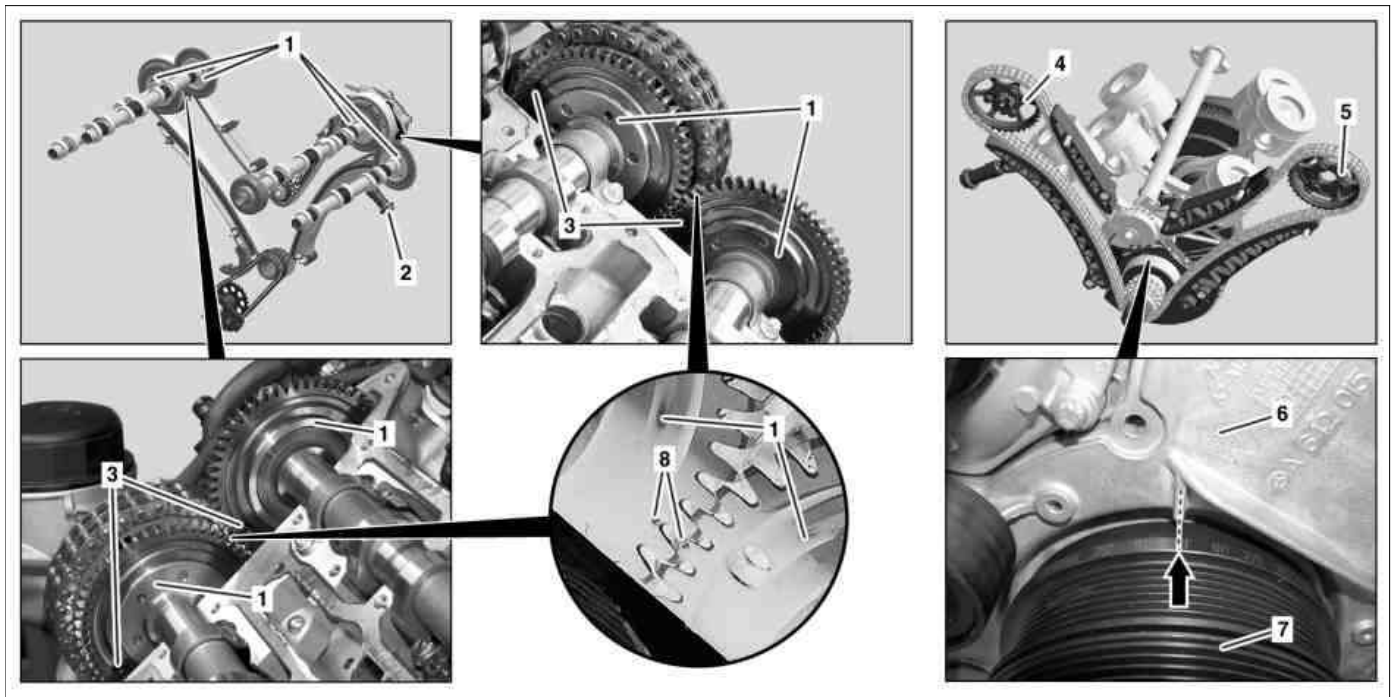


Model 164, 203, 204, 207, 209, 211, 212, 218, 219.322, 221, 251, 461, 463 with engine 642



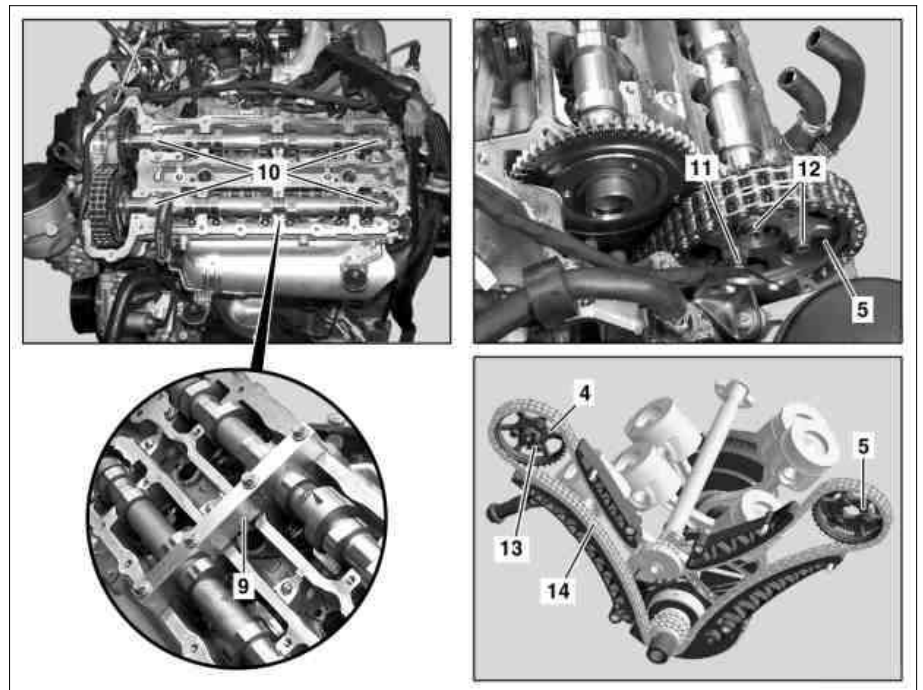
D05.20-1127-09

- 1 Camshafts
- 2 Chain tensioner
- 3 Markings

- 4 Camshaft sprocket (right)
- 5 Camshaft sprocket (left)
- 6 Timing case cover

- 7 Vibration damper
- 8 Markings

- 4 Camshaft sprocket (right)
- 5 Camshaft sprocket (left)
- 9 Hold-down tool
- 10 Camshaft bracket
- 11 Screw/bolt
- 12 Screw/bolts
- 13 Drive
- 14 Timing chain






















D05.20-1128-06

⚠ Danger!

Risk of injury caused by scraping or cutting body parts on sharp vehicle parts

Always wear protective gloves when working on or near sharp and non-deburred vehicle parts.
Deburr repair panels.

AS00.00-Z-0017-01A

 Danger!	Risk of injury. Moving parts can pinch, crush or, in extreme cases even sever extremities.	No parts of the body or limbs should be within the operating area of mechanical components when moving components.	AS00.00-Z-0009-01A
 Danger!	Risk of injury to skin and eyes due to handling of engine oil. Risk of poisoning caused by swallowing engine oil	Wear protective gloves, protective clothing and safety glasses. Do not fill engine oil into beverage containers.	AS18.00-Z-0001-01A
	Notes on avoiding damage through contamination and foreign objects		AH00.00-P-5000-01A
	Remove/install		
1	Remove cylinder head covers	Engine 642 in model 164, 251 Engine 642 in model 203, 209Right cylinder head cover Engine 642 in model 203, 209Left cylinder head cover Model 204 with engine 642 Model 207, 212, 218 with engine 642 Model 211 with engine 642 Model 219.322 with engine 642.920 Model 221 with engine 642 Model 461, 463 with engine 642	AR01.20-P-5014GZB AR01.20-P-5012PI AR01.20-P-5013PI AR01.20-P-5014CO AR01.20-P-5014OGE AR01.20-P-5014TI AR01.20-P-5014TQ AR01.20-P-5014SXI AR01.20-P-5014GY
2	Attach hold-down tools (9) to cylinder head	 Camshaft retainer bracket on cylinder head  Holddown device kit	*BA01.30-P-1004-01S *642589003100
3	Set piston on the cylinder 1 to ignition top dead center (TDC)	 The TDC marking (arrow) on vibration damper (7) must be aligned with stay on timing case cover (6).	
4	Check timing	 Installation: Put the timing chain (14) in place again when markings (8) are displaced for ignition TDC of piston 1. Otherwise engine damage could occur due to wrong timing.  For ignition TDC of piston 1 markings (8) on the camshaft (1) must stand opposite to each other exactly.	
5	Mark position of timing chain (14) relative to the camshaft sprocket (right) (4) and camshaft sprocket (left) (5)		
6	Turn engine on vibration damper (7) until the screw/bolt (11) is accessible	 Screw/bolt, camshaft sprocket to camshaft	*BA05.10-P-1004-01L
7	Loosen screw/bolt (11)	 Only loosen screw/bolt (11), do not remove.	
8	Position piston of cylinder 1 to ignition TDC again	 Observe TDC marking (arrow) and markings (8).	
9	Loosen screw/bolts (12)	 Only loosen screw/bolts (12) do not remove.  Screw/bolt, camshaft sprocket to camshaft	*BA05.10-P-1004-01L
10	Remove chain tensioner (2)	Model 207, 212, 218, 221 with engine 642 Model 204 with engine 642 Model 164, 251 with engine 642 Model 203, 209 with engine 642 Model 211 with engine 642 Model 219.322 with engine 642 Model 461, 463 with engine 642	AR05.10-P-7800SXI AR05.10-P-7800CO AR05.10-P-7800GZB AR05.10-P-7800PI AR05.10-P-7800TI AR05.10-P-7800TQ AR05.10-P-7800GY
11	Remove hold-down tool (9) on cylinder head	 Camshaft retainer bracket on cylinder head  Holddown device kit	*BA01.30-P-1004-01S *642589003100
12	Remove camshaft holder (10)	 Camshaft retainer bracket on cylinder head	*BA01.30-P-1004-01S
13	Fix cable tie to timing chain (14)		
14	Remove camshafts (1) with camshaft sprocket (right) (4) and camshaft sprocket (left) (5)		
15	Lay timing chain (14) with cable tie in timing chain chamber		
16	Remove screw/bolts (11, 12)	 In a removed condition.	
17	Remove camshaft sprocket (right) (4) and camshaft sprocket (left) (5) from camshafts (1)		
18	Install in the reverse order		
 Danger!	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 closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A

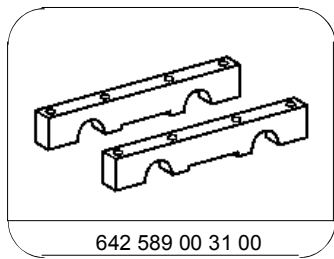
19	Carry out engine test run and check engine for proper leaktightness and function		
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Nm Cylinder head

Number	Designation		Engine 642
BA01.30-P-1004-01S	Camshaft retainer bracket on cylinder head	Nm	8

Nm Timing chain, chain tensioner

Number	Designation		Engine 642
BA05.10-P-1004-01L	Screw/bolt, camshaft sprocket to camshaft	Nm	18



Holddown device kit