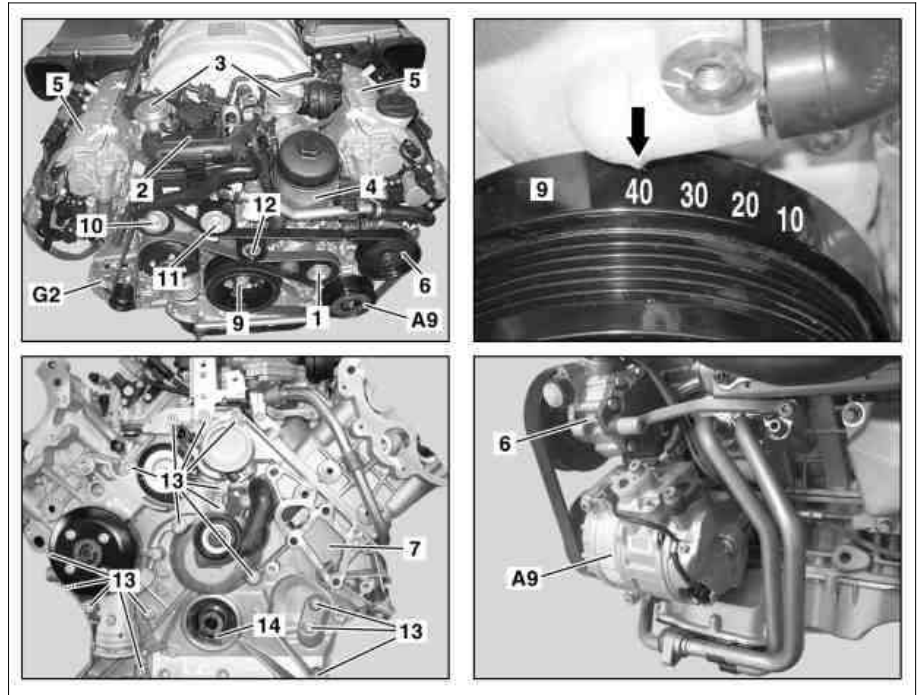


ENGINE 156

Shown on engine 156.980



- 1 Poly-V belt tensioning device
- 2 Expansion reservoir
- 3 Air shutoff valves
- 4 Oil filter housing
- 5 Cylinder head covers
- 6 Power steering pump
- 7 Timing case cover
- 9 Belt pulley/vibration damper
- 10 Pulley
- 11 Pulley
- 12 Pulley
- 13 Bolts
- 14 Crankshaft radial sealing ring
- A9 Refrigerant compressor (except model 204)
- A9 A/C compressor (model 204)
- G2 Generator
















P01.40-2200-06

Modification notes

7.8.09	Value modified: Guide pulley on coolant pump housing (between power steering pump and guide pulley with grooved channel profile)		*BA13.25-P-1003-01U
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 	Remove/install		
1.1	Remove engine with front axle carrier	Model 164, 251	AR01.10-P-2500GZS
1.2	Remove engine	Model 204 Model 209 Model 211, 219 Model 212 Model 216, 221 Model 230	AR01.10-P-2400CMG AR01.10-P-2400QMG AR01.10-P-2400TMG AR01.10-P-2400EMG AR01.10-P-2400SMG AR01.10-P-2400RMG
2	Detach engine from front axle carrier	Model 164, 251	AR01.10-P-2510GZS
3	Detach transmission from engine		
4	Remove oil lines from automatic transmission at oil pan		
5	Mount engine onto assembly stand		
6	Rotate engine at crankshaft center bolt in direction of rotation of the engine to a 40° crankshaft angle after top dead center (TDC)	i The 40° marking on the belt pulley/vibration damper (9) must align with the positioning edge (arrow) on the timing case cover (7).	
7	Remove poly-V belt tensioning device (1)	Model 164, 251 Model 204, 212 Model 209, 211, 219 Model 216, 221 Model 230	AR13.25-P-3200GZS AR13.20-P-0001CMG AR13.25-P-3200TMG AR13.25-P-3200SMG AR13.20-P-0001RMG
8	Remove expansion reservoir (2) for power steering	Model 164, 209, 211, 219, 251 Model 204, 212	AR46.25-P-1000GZS AR46.25-P-1000CMG
9	Remove air shutoff valves (3)	i The air lines are unscrewed at the cylinder head. Model 164, 251 Model 204, 212 Model 209, 211, 219 Model 216, 221 Model 230 i Installation: Replace seals.	AR14.30-P-7200GZS AR14.30-P-7200CMG AR14.30-P-7200TMG AR14.30-P-7200SMG AR14.30-P-7200RMG
10	Remove oil filter housing (4)	Model 164, 251 Model 204, 212	AR18.20-P-3471GZS AR18.20-P-3471CMG

		Model 209, 211, 219 Model 216, 221 Model 230	AR18.20-P-3471TMG AR18.20-P-3471SMG AR18.20-P-3471RMG
11	Remove cylinder head covers (5)	Model 164, 251 Model 204, 212 Model 209, 211, 219 Model 216, 221 Model 230	AR01.20-P-5014GZS AR01.20-P-5014CMG AR01.20-P-5014TMG AR01.20-P-5014SMG AR01.20-P-5014RMG
12	Remove camshaft adjuster	Up to engine number 001177 from engine number 001178	AR05.20-P-7201ANG AR05.20-P-7201AMG
13	Remove power steering pump (6) at timing case cover (7)	Model 164, 209, 211, 219, 251 Model 204, 212 Model 230	AR46.30-P-0500GZS AR46.30-P-0500CMG AR46.30-P-0500RMG
14	Detach refrigerant compressor or compressor (A9)	Model 164 Model 204, 212 Model 209, 211, 219 Model 216, 221 Model 230	AR83.55-P-5300GZ AR83.55-P-5300CMG AR83.55-P-5300TMG AR83.55-P-5300SMG AR83.55-P-5300RMG
15	Remove alternator (G2)	Model 164, 251 Model 204, 212 Model 209, 211, 219 Model 216, 221 Model 230	AR15.40-P-5032GZS AR15.40-P-5032CMG AR15.40-P-5032TMG AR15.40-P-5032SMG AR15.40-P-5032RMG
16	Remove chain tensioner	Model 164, 251 Model 204, 212 Model 209, 211, 219 Model 216, 221 Model 230	AR05.10-P-7800GZS AR05.10-P-7800CMG AR05.10-P-7800TMG AR05.10-P-7800SMG AR05.10-P-7800RMG
17	Remove belt pulley/vibration damper (9)	Model 164, 251 Model 204, 212 Model 209, 211, 219 Model 216, 221 Model 230	AR03.30-P-1600GZS AR03.30-P-1600CMG AR03.30-P-1600TMG AR03.30-P-1600SMG AR03.30-P-1600RMG
18	Disconnect electrical connector from thermostat housing		
19	Detach guide pulleys (10, 11, 12)	  	*BA13.25-P-1003-01U *BA13.25-P-1004-01U *BA13.25-P-1005-01U
20	Remove oil pan bottom section	Model 164, 251 Model 204, 212 Model 209, 211, 219 Model 216, 221 Model 230	AR01.45-P-7555GZS AR01.45-P-7555CMG AR01.45-P-7555TMG AR01.45-P-7555SMG AR01.45-P-7555RMG
21	Remove oil pan	Model 164, 251 Model 204, 212 Model 209 Model 211, 219 Model 216, 221 Model 230	AR01.45-P-7500GZS AR01.45-P-7500CMG AR01.45-P-7500QMG AR01.45-P-7500TMG AR01.45-P-7500SMG AR01.45-P-7500RMG
22	Remove bolts (13) at timing case cover (7), remove timing case cover (7)	 Installation: Pay attention to different lengths of bolts: ↓ Bolt plan for timing case cover    	AR01.40-P-8000-01AMG *BA20.10-P-1001-01V *BA01.40-P-1001-01W *BA01.40-P-1002-01W *BA01.40-P-1003-01W
	Notes on sealant path for timing case cover	  Loctite sealant 5970	AH01.40-P-1000-01AMG *112589002500 *156589001500 *BR00.45-Z-1013-01A
	Clean		

23	Clean sealing surfaces	⚠ Do not use any sharp-edged tools or abrasive paper as this will damage the sealing surfaces. Loctite 7200 Cleaning spray, Loctite 7063 (150ml)	AR01.00-P-0050-01A *BR00.45-Z-1038-04A *BR00.45-Z-1046-04A
24	Install in the reverse order		
25	Read out fault memory and erase if necessary	ℹ Faults which may have been caused by disconnecting wires or by a simulation must be erased in the fault memory after completing the work.	
	Connect STAR DIAGNOSIS and read out fault memory		AD00.00-P-2000-04A
26	Risk of accident caused by vehicle starting off by itself when engine is running. Risk of injury caused by contusions and burns during starting procedure or when working near the engine as it is running Conduct engine test run and check engine for leaks	Secure vehicle to prevent it from moving by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A

Belt tensioning device

Number	Designation	Engine 156, 159	
BA13.25-P-1003-01U	Guide pulley on coolant pump housing (between power steering pump and guide pulley with grooved channel profile)	Nm	30
BA13.25-P-1004-01U	Guide pulley to coolant pump housing (between alternator and smooth guide pulley)	Nm	20
BA13.25-P-1005-01U	Guide pulley (between poly-V belt tensioning device and coolant pump)	Nm	20

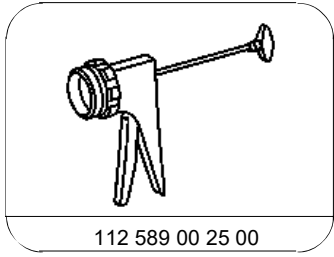
Coolant pump, coolant thermostat

Number	Designation	Engine 156		
BA01.10-P-1001-01V	Bolt, coolant pump to timing case cover and crankcase	M6×30	Nm	9
		M6×80	Nm	9
		M8×80	Nm	20
		M8×100	Nm	20

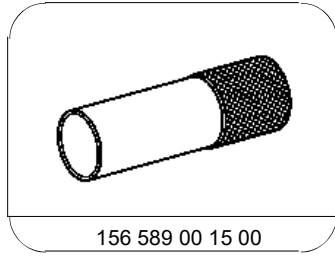
Crankcase, timing case cover, end cover

Number	Designation	Engine 156		
BA01.40-P-1001-01W	Bolt, timing case cover to cylinder crankcase	M8	Nm	20
BA01.40-P-1002-01W	Bolt, cylinder head bolt to timing case cover chain box on the outside	M8	Nm	20

BA01.40-P-1003-01W	Cylinder head to timing case chain box on the inside	M8	Nm	20
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Squeeze gun



Drift

Repair materials

Number	Designation	Order number
BR00.45-Z-1013-01A	Loctite sealant 5970	A 003 989 98 20
BR00.45-Z-1038-04A	Loctite 7200	Henkel Loctite Deutschland GmbH Arabellastrasse 17 81925 München Germany Tel. +49 899268-0 Fax + 49 899101978 www.Loctite.de
BR00.45-Z-1046-04A	Cleaning spray, Loctite 7063 (150ml)	A 001 986 71 71 10