

B 1 Engine Test, Adjustment¹⁾07-1100¹⁵⁾

With starting or warm up complaints do not condition engine to operating conditions but proceed according to complaint.

Listing of Test Steps

| | | |
|----|--|---|
| 1 | Test equipment | connect/disconnect according to connection diagram |
| 2 | Throttle control linkage | check throttle valve for free movement and condition. Lubricate bearings, gate levers and ball sockets. |
| 3 | Engine coolant level | check, correct. |
| 4 | Engine oil temperature | check. |
| 5 | Engine control module version ⇒ Ignition: ON | read, only possible using HHT, see Parts Microfiche, group 54. |
| 6 | DTC's in engine control module (ME-SFI) ⇒ Ignition: ON | read using HHT . |
| 7 | Engine oil level | check, observe condition of oil. |
| 8 | Fuel tank level | check. |
| 9 | WOT contact, CTP contact at pedal value sensor | check. |
| 10 | Fuel pressure | check. |
| 11 | Engine rpm at Idle (transmission selector lever in P/N position) | check. |
| 12 | ECT | check. |
| 13 | IAT | check. |

⚠ WARNING!

Release pressure using 2 or 3 way valve on gauge.

- 1) Only possible using HHT (Test and Adjustment Data, section A).
- 15) Time Guide operation no. and/or SMS job no.

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| | | |
|----|---|--------|
| 14 | Ignition timing | check. |
| 15 | Throttle valve angle | check. |
| 16 | Throttle valve stop | check. |
| 17 | Battery voltage | check. |
| 18 | Purge valve on-off ratio | check. |
| 19 | Injection time ⇒ Engine: at Idle | check. |
| 20 | EA actuator | check. |
| 21 | Deceleration shut-off⇒ Engine: decelerating | check. |
| 22 | AIR pump ⇒ Engine: at idle | check. |
| 23 | CTP and WOT recognition | check. |
| 24 | Camshaft adjustment solenoid | check. |
| 25 | Camshaft Hall-effect sensor | check. |
| 26 | Air mass ⇒ Engine: at Idle | check. |
| 27 | MAP voltage | check. |
| 28 | O2S 1 voltage (before TWC) | check. |
| 29 | Lambda control (before TWC) | check. |
| 30 | O2S 2 voltage (after TWC) | check. |
| 31 | Lambda control (after TWC) | check. |
| 32 | Self-adaptation ⇒ Engine: at Idle/partial load | check. |

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| | | |
|----|--|--|
| 33 | Transmission range (selector lever position P/N) | check. |
| 34 | A/C compressor | check. |
| 35 | Purge control system | check. |
| 36 | Safety fuel shut-off | check. |
| 37 | Torque | check. |
| 38 | Idle speed under load | check with selector lever in "D"(with service and parking brake applied) and consumers on. |

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**Connection Diagram –
Engines 111, 119, 120 ME-SFI
(shown on model 140, engine 120)**

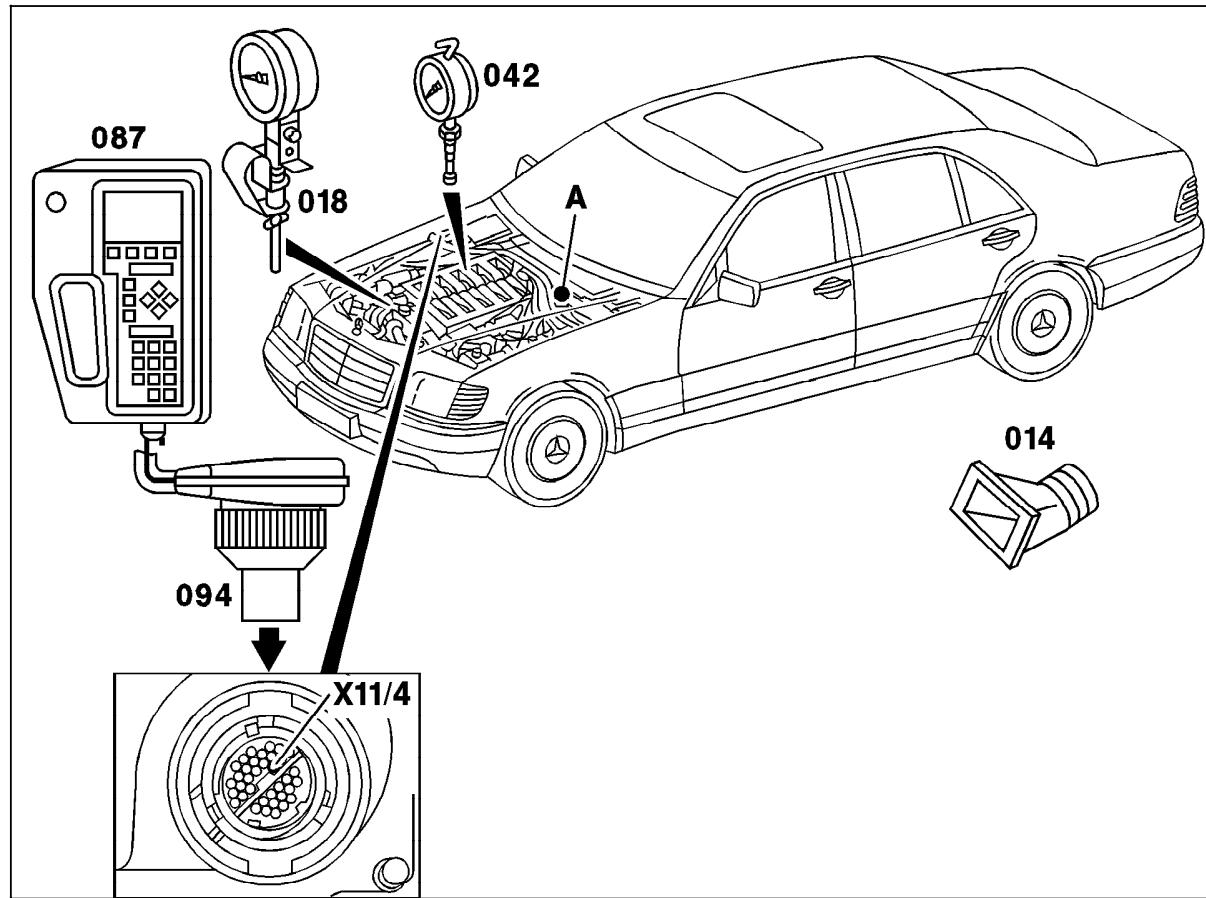
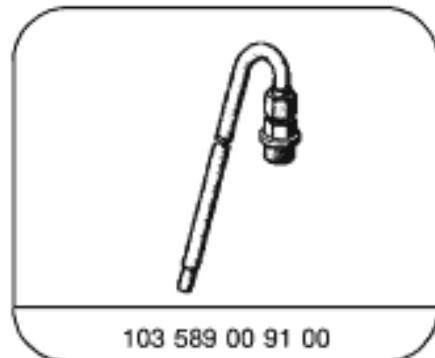


Figure 1

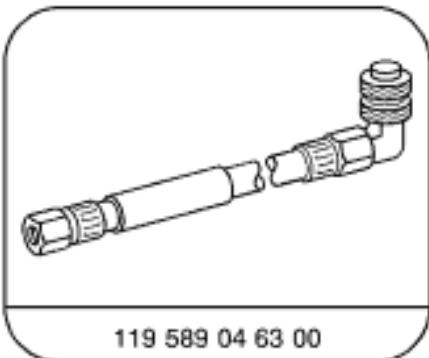
- | | |
|-------|---|
| A | Throttle linkage |
| X11/4 | Data link connector, (DTC readout, 38-pole) |
| 014 | Exhaust vent hose |
| 018 | Oil thermometer |
| 042 | Pressure gauge |
| 087 | Hand-Held Tester (HHT) |
| 094 | Multiplexer |

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B 1 Engine Test, Adjustment**Special Tools**

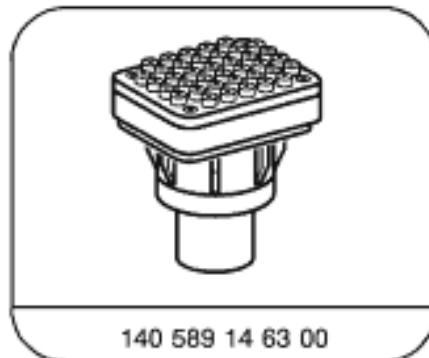
103 589 00 91 00

Measuring connection



119 589 04 63 00

Pressure hose



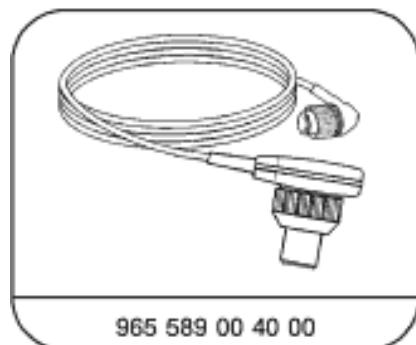
140 589 14 63 00

Adapter



965 589 00 01 00

Hand-Held-Tester



965 589 00 40 00

Test cable

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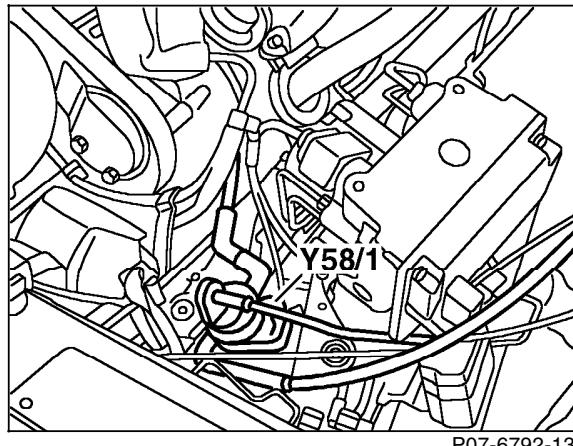


Figure 2
Model 129, Engine 119
Y58/1 Purge control valve

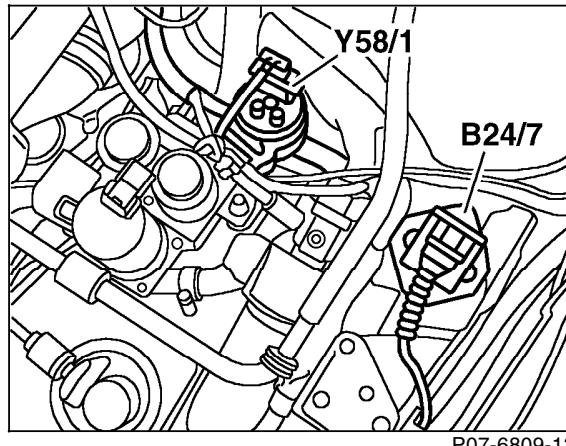


Figure 3
Model 140, Engine 119
Y58/1 Purge control valve

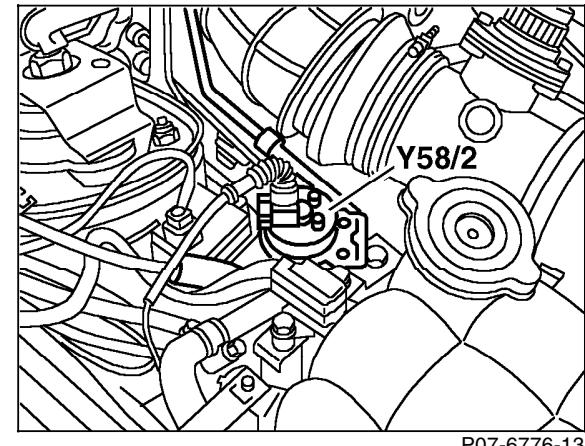
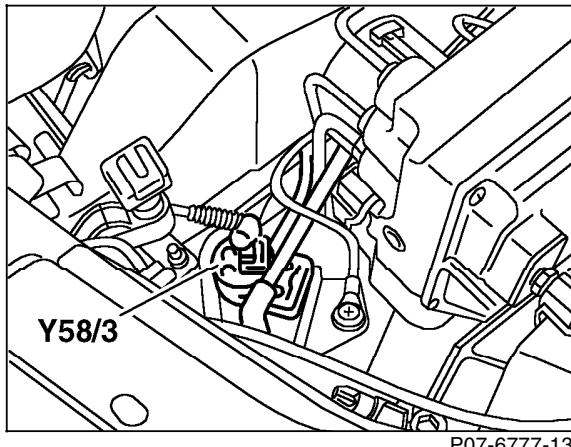


Figure 4
Model 129, Engine 120
Y58/2 Left purge control valve
Located on right side of engine

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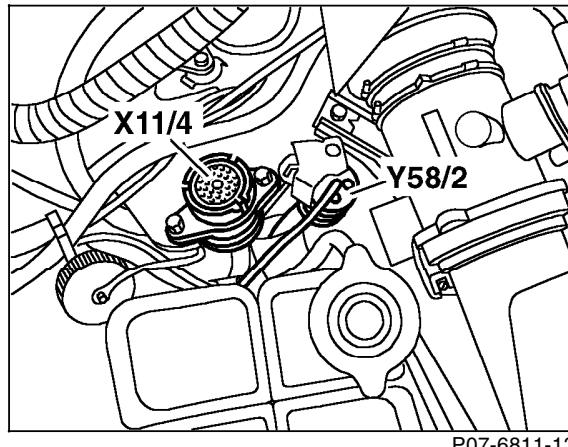


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Figure 5

Model 129, Engine 120

Y58/3 Right purge control valve
Located on left side of engine

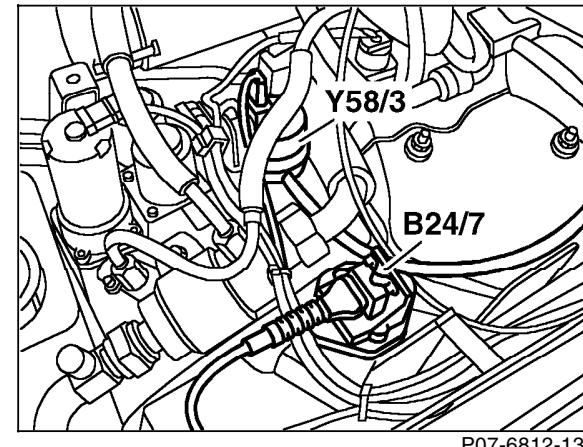


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Figure 6

Model 140, Engine 120

Y58/2 Left purge control valve
Located on right side of engine



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Figure 7

Model 140, Engine 120

Y58/3 Right purge control valve
Located on left side of engine

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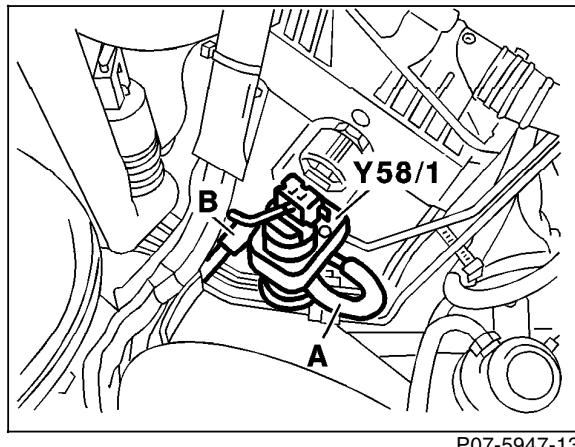


Figure 8
Model 202, Engine 111
Y58/1 Purge control valve

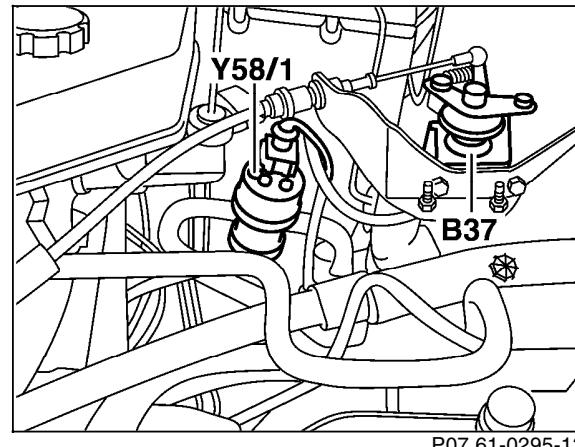


Figure 9
Model 170, Engine 111
Y58/1 Purge control valve

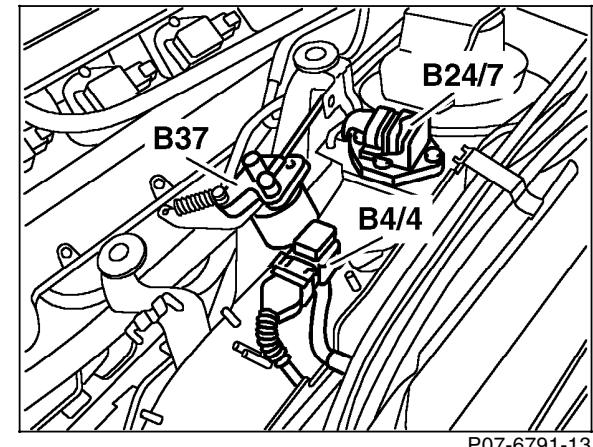


Figure 10
Model 129
B37 Pedal value sensor