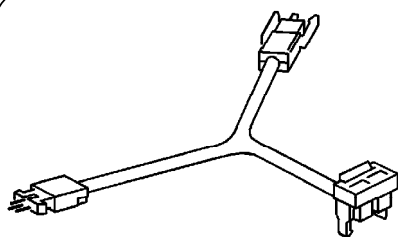


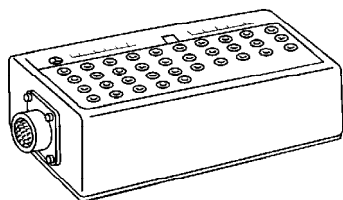
Electrical Test Program – Preparation for Test

Special Tools



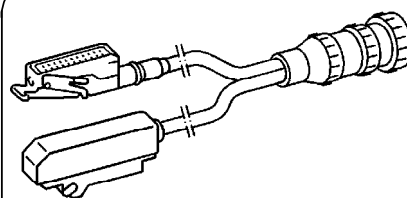
102 589 04 63 00

Test cable



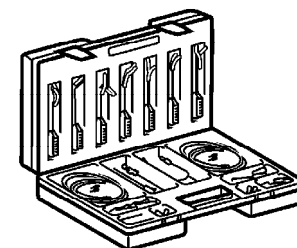
124 589 00 21 00

35-pin socket box



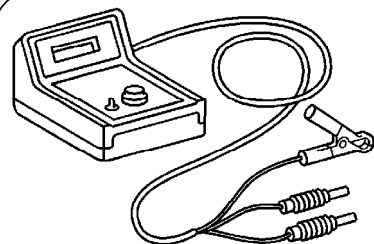
104 589 00 63 00

Test cable



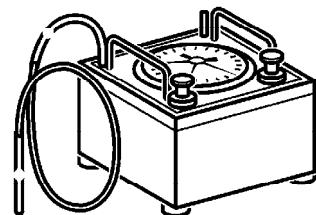
201 589 00 99 00

Electrical connecting set



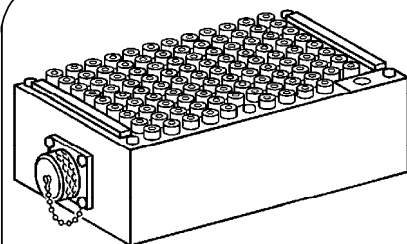
124 589 19 21 00

Pulse counter



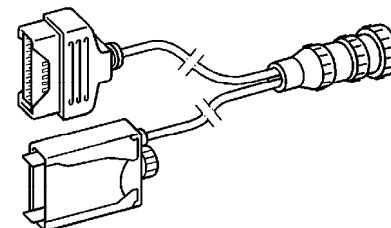
201 589 13 21 00

Tester



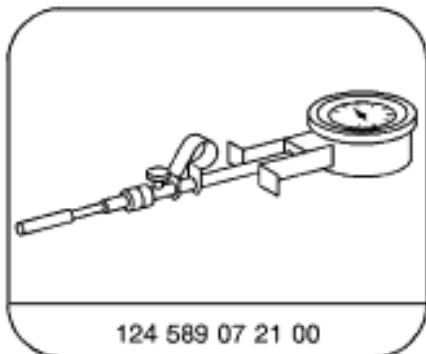
129 589 00 21 00

126-pin socket box



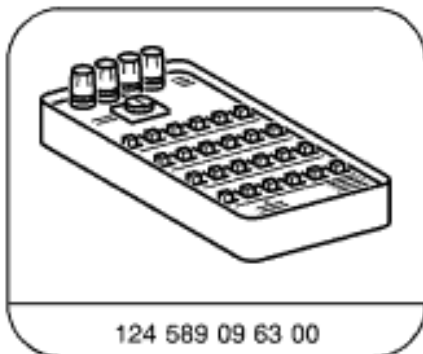
129 589 05 63 00

22-pin test cable



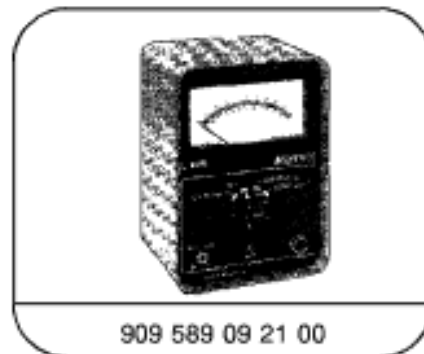
124 589 07 21 00

Remote thermometer



124 589 09 63 00

Ohm decade



909 589 09 21 00

On-Off Ratio Tester

Electrical Test Program – Preparation for Test

Conventional tools, test equipment

Description	Brand, model, etc.
Multimeter ¹⁾	Fluke models 23, 83, 85, 87
Engine analyzer ¹⁾	Bear DACE (Model 40-960) Sun MEA-1500MB

¹⁾ Available through the MBUSA Standard Equipment Program.

Connection diagrams, see section 0.

Electrical wiring diagrams, see Electrical Troubleshooting Manual.



The preliminary test “Engine Test, Adjustment” must be performed prior to any testing in the Diagnostic Manual (see DM, Engines, Volume 1, section B).

- DTC or On-off Ratio Readout

CFI control module:

If there is no display when performing the DTC readout, then test steps 1.0 to 3.0 and 10.0 must be performed.
- Engine systems

control module:

If there is no display when performing the DTC readout, then test steps 4.0 to 7.0 must be performed.

Electrical Test Program – Preparation for Test

Connector Layout – CFI Control Module (N3)

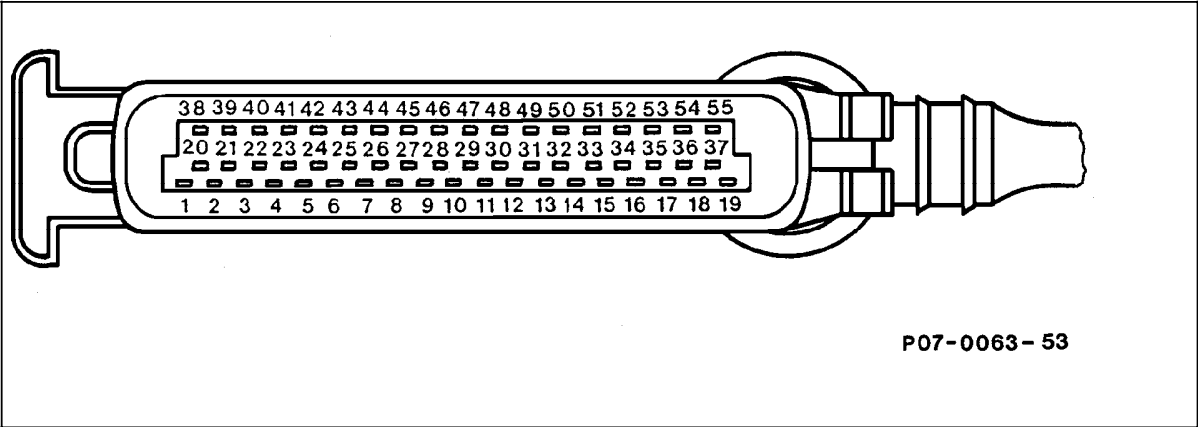


Figure 1

P07-0063-53

1E	Voltage supply, circuit 30a	21	–	41E	Voltage supply, components
2A	Purge control valve	22A	Right adjustable camshaft timing solenoid (Y49/2)	42	Control signal, secondary air injection pump
3A	Control signal, O2S 1 heater	23A	ISC valve (–)	43	–
4A	ISC valve (+)	24	“CHECK ENGINE” MIL	44	–
5E	IAT sensor (ground)	25	–	45E	A/C compressor engagement signal
6E	Ground W16	26E	Data exchange with N1/3	46E	WOT/CTP switch, WOT
7A	DTC readout memory	27E	RPM signal (TNA)	47E	WOT/CTP switch, CTP
8A	Fuel consumption signal	28E	Ignition/starter switch, circuit 50	48	–
9E	Voltage supply, components	29E	Vehicle speed signal	49	–
10	–	30A	Lambda output, on-off ratio to X11	50	–
11E	Starter engagement signal, circuit 50	31A	VAF sensor, socket 3	51	–
12	–	32A	O2S 1 wire shielding	52E	VAF sensor, socket 2
13E	O2S 1 signal	33	–	53	–
14E	IAT sensor signal	34E	VAF sensor, socket 1	54	–
15	–	35A	Ground, ECT sensor (B11/2), socket 4	55E	Electrohydraulic actuator (–)
16E	ECT sensor (B11/2), socket 2	36	–		
17	–	37A	Electrohydraulic actuator (+)		
18E	Diagnostic signal, O2S 1 heater	38A	EGR switchover valve (Y27)	A	Output signal
19E	Ground W11 (electronics)	39A	Transmission shift point control	E	Input signal
20A	Start valve control	40A	Left adjustable camshaft solenoid (Y49/1)		

Electrical Test Program – Preparation for Test

Connector Layout – Engine Systems Control Module

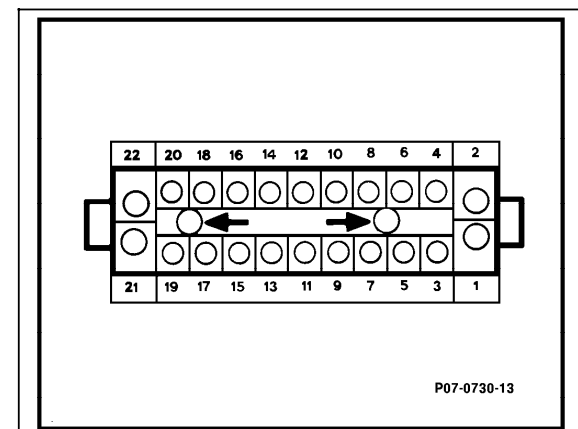
Figure 2

- 1E Voltage supply, circuit 30
- 2A Fuel pump relay
- 3E A/C compressor control signal
- 4E Circuit 31, ground
- 5E RPM signal (+) for A/C compressor
- 6E RPM signal (–) for A/C compressor
- 7E Kickdown shut-off
- 8A Diagnostic signal, O2S 1 heater
- 9A A/C compressor engagement signal
- 10E Voltage supply, circuit 15 unfused (ignition)
- 11A TNA-signal (engine rpm)
- 12E Starter signal
- 13E Engine 104: Not used
Engine 119: Vehicle speed signal
- 14A Diagnostics – DTC readout
- 15 Not used
- 16E TN-signal from DI control module
- 17E Secondary air injection pump – input
- 18E O2S 1 heater – input
- 19A Secondary air injection pump – output
- 20A O2S 1 heater – output
- 21E Voltage supply, circuit 15 fused (ignition)
- 22A A/C compressor clutch – output

A Output signal

E Input signal

Arrow Safety lock



P07-0730-13