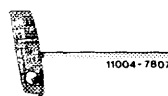


**Test and adjustment values**

Engine	110	117
Regulated on-off ratio with tester, range	40–60%	40–60%
Adjustment value of on-off ratio with tester	50±10%	50±10%
Idle speed, 1/min	750±50	650±50

**Special tools**

3 mm Allen wrench for adjusting on-off ratio



900 589 00 21 00

Remote oil temperature gauge



116 589 27 21 00

Test plug for on-off ratio  
(measurement with Voltmeter)

**Conventional tools**

Voltmeter, tachometer

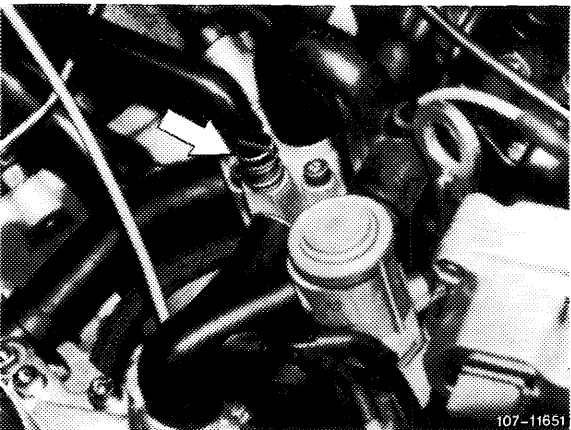
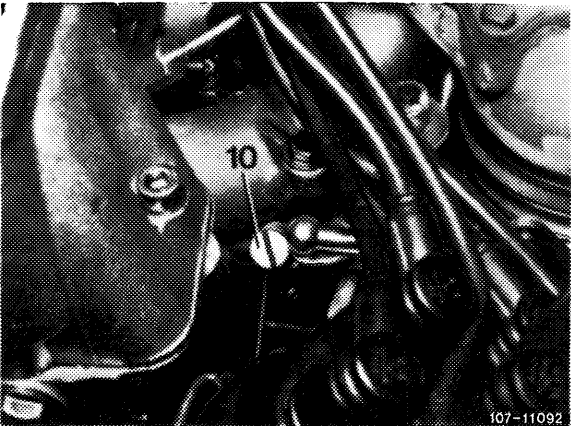
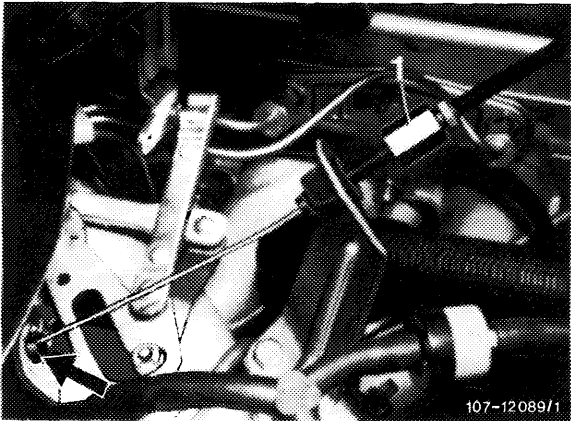
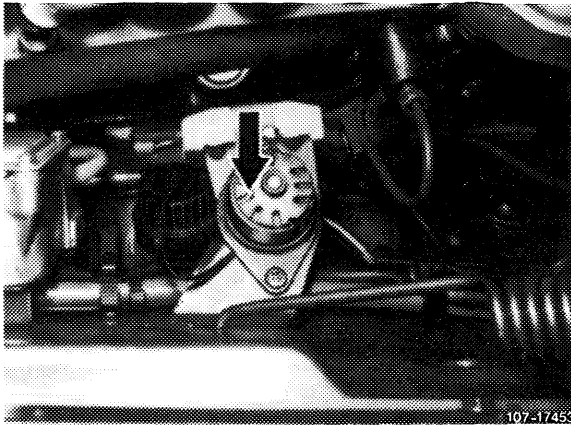
LAMBDA control tester

KDEJ – P 600

**Checking and/or adjusting**

- Connect tachometer and remote oil temperature gauge.
- Turn off automatic climate control and place shift selector lever in position "P".

Engines 110 117



- Connect test instrument

**When testing with voltmeter,** insert test plug into diagnostic plug. Connect black lead of voltmeter to test plug (arrow) and red lead to battery plus.

**Note:** If test plug is not available, connect black lead to pin no. 3 of diagnostic plug.

- Check if throttle valve lever rests against idle stop.
- Check if Bowden cable rests tension-free against throttle lever. If necessary, adjust with adjusting screw (1).

Engine 110

- Run engine until approx. 80 °C (176 °F) oil temperature is reached.
- Run engine at idle. Turn off all electrical consumers.
- Check idle speed. If necessary adjust to specified value with idle air adjustment screw (10 or arrow).

Engine 110

Engine 117

**Check and adjust on-off ratio with tester**

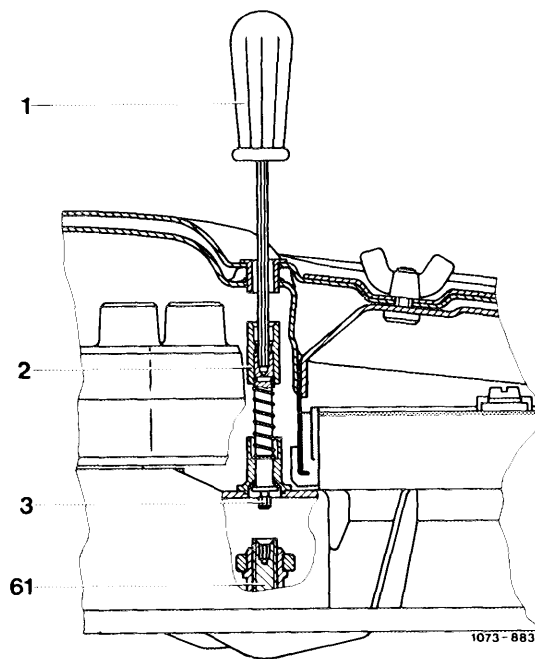
- Check on-off ratio on tester. A value between 40 and 60 is the correct on-off ratio. If necessary adjust value with idle mixture adjusting screw. In order to do this, insert Allen wrench (1) into opening of air filter cover and engage adjusting fixture (2). Push Allen wrench downward against spring force of adjusting fixture while turning slightly until hexagon end (3) engages the mixture adjusting screw (61).

Turn counterclockwise = on-off ratio  
in direction 60%  
(lean mixture)

Turn clockwise = on-off ratio  
in direction 40%  
(rich mixture)

- Release Allen wrench. The force of the compression spring will disengage the adjusting fixture from the mixture adjusting screw.

- Accelerate briefly. Recheck on-off ratio and idle speed. Adjust if necessary.



1 Allen wrench	3 Hexagon end
2 Adjusting fixture	61 Mixture adjusting screw

**Check and adjust on-off ratio with voltmeter**

- Disconnect plug of oxygen sensor (arrow).
- Note indicated value on voltmeter dial. Voltmeter needle must not fluctuate (reading = 50/50).
- Mark indicated value on voltmeter dial with felt tip marker or adhesive tape.
- Reconnect plug of oxygen sensor.
- Read on-off ratio on voltmeter and turn mixture adjusting screw until needle of voltmeter fluctuates around the marking on the voltmeter dial.
- Accelerate briefly. Recheck on-off ratio and idle speed. Adjust if necessary.

