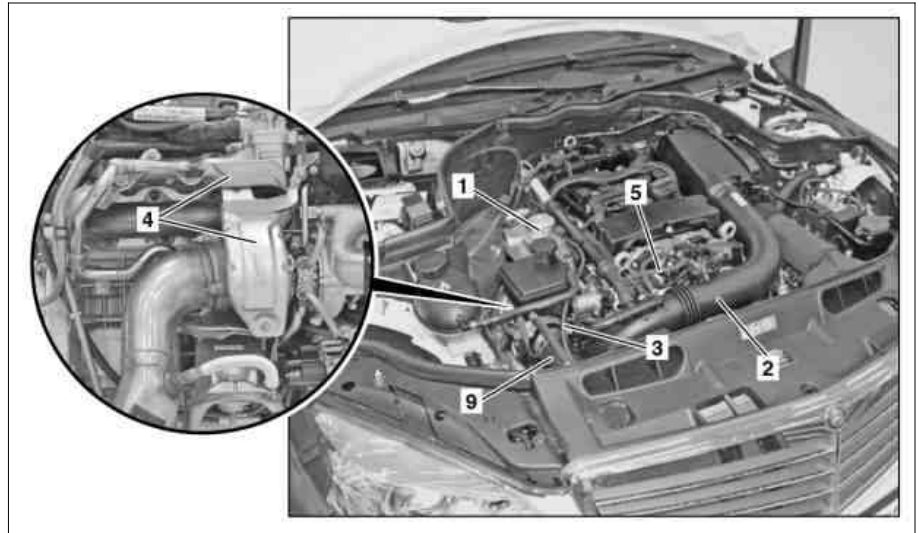


Engine 271.8 in model 172, 204, 207, 212

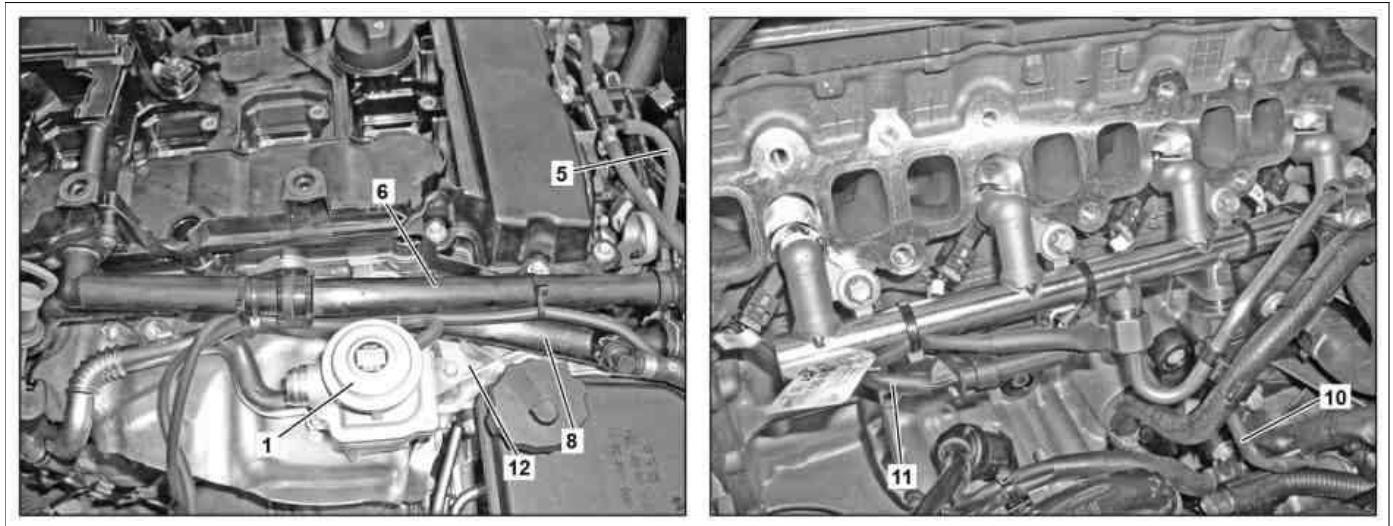
Modification notes

29.11.2012	Hohlschraube Ölzulaufleitung an Abgasturbolader		BA09.40-P-1007-01Q
11.04.2014	Zylinderkopfschraube	MOTOR 271	BE01.30-P-1001-04B

- 1 Combination valve
- 2 Air ducting
- 3 Vacuum hose
- 4 Shields
- 5 Boost pressure control hose
- 9 Charge air line






















P01.30-2366-05








P01.30-2367-08

- 1 Combination valve
- 5 Boost pressure control hose
- 6 Crankcase ventilation system pipe
- 8 Coolant pipe
- 10 Electrical line
- 11 Electrical line
- 12 Bracket

 	Remove/install		
1	Detach ground line from battery Notes on battery	Model 172 Model 204 ENGINE 207, 212	AR54.10-P-0003W AH54.10-P-0001-01A AR54.10-P-0003CW AR54.10-P-0003EW
2	Remove catalytic converter		AR49.10-P-5500EVO
3	Drain off coolant		AR20.00-P-1142CW

	Notes on coolant		AH20.00-N-2080-01A
4	Remove vacuum hose (3) from radiator shutters adjuster	Only if fitted.	
5	Remove air ducting (2) on turbocharger		
6	Detach boost pressure control hose (5) on pressure transducer		
7	Detach charge air manifold (9) on turbocharger		AR09.41-P-1311-01AL
8	Remove shield (4) and support brace from turbocharger		AR09.40-P-6025EVO
9	Remove power steering expansion reservoir	 Place expansion reservoir to one side with lines connected.	AR46.25-P-1000EVO
10	Remove combination valve (1)	MODEL 204, 207, 212  Model 172 If installed.	AR14.30-P-7100EVO
11	Remove bracket (12) on cylinder head		
12	Remove oil return line of ATL	 Banjo bolt, oil feed line to turbocharger  Bolt, oil feed line to cylinder head  Bolt, coolant return line/oil feed line holder to turbocharger  Bolt, oil return flow line to turbocharger	AR09.40-P-6020-13EVO *BA09.40-P-1007-01Q *BA09.40-P-1008-01Q *BA09.40-P-1009-01Q *BA09.40-P-1010-01Q
13	Remove coolant feed pipe for turbocharger	 Bolt, coolant return line flange to turbocharger  Bolt, coolant feed pipe to crankcase  Bolt, coolant return line/oil feed line holder to turbocharger	AR09.40-P-6020-14EVO *BA09.40-P-1005-01Q *BA09.40-P-1006-01Q *BA09.40-P-1009-01Q
14	Remove crankcase ventilation system pipe (6) and coolant pipe (8)		
15	Remove cylinder head cover		AR01.20-P-5014CW
16	Remove the oil dipstick guide tube		AR18.40-P-3510EVO
17	Remove vacuum pump		AR43.05-P-1320CW
18	Remove intake manifold		AR09.20-P-1310EVO
19	Disconnect connector for electrical line (10) on rail pressure sensor		
20	Disconnect connector for electrical line (11) for fuel injectors to rail		
21	Remove high-pressure pump		AR07.02-P-1020EVO
22	Remove coolant connection to cylinder head at the rear		
23	Remove front cover at cylinder head		AR01.30-P-5700CW
24	Remove chain tensioner		AR05.10-P-7800EVO
25	Pull guide rail pins out of cylinder head	 Use a screwdriver to remove stop plugs.  Impact extractor  Threaded bolt  Puller	AR01.30-P-5800-04GS *116589203300 *116589023400 *605589003300
26	Remove camshaft adjuster for exhaust camshafts		AR05.20-P-7201CW
27	Remove tensioning rail		AR05.10-P-8127CW
28	Remove camshaft case		AR05.20-P-6995CW
29	Remove roller-type cam follower with compensation elements	 When removing more than one compensation elements, ensure that cam followers and compensation elements which were not replaced are re-installed at their previous location. Mark roller cam follower relative to the compensation element if necessary.	
30	Stepwise unfasten cylinder head bolts and remove	 Slacken the cylinder head bolts in the reverse order of the tightening procedure when the engine has cooled off. This avoids stresses in the cylinder head.  Screw/bolt, cylinder head  Screw/bolt, cylinder head to timing case cover	AR01.30-P-5800-07QA *BA01.30-P-1002-01J *BA01.40-P-1002-01G

31	Remove cylinder head	 Installation: Replace cylinder head gasket. While putting the cylinder head observe the guide pin for fixing the cylinder head in place.	
	Clean		
32	Clean sealing surfaces for cylinder head and crankcase	 Do not use any sharp-edged tools or abrasive paper. The sealing surfaces can be damaged otherwise. Loctite 7200 Loctite 7063 cleaning spray (150 ml)	AR01.00-P-0050-01A *BR00.45-Z-1038-04A *BR00.45-Z-1046-04A
33	Check sealing surfaces on cylinder head and crankcase for cracks and unevenness	 The cylinder head and cylinder crankcase must not be re-worked (surface grinding). The manufacturing tolerances must be maintained.	
34	Blow out tapped holes of the cylinder head bolts with compressed air and clean from oil and water		
35	Check cylinder head bolts and replace if necessary	Cylinder head bolt	AR01.30-P-5800-03HA *BE01.30-P-1001-04B
36	Install in the reverse order		
	Check		
37	Check engine oil level; correct if necessary		AP18.00-P-0101AB
 Warning	Risk of accident from vehicle starting off by itself when engine running. Risk of injury (bruises and burns) resulting from working on the engine while it is being started or when it is running.	Secure vehicle to prevent it from starting off by itself. Wear buttoned-up and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
38	Carry out engine test run and check engine for leaktightness while it is running		

Cylinder head/cylinder head bolts

Number	Designation	Engine 271
BE01.30-P-1001-04B	Cylinder head bolt	Thread diameter M 10x1,5
		Length (L) when new mm 165
		Length (L) mm ≤ 167,5
		For picture, see -

Cylinder head

Number	Designation	Engine 271
BA01.30-P-1002-01J	Screw/bolt, cylinder head M10	Stage 1 Nm 45
		Stage 2 ° 90
		Stage 3 ° 90
		For picture, see -

Cylinder crankcase, timing case cover, end cover

Number	Designation	Engine 271
BA01.40-P-1002-01G	Screw/bolt, cylinder head to timing case cover	Stage 1 Nm 20
		Stage 2 ° 90

Turbocharger


Number	Designation	Engine 271.8
BA09.40-P-1005-01Q	Bolt, coolant return line flange to turbocharger	Nm 9

Turbocharger


Number	Designation		Engine 271.8
BA09.40-P-1006-01Q	Bolt, coolant feed pipe to crankcase	Nm	9

 Turbocharger

Number	Designation		Engine 271.8	
BA09.40-P-1007-01Q	Banjo bolt, oil feed line to turbocharger	Stage 1	Nm	6
		Stage 2	°	90

 Turbocharger

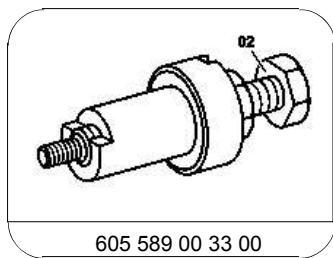
Number	Designation		Engine 271.8
BA09.40-P-1008-01Q	Bolt, oil feed line to cylinder head	Nm	9

 Turbocharger

Number	Designation		Engine 271.8
BA09.40-P-1009-01Q	Bolt, coolant return line/oil feed line holder to turbocharger	Nm	9

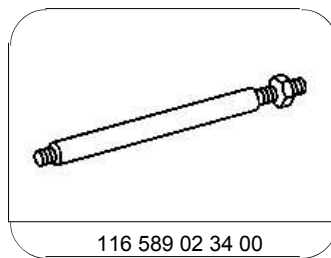
 Turbocharger

Number	Designation		Engine 271.8
BA09.40-P-1010-01Q	Bolt, oil return flow line to turbocharger	Nm	9



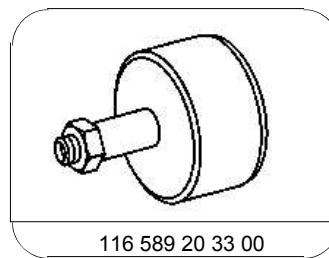
605 589 00 33 00

Puller



116 589 02 34 00

Threaded bolt



116 589 20 33 00

Impact extractor

Repair materials

Number	Designation	Order number
BR00.45-Z-1038-04A	Loctite 7200	Henkel AG & Co. KGaA http://www.loctite.de
BR00.45-Z-1046-04A	Loctite 7063 cleaning spray (150 ml)	A 001 986 71 71 10