hoses come into contact with Pentosin, thoroughly clean them with water IMMEDIATELY!
- Replace visibly swollen coolant hoses!

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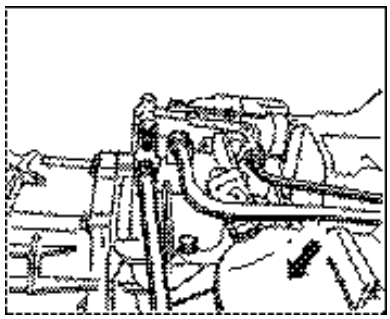
1. Checking accumulator

1. Cold start engine (accumulator temperature approx. 20°C) and let run for approx. 20 seconds (accumulator is full).
2. With the engine switched off, depress the clutch pedal repeatedly until an abrupt rise in pedal resistance against your foot can be felt (accumulator is empty). While doing this, count the number of depressions carried out up to the point of the rise in pedal pressure!



3. If the number of times the pedal was depressed is over 35, the accumulator is **−arrow−** faulty and must be replaced! => Removing and installing the accumulator

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2. Checking valve (pressure−regulating valve)

Note

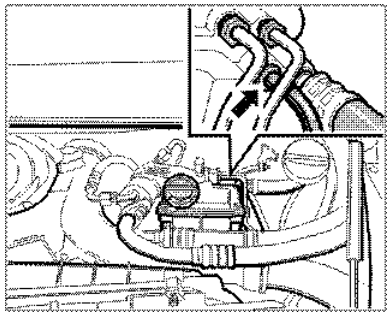
- Checking the valve in the clutch save cylinder (2.1) is a direct measurement, while the valve in the upper part of expansion tank cannot be directly tested (2.2)!
- If there is no hydraulic clutch boost after a hold time of 24 hours, at least one of the two valves is definately damaged!
- Prior to the following check, ensure that the system is visually leak tight (externally)!

2.1 Checking the valve (pressure−regulating valve) in the clutch save cylinder

1. Warm engine up to operating temperature (approx. 80°C).

Note

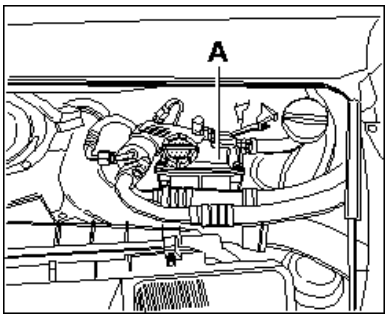
- Take care when handling Pentosin! Wear protective glasses, gloves and protective clothing!
- If coolant hoses come into contact with Pentosin, thoroughly clean them with water IMMEDIATELY!



2. With the engine switched off and the accumulator filled (before switching off the engine, the engine must have been run for approx. 20 seconds without depressing the clutch pedal), remove the plastic return line **−arrow−** from the expansion tank. To this purpose, push the red thrust ring in an axial direction, without tilting, towards the tank and remove the line.
3. Collect the fluid which runs out in suitable measuring equipment (suitable container) and determine the volume of fluid collected!
4. If more than 4 cm^3 is collected after a measurement period of one hour, the valve in the clutch save cylinder is faulty and and the save cylinder must be replaced. Removing and installing clutch slave cylinder => Removing and installing clutch slave cylinder.

2.2 Checking the valve (pressure−regulating valve) in the upper part of the expansion tank

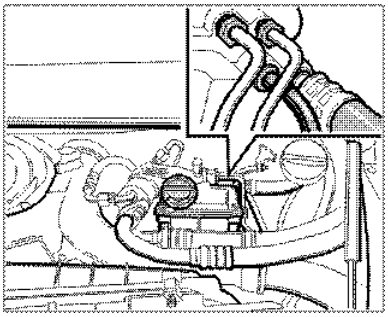
This valve can only be checked indirectly.
A fault exists if the hydraulic clutch boost function does not last for an entire 24 hours, but where the valve in the clutch save cylinder is functioning correctly (Test 2.1).



If the valve in the clutch save cylinder is functioning correctly according to the test in 2.1, the upper part of the tank **−A−** must be replaced.

Note

- Before removing the upper part of the tank, slowly remove the Pentosin through the filler neck by suction! When replacing the part, ensure thorough cleanliness!



- Loosen all lines on the upper part of the tank. Collect Pentosin which runs out of these!
- Replace upper part of tank, reconnect the lines and fill with Pentosin!
- Bleed clutch high−pressure hydraulic system. To this purpose, depress the clutch pedal approx. 10 times!

996420, 996421, 996450, 996451, 996620, 996621, 996650, 996651

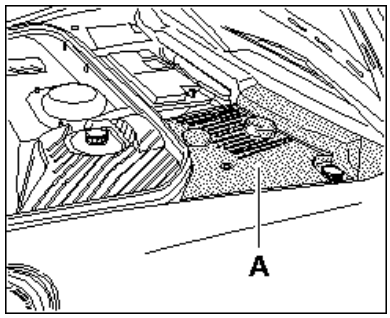
30 01 07 Bleeding clutch operation

Disposal of Pentosin

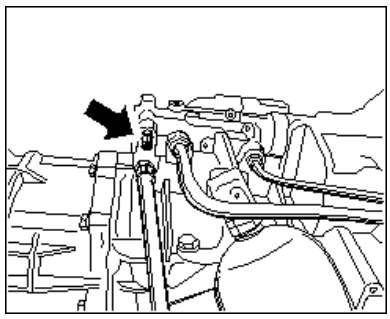
The actuating hydraulic system is bled via pumps on the pedal.

Note

- On right−hand drive vehicles, the supply tank is located in the area of the brake fluid reservoir/control module for automatic headlight beam adjustment (ALWR)!



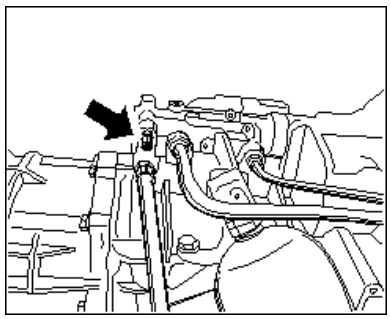
1. Fill supply tank.



2. Open bleeder valve on the servo unit **−(arrow)−** .

Note

- Make sure that the reservoir is not sucked dry. Top up during the procedure if necessary!



3. Pump with the clutch pedal until Pentosin emerges without air bubbles at the bleeder valve of the servo unit (use collecting bottle).

Note