

## Evaporative Emissions (EVAP) system, checking

### **CAUTION!**

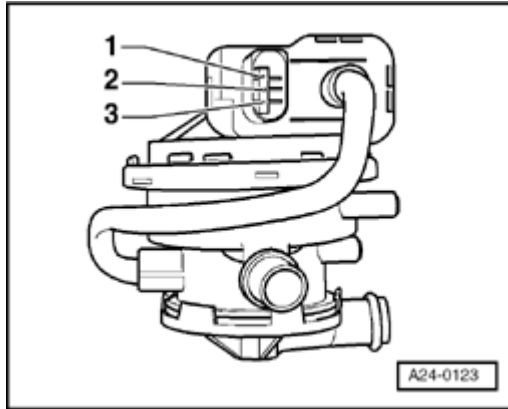
***Whenever carrying out work on the fuel supply and/or fuel injection systems, read and carefully follow the Cautions, Warnings, and rules of cleanliness ⇒ [Page 24-5](#) .***

### **Note:**

- ◆ *Always replace gaskets, O-rings and hose clamps.*
- ◆ *Hose connections must be secured with screw-type clamps or band clamps.*

## Leak Detection Pump (LDP), checking

### Electrical testing

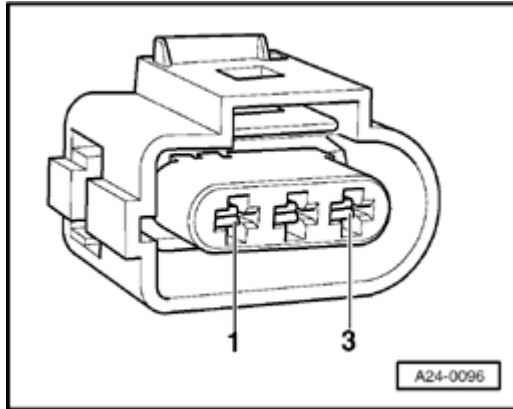


A

- Disconnect harness connector for LDP -V144-.
- Connect multimeter US 1119 (Fluke 83 or equivalent) and check resistance at leak detection pump. Specified values:
  - ◆ Connector terminal 1 to terminal 3: 640-720  $\Omega$
  - ◆ Connector terminal 2 to terminal 3: 17.5-27.5  $\Omega$

If resistance is NOT OK:

- Replace leak detection pump -V144-.



### Voltage supply, checking

A

- Disconnect harness connector for LDP -V144-.
- Connect VAG 1527B LED voltage tester between connector terminal 3 (B+) and engine Ground.
- Start engine and run engine at idle.  
LED must light up.

If LED tester does not light:

- Check fuse for LDP -V144-.
- Check wiring for open circuit between terminal 3 and fuse, according to wiring diagram. Specified value: max. 0.5  $\Omega$ .
- Check fuel pump relay and signal to relay ⇒ [Page 24-81](#) .

## Evaporative Emission (EVAP) Canister Purge Regulator Valve, checking

### Required special tools and test equipment

- VAG 1551 or VAG 1552 Scan Tool (ST) with VAG 1551/3 adapter cable

### Test conditions

- Engine coolant temperature at least 80 ° C (176 ° F)

### Function check

- Connect VAG 1551 or VAG 1552 scan tool and press buttons -0- and -1- to insert "Engine Electronics" address word 01 (with engine running at idle) ⇒ [Page 01-7](#) .

Rapid data transfer      HELP  
Selecting function XX



Indicated on display

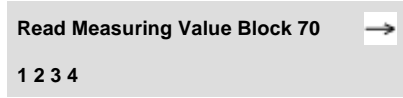
- Press buttons -0- and -8- to select "Read Measuring Value Block" function 08, and press -Q- button to confirm input.

Read Measuring Value Block      HELP  
Input display group number XXX



Indicated on display

- Press buttons -0-, -7- and -0- to input display group number 70, and press -Q- button to confirm input.

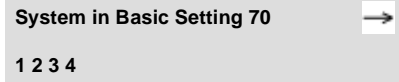


◀ Indicated on display (1-4 = display fields)

- Press -4- button- to select "Basic Setting" function 04 (diagnosis for EVAP canister purge regulator valve is initiated).

**Note:**

*During this diagnosis there should not be any load placed on the engine, otherwise the diagnosis is interrupted and must be started again.*



Indicated on display (1-4 = display fields)

If the diagnosis is initiated by the ECM, the display changes from "Test OFF" to "Test ON" in display field 4.

- Continue to run engine at idle until "EVAP OK" is indicated in display field 4.

**Note:**

*If the display changes from "Test ON" to "Test OFF" during the test, accelerate with a brief burst to repeat the test.*

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	Display fields			
	1	2	3	4
<b>Display group 70: EVAP canister purge regulator valve</b>				
Display	xxx %	xx.x %	xx.xx g/s	Test OFF/Test ON EVAP OK EVAP notOK
Indicated	EVAP canister purge regulator valve duty cycle during diagnosis	Oxygen sensor deviation during diagnosis	Idle Air Control (IAC) valve deviation during diagnosis	Diagnosis condition Diagnosis results
Range	0-100 %	-25.0 to 25.0 %	-2.70 to 4.16 g/s	---
Specified value	0-100 %	- 5.4 to 9.4 %	0.00-0.33 g/s	EVAP OK

If "EVAP notOK" is indicated in display field 4:

- Check for blockage or leaks ⇒ [Page 24-142](#) .

If "EVAP OK" is indicated in display field 4:

- Press → button to advance program sequence.

Rapid data transfer      HELP  
Selecting function XX



Indicated on display

- Press buttons -0- and -6- to select "End Output" function 06, and press -Q- button to confirm input.



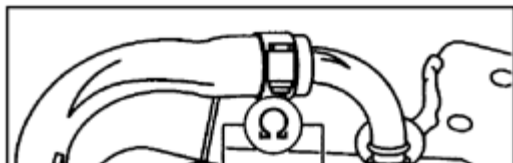
### Checking for blockage and leaks

The EVAP canister purge regulator valve is closed when power is off.

- Remove EVAP canister purge regulator valve - N80- (component locations ⇒ [Page 24-1](#) )
- Connect removed valve to harness connector.
- Start output Diagnostic Test Mode (DTM) and select -N80- ⇒ [Page 01-42](#) .
- Blow into long connection during output DTM, and check whether valve opens and closes properly. Replace valve if necessary.
- If valve is OK, check all hose connections between tank and valve for blockage or leaks.

### EVAP canister purge regulator valve -N80- electrical test

- Disconnect harness connector from EVAP canister purge regulator valve.
- Connect multimeter US 1119 (Fluke 83 or equivalent) and check resistance at across valve terminals.



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Specified value: 22-30  $\Omega$

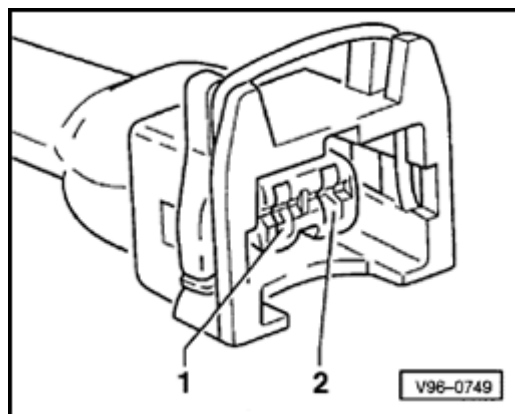
If resistance is NOT OK:

- Replace EVAP canister purge regulator valve

## Checking EVAP canister purge regulator valve voltage supply

### Test conditions

- Fuse for EVAP canister purge regulator valve OK.
- Disconnect harness connector from EVAP canister purge regulator valve.



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- Connect VAG 1527B LED voltage tester between connector terminal 1 and engine Ground.
- Operate starter motor.  
Specified value: LED must light up

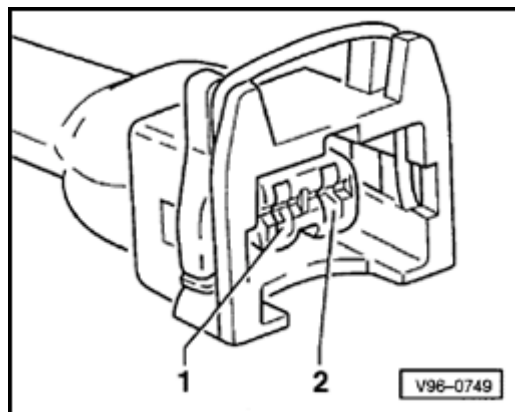
If LED test light does not light:

- Check wiring for open circuit between connector terminal 1 and fuse, according to wiring diagram. Repair if necessary.

If wiring is OK:

- Check fuel pump relay ⇒ [Page 24-81](#) .

### Checking signal to EVAP canister purge regulator valve



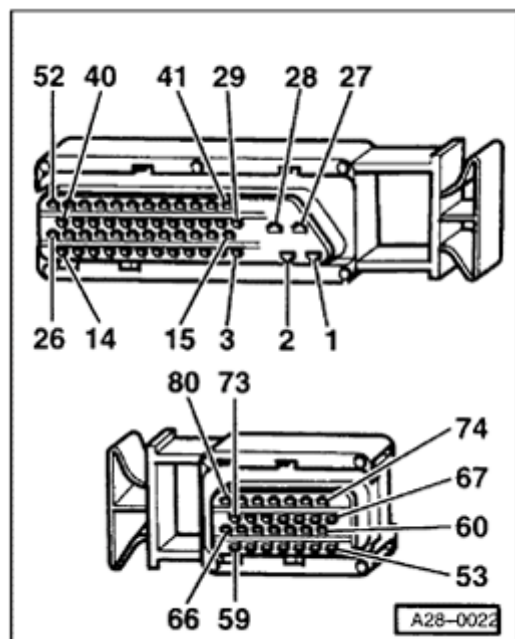
A

- Connect VAG 1527B LED voltage tester between connector terminals 1 (B+) and 2.
- Start output Diagnostic Test Mode (DTM) for EVAP canister purge regulator valve -N80 - => [Page 01-42](#) .

LED must blink

If LED test light does not blink, or stays on:

- Connect VAG 1598/22 test box to ECM harness connector => [Page 01-56](#) .



A

- Check wiring for open circuit or short circuit to B+ between connector terminal 2 and Motronic ECM terminal 15.

If wiring is OK:

- Replace Motronic ECM -J220- => [Page 01-57](#) .
- Carry out adaptation of throttle valve control module to ECM => [Page 24-119](#) .
- Check readiness code => [Page 01-59](#) . If Diagnostic Trouble Code (DTC) memory has been erased, or ECM was disconnected, generate new readiness code => [Page 01-62](#) .