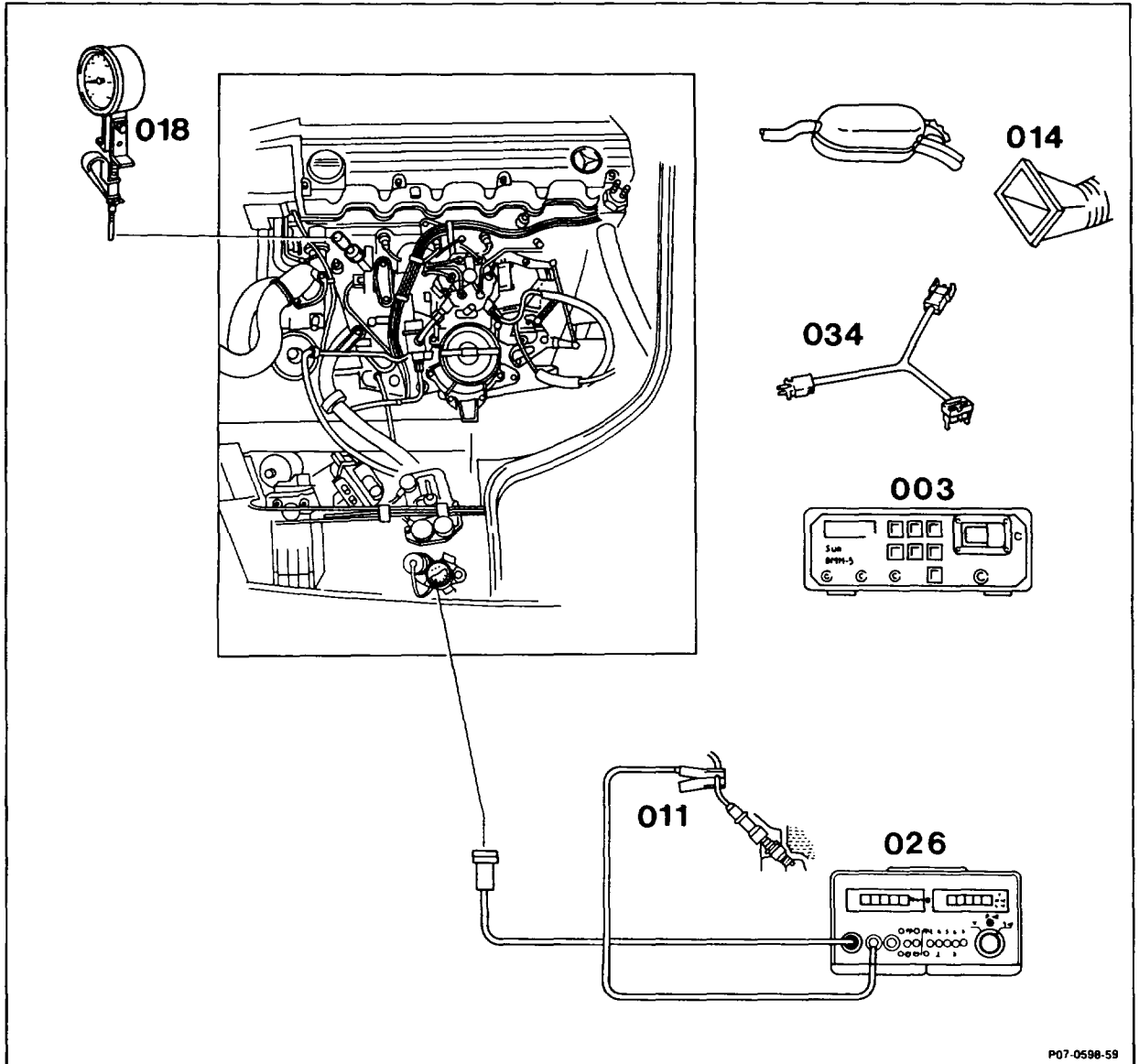


07.3-2006 Testing electronic idle speed control

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

Operation no. of operation texts and work units or standard texts
and flat rates:
07-2006.



Testers

connect:

oil remote thermometer (018) 124 589 07 21 00,
trigger clamp (011),
engine tester (026),
multimeter (003),
test cable (034) 102 589 04 63 00.

Extraction device (014)

position at exhaust tailpipe.

Engine oil temperature	approx. 80 °C.
Electronic idle speed control	test (see table).
Control range	test (see table).
Function of idle speed air valve	test. Briefly apply battery voltage for this step; valve must be heard to operate.
Voltage supply	test according to wiring diagram.
Smooth engine running	check. Switch on all ancillaries for this step.

Test and adjustment data

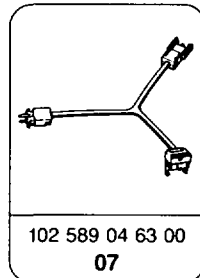
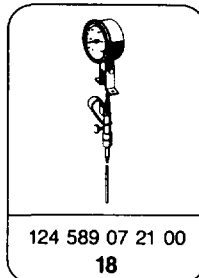
Basic version

Engine	Version	Idle speed	
		1/min	Control range
103.940/941/942/943	RÜF NV (RÜF)	650–750	35–45% 21–27° Δ
	KAT		
103.980	Std.	600–700	
	Std. KAT		
103.981	RÜF NV (RÜF)		
	KAT		
103.982/983/985	RÜF NV (RÜF)	up to 5/90: 600–700 as of 6/90: 650–750	
	KAT		
103.984	RÜF	650–750	
	KAT		

National version (AUS) (CH) (J) (S) (USA)

Engine	Version	Idle speed	
		1/min	Control range
103.94	(AUS)	700 ± 50	35-45% 21-27° Δ
103.98		650 ± 50	
103.94	(CH) KAT (S) KAT	700 ± 50	
103.98 except 103.984	(CH) (S)	780 ± 50	
	(CH) KAT (S) KAT	650 ± 50; as of 06/90 750 ± 50	
103.984	(CH) KAT (S) KAT	700 ± 50	
103.94	(J)	700 ± 50	35-45%
103.98		650 ± 50	
103.94	(USA)	700 ± 50	
103.98		650 ± 50; as of model year 1990 700 ± 50	





Special tools






Commercially available testers (see Workshop Equipment Manual)

Designation	e.g. Make, order no.
Multimeter	Sun, DMM-5
Engine tester	Bosch, MOT 002.02

Symbols for testers

	Multimeter
	Contact
	Connector
	Ground

Symbols for test mode with multimeter

	Voltage measurement (volts, DC voltage)
	Current measurement (amperes, DC)
	Resistance measurement (ohms)





Test conditions

- Engine oil temperature approx. 80°C
- Battery voltage 11–14 V

Note

See appropriate wiring diagram volume for wiring diagrams.

The voltage on analog instruments may drop to 0 volts. Engine speed increases when the coupling is unplugged from the microswitch.

Test step	Test scope	Test connection	Operation/Requirement	Specification	Possible cause/Remedy
1.0 ¹⁾	Test idle speed air valve (Y6)	Test cable (034) to idle speed air valve (Y6) 1 —  — 2	Engine: idling	650 ± 50 mA	Open circuit in wiring KE control unit (N3)
2.0 ¹⁾	Test idle speed air valve (Y6)	Connect engine tester (026) to diagnostic socket (X11)	Engine: idling	21–27° Δ or 35–45 %	Idle speed air valve faulty, Open circuit in wiring
3.0		Briefly apply battery voltage and ground to idle speed air valve	Engine: idling Coupling at idle speed air valve (Y6) unplugged	Idle speed air valve can be heard to operate	Replace idle speed air valve
4.0		 —  — Y6 — 1	Ignition: ON	11–14 V	Open circuit in wiring
5.0	Resistance at idle speed air valve	Y6 1 —  — 2	Ignition: OFF Coupling at idle speed air valve (Y6) unplugged	7.5–10 Ω	Idle speed air valve (Y6)

¹⁾ Test step 1.0 for all models as of model year 1990, test step 2.0 for all models up to model year 1989.