Testing idling speed stabilisation

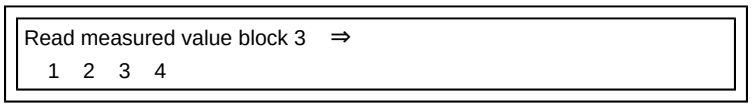
Testing function of idling speed stabilisation

Start engine and run at idle.

Connect fault reader V.A.G 1551 (V.A.G 1552) and select engine electronics control unit=>Page 01-2.

Read measured value block (function 08) and select Display Group 03=>Page 01-106

→ Display:

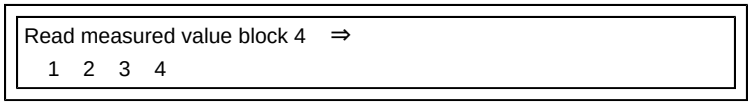


Do not continue the test until the coolant temperature in display zone 3 is at least 80°C.

Press C key.

Read measured value block (function 08) and select Display Group 04=>Page 01-108.

→ Display:



Check display in display zone 4.

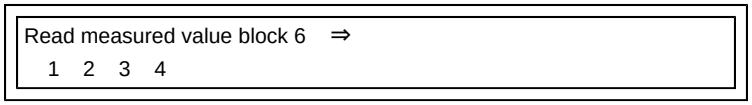
Specified value: "Idle"

If "Part throt" is displayed in display zone 4 , check idling speed switch=>Page 24-59.

Press C key.

Read measured value (function 08) and select Display Group 06=>Page 01-114.

→ Display:



Check display in display zone 1:

Specified value: See idling speeds table =>Page 01-112.

Display in display zone 4:

Specified value: 0 0 0

If all electrical consumers are switched off and idling speed is still not correct, check display in display zone 2.

Specified value: -0.4 - +0.4 g/s

If the specified value is not reached,

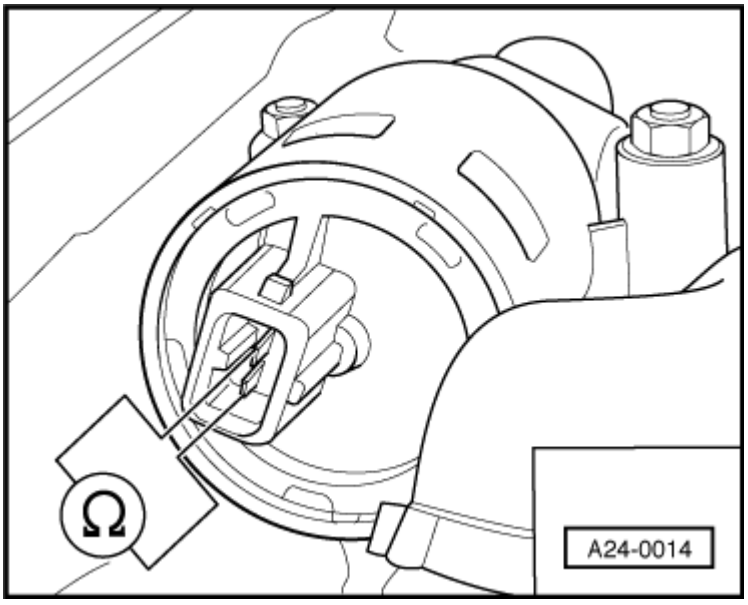
make the system "learn" the air mass of the idling actuator by briefly pressing the accelerator every 10 seconds.

If this is not possible, and -0.85 is displayed in display zone 2 and -1.4 in display zone 3; there is a leak in intake system.

Testing idling speed stabilisation
Electrical testing of idling speed stabilisation valve

Detach connector from valve -N71.

→ Measure resistance between valve contacts with hand multimeter V.A.G 1526.



Specified value: 7.0 - 11.0 ohms

If specified value is not reached, renew idling speed stabilisation valve -N71.

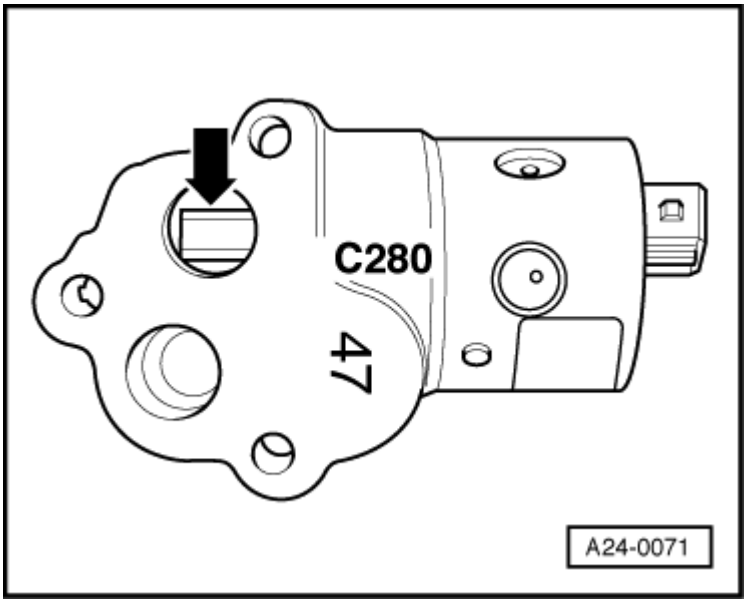
Note:

At room temperature the resistance is in the lower tolerance range; when the engine is at operating temperature, it is in the upper range.

Mechanical testing of idling speed stabilisation valve -N71

Unscrew valve -N71 from engine (wire remains connected).

→ Check rotary valve for scoring (visual check).



Note:

Do not move rotary valve with a screwdriver or other tool to test ease of movement.

Initiate final control diagnosis and actuate idling speed stabilisation valve=>Page 01-79.

Test whether rotary valve moves freely from stop to stop.

If scoring is impairing its movement (catching or not running to stops), renew valve.

If valve does not respond in final control diagnosis, check activation=>Page 24-57.

Testing activation of idling speed stabilisation valve -N71

→ Detach connector from idling speed stabilisation valve -N71 and connect diode test lamp V.A.G 1527 between contacts 1 and 2 of connector.

Initiate final control diagnosis and actuate idling speed stabilisation

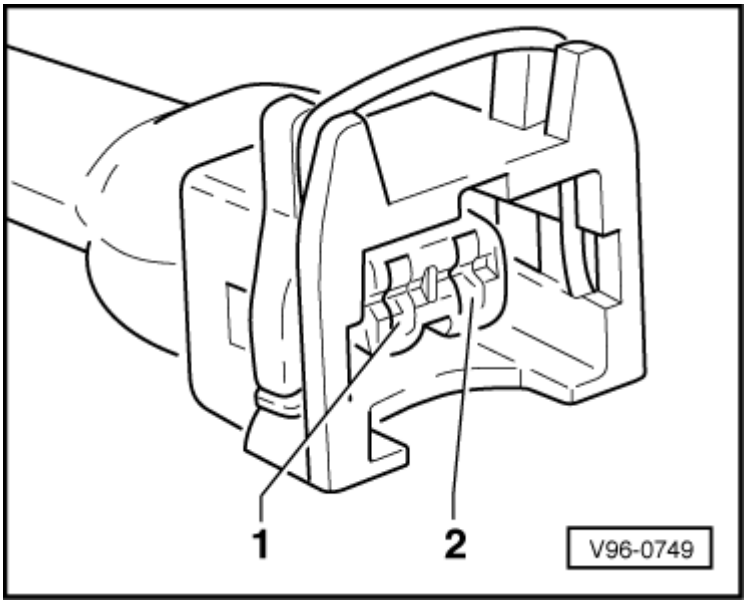
valve=>Page 01-79.

The diode test lamp should flash.

Notes:

- ◆ The diode test lamp does not go out completely, it just becomes brighter or dimmer.
- ◆ The idling speed stabilisation valve final control diagnosis is aborted after one minute. To repeat the test, briefly switch off the ignition and initiate final control diagnosis again.

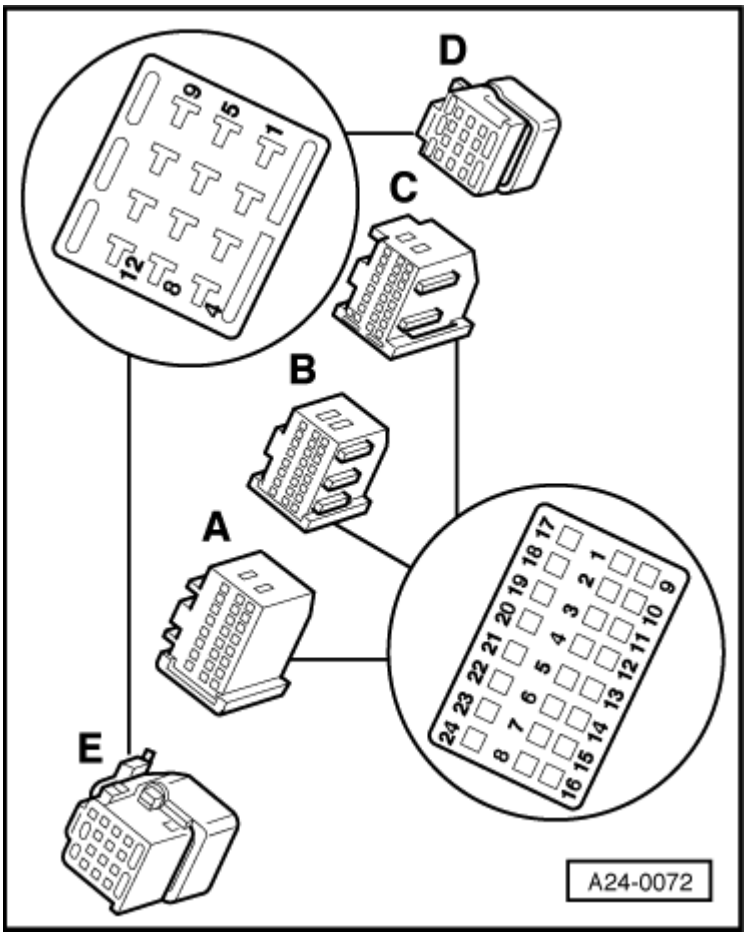
If the diode test lamp does not flash:



Connect test box V.A.G 1598/19 to engine control unit wiring harness=>Page 24-15.

→ Check wiring connection between contact 1 of valve -N71 connector and socket D5 on test box, and between contact 2 and socket D1 for break or short circuit.

=> Current Flow Diagrams, Electrical Fault-Finding and Fitting Locations binder



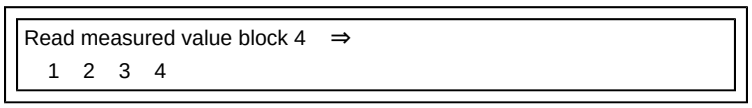
If wiring is OK, and valve is not actuated, renew engine control unit=>Page 24-16.

Testing idling speed stabilisation
Testing and adjusting idling speed switch

The idling speed switch is located on the rear of the throttle housing in the throttle valve potentiometer.

Start engine and run at idle.
Connect fault reader V.A.G 1551 (V.A.G 1552) and select engine electronics control unit=>Page 01-2.
Read measured value block (function 08) and select Display Group 04=>Page 01-108.

→ Display:



Check display in display zone 4.

Specified value: "Idle"

If "Part throt" is only displayed after long pedal travel, adjust idling speed switch.
Press accelerator pedal lightly (only a few millimetres).

Specified value: "Part throt"

If display does not change as described, check throttle cable adjustment or cruise control linkage.

=> 8-Cylinder Engine, Mechanics; Repair Group 20; Servicing throttle mechanism; Adjusting throttle cable.

Check throttle valve unit for dirt.
If throttle cable adjustment and throttle valve unit are OK, check idling speed switch and wiring connections.

Adjusting idling speed switch

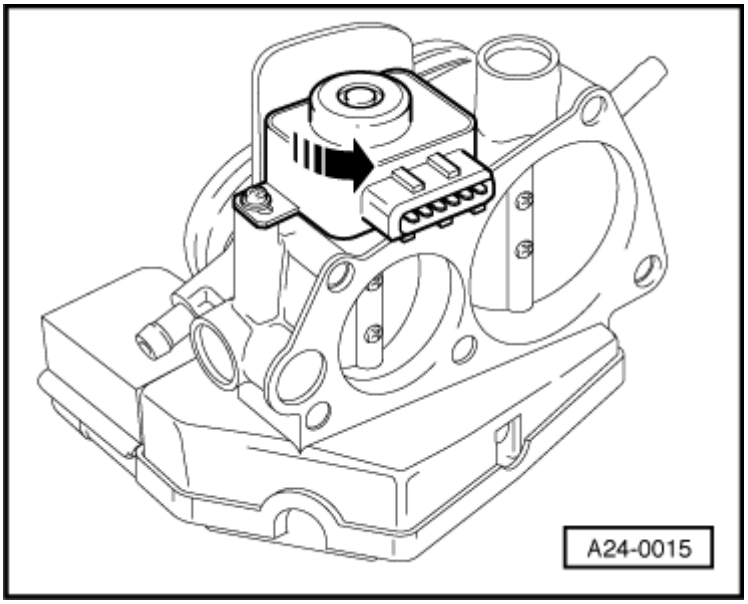
The throttle housing must be removed to adjust the idling speed switch.

Note:

Adjusting the idling speed switch also adjusts the throttle valve potentiometer.

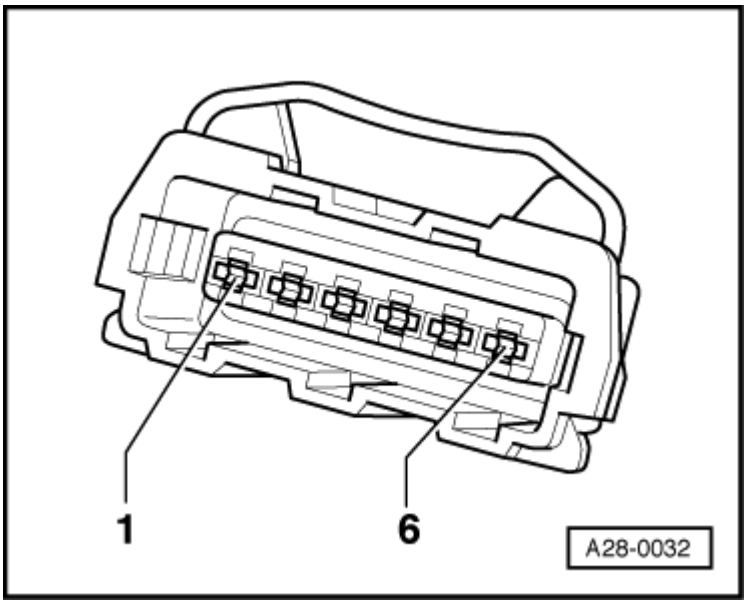
Loosen both screws on throttle valve potentiometer.
→ Rotate the throttle valve potentiometer in direction of arrow until a stop can be felt, taking care not to move the throttle valve (throttle mechanism) when doing so.

Tighten throttle valve potentiometer in this position.



Testing wiring connections

Connect test box V.A.G 1598/19 to engine control unit wiring harness=>Page 24-15.
→ Detach connector from throttle valve potentiometer.
Check following wires for continuity or short circuit:



Connector on wiring harness, contact	Test box V.A.G 1598/19 or engine control unit
4	D11 (earth)
6	B4→

Eliminate wiring break or short circuit as necessary.

=> Current Flow Diagrams, Electrical Fault-Finding and Fitting Locations binder

Note:

Gold-plated contacts must always be used when replacing contacts in the throttle actuator

connector.

If wiring connection is OK, test idling speed switch.

Testing idling speed switch

Connect test box V.A.G 1598/19 to engine control unit wiring harness=>Page 24-15.

Throttle connector remains connected.

Connect hand multimeter between D11 and B4 and test for continuity.

Specified value: Continuity with throttle valve closed

Open throttle valve slightly.

Specified value: No continuity

If specified values are not reached, renew throttle valve unit.