

Workshop Manual Audi A5 Coupé 2008 ➤

System description - Extended service interval

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List of Workshop Manual Repair Groups

Repair Group

01 - Self-diagnosis, electrical checks



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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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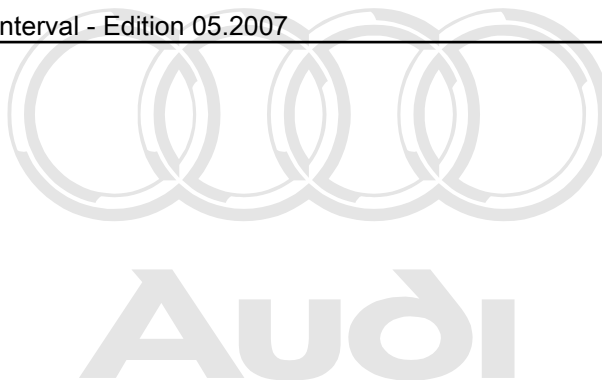
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01 – Self-diagnosis, electrical checks

1 General notes

Audi Longlife Service:

"Longlife Service" refers to flexible service times. Flexible oil change service intervals are part of the Longlife Service; they can help to maximise the utilisation of the engine oil. The time of the oil change service depends primarily on the customer's driving style and the engine oil used.

Oil change:

The oil change service includes the changing of the oil and the oil filter. An oil change becomes necessary as soon as the quality of the engine oil goes below a certain limit. In addition, an oil change is necessary when a certain distance has been covered or a certain time interval has been exceeded.

Service interval display:

The service interval display reminds the driver of when the next service is due. The reminder appears in the display of the instrument cluster; in cars with a screen for the sound system or MMI the service information can also be called up via the CAR menu.

"Display in instrument cluster: Service in 2,000 km"

Fixed interval:

"Fixed interval" refers to a service (e.g. an oil change) that is due at a fixed date or when a fixed kilometre reading has been reached. Example: 2 years, 15,000 km. The maximum values are country-specific. Please refer to the Maintenance tables for detailed information.



2 Components used to calculate an oil change service date

Component	Function
Engine control unit -J623-	Collection and calculation of data.
Oil level/oil temperature sender -G266-	Registration of oil level and temperature.
Front right speed sensor -G45-	The speed sensors are used to calculate the vehicle's speed. Depending on the drive type (quattro or front-wheel drive), 2 or 4 speed sensors are installed. The speed is calculated by the ABS control unit -J104-.
Anti-theft alarm and vermin repellent system contact switch -F120-	Monitoring of whether bonnet is opened.
Engine speed sender -G28-	Registration of engine speed.
Control unit in dash panel insert -J285-	Adaption values and calculation of oil change service date.

3 Detailed description

3.1 Longlife interval and fixed interval

Depending on the value in adaption channel 45, the system is set to either a fixed or a Longlife service interval. The Longlife interval can only be adapted if the proper engine oil is being used. The relevant specifications for engine oil are listed in the Maintenance tables. The following adaption channels must be adapted after a service has been performed:

- ◆ Adaption channels 42 - 45
- ◆ Adaption channel 49

For the adaption to be successful, a defined order must be followed strictly when initialising the adaption channels. See Guided Fault finding / Guided Function >17 — Adaption Longlife Service<.

3.2 Calculation of oil change service date

Every 100 msec, the engine control unit calculates the factors required to assess the load on the engine oil. The oil load is added to the values for smoke content and thermal load.

The intermediate values "smoke content" and "thermal load" are determined as follows:

- ◆ The smoke content is identified via a map with the engine speed and the injection quantity. The smoke content can be read off the control unit in dash panel insert -J285- in adaption channel 47.
- ◆ The thermal load is determined via a map with the engine speed and oil temperature. The thermal load can be read off the control unit in dash panel insert -J285- in adaption channel 48.

For these calculations the engine control unit requires the oil temperature, in addition to other values. The oil temperature and the oil level are identified via the oil level and oil temperature sender -G266-. The oil level and oil temperature sender -G266- provides these data for the control unit in dash panel insert -J285- as a pulse-with-modulated signal. The control unit in dash panel insert converts the information into digital signals and puts these onto the CAN data bus. The current fuel consumption value is provided by the engine control unit -J623- itself. The control unit in dash panel insert -J285- is informed cyclically of the data calculated for wear and smoke content via CAN bus. Subsequently, the control unit in dash panel insert -J285- calculates the oil change service date based on the following data:

- ◆ Distance covered since the last oil change
- ◆ Maximum and minimum limit for km reading
- ◆ Maximum and minimum limit for period of time
- ◆ Oil quality
- ◆ Values in adaption channels 40 — 44

The following information are included in the calculation of the oil change service date:

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Signal or information	Comments
Engine oil temperature	Identification via oil level/oil temperature sender -G266- . Electrical processing of signal via engine control unit -J623- .
Engine oil level	Identification via oil level/oil temperature sender -G266- . Electrical processing of signal via engine control unit -J623- .
Current fuel consumption	Calculation by engine control unit -J623- .
Maximum interval limit in km and days	Recorded by control unit in dash panel insert -J285- .
Index for smoke content	Diesel models only.
Engine speed	Engine speed sender -G28-
Days passed since last service.	Information derived since last service.
Distance covered since last service.	Information derived since last service
Oil quality	Information data from adaption of channel 44 in control unit in dash panel insert -J285- . Determines the maximum limit for oil change service interval.
Bonnet open	The signal is only evaluated if the oil level warning is activated. When the bonnet is opened, the electronic system assumes that the engine oil has been topped up. The oil level warning will be cancelled. Should the oil level still be too low, the oil level warning will appear again after approx. 100 km.

3.3 Display of information on oil change and inspection services

The oil change / inspection services are displayed in the control unit in dash panel insert -J285- . The following information is displayed every time the ignition is switched on:

- ◆ Reminder when oil change service is due
- ◆ Request for oil change
- ◆ Reminder when inspection service is due (after certain distance or time)
- ◆ Request for inspection service (after certain mileage or time)

The displays disappear automatically several seconds after the ignition has been switched on.

If the maximum mileage or time limit for the oil change or inspection service is exceeded, a message will appear, for example: "Oil change due 20 days ago".

High-Line instrument clusters (with central display):

The reminder is shown in the central display of the instrument cluster and contains the following message: "SERVICE DUE IN — — — KM — — — DAYS".

The request appears in the central display as the following message: "SERVICE!".

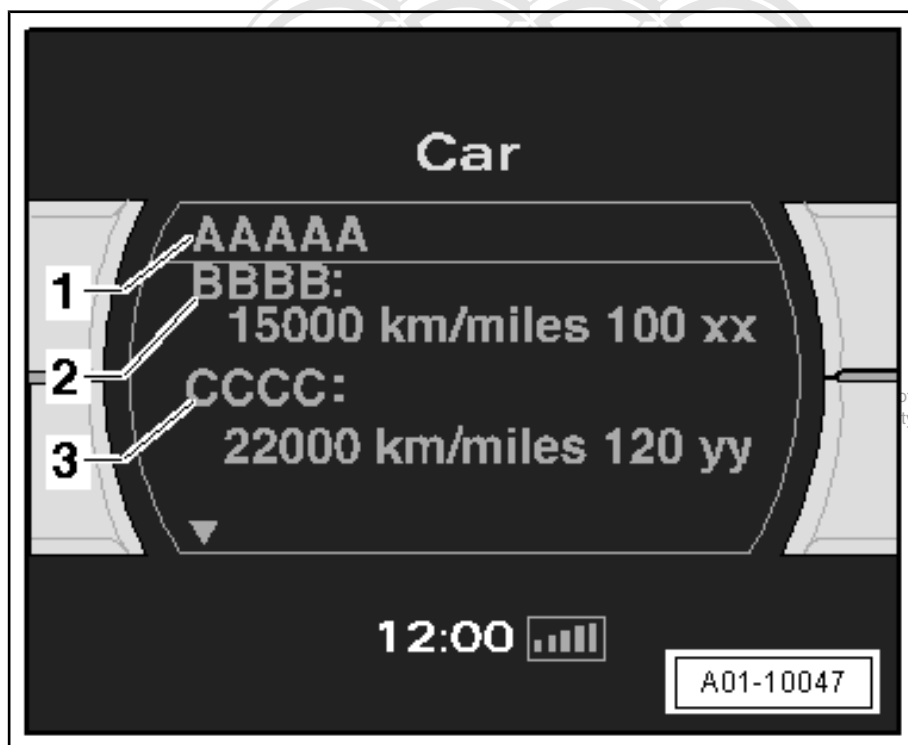
MMI / Car menu:

The current status concerning pending oil change and inspection service dates can always be called up via the Car menu of the MMI.

1 - Service interval

2 - Next oil change due in
15,000 km/miles, 100 days

3 - Next inspection service due
in 22,000 km/miles, 120 days



3.4 Reminder of and request for oil change or inspection

The following adaption channels are also relevant for the calculation of service reminders and requests.

- ◆ Adaption channel 40
- ◆ Adaption channel 41

On the first 500 km after the start of a new service cycle, the display of the instrument cluster shows "—" since the data recorded up to that point are not sufficient for the calculation of the theoretical service interval. The service reminder appears at the earliest 2,000 km before the calculated service date and is then displayed every time the ignition is switched on. The service request will then be displayed when a certain time has passed or a certain km reading has been reached.

3.5 Resetting the service interval display

The service interval display must be reset:

- ◆ at the delivery inspection
- ◆ after every oil change
- ◆ after every service

The service interval display is reset via the Guided Fault Finding or the Guided Functions (17 - Dash panel insert).



3.6 Information for service

If the battery is disconnected for an extended period of time, observe the following:

The values in the service interval display will not continue to be calculated. In addition, there will be no reminder of or request for an oil change or inspection service. The maximum time period of two years for an oil change must still be observed.



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