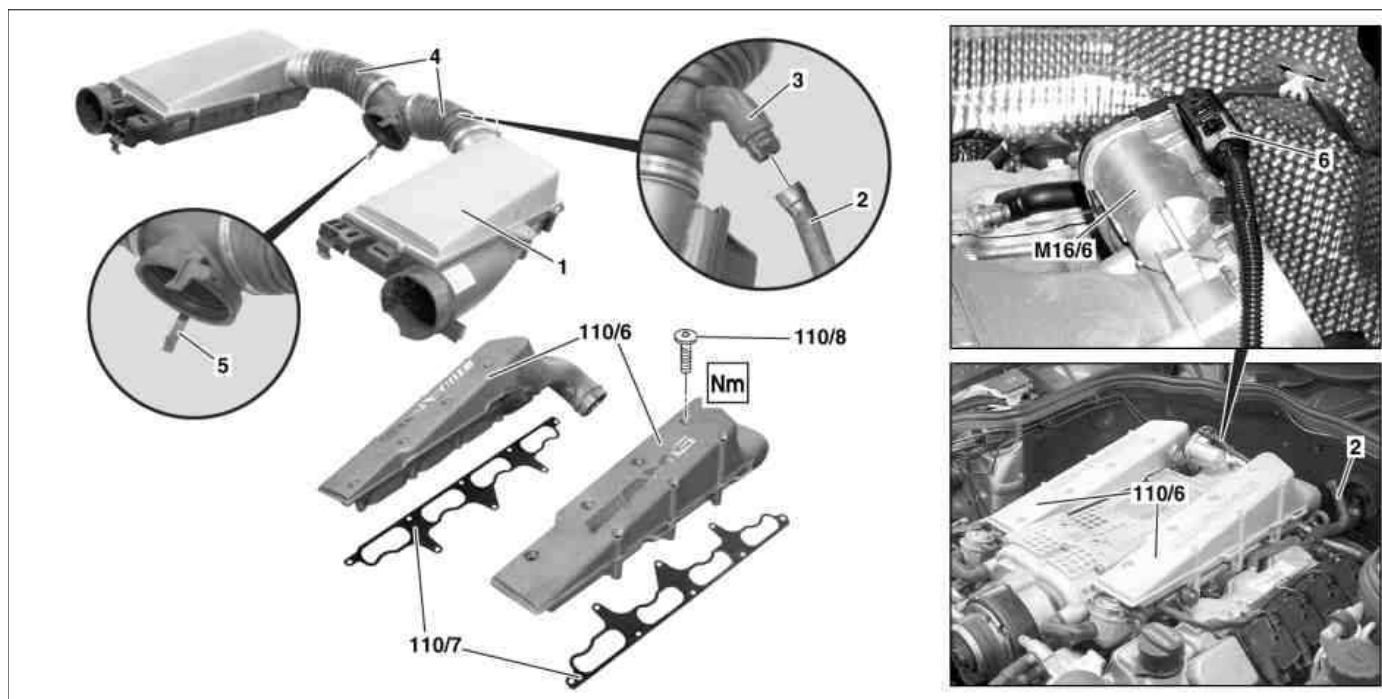


Engine 112.960 in model 170.466  
 Engine 112.961 in model 203.065/265  
 Engine 113.990 in model 211.076/276  
 Engine 113.991 in model 215.374, 220.074/174  
 Engine 113.992 in model 230.474  
 Engine 113.995 in model 230.472

## Modification notes

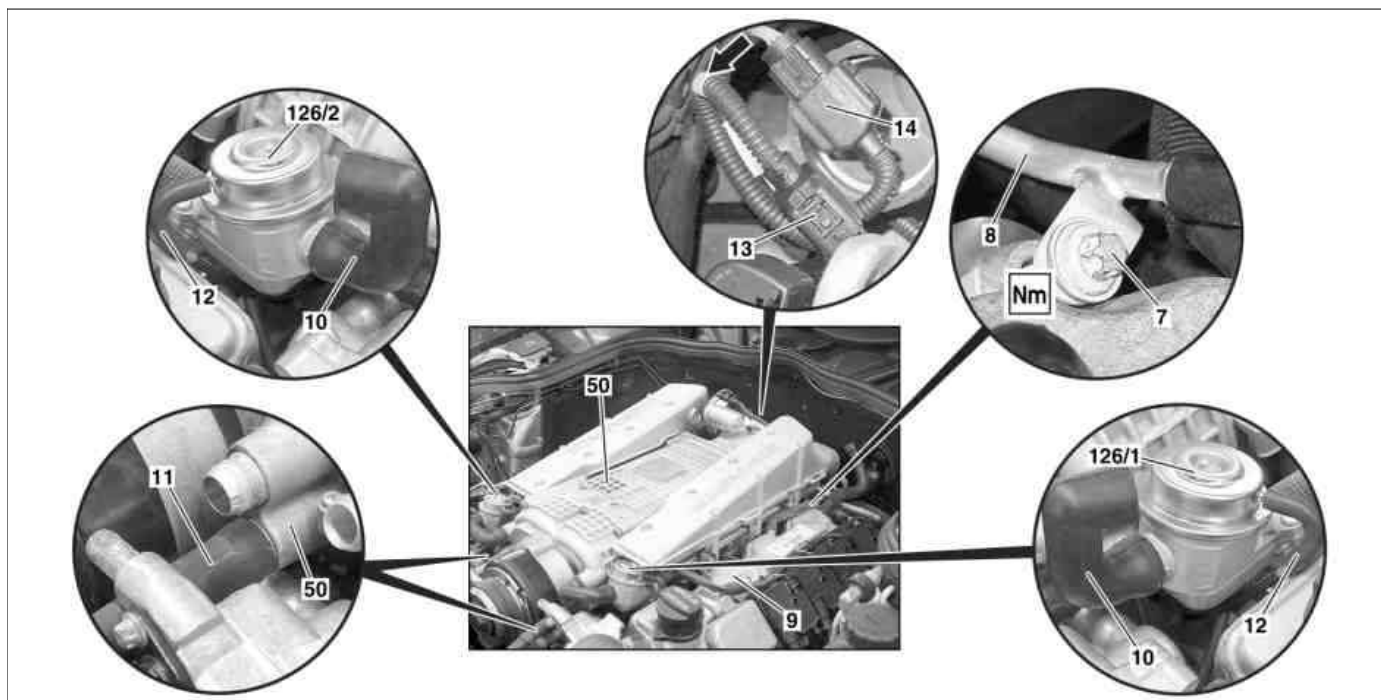
|            |                                                |  |  |
|------------|------------------------------------------------|--|--|
| 16.05.2006 | Disconnect/connect battery ground line removed |  |  |
|------------|------------------------------------------------|--|--|



P09.50-2085-09

## Shown on engine 113.990

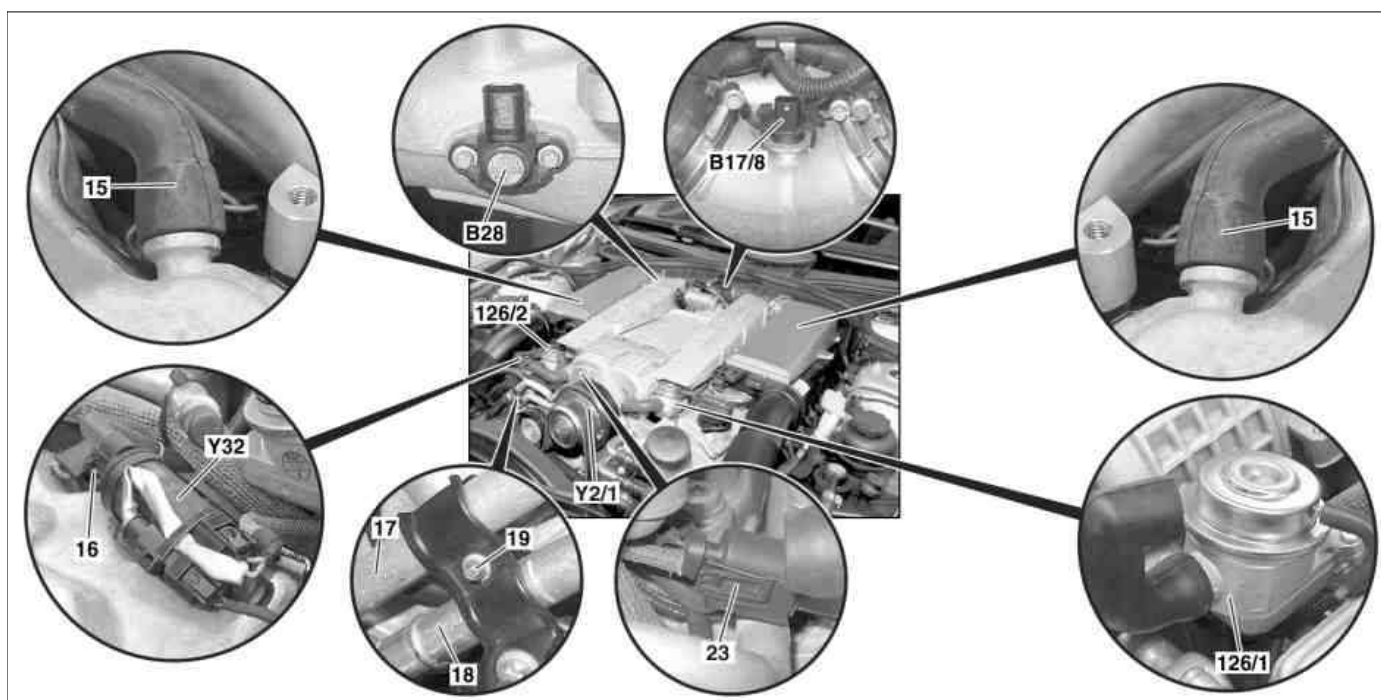
|   |                            |       |                            |       |                         |
|---|----------------------------|-------|----------------------------|-------|-------------------------|
| 1 | Air cleaner housing        | 5     | Catches                    | 110/7 | Seal                    |
| 2 | Crankcase ventilation hose | 6     | Connector                  | 110/8 | Screw                   |
| 3 | Fitting                    | 110/6 | Top charge-air distributor | M16/6 | Throttle valve actuator |
| 4 | Intake lines               |       |                            |       |                         |



P09.50-2086-09

#### Shown on engine 113.990

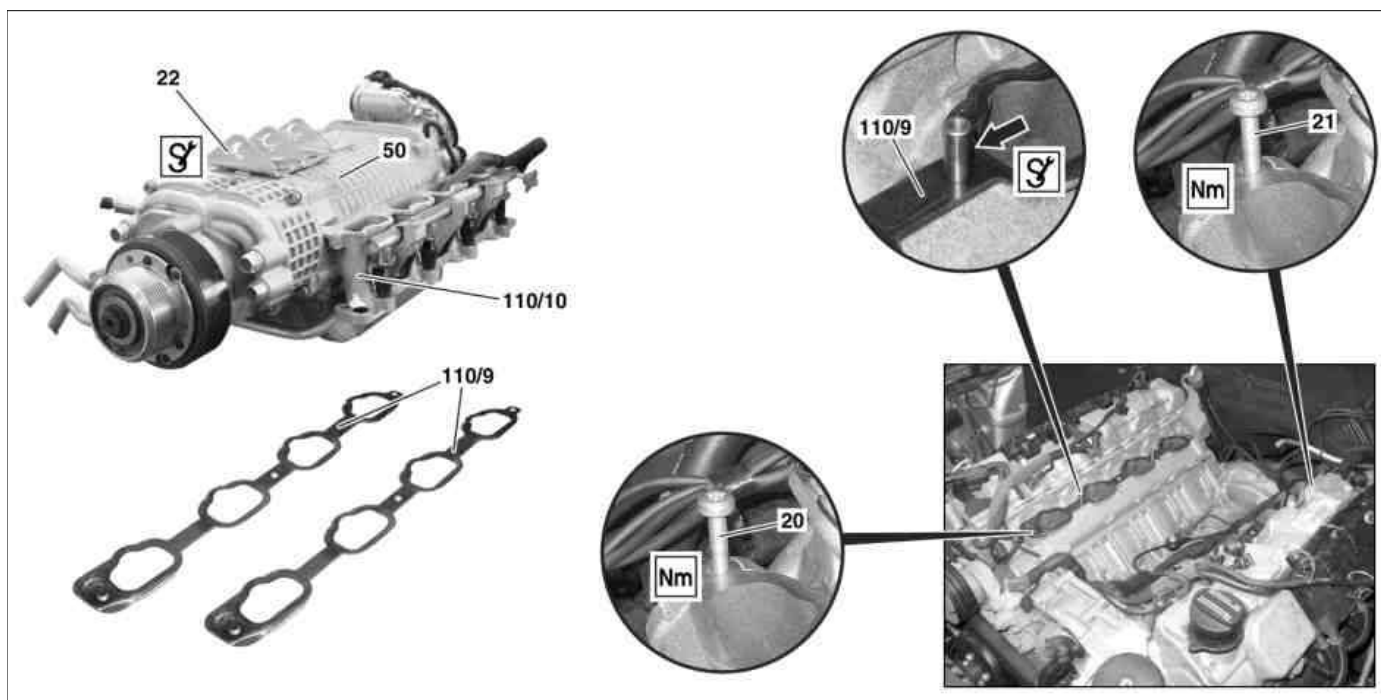
|    |                     |    |                      |       |                         |
|----|---------------------|----|----------------------|-------|-------------------------|
| 7  | Screw               | 11 | Hose                 | 50    | Compressor              |
| 8  | Purge line          | 12 | Vacuum line          | 126/1 | Left air shutoff valve  |
| 9  | Cylinder head cover | 13 | Electrical connector | 126/2 | Right air shutoff valve |
| 10 | Hose                | 14 | Electrical connector |       |                         |



P09.50-2102-09

#### Shown on engine 113.990

|    |                            |       |                         |       |                               |
|----|----------------------------|-------|-------------------------|-------|-------------------------------|
| 15 | Crankcase ventilation hose | 19    | Screw                   | B17/8 | Charge air temperature sensor |
| 16 | Vacuum line                | 23    | Electrical connector    | B28   | Pressure sensor (charge air)  |
| 17 | Coolant return line        | 126/1 | Left air shutoff valve  | Y2/1  | Supercharger magnetic clutch  |
| 18 | Coolant feed line          | 126/2 | Right air shutoff valve | Y32   | Air pump switchover valve     |



P09.50-2088-09

#### Shown on engine 113.990

|    |       |    |            |        |                               |
|----|-------|----|------------|--------|-------------------------------|
| 20 | Screw | 22 | Bracket    | 110/9  | Seal                          |
| 21 | Screw | 50 | Compressor | 110/10 | Bottom charge-air distributor |

|               |                                                                                                                                                                                    |                                                                                                                                                                                                |                                            |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
|               | <b>Remove/install</b>                                                                                                                                                              |                                                                                                                                                                                                |                                            |
| <b>Danger</b> | <b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.                                                                                           | Align vehicle between vehicle lift columns and position the four support plates at the vehicle lift support points specified by the vehicle manufacturer.                                      | AS00.00-Z-0010-01A                         |
| <b>Danger</b> | <b>Risk of explosion</b> caused by fuel igniting, risk of poisoning caused by inhaling and swallowing fuel as well as risk of injury to eyes and skin caused by contact with fuel. | No fires, sparks, open flames or smoking. Pour fuels into suitable and appropriately marked containers only. Wear protective clothing when handling fuel.                                      | AS47.00-Z-0001-01A                         |
| 1             | Activate Service mode in Tele-Aid emergency call system<br>Information on Tele Aid emergency call system                                                                           | Typ 215, 220 mit Code 347 (Notrufsystem TELE AID (D2B)) mit Code 855 (TELE AID)                                                                                                                | AR82.95-P-0005-03AM<br>AH82.95-P-0001-01GA |
| 2             | Detach ground line(s) from battery/batteries                                                                                                                                       | Model 170<br>MODEL 215, 220<br>Do not connect no-load current retention unit.                                                                                                                  | AR54.10-P-0003A<br>AR54.10-P-0003I         |
| 3             | Remove air filter housing (1).                                                                                                                                                     | <b>Installation:</b><br>Do not break off catches (5) when positioning on the throttle valve actuator (M16/6). The catches (5) may be suctioned by the compressor (50) and cause engine damage. | AR09.10-P-1150SVK                          |
| 4             | Remove top charge-air distributor (110/6)                                                                                                                                          |                                                                                                                                                                                                | AR09.41-P-1320SVK                          |
| 5             | Remove the throttle valve actuator (M16/6)                                                                                                                                         | The plug (6) on the throttle valve actuator (M16/6) must not be removed because it is bonded. Disconnect the electrical connector(13) to remove it.                                            | AR07.61-P-1401SVK                          |
| 6             | Remove fuel distributor                                                                                                                                                            | <b>Installation:</b> Install new O-rings of the injection valves.                                                                                                                              | AR07.03-P-1451AA                           |
| 7             | Remove screw (7) of the purge line (8) from the cylinder head cover (9)                                                                                                            | Detach purge line (8) on the engine side and place to one side.<br>Engine 112, 113 Screw/bolt, cylinder head cover                                                                             | *BA01.20-P-1001-01E                        |

|      |                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |
|------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8    | Detach hoses (10) for the air injection from the compressor (50)                                                     |  The hoses (10) remain on the left air shutoff valve (126/1) and right air shutoff valve (126/2).                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                             |
| 9    | Detach hoses (11) for the air injection from the compressor (50)                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |
| 10   | Detach vacuum lines (12) from the left air shutoff valve (126/1) and right air shutoff valve (126/2)                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |
| 11   | Detach crankcase ventilation hoses (15) from the left cylinder head cover (9) and from the right cylinder head cover |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |
| 12   | Detach vacuum line (16) from the air pump switchover valve (Y32)                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |
| 13   | Disconnect electrical connector from charge air temperature sensor (B17/8)                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |
| 14   | Disconnect electrical connector from the pressure sensor (B28)                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |
| 15   | Disconnect electrical connector (14) from the air recirculation flap actuator                                        |  The electrical connector (14) of the air recirculation flap actuator and the electrical connector (13) of the throttle valve actuator (M16/6) are identical and can be swapped. The wiring harness of the throttle valve actuator (M16/6) is marked with blue insulation tape. If this is not the case, mark before disconnecting the electrical connectors (13, 14).<br> <b>Installation:</b> Coat pins of the electrical connectors (13, 14) with contact fluid.<br>Contact fluid | <a href="#">*BR00.45-Z-1001-14A</a>                                                                                                                                         |
| 16   | Disconnect electrical connector (23) from the mechanical supercharger magnetic clutch (Y2/1)                         |  Carefully disconnect electrical connector, So that the plug housing of the mechanical supercharger magnetic clutch (Y2/1) is not damaged.                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                             |
| 17   | Remove poly-V belt for supercharger                                                                                  | Engine 113.990/991/992/995                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="#">AR13.21-P-1202RVK</a>                                                                                                                                           |
| 18   | Remove poly-V belt                                                                                                   | Engine 112.960/961                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="#">AR13.22-P-1202SVK</a>                                                                                                                                           |
| 19   | Remove lower engine compartment paneling                                                                             | Model 170<br>MODEL 203<br>Model 211<br>MODEL 215, 220<br>Model 230                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="#">AR61.20-P-1105A</a><br><a href="#">AR61.20-P-1105P</a><br><a href="#">AR61.20-P-1105T</a><br><a href="#">AR61.20-P-1105M</a><br><a href="#">AR61.20-P-1105R</a> |
| 20   | Drain coolant at radiator                                                                                            | Model 170<br>MODEL 203<br>Model 211, 215, 220, 230                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <a href="#">AR20.00-P-1142SV</a><br><a href="#">AR20.00-P-1142PV</a><br><a href="#">AR20.00-P-1142RVK</a>                                                                   |
| 21   | Disconnect coolant hoses of the coolant return line (17) and coolant feed line (18)                                  |  Seal coolant hoses of the coolant-return line (17) and coolant-feed line (18).<br> Clamp                                                                                                                                                                                                                                                                                                                                                                                        | <a href="#">*000589403700</a>                                                                                                                                               |
| 22   | Remove screw (19) from the bracket of the coolant-return line (17) and coolant-feed line (18)                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |
| 23.1 | Remove right air shutoff valve (126/2)                                                                               | Engine 112<br> Bolt, bottom part of charge air distributor to cylinder head                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="#">*BA09.41-P-1002-01C</a>                                                                                                                                         |
| 23.2 | Remove left air shutoff valve (126/1) and right air shutoff valve (126/2)                                            | ENGINE 113<br> Bolt, bottom part of charge air distributor to cylinder head                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="#">*BA09.41-P-1002-01C</a>                                                                                                                                         |
| 24   | Remove screws (20) and screw (21)                                                                                    |  <b>Installation:</b> Pay attention to different lengths of screws. The screw (21) has a length of 35 mm. The screws (20) have a length of 30 mm.<br> Bolt, bottom part of charge air distributor to cylinder head                                                                                                                                                                                                                                                               | <a href="#">*BA09.41-P-1002-01C</a>                                                                                                                                         |
| 25   | Screw bracket (22) onto the compressor (50)                                                                          |  Bracket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <a href="#">*112589006200</a>                                                                                                                                               |
| 26   | Hook engine hoist into the lifting eye of the bracket (22)                                                           |  Bracket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <a href="#">*112589006200</a>                                                                                                                                               |
| 27   | Pry out compressor (50) with charge air cooler and bottom charge air distributor (110/10)                            |  Check seals (110/9); replace if necessary.<br> <b>Installation:</b> For precise positioning of the compressor (50) with charge air cooler and bottom charge-air distributor (110/10) and for centering the seals (110/9), use centering pin (arrow).<br> Set of dowel bolts                                                                                                                  | <a href="#">*112589026200</a>                                                                                                                                               |

|    |                                               |                                                                                                                         |                                    |
|----|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 28 | Remove compressor (50) from charge air cooler |  Bolt, supercharger to charge air cooler | *BA09.50-P-1001-01B                |
| 29 | Install in the reverse order                  |                                                                                                                         |                                    |
| 30 | Check cooling system for leaktightness        |                                                                                                                         | AR20.00-P-1010RVK                  |
| 31 | Read out fault memory and clear if necessary  |                                                                                                                         | AD00.00-P-2000-04A                 |
| 32 | Perform basic programming                     | Model 170<br>MODEL 215, 220                                                                                             | AR00.19-P-0200B<br>AR00.19-P-0200M |

 Crankcase ventilation, cylinder head cover

| Number             | Designation                     |         |    | Engine 112 | Engine 113 |
|--------------------|---------------------------------|---------|----|------------|------------|
| BA01.20-P-1001-01E | Screw/bolt, cylinder head cover | Stage 1 | Nm | 9          | 9          |
|                    |                                 | Stage 2 | Δ° | –          | –          |

 Charge air pipe/charge air cooling

| Number             | Designation                                                  |    | ENGINE 112.960/961 AMG | Engine 113.990/991 |
|--------------------|--------------------------------------------------------------|----|------------------------|--------------------|
| BA09.41-P-1002-01C | Bolt, bottom part of charge air distributor to cylinder head | Nm | 23                     | 20                 |

 Charge air pipe/charge air cooling

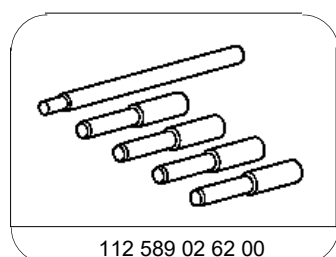
| Number             | Designation                                                  |    | Engine 113.992/993/995 |
|--------------------|--------------------------------------------------------------|----|------------------------|
| BA09.41-P-1002-01C | Bolt, bottom part of charge air distributor to cylinder head | Nm | 20                     |

 Compressor

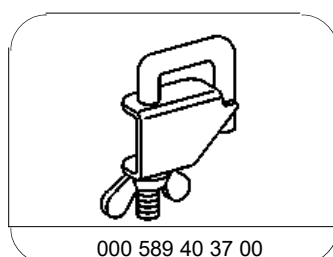
| Number             | Designation                             |    | ENGINE 112.960/961 AMG | Engine 113.990 |
|--------------------|-----------------------------------------|----|------------------------|----------------|
| BA09.50-P-1001-01B | Bolt, supercharger to charge air cooler | Nm | 20                     | 20             |

 Compressor

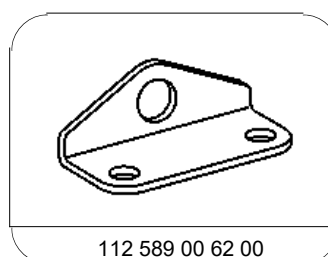
| Number             | Designation                             |    | Engine 113.991 | Engine 113.992/995 |
|--------------------|-----------------------------------------|----|----------------|--------------------|
| BA09.50-P-1001-01B | Bolt, supercharger to charge air cooler | Nm | 20             | 20                 |



Set of dowel bolts



Clamp



Bracket

Repair materials

| Number             | Designation   | Order number    |
|--------------------|---------------|-----------------|
| BR00.45-Z-1001-14A | Contact fluid | A 008 989 55 71 |