



Timing Kit For Bmw 2.0 D N47/N47S

User's manual

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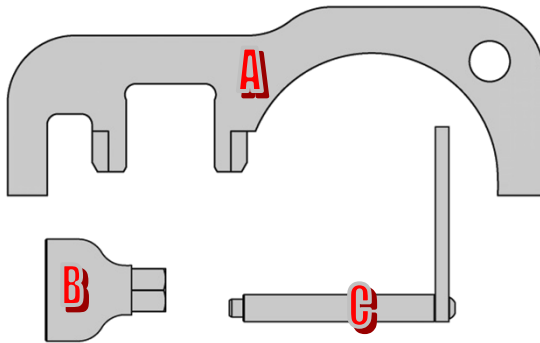
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Application

| Models | Motors | Models | Motors |
|----------|--------------------|----------|--------------------|
| Series 1 | 118d (E81/E87) | Series 3 | 318d (E90/E91) |
| | 120d (E81/E82/E87) | | 320d (E90/E91/E92) |
| | 123d (E81/E82/E87) | Series 5 | 520d (E60/E61) |
| X3 | 2.0d (E83) | | |

Components:



| Ref. | Code | DESCRIPTION |
|------|-----------|---------------------------------------|
| A | 310171001 | Plate for the timing of release shaft |
| B | 310171002 | Pin to lock the flywheel |
| C | 310171003 | Rotation wrench of the driving shaft |

PROCEDURE

- Bring the motor at the TDC on the cylinder n°1 rotating the driving shaft following the normal rotation direction through the rotation wrench of the driving shaft (ref. B) (fig.1)

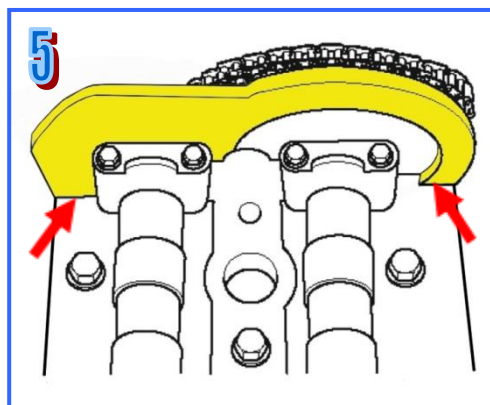
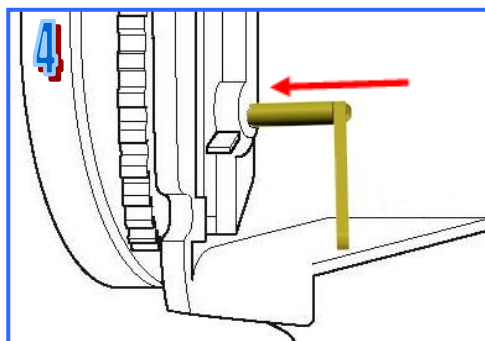
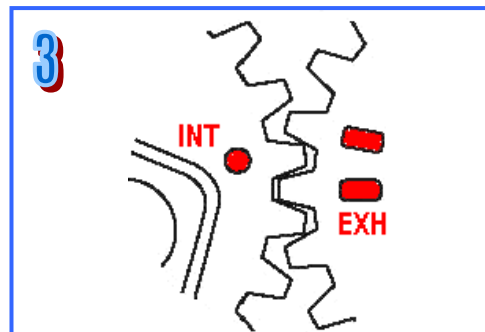
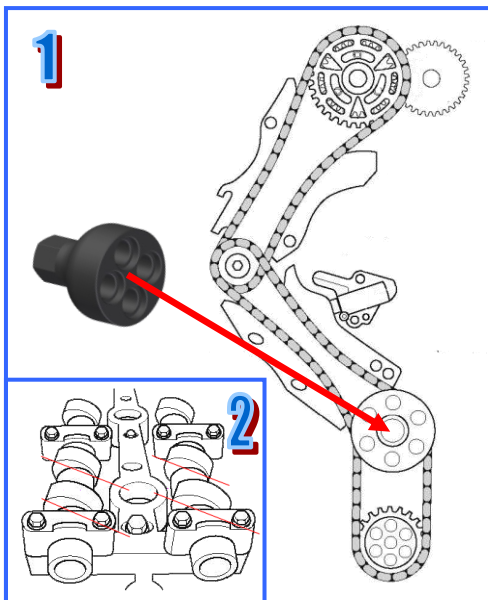
N.B.: the motor always works rotating only in the normal rotation direction, NEVER IN THE OPPOSITE DIRECTION.

- Verify that the lobes of the camshafts are in the position indicated in figure 2.
- Verify that the timing marks on the toothed pulleys of the release camshafts are aligned with the mark of the suction camshaft (fig.3)
- Remove the dust cover from the flywheel-access hole and insert the locking pin of the flywheel (ref. C) till reaching the reference hole on the flywheel (fig.4).
- Now position the alignment plate of the camshafts (ref. A) on the release camshaft and control that the two ends of the tool are completely positioned on the head (fig.5). If this does not happen, carry out the timing of the motor.

- Remove the chain tightener of the secondary timing system.

N.B.: If the chain tightener has to be reused, remove the oil slowly pressing twice the piston.

- Loosen the bolts of the camshaft pinion and remove it, the support of the camshaft and the head.
- Press the chain tightener of the primary timing system and lock it; then disassemble the chain tightener.
- Release the bolt of the pinion of the fuel pump and then disassemble: chain and chain tightener guide of the secondary timing system, chain guide of the primary timing system and guide of the chain tightener, chain of the primary timing with pinion of the high pressure fuel pump.
- Verify the locking pin of the flywheel (ref. C) (fig.4) is inserted and assemble the primary timing chain on the pinion of the driving motor.
- Assemble in sequence the fuel pump pinion, the guide of the primary timing chain, the guide of the chain tightener and the chain tightener of the primary timing system.
- Loose the chain tightener and assemble: the guide of the secondary timing chain tightener, the related chain and head.
- Verify there is an alignment of the timing marks on the suction and release gears (fig.3).
- Assemble in sequence: camshaft alignment tool (ref. A) (Fig.5), support of the camshaft and pinion of the camshaft.
- Temporarily lock the nuts of the camshaft pinions (10Nm) and then loose them of 90° to insert the chain tightener of the secondary timing system (70Nm).
- Tighten the bolts of the camshaft pinion (15Nm) and the bolt of the high-pressure fuel pump pinion (65Nm).
- Take away all the special tools and the motor **has to carry out two clockwise revolutions** through the rotation wrench (ref. B) (fig.1).
- Insert the locking pin of the flywheel and be sure that the timing marks on the gears of the camshaft are aligned (fig.3).
- Control the right timing through the alignment tool of the camshaft (ref. A) (fig.5).
- Remove all the special tools



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