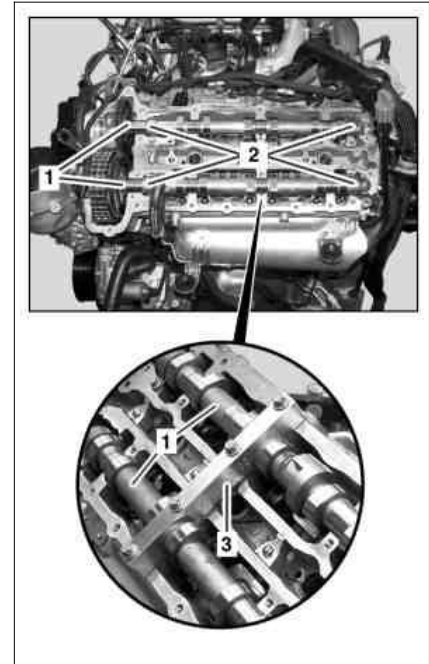


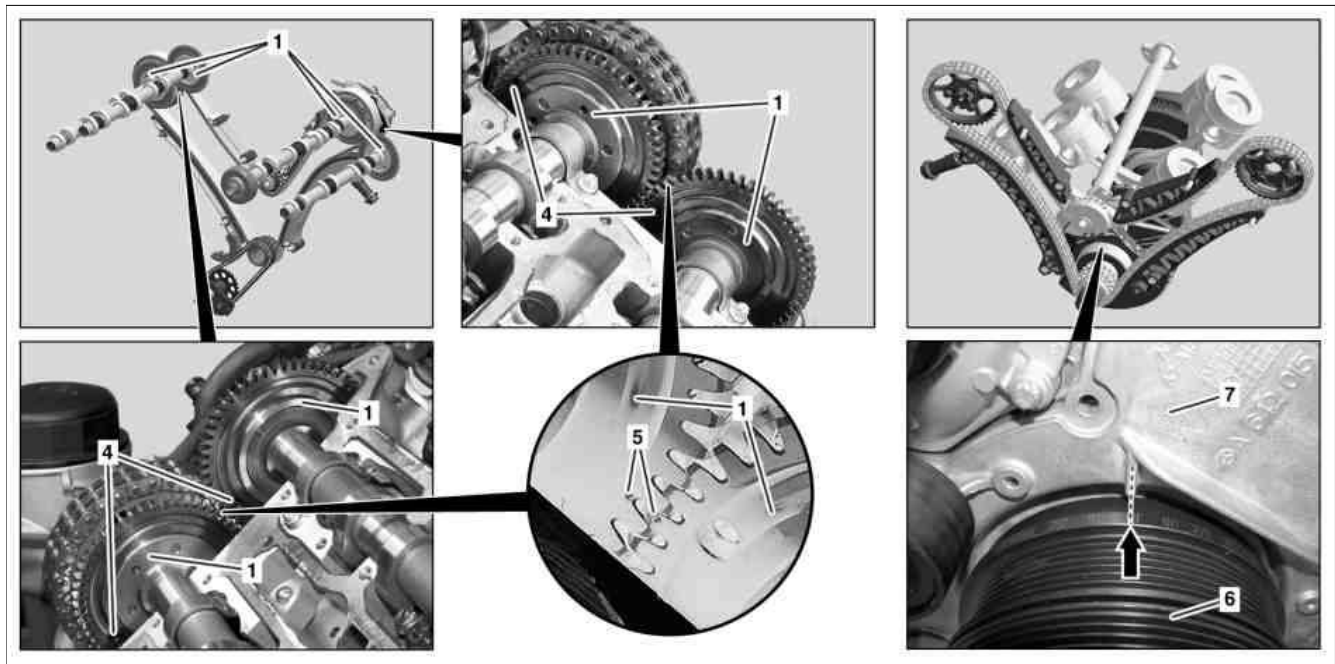
Engine 642

Shown on engine 642.9

- 1 Camshafts
- 3 Hold-down tool














D05.20-1126-03



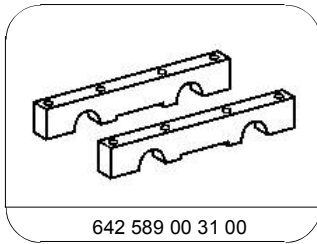
D05.20-1125-09

Shown on engine 642.9

- | | | | | | |
|---|-----------|---|-------------------|-------|-------------|
| 1 | Camshafts | 5 | Markings | Pfeil | TDC marking |
| 4 | Markings | 7 | Timing case cover | | |

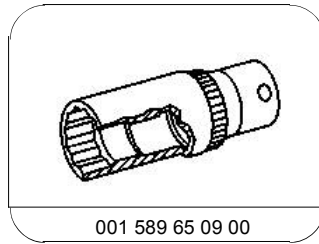
 Caution	Risk of injury to skin and eyes due to handling of engine oil. Risk of poisoning caused by swallowing engine oil	Wear protective gloves, protective clothing and safety glasses. Do not fill engine oil into beverage containers.	AS18.00-Z-0001-01A
 Caution	Risk of injury caused by scraping or cutting 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
 Warning	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
	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 222 Engine 642 in model 164, 251 Model 166, 292 with engine 642 Model 203, 209 with engine 642 Right cylinder head cover Model 203, 209 with engine 642 Left cylinder head cover Model 204 with engine 642 Model 207, 212, 218 with engine 642 Model 211 with engine 642 Model 221 with engine 642 Model 219.322 with engine 642.920 Model 461, 463 with engine 642 Engine 642 in model 213, 238, 253 Right cylinder head cover Engine 642 in model 213, 238, 253 Left cylinder head cover  Installation: Only install top engine cover after the leak test.	AR01.20-P-5014LFD AR01.20-P-5014GZB AR01.20-P-5014OGR AR01.20-P-5012PI AR01.20-P-5013PI AR01.20-P-5014CO AR01.20-P-5014OGE AR01.20-P-5014TI AR01.20-P-5014SXI AR01.20-P-5014TQ AR01.20-P-5014GY AR01.20-P-5012OGW AR01.20-P-5013OGW
2	Attach set of hold-down tools (3) to center bearing points of cylinder heads	 Hold-down device kit	*642589003100
3	Remove fan unit	Engine 642 in model 238 Engine 642 in model 213 Engine 642 in model 222	AR20.40-P-5050OLA AR20.40-P-5050OLC AR20.40-P-5050LFF
4 	Insert protective plate for radiator	Engine 642 in model 213, 222, 238	WF58.50-P-0110-01A
5	Remove charge air cooler and place to one side with coolant lines attached	Engine 642 in model 213, 238, 253 Engine 642 in model 222	AR09.41-P-6817OGW AR09.41-P-6819LFD
6	Remove poly-V belt	Engine 642 in model 213, 238, 253 Engine 642 in model 222	AR13.22-P-1202OGW AR13.20-P-0001LFD
	Check		
7	Rotate engine at center bolt of crankshaft in direction of engine rotation and place piston for cylinder 1 at top dead center (ignition TDC)	 Do not turn engine against direction of engine rotation. Otherwise the timing chain jumps and causes engine damage.  The markings (5) must line up with one another. The markings (4) must align with the upper edge of the cylinder head and be on the left side. The TDC marking (arrow) must align with the stay on the timing case cover (7).  Socket wrench bit	*001589650900
8	Check basic position of camshafts (1)	If the basic position of the camshafts (1) is not correct. ↓ Adjust basic position of camshafts (1). Engine 642 Engine 642 in model 213, 238, 253 Engine 642 in model 166, 292 Engine 642 in model 222 Engine 642 in model 204, 207, 212, 218	AR05.20-P-6020OGW AR05.20-P-6020OGR AR05.20-P-6020LFD AR05.20-P-6020CO
9	Check timing chain for chain elongation	If basic position of camshaft (1) is not reached despite adjustment attempt.	

		Engine 642 in model 213, 238, 253 Engine 642 in model 164, 251 Engine 642 in model 461, 463 Engine 642 in model 219.322 Engine 642 in model 211 Engine 642 in model 207, 212, 218, 221, 222 Engine 642 in model 204 Engine 642 in model 203, 209 Engine 642 in model 166, 292	AR05.10-P-7600OGW AR05.10-P-7600GZB AR05.10-P-7600GY AR05.10-P-7600TQ AR05.10-P-7600TI AR05.10-P-7600SXI AR05.10-P-7600CO AR05.10-P-7600PI AR05.10-P-7600OGR
10	Install in the reverse order		
⚠ 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 closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
11	Perform an engine test run and check engine for proper operation and leaktightness		
12	Install upper engine cover		



642 589 00 31 00

Holddown device kit



001 589 65 09 00

Socket wrench bit