


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

Document Picture Operation steps Basic data Tightening torques Picture2

<b>AR05.20-L-6020VB</b>	<b>Set basic position of camshafts</b>	<b>3.11.09</b>
<b>ENGINE 166.961 /991 in MODEL 414.700</b>		

The main diagram illustrates the assembly of a camshaft gear. Part 1 is a bolt used to secure the gear. Part 2 is a plate that fits between the gear and the camshaft. Part 3 is the camshaft gear, which has a timing mark. Part 4 is a pin that aligns the gear with the camshaft. Part 5 is another gear, likely the crankshaft gear. Part 6 is a screw used to secure the gear. Part 7 is a wrench used to tighten the bolt. A torque specification 'Nm' is shown next to the screw. Two inset diagrams provide additional details: the top inset shows the gear alignment with a timing mark, and the bottom inset shows a scale with a pointer indicating the correct position.

P05.20-0321-09

- |   |                        |   |                          |   |  |
|---|------------------------|---|--------------------------|---|--|
| 1 | <i>Chain tensioner</i> | 4 | <i>Dowel pin</i>         | 6 | <i>Screw</i>   |
| 2 | <i>Camshaft</i>        | 5 | <i>Camshaft sprocket</i> | 7 |  <i>Open-end wrench</i> |
| 3 | <i>Timing chain</i>    |   |                          |   |  |

	Removing		
1	Inspect basic position of camshaft		AR05.20-P-6010GF
2	Position piston of cylinder 1 to 30° after ignition TDC	<p> Rotate engine at crankshaft in direction of rotation of engine. The 30° marking on the belt pulley must be aligned with the positioning edge (arrow) on timing case cover. At 30° after ignition TDC at cylinder 1 the camshaft can be rotated without the valves touching the piston crown.</p>	
3	Remove chain tensioner (1)		AR05.10-L-7800VB
4	Unscrew bolt (6) and take camshaft sprocket (5) off at the camshaft (2), lift off timing chain (3)	<p> Use open-end wrench (7) for counterholding camshaft (2).</p>	*104589010100
5	Rotate camshaft (2) with open-end wrench (7) into basic position	<p> Camshaft marking must be centered relative to marking on camshaft bearing cap (arrows).</p>	*104589010100
6	Reset piston on cylinder 1 to ignition TDC	<p> When doing this, pull timing chain (3) up</p>	

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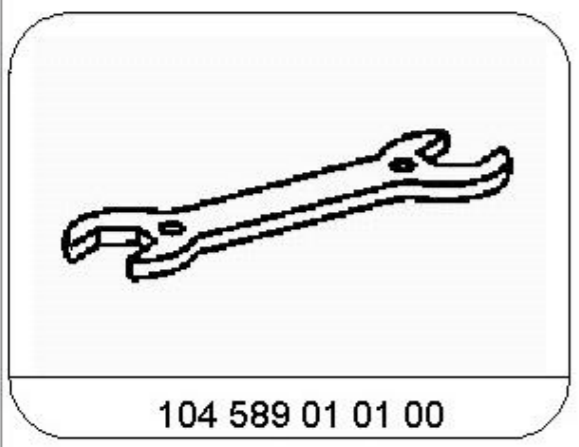
6	Reset piston on cylinder 1 to ignition TDC	<p>ⓘ When doing this, pull timing chain (3) up tight.</p> <p>ⓘ The TDC marking on the belt pulley must be aligned with the positioning edge (arrow) on the timing case cover. The cams on cylinder 1 are positioned up at an angle.</p>	
✕	<b>Install</b>		
7	Fit timing chain (3) at the camshaft sprocket (5)		
8	Install camshaft sprocket (5) with timing chain (3) fitted on and tighten bolt (6) fully	<p>ⓘ Replace Torx screws (6); use only once. Pay attention to dowel pin (4).</p> <p>Nm</p> <p>ⓘ Use open-end wrench (7) for counterholding camshaft (2).</p>	<p>*BA05.20-P-1001-01C</p> <p>*104589010100</p>
9	Install chain tensioner (1)		AR05.10-L-7800VB
10	Crank engine twice in direction of rotation of engine		
11	Inspect basic position of camshaft		AR05.20-P-6010GF

Nm **Camshaft**

Number	Designation	Engine
		166.940/ 960/990/

11:24 11/09/2014

Number	Designation	Engine		
BA05.20-P-1001-01C	Bolt, camshaft sprocket to camshaft	Stage 1	Nm	20
		Stage 2	°	60



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Open-end wrench, double