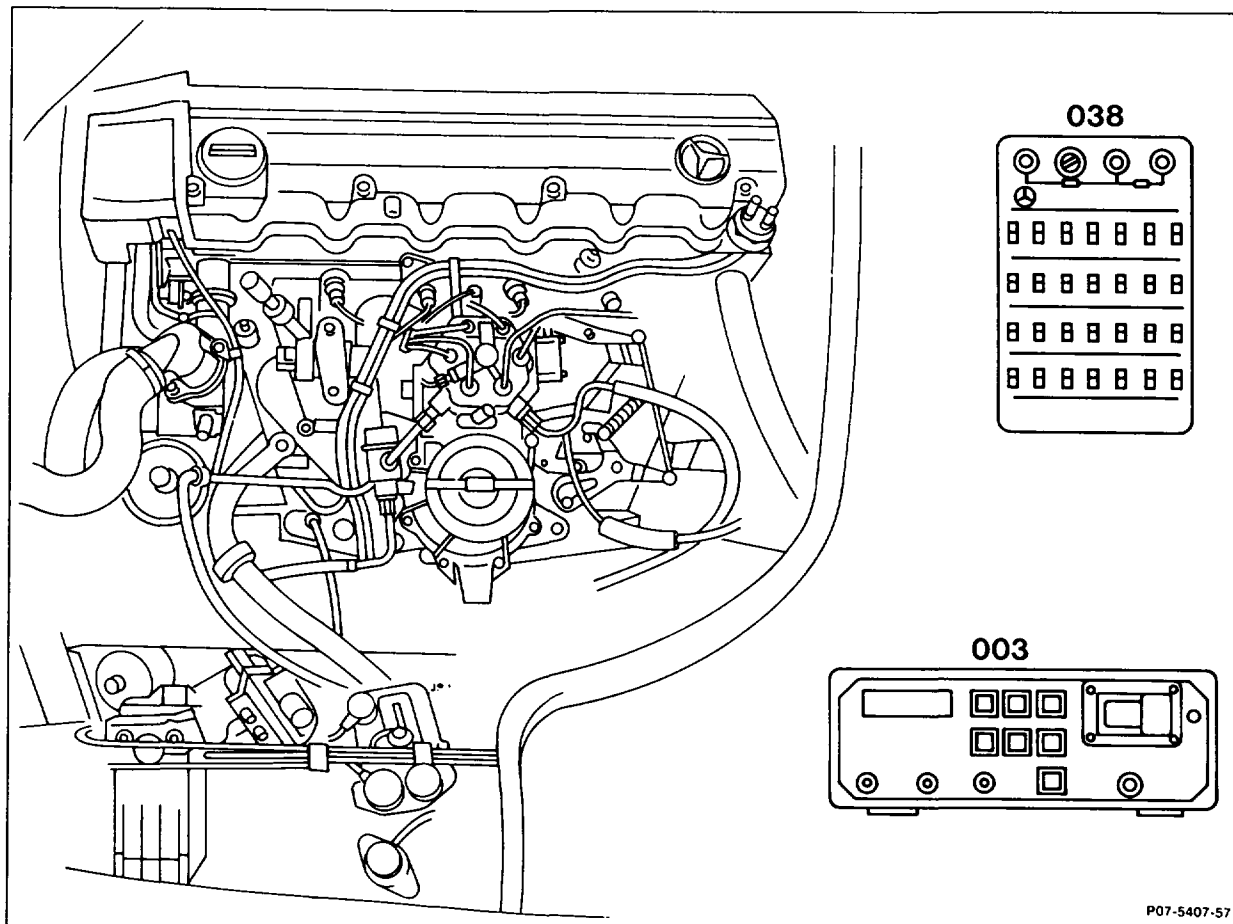


## 07.3-1607 Testing starting valve actuation

Preceding work:  
Testing starting device (07.3-2353).

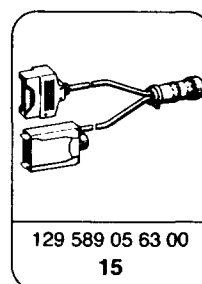
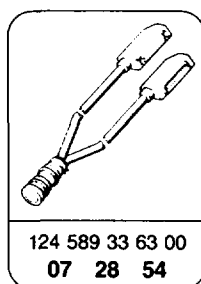
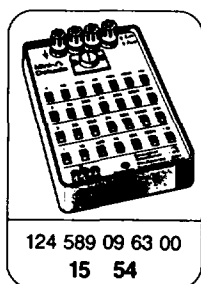
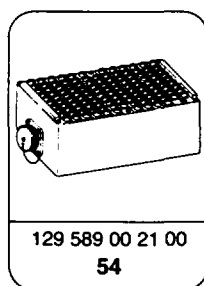
Operation no. of operation texts and work units or standard texts  
and flat rates:  
07-1607.



Testers .....	connect: multimeter (003), ohms decade (038) 124 589 09 63 00.
Starting voltage .....	test. Minimum 10 V in approx. 5 seconds.
Electric wiring .....	between starting valve and fuel pump relay, test for continuity. Resistance approx. 0 Ω.
Voltage at fuel pump relay and engine systems control unit .....	test. Contact 12 (terminal 50) at least 10 V, contact 2 (terminal TF) 3-5 V simulated at 10 kΩ.

Lambda tester	connect to diagnostic socket (X11).
Ignition	switch on. Readout 70% or for (USA) California 85%.
Coolant temperature sensor (B11/2) coupling	unplug. Readout 30%.
At coolant temperature (B11/2) coupling	simulate 10 k $\Omega$ with $\Omega$ decade, connect diagonally into circuit, until lambda tester indicates 70% or for (USA) California 85%.
Protective connector part no. 102 589 02 21 00	plug into diagnostic socket.






### Special tools





### Commercially available tools and testers (see Workshop Equipment Manual)

Designation	e.g. Make, order no.
Multimeter	Sun, DMM-5

### Symbols for testers

	Multimeter
	Contact box
	Connector
	Contact
	Ground

### Symbols for test mode with multimeter

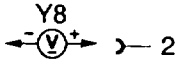



	Multimeter DC voltage mode
	Multimeter Resistance mode

### Test condition








- Battery voltage 11–14 V

### Note

If the specification e.g. of point 1.0 is in order, it is not necessary to perform test step 1.1.  
See appropriate wiring diagrams volume for wiring diagrams.

Test step	Test scope	Test connection	Operation/ Requirement	Specifi- cation	Possible cause/Remedy
1.0	Starting valve actuation	<p>Y8</p> 	<p>Connect <math>\Omega</math> decade into circuit at coolant temperature sensor (B11/2) and simulate 10 k<math>\Omega</math> resistance <sup>1)</sup>. Detach cable from position sensor at EZL control unit (N1/2). Engine: <b>start</b></p>	approx. 10 V during starting	<p>Fuel pump relays (N16/1 to N16/4) For   as of model year 1990 and model 129: Engine systems control unit (N16), KE control unit (N3), Open circuit in wiring, Terminal 50 missing</p>
1.1	Voltage of terminal 50	<p>N16/3 or N16/4</p> 	<p>Fuel pump relays (N16/1 to N16/4) removed Engine: <b>start</b></p>	$\geq 10$ V	Open circuit in wiring

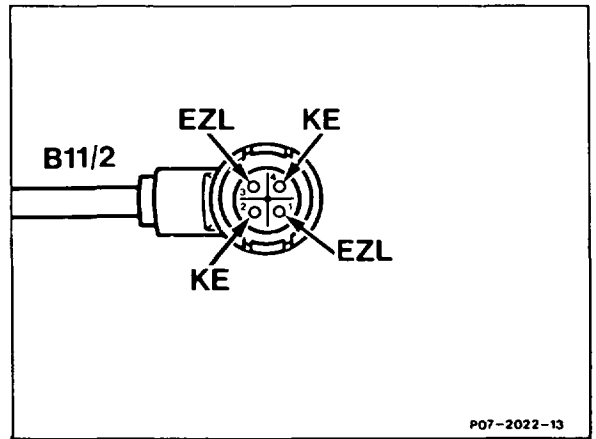
<sup>1)</sup> Resistance decade between contacts 1 and 3 of 4-pin temperature sensor.

Test step	Test scope	Test connection	Operation/Requirement	Specification	Possible cause/Remedy
1.2	Cable	Y8 2 — c ←  → 4 N16/3	Ignition: <b>OFF</b> Fuel pump relays (N16/1 to N16/4) removed. Coupling at starting valve (Y8) unplugged	< 1 Ω	Open circuit in wiring
1.3	Cable Model 129	Y8 2 — c ←  → 8 N16	Ignition: <b>OFF</b> Coupling at starting valve (Y8) unplugged	< 1 Ω	Open circuit in wiring
1.4	Cable Only  ,  as of model year 1990	Y8 2 — c ←  → 20 N3	Ignition: <b>OFF</b> Coupling at starting valve (Y8) unplugged	< 1 Ω	Open circuit in wiring
1.5	Cable	Y8 1 — c ←  → 1 N16/1 to N16/4	Ignition: <b>OFF</b> Coupling at starting valve (Y8) unplugged	< 1 Ω	Open circuit in wiring
1.6	Starting valve (Y8) resistance	Y8 1 —  → 2	Ignition: <b>OFF</b> Coupling at starting valve (Y8) unplugged	10–25 Ω	Starting valve (Y8)

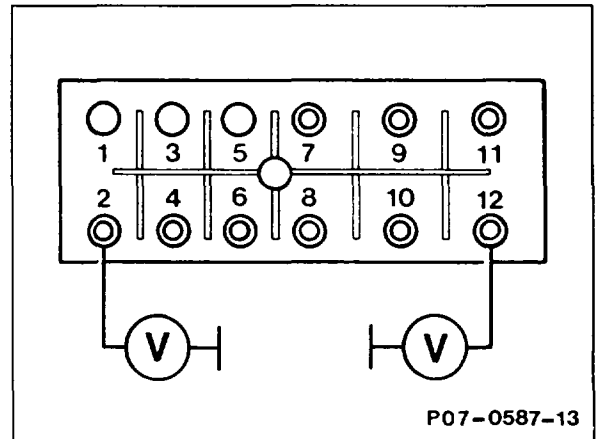
### Coolant temperature sensor coupling, 4-pin

#### Coupling pin assignment:

- 1 EZL/AKR temperature sensor
- 2 KE temperature sensor
- 3 Ground, EZL/AKR ignition control unit
- 4 Ground, KE ignition control unit



### Fuel pump relay test connection



### Arrangement of EZL control unit position sensor

