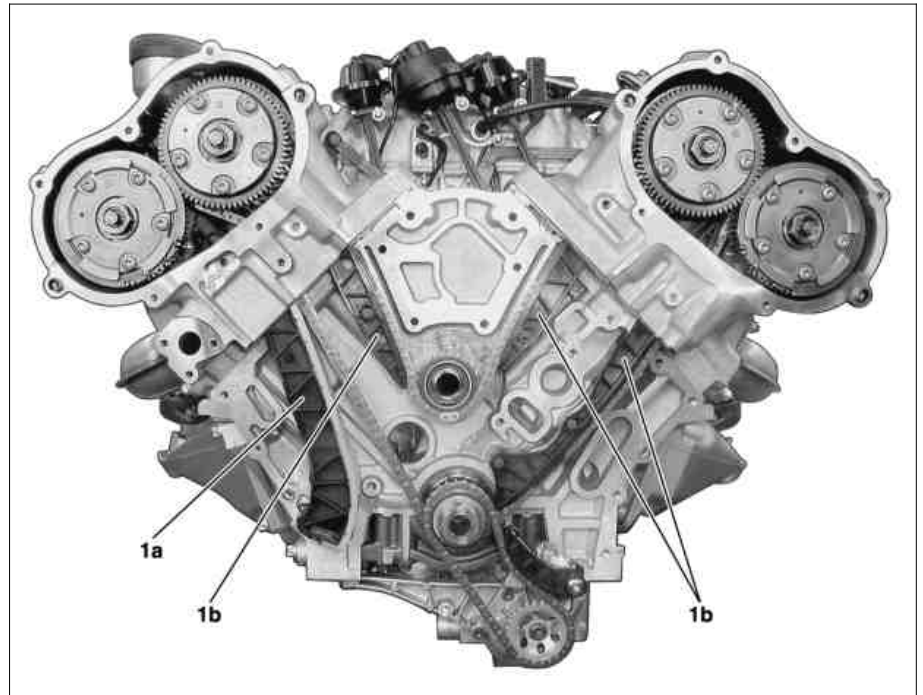


ENGINE 272.920 in MODEL 203.052 /252 /752  
 ENGINE 272.940 in MODEL 203.054 /254, 209.354 /454  
 ENGINE 272.960 in MODEL 203.056 /256 /756, 209.356 /456  
 ENGINE 272.970 in MODEL 203.087 /287  
 ENGINE 272.941 in MODEL 203.092 /292  
 ENGINE 273 in MODEL 209

Shown on engine 272 up to engine number 30089231

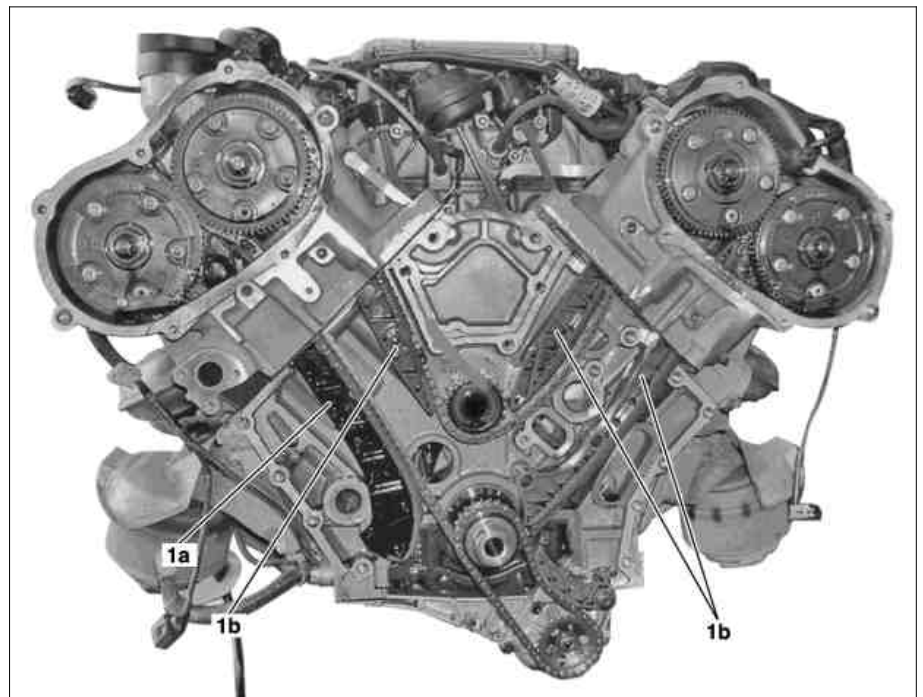
1a Tensioning rail



P05.10-2207-06

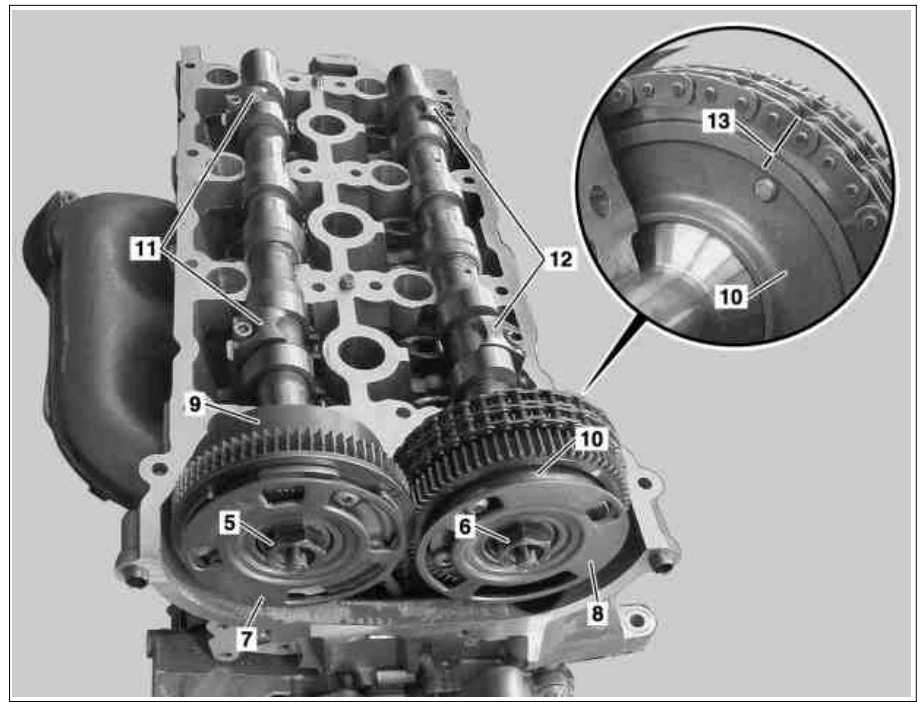
Shown on engine 272 from engine number 30089233

1a Tensioning rail



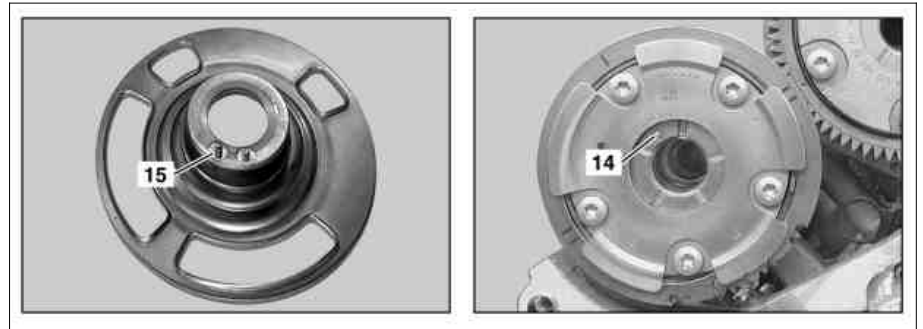
P05.10-2390-06

- 5 Center valve of exhaust camshaft
- 7 Pulse wheel for exhaust camshaft
- 9 Camshaft adjuster of exhaust camshaft
- 11 Auxiliary bearing cap for exhaust camshaft



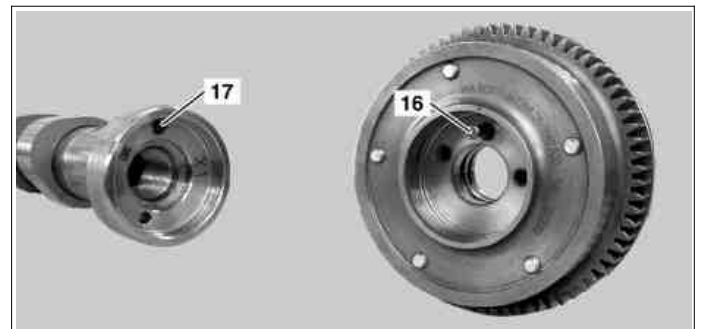
P05.20-2165-06

- 14 Bore in camshaft adjuster
- 15 Dowel pin in pulse wheel


















P05.20-2167-04

- 16 Dowel pin in camshaft adjuster
- 17 Fitted bore on exhaust camshaft



P05.20-2166-10

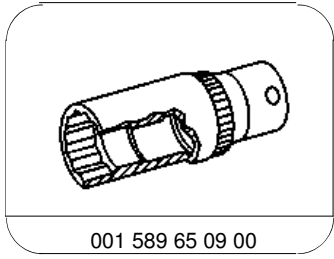
☒ ☒	Remove/install		
<b>⚠ Danger!</b>  1	<b>Risk of injury</b> caused by <b>fingers being pinched or crushed</b> when removing, installing or aligning hoods, doors, trunk lids, liftgates or sliding roof Open engine hood and raise to vertical position	Keep body parts and limbs well clear of moving parts.  Model 203  Model 209	<b>AS00.00-Z-0011-01A</b>  AR88.40-P-1000P  <b>AR88.40-P-1000Q</b>
2	Remove air filter housing		<b>AR09.10-P-1150QB</b>
3	Remove front covers from cylinder heads	Right cover Left cover	<b>AR01.30-P-5700QB</b> <b>AR01.30-P-5700QC</b> <b>AR01.20-P-2100QB</b>
4	Remove centrifuge		<b>AR01.20-P-2100QB</b>
☒	<b>Checking</b>		
5	Turn engine at crankshaft center bolt in the direction of engine rotation to 40° after ignition TDC and check position of camshafts	☒	<b>AR05.20-P-6010-01VB</b>  <b>*001589650900</b>

6	Lock gear backlash compensation for exhaust camshaft adjuster (9) at the right exhaust camshaft	 The tooth flanks are held against each other by spring pressure and must not get twisted; otherwise the exhaust camshaft adjuster (9) will be damaged	AR05.20-P-7201-05VA
7	Loosen exhaust camshaft center valve (5) on the right exhaust camshaft	 Observe loosening direction. Counterhold the exhaust camshaft at the rear. Do not remove exhaust camshaft (5) center valve.  	AR05.20-P-7201-06VA  *BA05.20-P-1009-02A *272589001000
8	Remove right cylinder head cover		AR01.20-P-5014QC
9	Remove center valve (5) for exhaust camshaft, and remove the exhaust camshaft pulse wheel (7)	 Check exhaust camshaft (7) pulse wheel for a sheared off pulse wheel (15) dowel pin or pin. If the pulse wheel (15) dowel pin or pin is sheared off then this must be removed from the exhaust camshaft (9) camshaft adjuster.  <b>Installation:</b> Always replace exhaust camshaft pulse wheel (7). When tightening the exhaust camshaft center valve (5) there is a risk of shearing off the pulse wheel (15) dowel pin or pin on the exhaust camshaft (7) pulse wheel. Lubricate the exhaust camshaft center valve (5) before assembly on the contact surface to the exhaust camshaft pulse wheel (7).  <b>Installation:</b> Align pulse wheel (15) dowel pin on the exhaust camshaft (7) pulse wheel to the fitted hole on the camshaft adjuster (14).	
10	Counterhold right exhaust camshaft at the rear and pull the exhaust camshaft adjuster (9) towards the front	   <b>Installation:</b> Align camshaft adjuster dowel pin (16) in exhaust camshaft adjuster (9) with the fitted hole on the exhaust camshaft (17) and install the exhaust camshaft adjuster (9) in the basic position: See "Check basic position of camshafts".	*272589001000  AR05.20-P-6010-01VB
11	Remove exhaust camshaft auxiliary bearing cap (11) on the right exhaust camshaft and take out the exhaust camshaft		*BA05.20-P-1010-02A
12	Remove chain tensioner	M24×1.5 M22×1.5  For engine 273, only chain tensioner using thread M22×1.5 is installed.  <b>Installation: Install new chain tensioner with thread of M22 ×1.5.</b> The previously installed chain tensioner must not be reinstalled because during removal, its pressure pin is pressed into the end position. The thrust pin latch prevents this return stroke. This would overstretch the timing chain on reinstalling.	AR05.10-P-7800QB AR05.10-P-7800QC
13	Remove tensioning rail bolt	 <b>Installation:</b> Apply sealant to tensioning rail bolts before installation.   Loctite sealant 5970	AR01.30-P-5800-04V  *116589203300 *116589013400 *BR00.45-Z-1013-01A
14	Pull tensioning rail (1a) upwards and out of timing case		
15	Install in the reverse order		

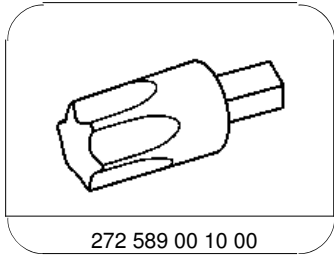
 **Camshaft, camshaft adjustment**

Number	Designation		Engine	Engine
			272	273
BA05.20-P-1009-02A	Center valve for pulse wheel/ camshaft adjuster to camshaft	Nm	145	145

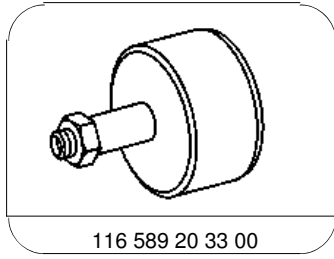
BA05.20-P-1010-02A	Bolt, auxiliary bearing cap to cylinder head	Nm	8	8
--------------------	--	----	---	---



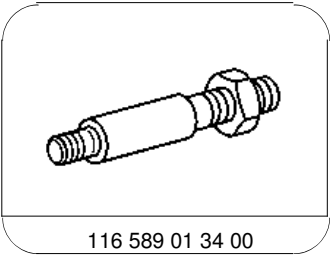
Wrench socket



Torx screwdriver bit T60



Impact extractor



Threaded stud

**Repair materials**

Number	Designation	Order number
BR00.45-Z-1013-01A	Loctite sealant 5970	A 003 989 98 20