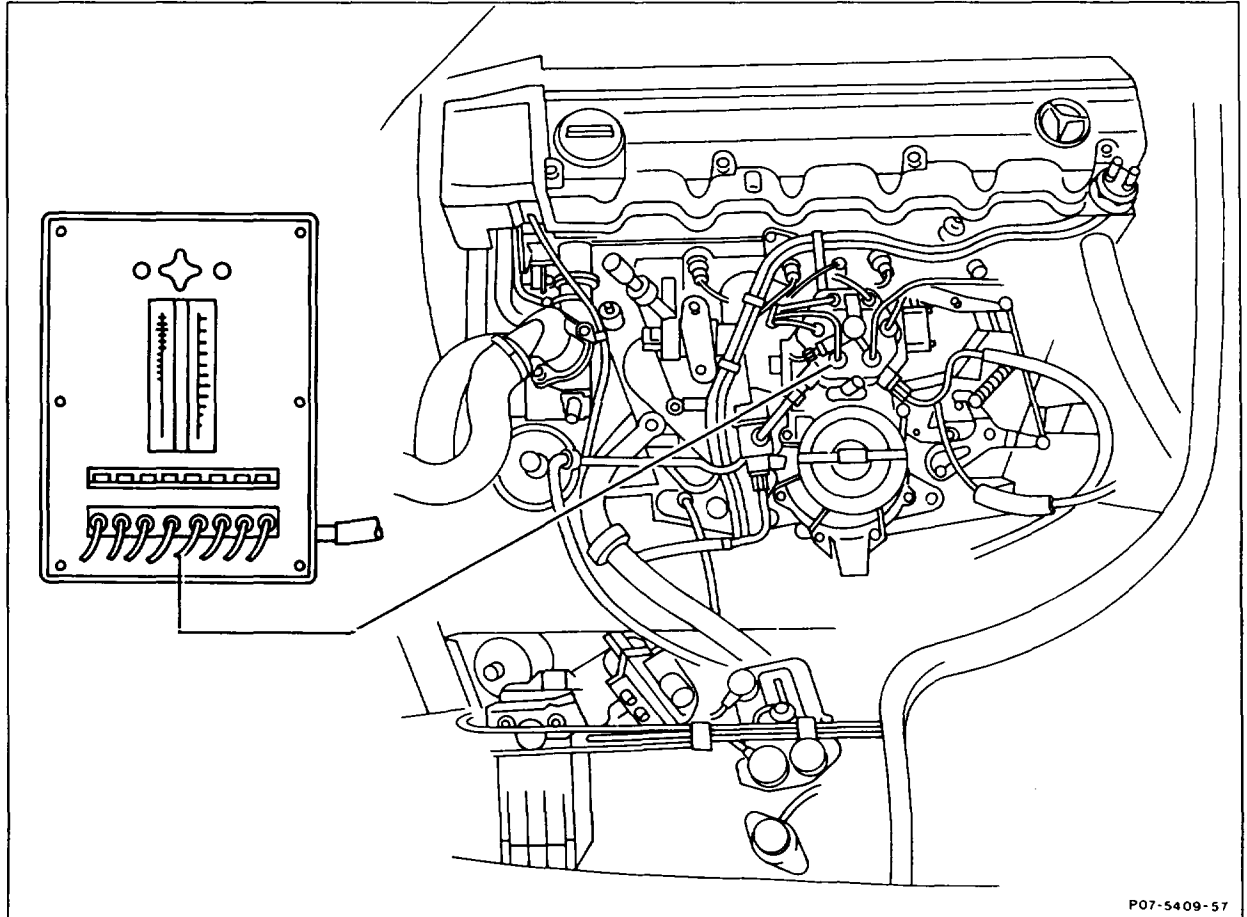


07.3-1609 Performing fuel quantity comparison measurement

Preceding work:
Testing, adjusting engine (07.3-1100).

Operation no. of operation texts and work units or standard texts
and flat rates:
07-1609.



P07-5409-57

Fuel quantity comparison instrument	position on level point next to vehicle.
Injection lines	unscrew at fuel distributor and at injection valves, screw on. Clean connection points beforehand.
Fuel quantity comparison instrument	connect to fuel distributor (step 4).
Fuel return line	insert into filler neck of fuel tank.

Adjusting device for fixing air flow sensor plate	clamp onto stop bar of air flow sensor plate (step 5).
Fuel pump relays	remove and bridge contacts 7 and 8 (step 7), on model 129 engine systems control unit MAS between contacts 1 and 2 for (USA) (J) as of model year 1990 on KE control unit (N3) between contacts 11 and 20. Special tools 201 589 00 99 00.
Air flow sensor plate	deflect and press buttons 1 to 6 one after the other to vent tester.
Measuring instrument button 1	press and hold. Deflect sensor plate by means of adjusting device sufficiently to achieve 4 cm ³ /min (idle speed quantity). Fix sensor plate in place.
Measuring instrument buttons 1 to 6	press one after the other and measure flow quantities and enter on test sheet B 20 800.99.472.00. Maximum permissible spread of cylinders to each other 0.4 cm ³ /min (idle speed). Then, proceed exactly as described before. Check part and full load flow quantity. Deflect air flow sensor plate for this purpose. Idle speed 4 cm ³ /min. Part load 30 cm ³ /min. Full load 100 cm ³ /min. Maximum permissible spread of cylinders to each other: Part load 4 cm ³ /min. Full load 10 cm ³ /min. If spread is not to tolerance, replace fuel distributor (07.3-1674).
Engine	run, check all fuel connections for leaks.
Idle speed	adjust (07.3-2053 or for (USA) 07.3-5203).

Special tool



Commercially available tools and testers (see Workshop Equipment Manual)

Designation	e.g. Make, order no.
Fuel quantity measuring instrument	Bosch, KDJE-P 300
Tester trolley ¹⁾	Bosch, M 200/2 or KDJE-W 100

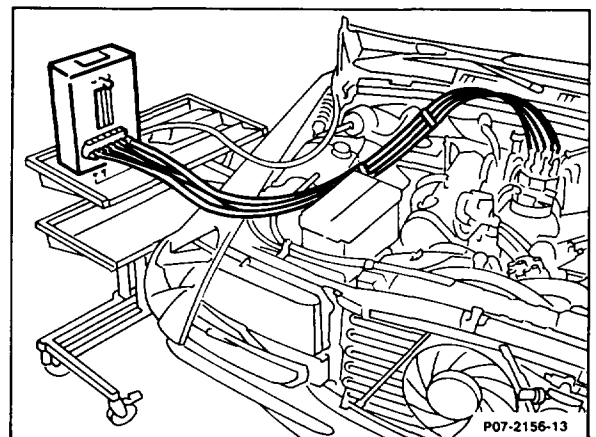
¹⁾ If the tester trolley is used for the fuel quantity measuring instrument, an addition angle plate is required. It can be shop-made or obtained from a Bosch dealership.

Note

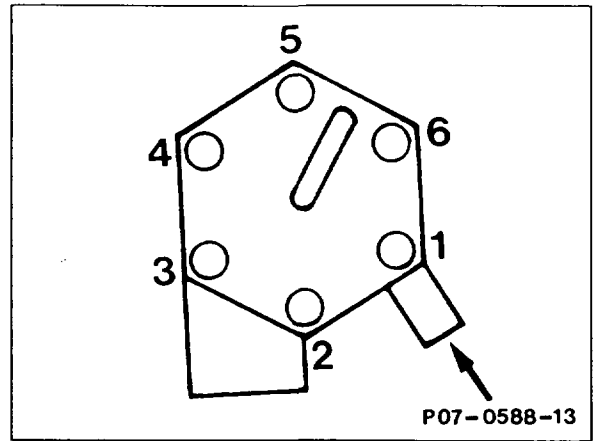
The measurement is performed with the engine not running. The operating condition (idle speed, part or full load) is simulated and set at the air flow sensor plate by means of an adjusting device.

Testing

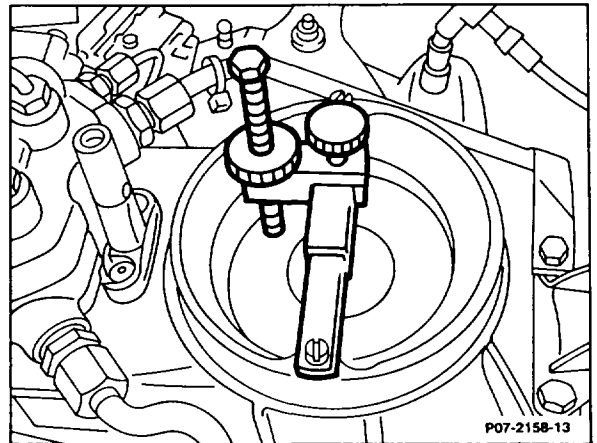
- 1 Position fuel quantity comparison instrument on level surface next to the vehicle (tool or tester trolley).
- 2 Take off air cleaner.
- 3 Unscrew injection lines and fuel distributor and slacken at the injection valves; unscrew if necessary.



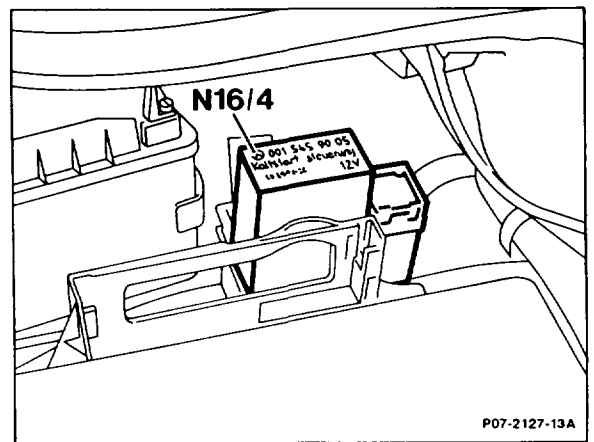
4 Connect lines of fuel quantity measuring instrument to fuel distributor (see Fig for sequence) and place fuel return line into the filler neck of the fuel tank.



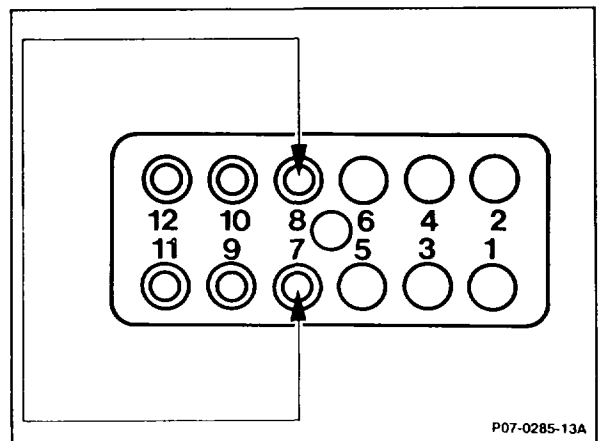
5 Clamp adjusting device for fixing position of air flow sensor plate to stop bar of air funnel.



6 Remove fuel pump relays (N16/1 to N16/4).



7 Bridge the two contacts 7 and 8, on model 129 engine systems control unit MAS between contacts 1 and 2, for (USA) (J) as of model year 1990 on KE control unit (N3) between contacts 11 and 20. This causes the fuel pump to be energized.



8 Deflect air flow sensor plate and briefly press buttons 1 to 6 individually for venting the equipment.

9 Hold one button pressed, deflect the sensor plate with the adjusting device and fix at a flow quantity of 4 cm³/min (idle speed).

10 Press the remaining buttons, read off the individual flow quantities and enter on the test sheet.

Maximum spread:

Idle speed 0.4 cm³/min.

11 Calculate difference between the smallest and the largest flow quantity and compare with the tolerance figure.

12 Fix the air flow sensor plate, as described in step 8, to a flow quantity of 30 cm³/min and 100 cm³/min, respectively, for part and full loader. Then, likewise calculate difference between the smallest and the largest flow quantity and compare with the tolerance figure.


Maximum spread:

Part load 4 cm³/min.

Full load 10 cm³/min.

If the spread is not to tolerance, replace fuel distributor (07.3-1674).

13 Run engine and check all fuel connections for leaks.

14 Adjust idle speed (07.3-2053 or for  07.3-5203).