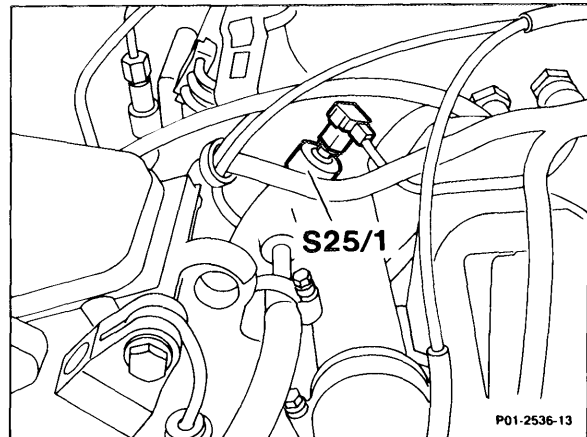


## 20-330 Magnetic fan coupling

The magnetic fan coupling is activated by a 100 °C temperature switch (S25/1) mounted at the outlet connection.

The electromagnetic fan coupling is maintenance-free.

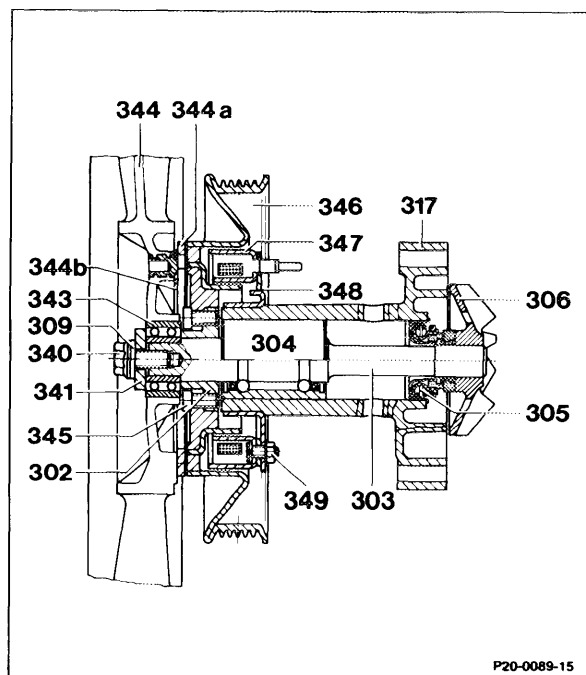


### Design of the electromagnetic fan coupling

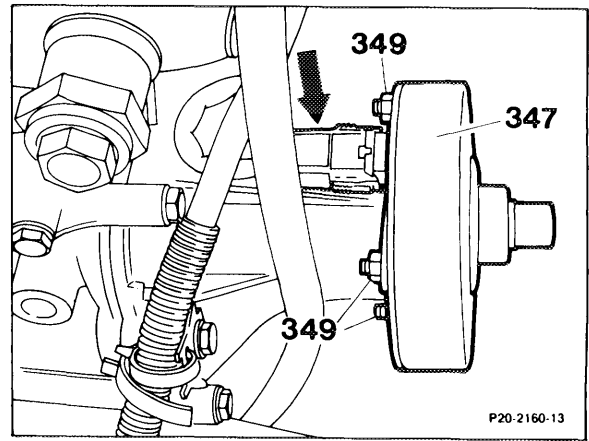
The magnet body (347) is attached to the magnet carrier (348) with 3 nuts (349).

The magnet carrier is bonded to the coolant pump housing and does not need to be removed.

- 302 Flange
- 303 Shaft
- 304 Bearing
- 305 Cassette seal
- 306 Impeller
- 309 Tensioning plate
- 317 Coolant pump housing
- 340 Collar bolt
- 341 Washer
- 343 Bearing
- 344 Fan
- 344a Armature
- 344b Leaf spring
- 345 Hexagon socket screw M 6 × 12
- 346 Belt pulley
- 347 Magnet body
- 348 Magnet carrier
- 349 Hexagon nut

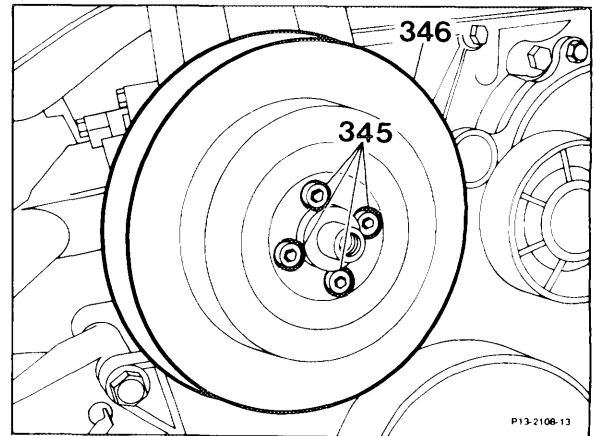


The electric cable is connected to the magnet body (347) via a coupling (arrow).



The belt pulley (346) is mounted to the coolant pump shaft in front of the magnet body.

The belt pulley (346) is bolted to the flange of the coolant pump with 4 hexagon socket bolts (345) or torx bolts.



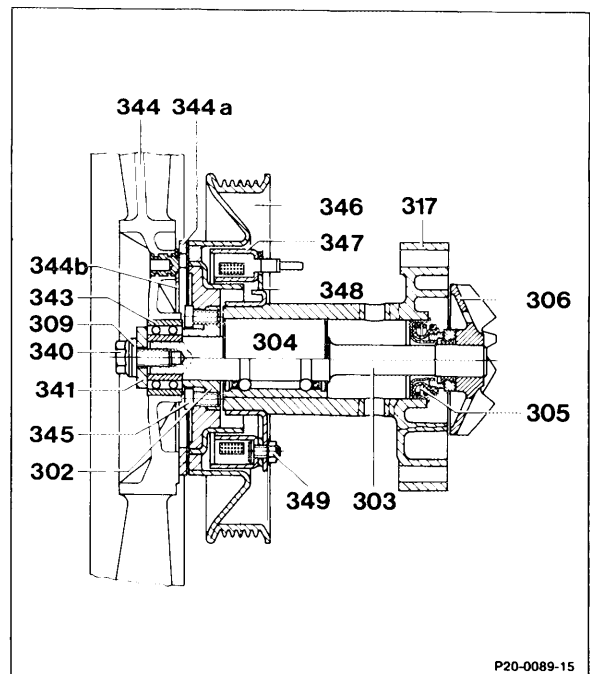
### Function

The fan is activated only if the ignition is turned on and the coolant is at a temperature above 98 – 102 °C.

Voltage is applied constantly to the magnet body (347) through fuse No. 10 terminal 15 (1st version).

Below a coolant temperature of 98 – 102 °C the fan is switched off and only rotates as a result of air flow over the fan when the vehicle is moving.

A negative voltage is applied by the temperature switch in the outlet connection at no less than a coolant temperature of 102 °C.



The armature (344a) is attracted by the magnet body (347) and presses against the face of the belt pulley (346).

The fan becomes rigidly attached to the belt pulley and rotates at coolant pump speed.

If the coolant temperature drops below 93 – 98 °C, the temperature switch opens and the armature is lifted off the belt pulley (346) by leaf springs (344b).

On vehicles with air conditioning, the fan and electric auxiliary fan are activated through a double contact relay which is activated by the 52 °C temperature switch at the fluid reservoir.

If the air conditioning is off, the 100 °C temperature switch at the outlet connection alone engages or disengages the fan.

The armature (344a) and the ball bearing (343) are fitted to or to the inside of the fan.

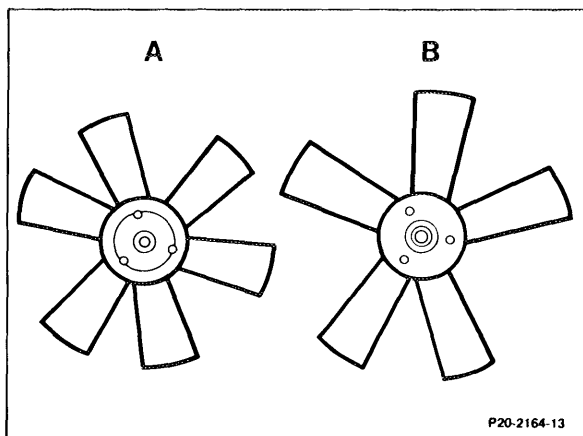
The ball bearing is sealed on both sides with cover plates.

## Fan

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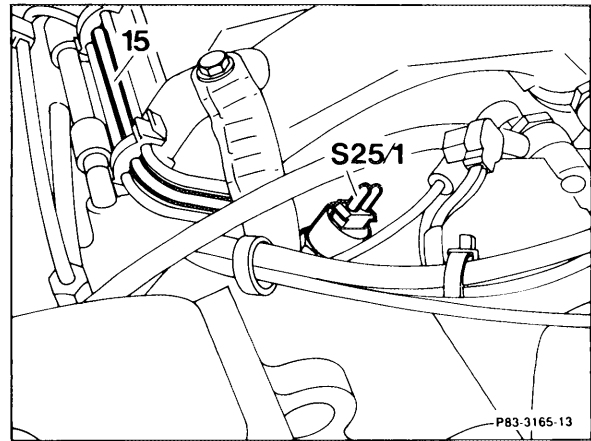
The fan (A) has 6 blades and a diameter of 380 mm.

On vehicles with air conditioning, the fan (B) has 5 blades and a diameter of 430 mm.



**Modification to electromagnetic coupling  
Model 201**

Effective 10 84 a modified electrical center has been installed. As a result, the electromagnetic coupling is operated by a positive voltage through a 2-pin temperature switch (S25/1) (previously negative voltage).



On vehicles with air conditioning positive is connected through a relay also after the pressure switch (14) closes.

