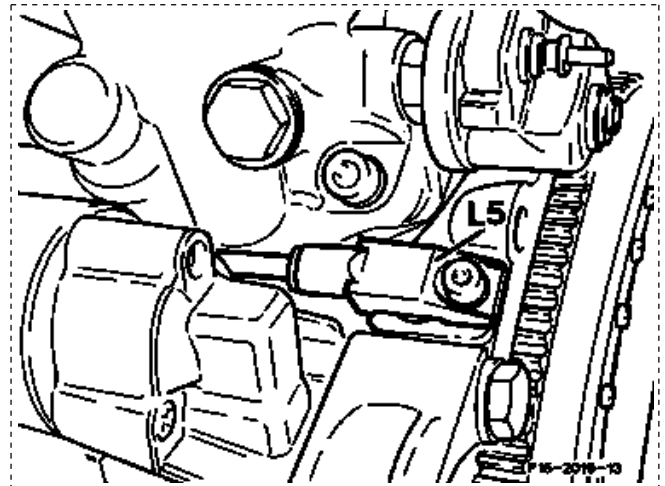
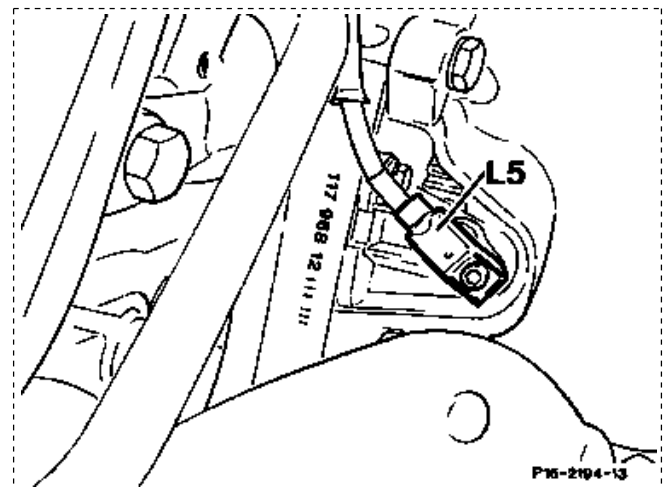


D. Crankshaft position sensor (L5)

In order to actuate the EZL ignition control unit, the crankshaft position sensor (L5) detects the crankshaft position and engine speed. The position sensor is installed at the crankcase above the starter flange (arrow). The solenoid body extends to just shortly in front of the segments on the flywheel or on the driven plate. Segment position and speed are detected by non-contacting means.



Engines 102, 103, 104

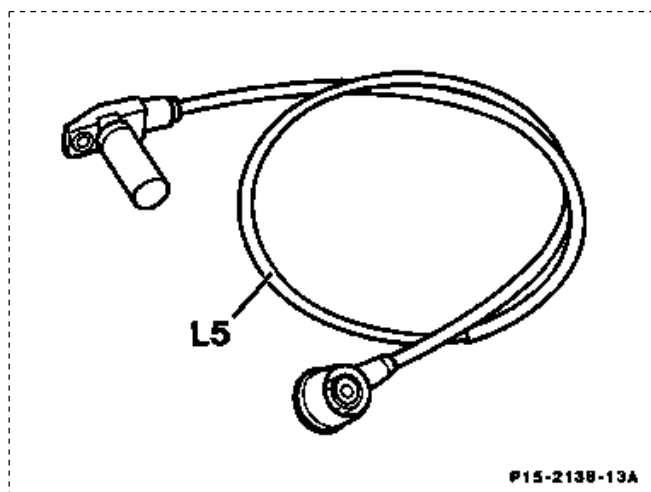


Engines 116, 117

When the engine is rotating, an alternating voltage is produced in the crankshaft position sensor (L5) as a result of the induction. The peak value of the voltage (U_S) is approx. 1.5 volts at starter speed. As engine speed increases, the voltage rises (U_S approx. 3 volts at 1200/min).

Note

Measure peak value of the voltage (U_S) with the oscilloscope.



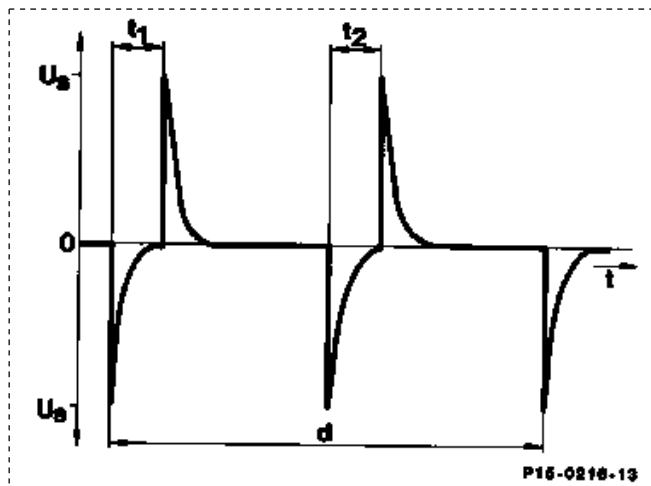
The crankshaft position is detected from the voltage as follows:

The front edge of the segment produces a negative voltage signal.

The rear edge of the segment produces a positive voltage signal.

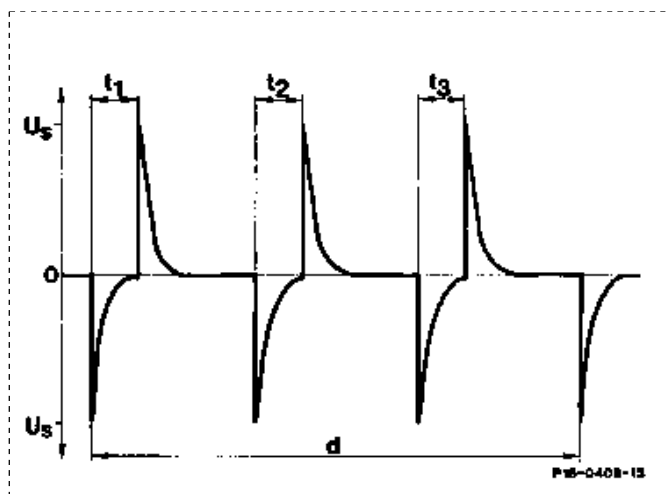
Voltage signal, position sensor, engine 102

- t1 1st segment
- t2 2nd segment
- d Period for one crankshaft revolution



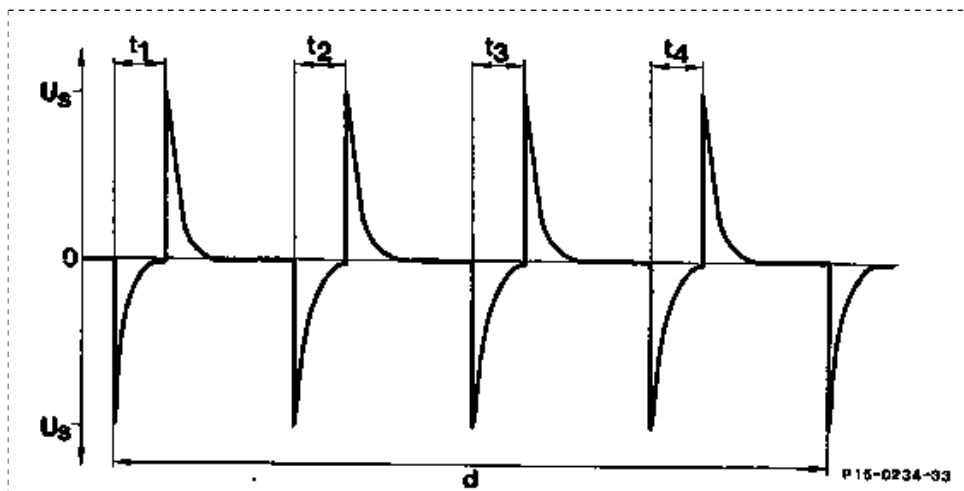
Voltage signal, position sensor, engines 103, 104

- t1 1st segment
- t2 2nd segment
- t3 3rd segment
- d Period for one crankshaft revolution



Voltage signal position sensor engines 116, 117, 119

- t1 1st segment
- t2 2nd segment
- t3 3rd segment
- t4 4th segment
- d Period for one crankshaft revolution



Engine speed is determined by measuring the period (d).

The alternating voltage of the position sensor is passed along the control cable (coaxial cable) to terminal 7 at the EZL ignition control unit. The cable is a single-core type. The screening is used as a second cable.

If the EZL ignition control unit does not receive a signal from the position sensor (e. g. open circuit of sensor coil), the complete ignition system is not operational.

The resistance of the position sensor between terminal (7) and terminal (31d) is 680-1200 Ω .

