

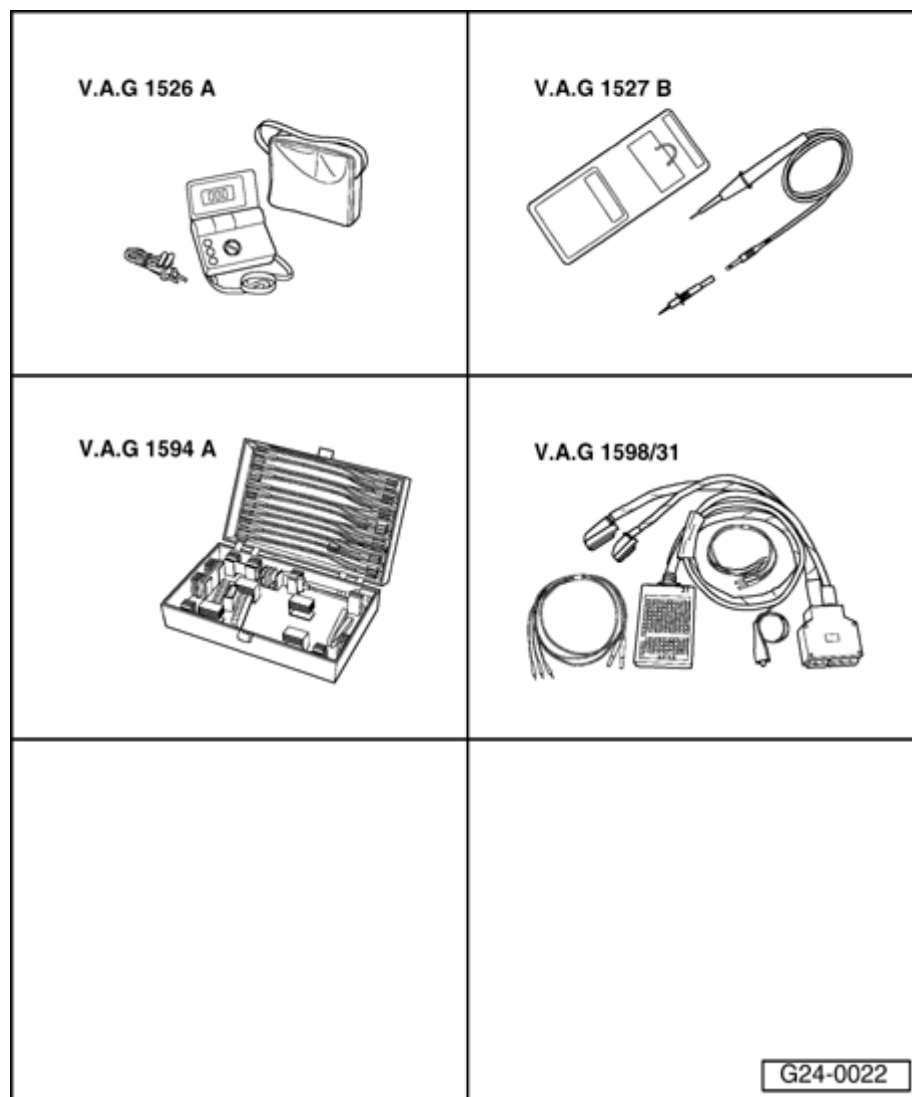
Camshaft timing control, checking

The adjustment of the intake camshaft is dependent on the engine load and engine speed. Oil pressure is applied to the camshaft adjuster (mechanical adjustment device) via the electrical solenoid valve for camshaft adjustment.

Note:

Camshaft timing control only becomes active 25 seconds after starting engine.

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Camshaft adjustment solenoid valves, checking

Special tools and equipment

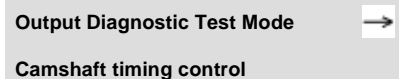
- ◆ VAG 1526 A
- ◆ VAG 1527 B
- ◆ VAG 1594 A
- ◆ VAG 1598/31

Test requirements:

- Vehicle diagnostic, testing and information system VAS 5051 or VAG 1551 Scan Tool connected

Test sequence

- Initiate output Diagnostic Test Mode (DTM) and activate solenoid valve for camshaft adjuster.

**A** Display

- ◆ This valve is actuated (clicks) for approx. one minute if the operation is not switched to the next component by pressing the → key.

If the valve is not actuated (does not click).

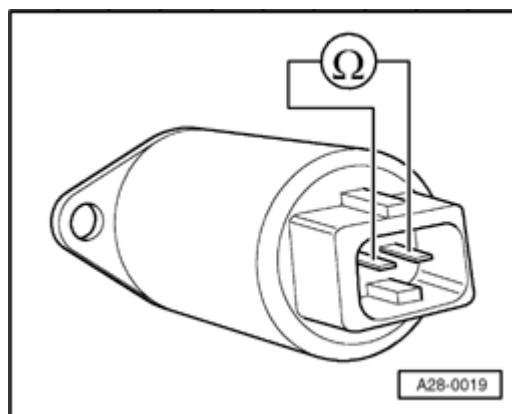
- Check internal resistance of solenoid valve for camshaft adjuster.

Checking internal resistance

- Switch ignition off.
- A** - Disconnect connector -arrow- from camshaft adjuster.



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A

- Connect multimeter to valve to measure resistance.
- Specified value: 10 to 18 Ω

If specified value is not attained:

- Replace solenoid valve for camshaft adjuster.

If specified value is attained:

- Check power supply.

Checking power supply

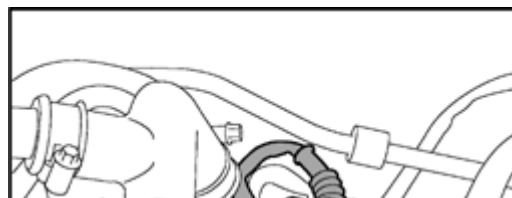
Test requirements:

- Fuse for solenoid valve for camshaft adjustment OK

⇒ *Electrical Wiring Diagrams, Troubleshooting & Component Locations binder*

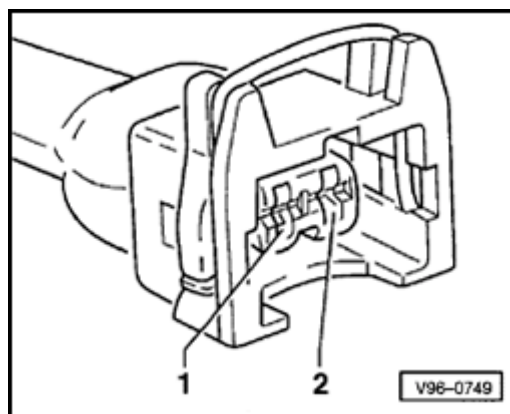
- Fuel pump relay OK.

⇒ [Repair Manual, 1.8 Liter 4-Cyl. 5V Turbo Fuel Injection & Ignition, Engine Code\(s\): AWM, Repair Group 24](#)



A

- Disconnect connector -arrow- from camshaft adjuster.



A

- Connect voltage tester VAG 1527 B as follows:

Connector contact	Measure to
1	Engine Ground

- Operate starter briefly.
 - LED should light up.

If the LED does not light up:

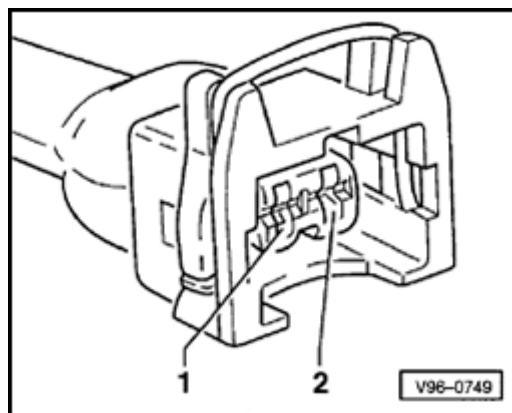
- Check wiring from contact 1 on connector via fuse to fuel pump relay for open circuit:

⇒ *Electrical Wiring Diagrams, Troubleshooting & Component Locations binder*

- Correct open circuit, if necessary.

If the LED lights up:

- Check actuation.



Output Diagnostic Test Mode →
Camshaft timing control

Checking actuation

- ▲ - Connect voltage tester VAG 1527 B to contacts 1 (positive) and 2 of connector.
- Initiate output Diagnostic Test Mode (DTM) and activate solenoid valve for camshaft adjuster.

▲ Display

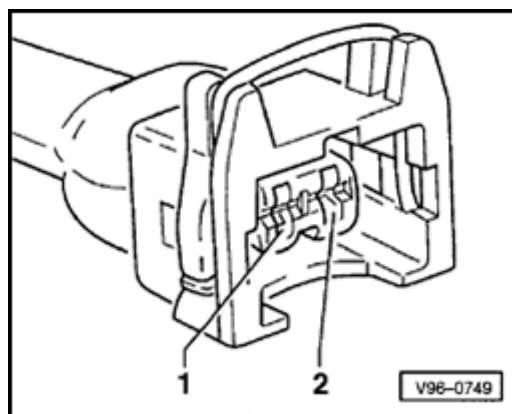
- ◆ LED should flash.

If the LED lamp does not flash or if it lights up continuously:

- Connect the VAG 1598/31 test box to wiring harness leading to engine control module (the engine control module should not be connected):

⇒ [Repair Manual, 1.8 Liter 4-Cyl. 5V Turbo Fuel Injection & Ignition, Engine Code\(s\): AWM, Repair Group 24](#)

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A

- Check for open circuit and short to positive or Ground in following wiring connection:

Connector	Test box VAG 1598/31
Contact	
2	115

- If necessary, correct short circuit to Ground or open circuit.

If the wiring is OK:

- Replace engine control module.

If no fault is found:

- Replace mechanical camshaft adjuster.