

GF00.20-P-0003-05A	Active Service System (ASSYST) Influencing parameters	n
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The values of various influencing parameters are required by ASSYST for calculating the demand-based service interval, and these are included in the calculation of the service interval as **weighting factors**. There are **two versions** within ASSYST, the difference being in the oil level sensors fitted:

- D The familiar **oil level indicator switch (S43)** is fitted to engines (104, 111, 119, 120, 602.982, 604, 605, 606). In view of the fact that this is a switch, it is only possible to detect if the oil level drops below the minimum level.
- D The **oil sensor (oil level/temperature/quality, B40)** is used on more recent engines (e.g. 112, 113, 166, 611, 668). This sensor consists of 2 capacitor systems with the engine oil as an insulator. If the water content of the oil or the oil level changes, there is a change in the capacitance of the "capacitor".

The capacitance is thus a measure for the oil level. In addition, the oil sensor (oil level/temperature/quality, B40) contains a **temperature sensor** which detects the temperature of the engine oil. All the signals are processed in the electronics integrated in the sensor to form a PWM (pulse width modulated) signal, and passed to the engine control module (N3).

In addition to the weighting factors, which depend on reallife driving conditions, **quality factors** are also used for calculating the demand-based service interval (remaining distance and remaining time).

Survey of ASSYST influencing parameters

D **Weighting factors** (dependant on reallife driving conditions):

- D Load torque
- D Engine speed
- D Oil level
- D Engine oil temperature
- D Oil correction factor (is used as comparative value for determining oil level)
- D Coolant temperature

These data are supplied by the injection system control module (N3) to the service microprocessor over the CAN.

The data relating to oil level, engine oil temperature and oil correction factor are supplied by the oil sensor (oil level/temperature/quality, B40) through the injection system control module (N3), and are therefore only available on engines fitted with this sensor.

D **Quality factors** (these are factory-set to base values and can be changed with the HHT, if operating conditions of the vehicle so necessitate; they influence the start distance):

- D Engine version factor (gasoline/diesel)
- D National factor (The kilometer or mileage is coded in accordance with the national version.)

D **Distance travelled:**

ASSYST is supplied with the 4 wheel speeds from the traction systems control module (N47) over the CAN for calculating the distance travelled.

D **Time**

ASSYST is supplied with the time information from the clock integrated in the instrument cluster.