

## 1.1 Models 124.034/036, 129.067/076, 140 (with EDS, LH-SFI, ME-SFI)

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### Diagnosis - Diagnostic Trouble Code (DTC) Memory

#### CAUTION!

On vehicles with ME-SFI (for identification see: control module box), the base module (BM) (N16/1) is not equipped with DTC memory. DTC's can only be retrieved by performing the Electrical Test Program 23.

#### Test Preparation for DTC Readout

1. Connect impulse counter scan tool and adapter or HHT to data link connector (X11/4) as shown in section 0.

#### Note:

Connect yellow wire from impulse counter scan tool as follows:

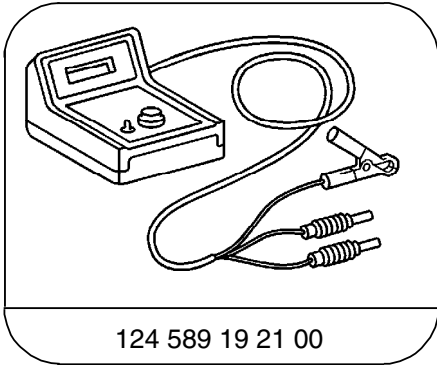
|   |           |
|---|-----------|
| Base module (BM) (N16/1)  | socket 8  |
| ABS or ASR control module (N30 or N30/1) or ASR/SPS control module (N47-1) or ESP/SPS control module (N47-5)  | socket 6  |
| SPS control module (N49/1)  | socket 12 |
| ADS control module (N51)  | socket 11 |
| EDS control module (N39), LH-SFI or Right LH-SFI control module (N3/1 or N3/3), ME-SFI (Engine 119) or ME-SFI (Engine 120) right engine control module (N3/10, N3/12) | socket 4  |
| Left LH-SFI control module (N3/2) or ME-SFI (Engine 120) left engine control module (N3/11)   | socket 5  |

2. Ignition: **ON**
3. Read DTC memory (as applicable) for appropriately connected: BM, ABS or ASR, ASR/SPS, ESP/SPS, ME-SFI, ADS, LH-SFI control modules.

## 1.1 Base Module (BM)

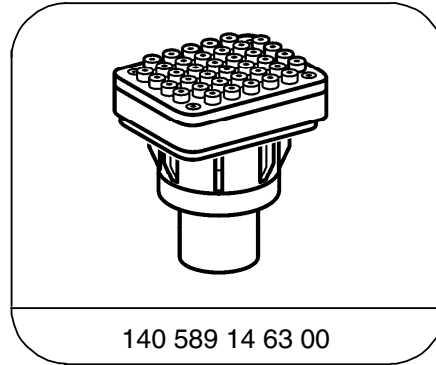
Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

### Special Tools



124 589 19 21 00

Pulse counter



140 589 14 63 00

Adapter

### Equipment



| Description                          |  |
|--------------------------------------|--|
| Hand-Held Tester (HHT) <sup>1)</sup> | see applicable Service Information in groups 58 and 99 |

<sup>1)</sup> Available through the MBUSA Standard Equipment Program.

## 1.1 Base Module (BM)

## Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

### Diagnosis – Diagnostic Trouble Code (DTC) Memory

| DTC<br> |  | Possible cause  | Test step/Remedy <sup>1)</sup>                        |
|--|---|---|---|
| 001  | 01  | No fault in system.   | In case of complaint: 23 (entire test)                |
| 005  | 05  | Maximum allowable temperature in module box (F23) exceeded <sup>2)</sup> .  | 23⇒ 19.0  |
| 006  | 06  | A/C electromagnetic clutch (A9k1) jammed or poly-V-belt broken.   | 23⇒ 15.0, visually inspect compressor and poly-V-belt |
| 007  | 07  | Poly-V-belt slips.  | 23⇒ 15.0, check poly-V-belt tension                   |
| 008  | 08  | <b>Engine 120:</b> Left LH-SFI control module (N3/2) voltage supply, open circuit.  | 23⇒ 4.0   |
| 009  | 09  | <b>Engine 104, 119:</b> LH-SFI control module (N3/1) voltage supply, open circuit.<br><b>Engine 120:</b> Right LH-SFI control module (N3/3) voltage supply, open circuit. | 23⇒ 3.0   |
| 010  | 010   | Base module (N16/1) voltage supply output fuse F2, open circuit.  | 23⇒ 6.0, 8.0  |
| 011  | 011   | Base module (N16/1) voltage supply output fuse F3, open circuit.  | 23⇒ 11.0  |
| 012  | 012   | Base module (N16/1) voltage supply output fuse F1, open circuit.  | 23⇒ 10.0  |
| 013  | 013   | Base module (N16/1) voltage supply output fuse F4, open circuit.  | 23⇒ 5.0, 7.0  |
| 015  | 015   | Kickdown switch (transmission mode) (S16/7), short circuit.   | 23⇒ 20.0  |
| 016  | 016   | A/C electromagnetic clutch (A9k1), short circuit.   | 23⇒ 15.0  |
| 017  | 017   | Module box blower motor (M2/2), short circuit <sup>2)</sup> .   | 23⇒ 19.0  |

<sup>1)</sup> Observe Preparation for Test, see 22.

<sup>2)</sup> Module box blower motor was phased out of production on model 140 starting M.Y. 1994.

## 1.1 Base Module (BM)

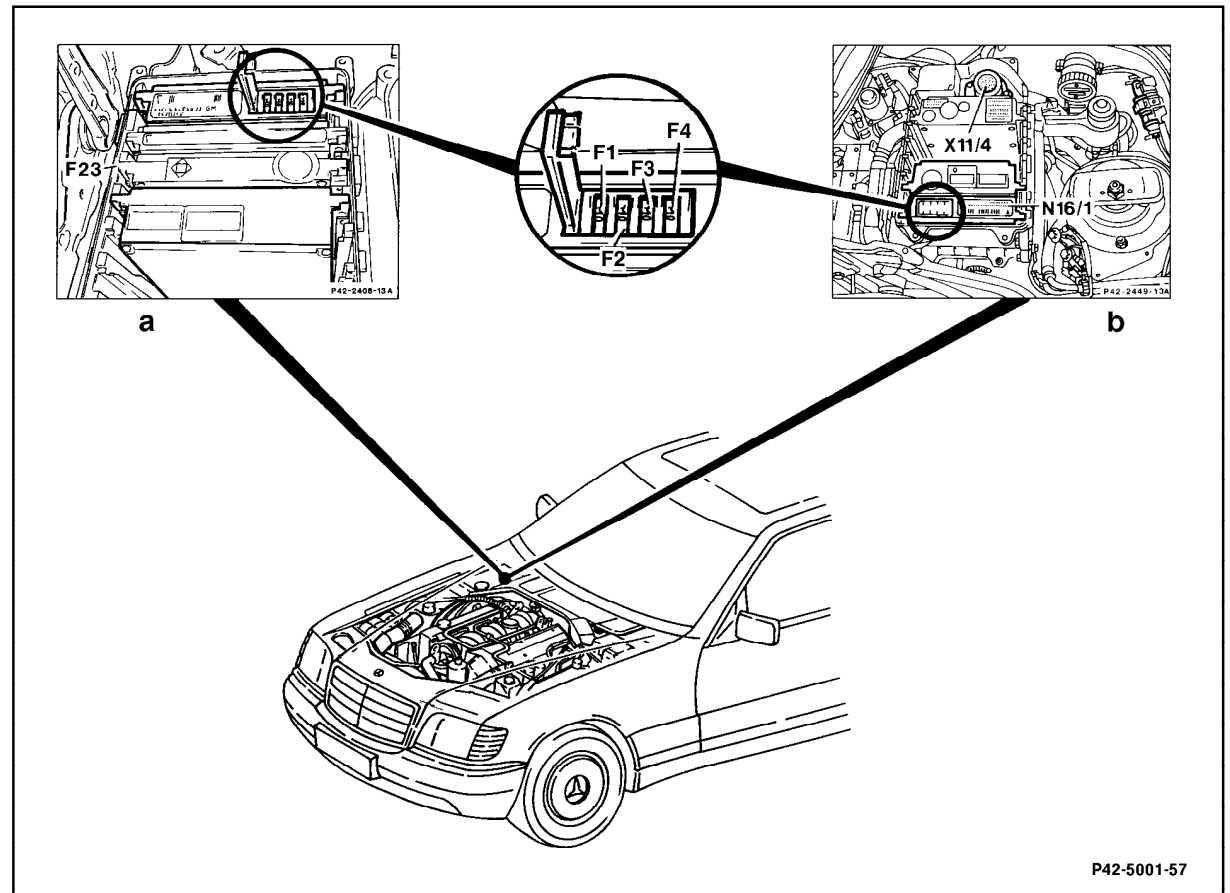
Models 124.34/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

### Electrical Test Program – Component Locations

#### Component Locations – Part 1

Figure 1

- N16/1 Base module (BM)
- F1 Fused voltage supply for Stop lamp switch (S9/1), ABS (N30) or ASR (N30/1) control module, ASD control module (N30/2)
- F2 Fused voltage supply for:
- Engines 104, 119**  
“CHECK ENGINE“ MIL (A1e26), LH-SFI control module (N3/1), DM (N59) (M.Y. 1992 Calif. engines), FP relay module (K27).  
**Engines 104, 119 (→ approx. 08/92)**  
Ignition control module (N1/3), AIR relay module (K17), Transmission upshift delay relay module (K29), Upshift delay solenoid valve (Y3/2), EGR switchover valve (Y27), Adjustable camshaft timing solenoid (Y49), Left adjustable camshaft timing solenoid (Y49/1), Right adjustable camshaft timing solenoid (Y49/2), Purge control valve (Y58/1), Injectors (Y62).  
**Engines 104, 119 (approx. 09/92 →)**  
Ignition control module (N1/3, 06/91 →), Injectors (Y62).
- Engine 120**  
“CHECK ENGINE“ MIL (A1e26), Right ignition control module (N1/5, 06/91 →), Right LH-SFI control module (N3/3), DM (N59, M.Y. 1992), AIR relay module (K17), FP relay modules (K27/1 and K27/2), Upshift delay solenoid valve (Y3/2), Right EGR switchover valve (Y27/3), Right adjustable camshaft timing solenoid (Y49/2), Right purge control valve (Y58/3), Right injectors (Y64).
- Engine 603**  
EDS control module (N39), EGR switchover valve (Y27), EGR valve vacuum transducer (Y31/1), Boost pressure control vacuum transducer (Y31/4), Boost pressure cut-out switchover valve (Y31/6).
- a Location of N16/1 in models 129, 140
- b Location of N16/1 in model 124



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# 1.1 Base Module (BM)

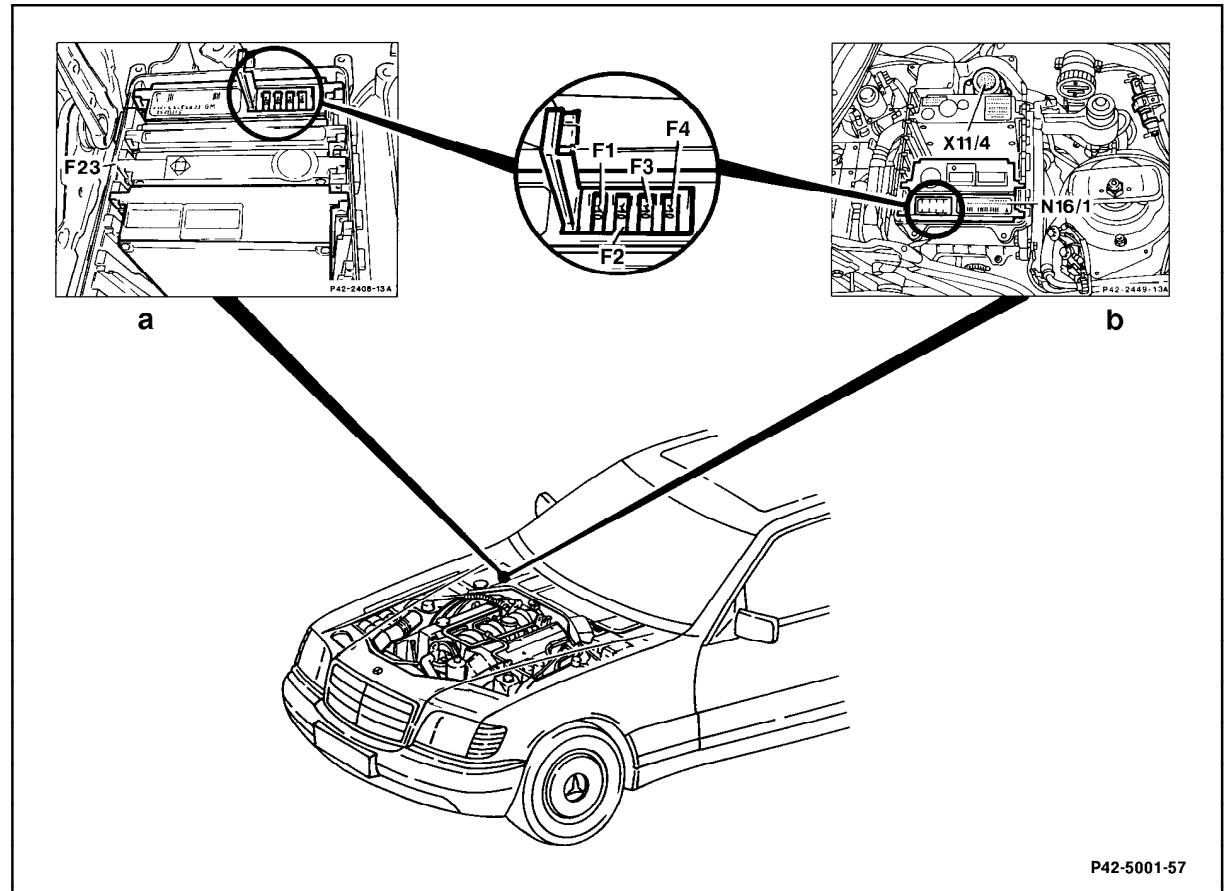
Models 124.34/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

## Electrical Test Program – Component Locations

### Component Locations – Part 2

Figure 2

- N16/1 Base module (BM)
  - F3 Fused voltage supply for SPS (N49/1), ADS (N51), Transmission control module (TCM) (5-speed automatic) (N15/1)
  - F4 Fused voltage supply for:
    - Engines 104, 119 (approx. 09/92 →)**
    - AIR relay module (K17), Fuel pumps relay module (K27), Transmission upshift delay relay module (K29), Upshift delay solenoid valve (Y3/2), EGR switchover valve (Y27), Adjustable camshaft timing solenoid (Y49), Left adjustable camshaft timing solenoid (Y49/1), Right adjustable camshaft timing solenoid (Y49/2), Purge control valve (Y58/1).
    - Engine 120**
    - Left ignition control module (N1/4, 06/91 →), Left LH-SFI control module (N3/2), Fuel pumps relay modules (K27/1 and K27/2), Left EGR switchover valve (Y27/2), Left adjustable camshaft timing solenoid (Y49/1), Left purge control valve (Y58/2), Left injectors (Y63).
- a Location of N16/1 in models 129, 140
- b Location of N16/1 in model 124



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Electrical Test Program – Preparation for Test

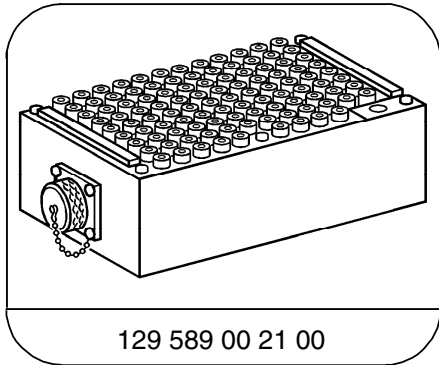
Preliminary work:  
Diagnosis - Diagnostic Trouble Code (DTC) Memory ..... 11

- 1. Ignition: **OFF**
- 2. Disconnect base module (BM, N16/1).
- 3. Connect socket box with contact module 1 and contact box according to connection diagram (Figure 1 or 2) on following pages.

Wiring Diagrams

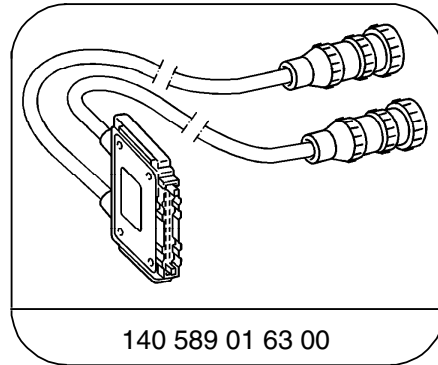
Electrical Troubleshooting Manual, Model 124, Starting M.Y. 1993,  
Electrical Troubleshooting Manual, Model 129,  
Electrical Troubleshooting Manual, Model 140.

Special Tools



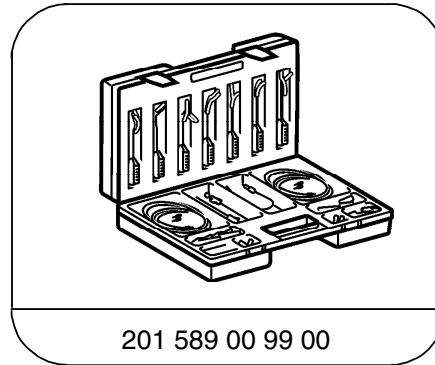
129 589 00 21 00

126-pin socket box



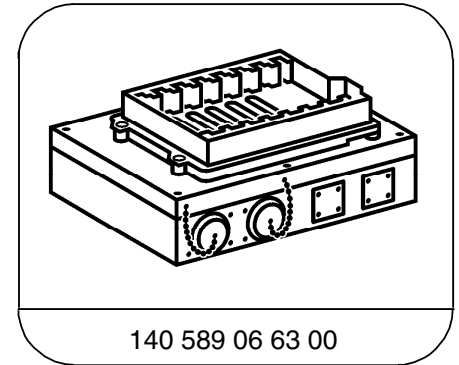
140 589 01 63 00

Contacting module 1



201 589 00 99 00

Electrical connecting set



140 589 06 63 00

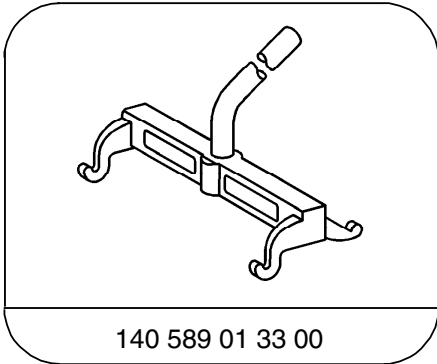
Contacting box

## 1.1 Base Module (BM)

Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

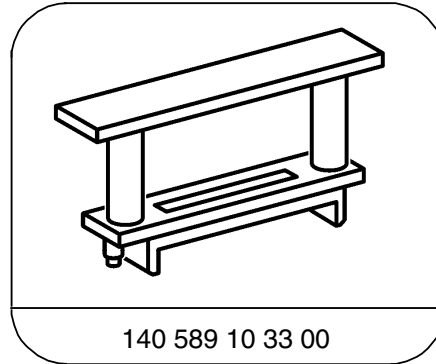
### Electrical Test Program – Preparation for Test

#### Special Tools



140 589 01 33 00

Mounting lever



140 589 10 33 00

Spacer

#### Conventional tools, test equipment

| Description                      | Brand, model, etc.          |
|----------------------------------|-----------------------------|
| Digital Multimeter <sup>1)</sup> | Fluke models 23, 83, 85, 87 |

<sup>1)</sup> Available through the MBUSA Standard Equipment Program.



# 1.1 Base Module (BM)

Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

## Electrical Test Program – Preparation for Test

### Connection Diagram – Socket Box Model 124

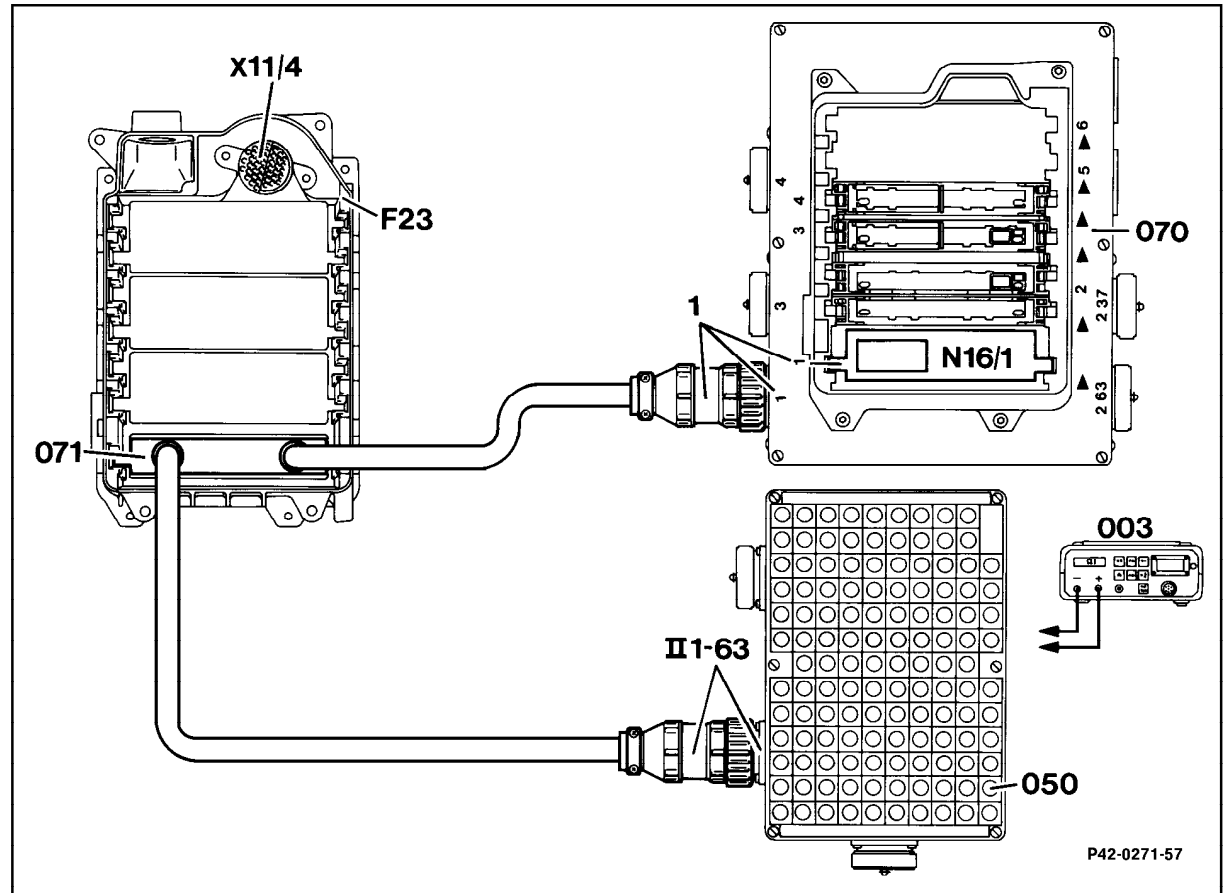


Figure 1

- 003 Multimeter
- 050 Socket box (126-pole)
- 070 Contact box
- 071 Contact module 1
- F23 Module box
- N16/1 Base module (BM)
- X11/4 Data link connector (DTC readout)

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# 1.1 Base Module (BM)

Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

## Electrical Test Program – Preparation for Test

Connection Diagram – Socket Box Model 129

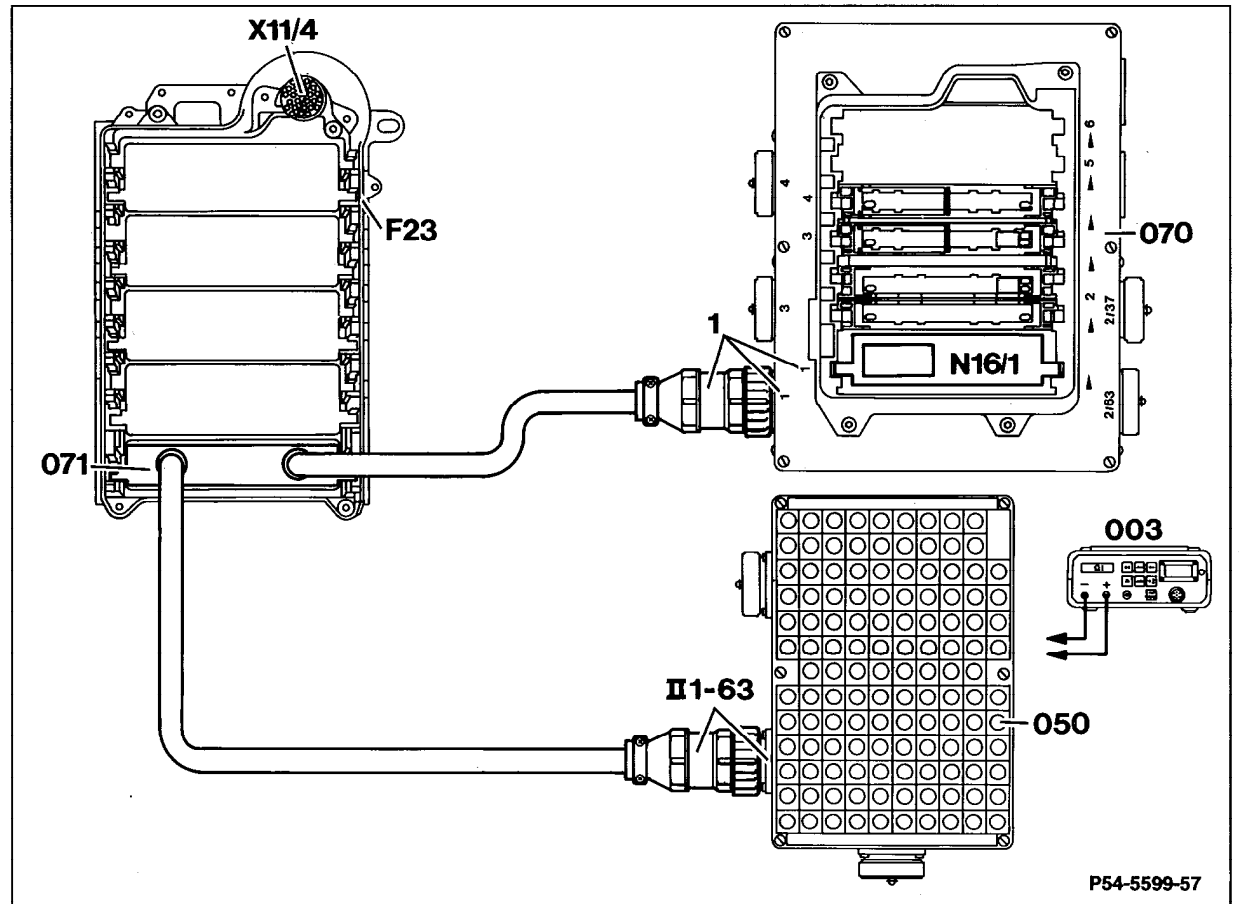


Figure 2

- 003 Multimeter
- 050 Socket box (126-pole)
- 070 Contact box
- 071 Contact module 1
- F23 Module box
- N16/1 Base module (BM)
- X11/4 Data link connector (DTC readout)

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P54-5599-57

# 1.1 Base Module (BM)

Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

## Electrical Test Program – Preparation for Test

Connection Diagram – Socket Box  
Model 140

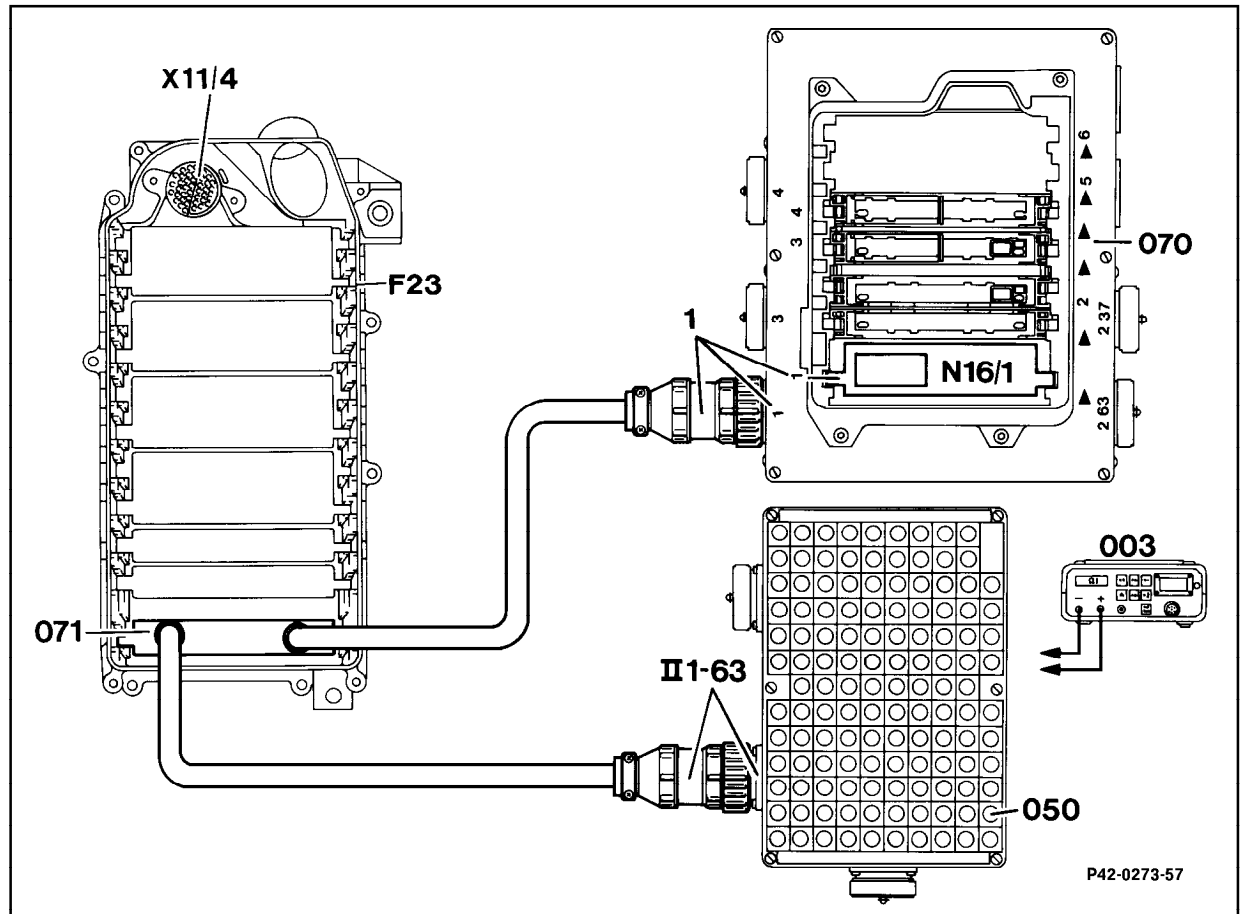


Figure 3

- 003 Multimeter
- 050 Socket box (126-pole)
- 070 Contact box
- 071 Contact module 1
- F23 Module box
- N16/1 Base module (BM)
- X11/4 Data link connector


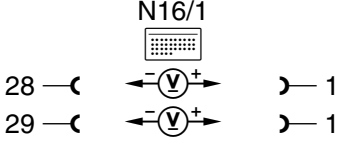
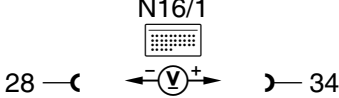

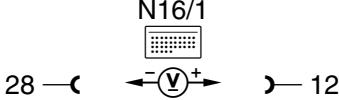
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P42-0273-57

## 1.1 Base Module (BM)

## Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

### Electrical Test Program – Test

| ⇒   |  | Test scope  | Test connection  | Test condition                                       | Nominal value          | Possible cause/Remedy                      |
|-----|---|---|--|--|------------------------|--|
| 1.0 |   | <b>Base module (N16/1)</b><br>Voltage supply<br>Circuit 30  |  | –  | 11 – 14 V              | Wiring,<br>Battery (G1).                   |
| 2.0 |   | <b>Base module (N16/1)</b><br>Voltage supply<br>Circuit 15, unfused   |  | –<br>Ignition: <b>ON</b><br><br>Ignition: <b>OFF</b> | 11 – 14 V<br><br>< 1 V | Wiring,<br>Ignition/starter switch (S2/1). |
| 3.0 |  | <b>Voltage supply (unfused)</b><br>for:<br><b>Engines 104, 119 LH-SFI</b><br>N3/1, N59 (M.Y. 93 Calif.<br>version only)<br><br><b>Engine 120 LH-SFI</b><br>N3/3, N59<br><br><b>Engine 119, 120 ME-SFI</b><br>N3/10, N3/12 |  | –  | 11 – 14 V              | ⇒ 1.0,<br>Base module (N16/1).             |

# 1.1 Base Module (BM)

# Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)



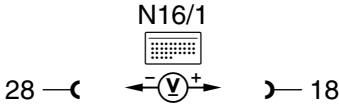
## Electrical Test Program – Test

| ⇒   |  | Test scope  | Test connection                         | Test condition                                  | Nominal value          | Possible cause/Remedy   |
|-----|--|---|---|---|------------------------|---|
| 4.0 |  | <b>Voltage supply (unfused)</b><br>for:<br><b>Engine 120 LH-SFI</b><br>N3/2<br><br><b>Engine 120 ME-SFI</b><br>N3/11  | <p>N16/1<br/>28 —( —( ←(V)→ —) — 11</p> | —   | 11 – 14 V              | ⇒ 1.0,<br>Base module (N16/1).  |
| 5.0 |  | <b>Voltage supply (fused)</b><br>for:<br><b>Engine 120 LH-SFI</b><br>N3/2, K27/1 or K27/2<br><br><b>Engine 119, 120 ME-SFI</b><br>Z7/36   | <p>N16/1<br/>28 —( —( ←(V)→ —) — 26</p> | Ignition: <b>ON</b><br><br>Ignition: <b>OFF</b> | 11 – 14 V<br><br>< 1 V | Fuse (F4 with LH-SFI, F2 with ME-SFI) in base module (N16/1),<br>⇒ 2.0,<br>N16/1. |
| 6.0 |  | <b>Voltage supply (fused)</b><br>for:<br><b>Engine 104, 119 LH-SFI</b><br>A1e26, N3/1, N59 (M.Y. 92 Calif.), K27<br><br><b>Engine 120 LH-SFI</b><br>A1e26, N3/3, N59 (M.Y. 92 Calif.), K27/1 or K27/2<br><br><b>Engine 119, 120 ME-SFI</b><br>Z7/35 | <p>N16/1<br/>28 —( —( ←(V)→ —) — 7</p>  | Ignition: <b>ON</b><br><br>Ignition: <b>OFF</b> | 11 – 14 V<br><br>< 1 V | Fuse (F2 with LH-SFI, F1 with ME-SFI) in base module (N16/1),<br>⇒ 2.0,<br>N16/1. |

## 1.1 Base Module (BM)

## Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)



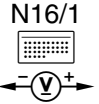
### Electrical Test Program – Test

| ⇒   |  | Test scope  | Test connection   | Test condition   | Nominal value                    | Possible cause/Remedy   |
|-----|---|---|---|--|----------------------------------|---|
| 7.0 |  | <p><b>Voltage supply (fused)</b><br/>for:</p> <p><b>Engine 104, 119 LH-SFI (09/92 →)</b><br/>K17, K29, Y3/2, Y27, Y49, Y49/1, Y49/2, Y58/1</p> <p><b>Engine 120 LH-SFI</b><br/>N1/4 (06/91 →), Y27/2, Y49/1, Y58/2, Y63</p> <p><b>Engine 119, 120 ME-SFI</b><br/>X35/63</p> | <p>N16/1</p>  | <p>Ignition: <b>ON</b></p> <p>Ignition: <b>OFF</b></p> | <p>11 – 14 V</p> <p>&lt; 1 V</p> | <p>Fuse (F4 with LH-SFI, F2 with ME-SFI ) in base module (N16/1), ⇒ 2.0, N16/1.</p> |

# 1.1 Base Module (BM)

# Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)


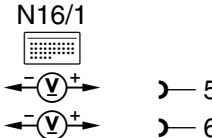

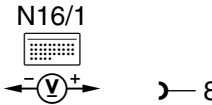

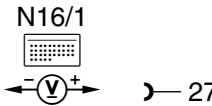
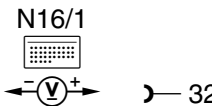


## Electrical Test Program – Test

| ⇒   |  | Test scope  | Test connection  | Test condition   | Nominal value                    | Possible cause/Remedy   |
|-----|---|---|--|--|----------------------------------|---|
| 8.0 |  | <p><b>Voltage supply (fused)</b><br/>for:</p> <p><b>Engine 104, 119 LH-SFI</b><br/>(→ 08/92)<br/>N1/3 (06/91→), K17, K29,<br/>Y3/2, Y27, Y49, Y49/1,<br/>Y49/2, Y58/1, Y62</p> <p><b>Engine 104, 119 LH-SFI</b><br/>(09/92 →)<br/>N1/3, Y62</p> <p><b>Engine 120 LH-SFI</b><br/>N1/5 (06/91→), K17, Y3/2,<br/>Y27/3, Y49/2, Y58/3, Y64</p> <p><b>Engine 603</b><br/>N39, Y27, Y31/1, Y31/4,<br/>Y31/6</p> <p><b>Engine 119, 120 ME-SFI</b><br/>X35/63</p> | <p>N16/1<br/></p> <p>28 —( ← —(V)—+ —) — 38</p> | <p>Ignition: <b>ON</b></p> <p>Ignition: <b>OFF</b></p> | <p>11 – 14 V</p> <p>&lt; 1 V</p> | <p>Fuse (F2 with LH-SFI, F1 with ME-SFI) in base module (N16/1)<br/>⇒ 2.0,<br/>N16/1.</p> |

## 1.1 Base Module (BM)

## Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

### Electrical Test Program – Test


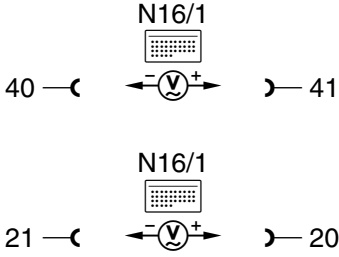
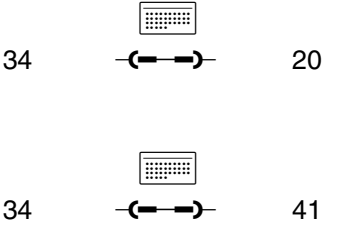
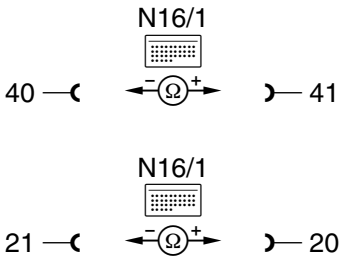
| ⇒    |  | Test scope  | Test connection  | Test condition   | Nominal value          | Possible cause/Remedy  |
|------|---|---|--|--|------------------------|--|
| 9.0  |   | <b>Voltage supply (unfused)</b><br>for:<br><b>Engine 104, 119, 120</b><br><b>LH-SFI</b><br>N4/1   | N16/1<br>   | Ignition: <b>ON</b><br><br>Ignition: <b>OFF</b>  | 11 – 14 V<br><br>< 1 V | ⇒ 2.0,<br>Base module (N16/1).   |
| 10.0 |  | <b>Voltage supply (fused)</b><br>for:<br>N30 or N30/1 or N47-1,<br>N30/2, N47-5, S9/1   | N16/1<br>   | Ignition: <b>ON</b><br><br>Ignition: <b>OFF</b>  | 11 – 14 V<br><br>< 1 V | Fuse (F1 with LH-SFI, F3 with ME-SFI) in base module (N16/1)<br>⇒ 2.0,<br>N16/1. |
| 11.0 |  | <b>Voltage supply (fused)</b><br>for:<br>N49/1, N51, N15/1, N15/3,<br>N49, S16/9, S45/1   | N16/1<br>  | Ignition: <b>ON</b><br><br>Ignition: <b>OFF</b>  | 11 – 14 V<br><br>< 1 V | Fuse (F3) in base module (N16/1)<br>⇒ 2.0,<br>N16/1.                             |
| 12.0 |   | <b>Idle speed increase signal</b><br>for:<br><b>Engine 104, 119, 120</b><br><b>LH-SFI</b><br>N4/1<br><br><b>Model 129 with engine 119</b><br><b>ME-SFI</b><br>N3/10 | N16/1<br> | Engine: <b>at Idle</b><br><br><br><br> | 10 – 14 V<br><br>< 1 V | ⇒ 13.0,<br>⇒ 14.0,<br>N16/1.   |



## 1.1 Base Module (BM)

## Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)


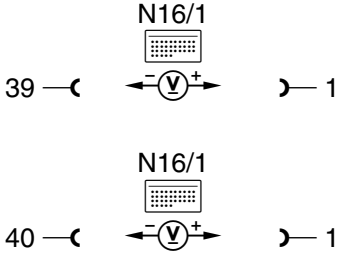





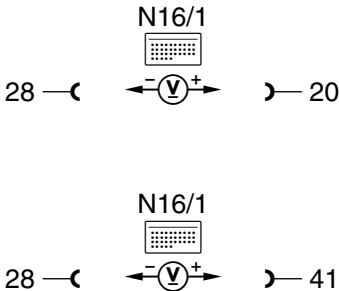


### Electrical Test Program – Test

| ⇒    |  | Test scope   | Test connection   | Test condition  | Nominal value  | Possible cause/Remedy |
|------|---|--|---|---|--|-----------------------|
| 13.0 |   | <b>A/C compressor RPM sensor signal (A9/1)</b><br><br><b>Model 124, 129, 140.0 LH-SFI,</b><br><b>Model 129 with ME-SFI</b><br><br><b>Model 140.1</b> |   | Engine: <b>at Idle</b><br><br> | <b>Model 124, 129</b><br>> 0.30 V<br><br><b>Model 140.0</b><br>> 0.04 V<br><br><b>Model 140.1</b><br>> 0.04 V          | ⇒ 13.1                |
| 13.1 |   | Resistance<br><br><b>Model 124, 129, 140.0 LH-SFI,</b><br><b>Model 129 with ME-SFI</b><br><br><b>Model 140.1</b>                                     |  | Ignition: <b>OFF</b><br><br>Disconnect base module (N16/1) from contact box.                                      | <b>Model 124, 129</b><br>530 – 900 Ω<br><br><b>Model 140.0</b><br>165 – 205 Ω<br><br><b>Model 140.1</b><br>165 – 205 Ω | Wiring, A9/1.         |

# 1.1 Base Module (BM)

# Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)


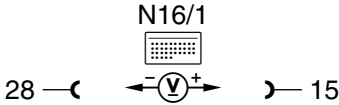
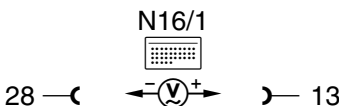
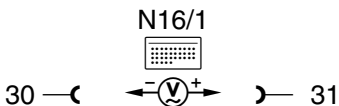
## Electrical Test Program – Test

| ⇒    |    | Test scope  | Test connection  | Test condition   | Nominal value          | Possible cause/Remedy   |
|------|---|---|--|--|------------------------|---|
| 14.0 |   | <b>A/C “ON” signal</b><br>from A/C pushbutton control module (N22)<br><br><b>Model 124, 129, 140.0 LH-SFI,</b><br><b>Model 129 with ME-SFI</b><br><br><b>Model 140.1</b>                  |    | Ignition: <b>ON</b><br><br><br><br>    | 11 – 14 V<br><br>< 2 V | Wiring,<br>See DM, Climate Control, Vol. 1, section 3.1 or 3.2, 23. |
| 15.0 | <br><br> | <b>A/C compressor electromagnetic clutch (A9k1)</b><br>Voltage supply<br>Circuit 15<br><br><b>Model 124, 129, 140.0 LH-SFI,</b><br><b>Model 129 with ME-SFI</b><br><br><b>Model 140.1</b> |  | Engine: <b>at idle</b><br><br><br> | 11 – 14 V<br><br>< 1 V | ⇒ 13.0<br>⇒ 15.1<br>Base module (N16/1).                            |

## 1.1 Base Module (BM)

## Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)


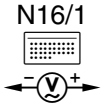

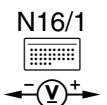

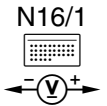
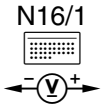
### Electrical Test Program – Test

| ⇒    |  | Test scope  | Test connection  | Test condition                                  | Nominal value          | Possible cause/Remedy                     |
|------|---|---|--|---|------------------------|---|
| 15.1 |   | <b>Base module (N16/1)</b><br>Voltage supply<br>Circuit 15<br><br><b>Models 124, 129, 140.0 LH-SFI, 140.1</b><br><b>Model 129 with ME-SFI only</b>  |    | Ignition: <b>ON</b><br><br>Ignition: <b>OFF</b> | 11 – 14 V<br><br>< 1 V | Wiring,<br>Fuse.                          |
| 16.0 |   | <b>RPM signal TN or TD (output)</b><br>to EA/CC/ISC control module (N4/1) and tachometer (A1p5)<br><br><b>Models 124, 129, 140.0 LH-SFI, 140.1 only</b>   |    | Engine: <b>at Idle</b>                          | >3 V                   | Wiring,<br>⇒17.0,<br>Base module (N16/1). |
| 17.0 |   | <b>RPM signal TN (input)</b><br>from LH-SFI or ME-SFI control module (N3/1 or N3/3 or N3/10)<br><b>Engine 104, 119:</b> N3/1, N3/10<br><b>Engine 120:</b> N3/3<br><br><b>Model 140.0 LH-SFI, Model 129 with ME-SFI only</b> |  | Engine: <b>at Idle</b>                          | >3 V                   | Wiring,<br>N3/1 or N3/3,<br>N16/1.        |

## 1.1 Base Module (BM)

## Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

### Electrical Test Program – Test


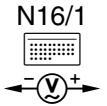
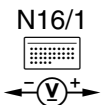
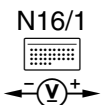
| ⇒    |  | Test scope   | Test connection  | Test condition                                   | Nominal value  | Possible cause/Remedy                   |
|------|---|--|--|--|--|---|
| 18.0 |   | <b>Processed RPM signal TD (input)</b><br>from EDS control module (N39)<br><br><b>Model 140.1 only</b>                       | N16/1<br>   | Engine: <b>at Idle</b>                           | >2.8 V<br>(voltage drops with increased rpm, by approx. 0.5 V, then stabilizes). | Wiring,<br>N39,<br>Base module (N16/1). |
| 19.0 |  | <b>Module box blower motor (M2/2) <sup>1)</sup></b><br>Voltage supply<br><br><b>Model 124, 129 only</b>                      | N16/1<br>   | Engine: <b>at Idle</b><br>RPM > 1500 rpm         | 11 – 14 V<br><b>only</b> for approx. 1.5 seconds after reaching > 1500 rpm       | Wiring,<br>⇒17.0,<br>⇒2.0,<br>N16/1.    |
| 20.0 |  | <b>Kickdown switch (S16/7) (transmission mode)</b><br>Voltage supply<br><br><b>Models 124, 129, 140.0 LH-SFI, 140.1 only</b> | N16/1<br>  | Engine: <b>at Idle</b><br><br>Engine: <b>OFF</b> | 11 – 14 V<br><br>< 1 V   | Wiring,<br>⇒ 17.0,<br>N16/1.            |
| 21.0 |   | <b>Diagnostic output</b><br><br><b>Models 124, 129, 140.0, 140.1 only</b>  | N16/1<br> | Ignition: <b>ON</b>                              | 10 – 14 V  | Wiring,<br>N16/1.                       |

<sup>1)</sup> Module box blower motor was phased out of production on model 140 starting M.Y. 1994..

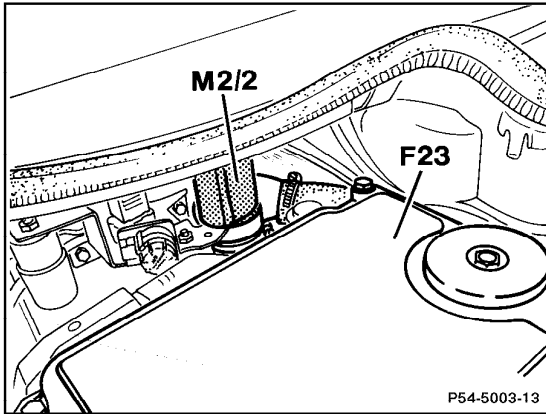
## 1.1 Base Module (BM)

## Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

### Electrical Test Program – Test

| ⇒    |  | Test scope   | Test connection   | Test condition  | Nominal value          | Possible cause/Remedy   |
|------|---|--|---|---|------------------------|---|
| 22.0 |   | <b>Vehicle speed signal (VSS)</b><br>from ABS control module (N30) or ASR control module (N30/1)<br><br><b>Models 124, 129, 140.0 LH-SFI, 140.1 only</b> | N16/1<br>  | Ignition: <b>ON</b><br>Raise vehicle<br>Turn right front wheel at 1 rev./second | >3 V                   | Wiring,<br>ABS DM, Chassis & Drivetrain, Vol. 2, section 6.1 or 6.2 23,<br>ASR DM, Chassis & Drivetrain, Vol. 2, section 5.1 or 5.2 23. |
| 23.0 |   | <b>A/C compressor cut-out/EGR microswitch (S27/6)</b><br><br><b>Model 140.1 only</b>   | N16/1<br>  | Depress accelerator pedal<br><br>Release accelerator pedal                      | 11 – 14 V<br><br>< 1 V | Wiring,<br>S27/6.   |
| 24.0 |   | <b>Diagnostic coupling for diagnostics</b><br>Voltage supply   | N16/1<br> | Ignition: <b>ON</b>   | 10 – 14 V              | Wiring,<br>Base module (N16/1).   |

Electrical Test Program – Test

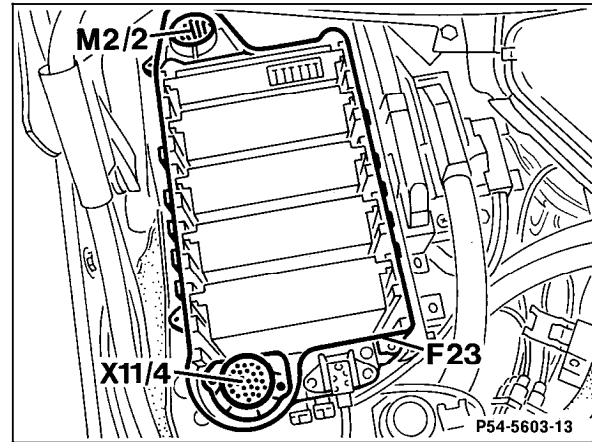


P54-5003-13

P54-5003-13

Figure 1  
Model 124

M2/2 Module box blower motor

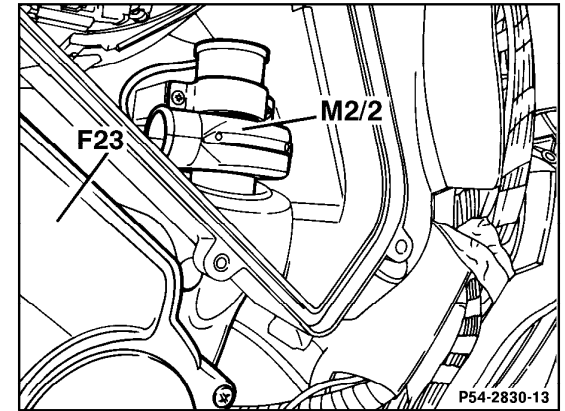


P54-5603-13

P54-5603-13

Figure 2  
Model 129

M2/2 Module box blower motor



P54-2830-13

P54-2830-13

Figure 3  
Model 140

M2/2 Module box blower motor

# 1.1 Base Module (BM)

# Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

## Electrical Test Program – Test

### Connector Layout – Base Module (BM) (N16/1)

#### Part 1, Sockets 1 – 20

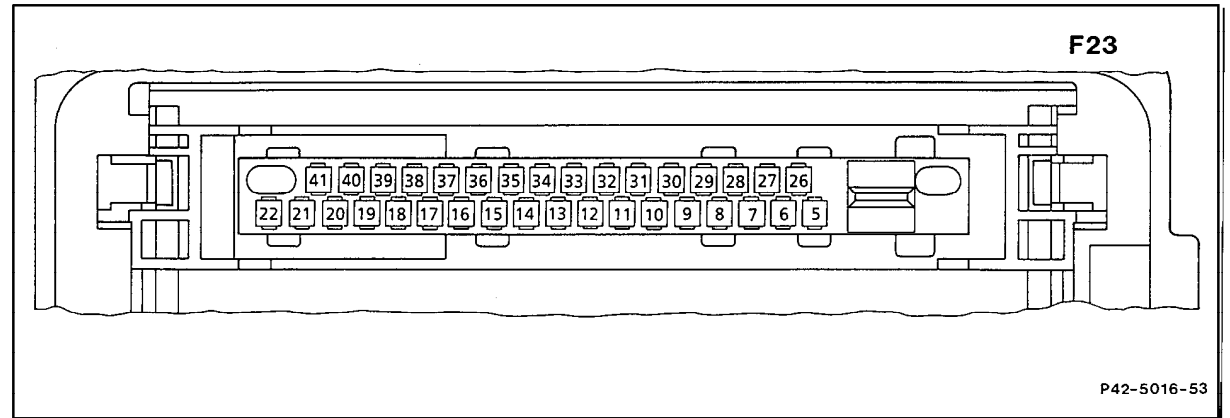


Figure 4

Models 124, 129, 140.0

P42-5016-53

|     |   |       |   |
|-----|---|-------|---|
| F23 | Module box  | 14    | Processed VSS from ABS (N30) or ASR (N30/1) control module  |
| 1   | Voltage supply circuit 30 (wide socket)   | 15    | Voltage supply, circuit 15  |
| 2-4 | Not used  | 16-17 | –   |
| 5   | EA/CC/ISC control module (N4/1)   | 18    | <b>Engine 104, 119 (09/92 →):</b> AIR relay module (K17), Upshift delay solenoid valve (Y3/2), EGR switchover valve (Y27), Left/right adjustable camshaft timing solenoid (Y49/1, Y49/2), Purge control valve (Y58/1) |
| 6   | EA/CC/ISC control module (N4/1)   |       | <b>Engine 120 LH-SFI:</b> Left DI control module (N1/4), EGR switchover valve (Y27/2), Adjustable camshaft timing solenoid (Y49/1), Purge control valve (Y58/2), Left injectors (Y63)                                 |
| 7   | LH-SFI control module (N3/1, N3/3), ME-SFI control module (N3/10, N3/12), FP relay (K27, K27/1, K27/2), DM (N59), "CHECK ENGINE" MIL (A1e26), Circuit 87 connector sleeve (Z7/35) |       | <b>Engine 120 ME-SFI</b> Control module box/engine separation point (X35/63)  |
| 8   | ABS control module (N30), ASR control module (N30/1), ASR/SPS control module (N47-1), ESP/SPS control module (N47-5), ASD control module (N30/2), ASD/ASR stop lamp switch (S9/1) | 19    | Module box blower motor (M2/2)  |
| 9   | Voltage supply for data link connector (X11/4)  | 20    | A/C compressor electromagnetic clutch (A9k1)  |
| 10  | –   |       |   |
| 11  | <b>Engine 120:</b> LH-SFI control module (N3/2), ME-SFI control module (N3/11)  |       |   |
| 12  | LH-SFI control module (N3/1, N3/3), DM (N59)  |       |   |
| 13  | Engine speed signal TN (output)   |       |   |

# 1.1 Base Module (BM)

# Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

## Electrical Test Program – Test

### Connector Layout – Base Module (BM) (N16/1) Part 2, Sockets 21 – 41

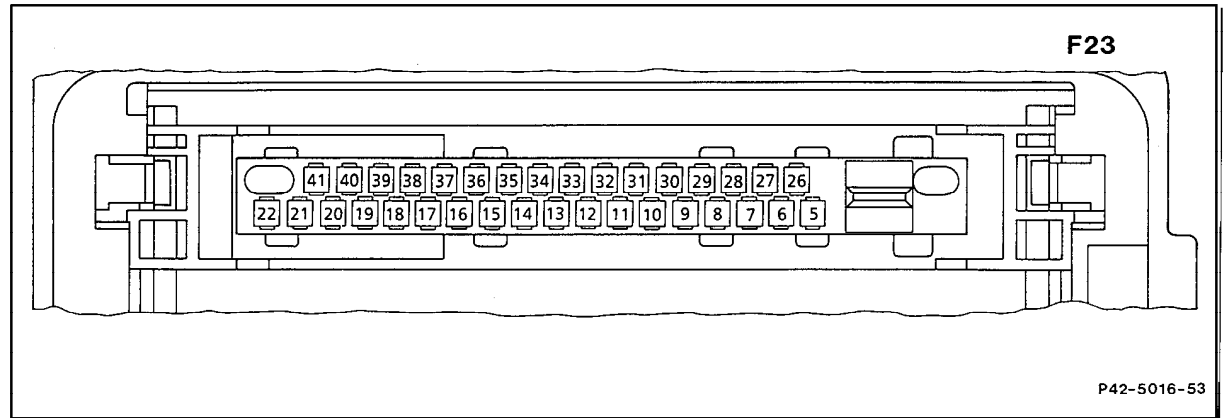


Figure 5

Models 124, 129, 140.0

|       |  |    |   |
|-------|--|----|---|
| F23   | Module box   | 35 | –   |
| 21-25 | –  | 36 | Kickdown switch (transmission mode) (S16/7)   |
| 26    | <b>Engine 120, LH-SFI:</b> LH-SFI control module (N3/2), FP relay (K27/1, K27/1), DM (N59), “CHECK ENGINE” MIL (A1e26)<br><b>Engine 119, 120, ME-SFI:</b> Circuit 87 connector sleeve (Z7/36)  | 37 | –   |
| 27    | ADS (N51), SPS (N49/1), Transmission, 5-speed automatic) (N15/1), control modules, ETC control module (N15/3), Steering angle sensor (N49), Transmission range “D” contact switch (5-spd automatic transmission) (S16/9), Comfort/sport switch (ADS) (S45/1) | 38 | <b>Engine 104, 119 (→08/92) and Engine 120:</b> DI control module (N1/3, N1/5), AIR relay module (K17), Transmission upshift delay relay module (K29), Upshift delay solenoid valve (Y3/2), EGR /right switchover valve, (Y27, Y27/3), adjustable, left/right adjustable camshaft timing solenoid (Y49, Y49/1, Y49/2), Purge /right purge control valve (Y58/1, Y58/3), Injectors, right injectors (Y62, Y64) |
| 28    | Ground (W15 or W27)  |    | <b>Engine 104, 119 (09/92 →):</b> DI control module (N1/3), Injectors (Y62)   |
| 29    | Ground (W15 or W27)  |    | <b>Engine 119, 120, ME-SFI:</b> Control module  |
| 30    | Engine speed signal TN (input) from LH-SFI control module (N3/1 or N3/3)   | 39 | box/engine separation point (X35/63)  |
| 31    | Engine speed signal TN (input) from LH-SFI control module (N3/1 or N3/3)   | 40 | A/C “ON” signal   |
| 32    | Idle speed increase signal for EA/CC/ISC control module (N4/1)   | 41 | A/C compressor RPM sensor (A911) (–)  |
| 33    | Diagnosis (output)   |    | A/C compressor RPM sensor (A911) (+)  |
| 34    | Voltage supply, circuit 15, unfused  |    |   |

P42-5016-53



# 1.1 Base Module (BM)

# Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

## Electrical Test Program – Test

### Connector Layout – Base Module (BM) (N16/1) Part 1, Sockets 1 – 20

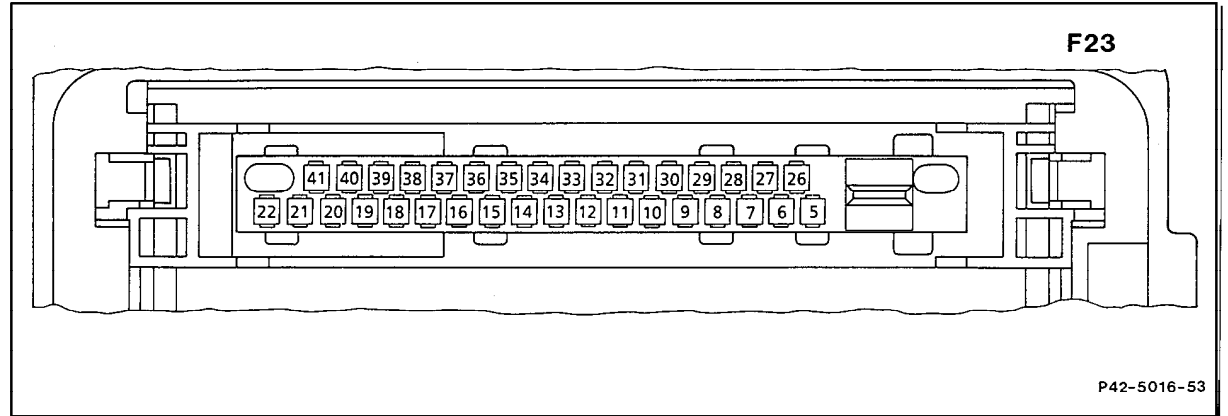


Figure 6

Model 140.1

P42-5016-53

P42-5016-53

|       |   |       |  |
|-------|---|-------|--|
| F23   | Module box  | 14    | Processed VSS from ABS (N30) or ASR (N30/1) control module |
| 1     | Voltage supply, circuit 30 (wide socket)  | 15    | Voltage supply, circuit 15                                 |
| 2-7   | –   | 16-17 | –  |
| 8     | ABS control module (N30), or ASR control module (N30/1), ASD control module (N30/2) and ASD/ASR stop lamp switch (S9/1) | 18    | Processed engine speed signal TD (input)                   |
| 9     | Voltage supply for data link connector (X11/4)  | 19    | Module box blower motor (M2/2)                             |
| 10-12 | –   | 20    | A/C compressor RPM sensor (A911) (+)                       |
| 13    | Processed engine speed signal TD (output)   |       |  |

# 1.1 Base Module (BM)

# Models 124.034/036, 129.067/076, 140 (EDS, LH-SFI, ME-SFI)

## Electrical Test Program – Test

### Connector Layout - Base Module (BM) (N16/1) Part 2, Sockets 21 – 41

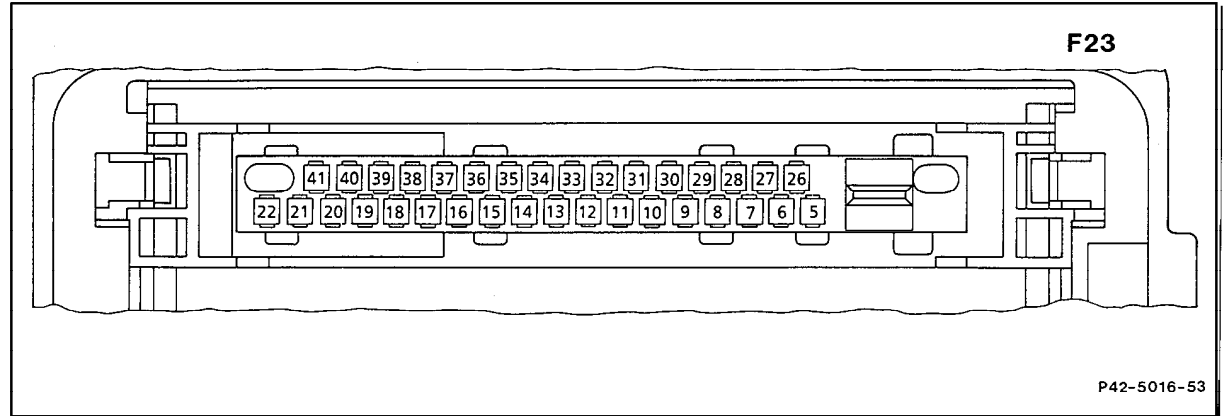


Figure 7

### Model 140.1

P42-5016-53

|       |  |    |   |
|-------|--|----|---|
| F23   | Module box   | 36 | Kickdown switch (transmission mode) (S16/7)   |
| 21    | A/C compressor RPM sensor (A9I1) (–)   | 37 | –   |
| 22-26 | –  | 38 | EDS control module (N39), EGR switchover valve (Y27), EGR valve vacuum transducer (Y31/1), Pressure control flap vacuum transducer (Y31/4), Boost pressure cut-out switchover valve (Y31/6) |
| 27    | SPS control module (N49/1), Comfort/sport switch (S45/1), ADS control module (N51) | 39 | A/C compressor cut-out/EGR microswitch (S27/6)  |
| 28    | Ground (electronics output ground) (W15)   | 40 | A/C “ON” signal   |
| 29    | Ground (electronics output ground) (W15)   | 41 | A/C compressor electromagnetic clutch (A9k1)  |
| 30-32 | –  |    |   |
| 33    | Diagnosis (output)   |    |   |
| 34    | Voltage supply, circuit 15, unfused  |    |   |
| 35    | –  |    |   |