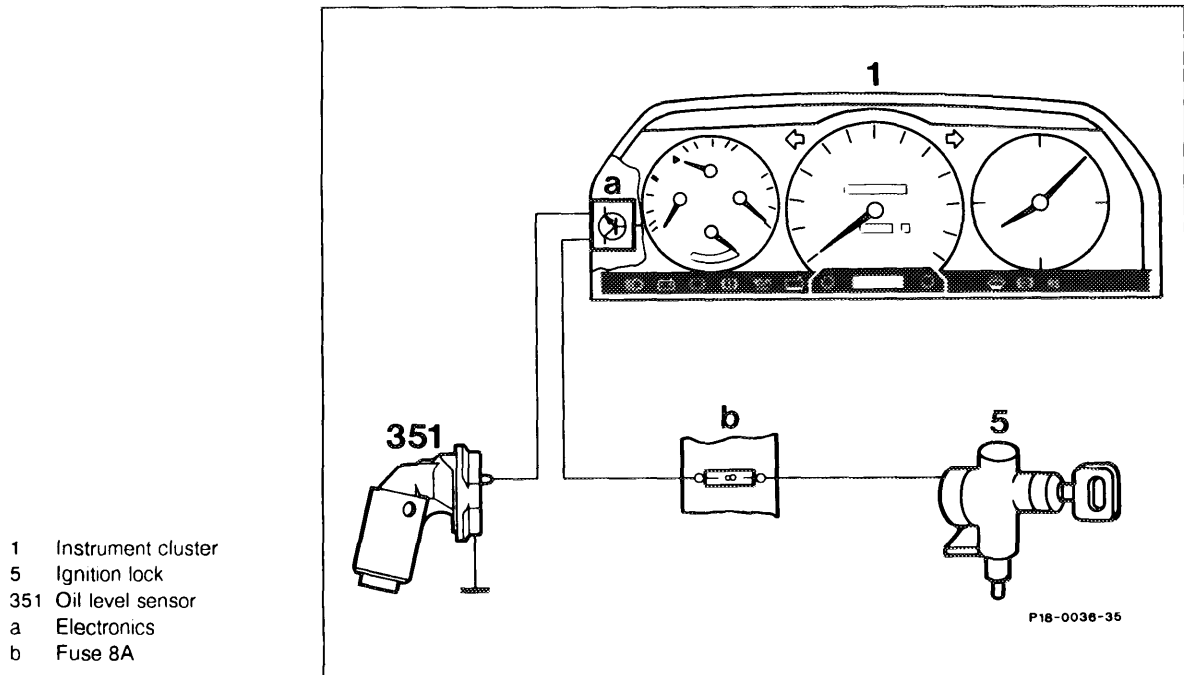


## 18-225 Function of oil level indicator

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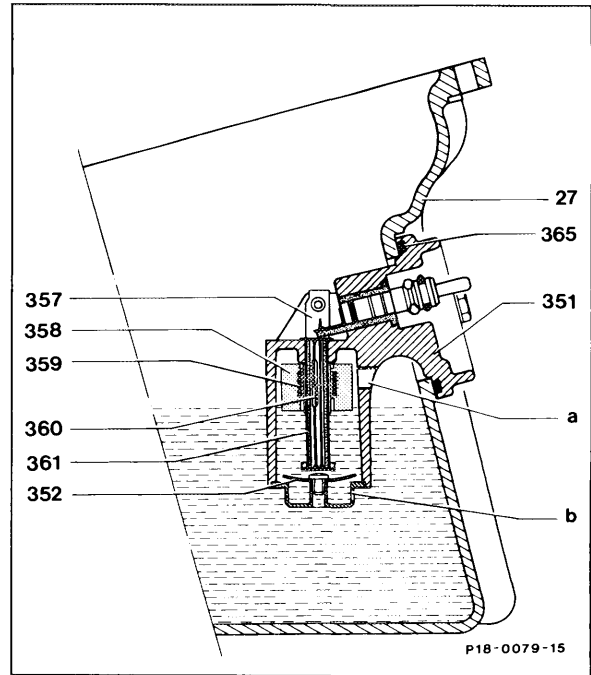
### General

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The electrical oil level indicator monitors the engine oil level in the sump when the engine is running and engine oil temperature is above + 60 °C. When the ignition is switched on, the indicator lamp lights up with a weak light (check function) and goes out as soon as the engine is started.

## Oil level sensor

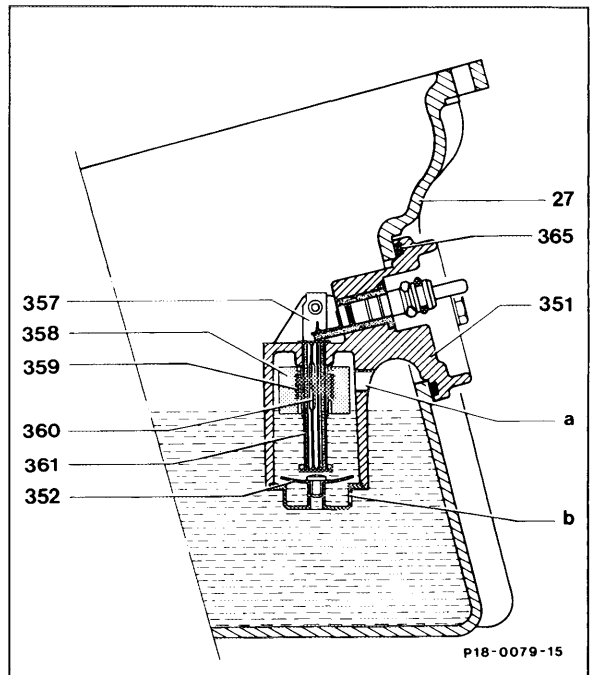
The engine oil level in the oil level sensor (351) is equalized to the oil level in the sump (27) through an outlet bore (b). The float (358) with permanent magnet (359) senses the actual engine oil level. The electronics in the instrument cluster sends a permanent signal to the oil level sensor. If the engine oil level is in the "Min" range of the dipstick, the Reed contact (360) of the float (358) is opened and the permanent signal to the oil level sensor interrupted. The indicator lamp lights up with a bright light (fault signal). The Reed contact (360) is interrupted shortly before the oil level has reached the "Min" marking on the dipstick. If the cable from the oil level sensor to the instrument cluster is interrupted, the permanent signal to the oil level sensor is also interrupted and the indicator lamp shows a bright light (fault signal).



- 352 Bimetal snap plate
- 365 O-ring
- b Outlet bore 4 mm Ø

## Avoiding incorrect readings

As the engine oil is viscous below a temperature of + 60 °C and only flows back to the sump slowly, this could result in incorrect signals of the indicator lamp. In this case, the bimetal snap plate (352) closes the outlet bore (b) and the float (358) only registers the oil level in the oil level sensor (351). This eliminates the possibility of an incorrect signal at low engine oil temperatures. Once the oil temperature climbs above + 60 °C, the bimetal snap plate opens and clears the outlet bore (b). Consequently, the float (358) senses the actual engine oil level in the sump (27). The bimetal snap plate closes at an engine oil temperature of approx. + 30 °C.



- 359 Permanent magnet
- 365 O-ring

If the engine oil is drained during an oil change, the oil also flows out of the oil level sensor. Because the fresh engine oil added is colder than + 60 °C, the bimetal snap plate closes the outlet bore (b) i.e. there is no engine oil in the oil level sensor and the indicator lamp would signal insufficient engine oil although the engine oil level is sufficient. In order to avoid this, the oil level sensor is filled through the vent bore (a). When driving through sharp corners, the engine oil is pushed against the outer walls of the oil pan. Particularly when negotiating left turns, the engine oil level around the oil level sensor drops and the sensor runs dry. The float (358) briefly interrupts the Reed contact (360) and the indicator lamp would show a bright light. The electronics in the instrument cluster prevent the indicator lamp from lighting up until after the Reed contact (360) has been interrupted for 60 s. This avoids any incorrect signal when negotiating sharp corners.