

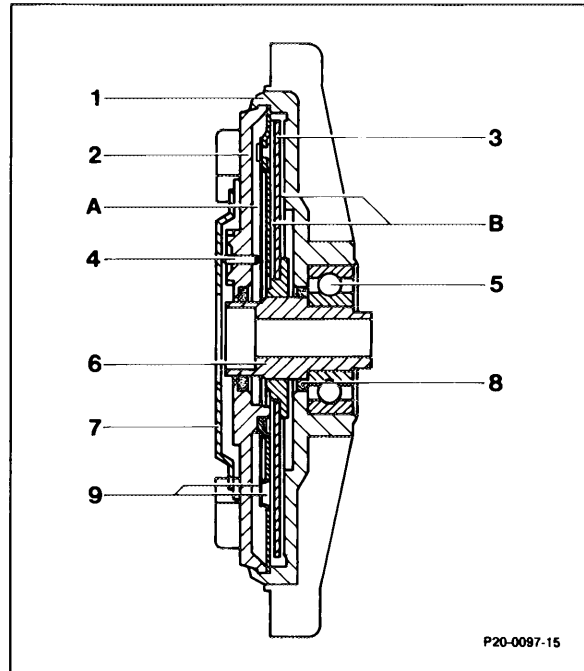
20-310 Temperature-controlled viscous fan coupling

Function

The viscous fan coupling is a maintenance-free hydraulic coupling which operates proportionately to temperature.

When the engine is started (cold start), the fan initially runs at a higher speed until the oil has flowed back from the working chamber (B) into the storage chamber (A). Following this, the fan coupling shuts off. Fan speed in the off state depends on engine speed. Fan speed, in any case, does not exceed 1000 rpm.

This state is maintained until the engine has reached the fan activating temperature.

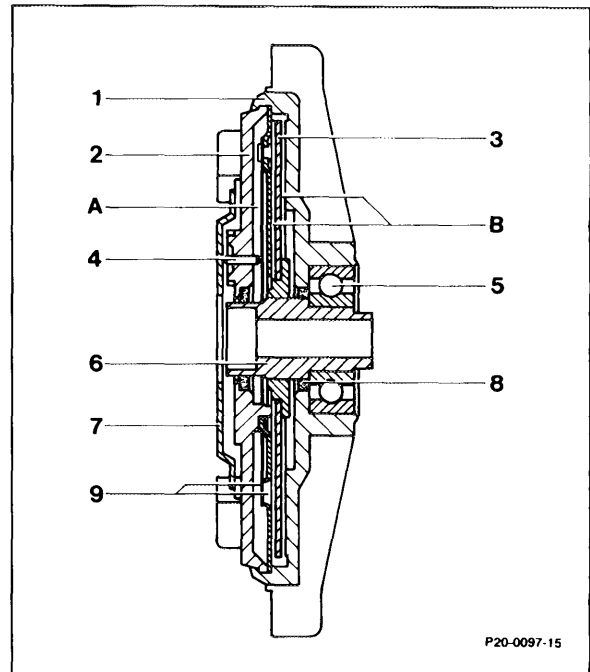


- 1 Coupling body (secondary part)
- 2 Cover
- 3 Driving plate (primary part)
- 4 Switch pin
- 5 Ball bearing
- 6 Bearing bush
- 7 Bimetal strip
- 8 Seal
- 9 Valve
- A Storage chamber
- B Working chamber

If the coolant temperature rises due to higher engine loads or high outside temperatures, the air which flows through the radiator and contacts the bimetal strip (7), becomes warmer. The bimetal strip (7) alters its shape as it heats up and opens a valve (9) at approx. 71 °C by means of a pin (4) and thus also the passage for the oil from the storage chamber (A) into the working chamber (B), which causes the fan to activate.

The coolant temperature during this switching operation remains between approx. 90 and 95 °C.

When the coupling is engaged, fan speed increases proportionally with increasing engine speed in the lower rpm range, without exceeding 3300 rpm in the upper range.



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Checking activation temperature

Run engine at 4000 – 5000 rpm. Once a coolant temperature of approx. 90 – 95 °C has been reached, the speed of the viscous fan coupling must increase, which can be clearly heard.

Repair

It is not possible to repair a defective coupling; it must be replaced.

Transportation and storage

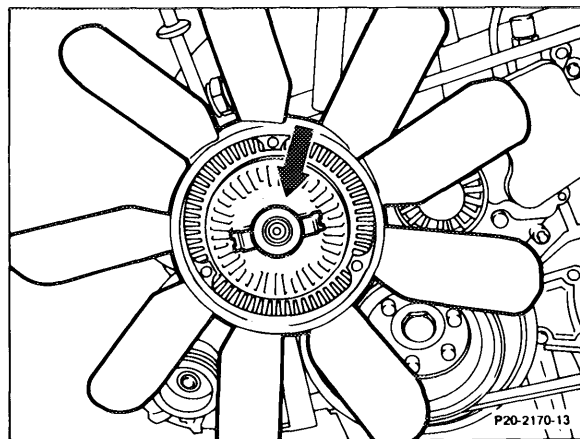
Temperature-controlled viscous fan couplings must be transported upright. For brief periods – e. g. for installation purposes, the coupling may be placed on the flange side, but never on the front side.

Caution!

The bimetal strip must not be bent or damaged.

Distinguishing features

Engine 602.911 bimetal spring; color silver grey.
Imprinted Part No. 603 200 00 22 (arrow).



The viscous fan couplings of engine 602.96 and 603.96 have been strengthened to compensate for an enlarged fan.

Bimetal spring; color metal-colored.

Red imprinted Part No. 603 200 04 22.

