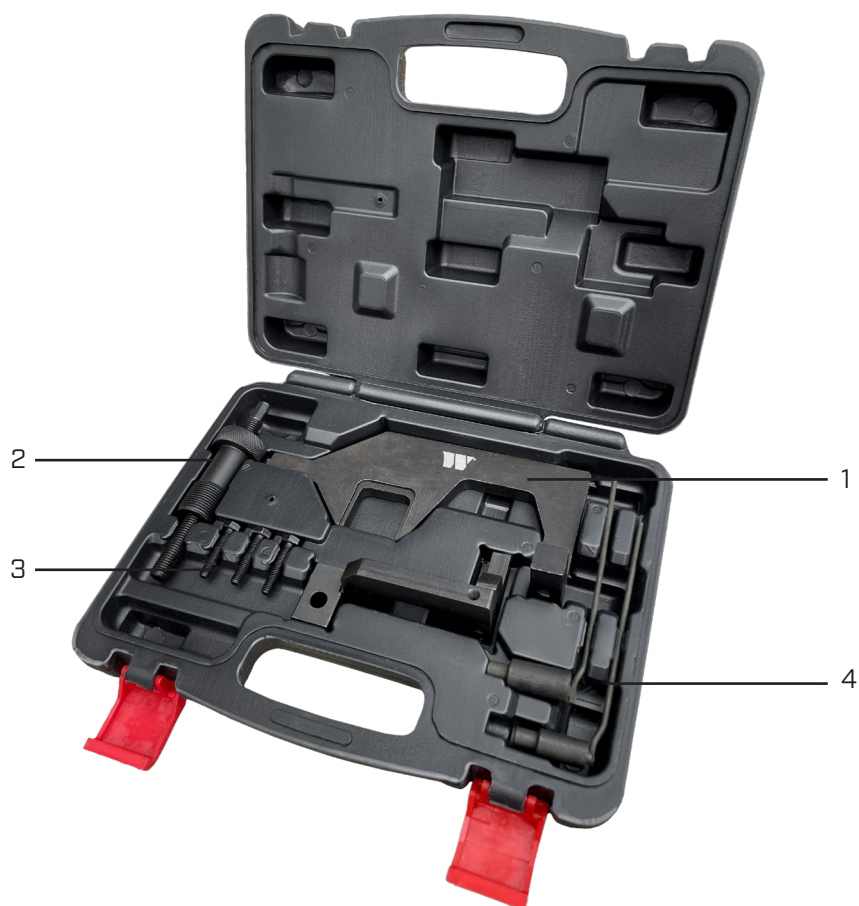


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Engine Timing Tool Set  
For BMW, Mini, Citroen, Peugeot 1.4/1.6 N12



### Information

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- BMW Mini / PSA with 1.4 / 1.6 Valvetronic engine.
- Engine Codes: N12 / N14.
- 1.4 VTi - EP6 8Fs, 1.6VTi - EP6 5FW.
- 1.6 THP - EP6DT 5FX, 1.6 THP - EP6DTS 5FY.

### Precautions

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Always wear safety gear.  
Working in a clean and safe environment.  
This task should be carried out by trained personnel.  
Make sure to consult manufacturers manual.  
Do NOT use with air tools.

Information

Item	Description	OEM BMW	OEM PSA
1	Inlet Camshaft Locking Tool (Supplied in two parts)	119540	0197-A3
2	Exhaust Camshaft Locking Tool	119540	0197-A1
3	Fixing Bolts		
4	Crankshaft Setting Pin	119590	0197-8

1. Inlet Camshaft Locking Tool

The inlet camshaft locking device is used for locking the inlet camshaft into its position; allowing the timing to be set. Ensure these two parts are assembled before use prior to fitting this part.

2. Exhaust Camshaft Locking Tool

This part is used to lock the exhaust camshaft into position and connects the inlet camshaft locking tool.

3. Fixing Bolts

For fixing the camshaft locking device and the exhaust camshaft locking tool together.

4. Crankshaft Setting Pin

This tool is used for locking the crankshaft into position.

Applications

Application	Mode		Type	Engine Code	Year
BMW	Mini One			N12B14AB	2007-2010
	Mini Cooper			N12B16A	2006-2010
Peugeot	207	308	1.4	EP3 (8FS)	2007-2010
	207	308	1.6	EP6 (5FW)	2007-2010
Citroen	C3	DS3 VTI	1.4	8FR (EP3)	2008-2010
	C3	C3	1.4	5FS (EP6)	2008-2010
	Picasso DS3	C4 VTI	1.4		
	C4 Picasso		1.6		

Instructions

Preparation

Step 1

The valve timing on these type of engines are not set along with the no.1 piston at TDC but with all the pistons at a 90 degree angle. Due to this issue it is advised that all the spark plugs are removed; allowing all the pistons to be positioned at the same height in the bores.

Step 2

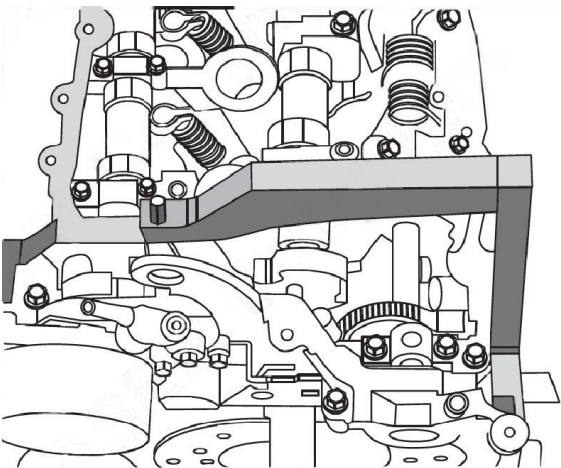
The flywheel has slots for the crankshaft to fit into. Note that there are balance slots which the crankshaft pin could slip into by accident. Making sure the piston heights are equal with the fitted pin will ensure a fit into the timing hole.

Step 3

Remove the cam cover to enable access to the camshafts.  
NOTE: If working on a Mini, remove the front splash guard.

Step 4

The Vanos unit needs to be inspected and needs replaced if there is any fault with the part.



## Instructions

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### Check the Timing

#### Step 1

Turn the crankshaft pulley centre into a clockwise direction, fixing it until the crankshaft locking pin can be slotted into place.

#### Step 2

Check the positioning; making sure the piston heights are level.

#### Step 3

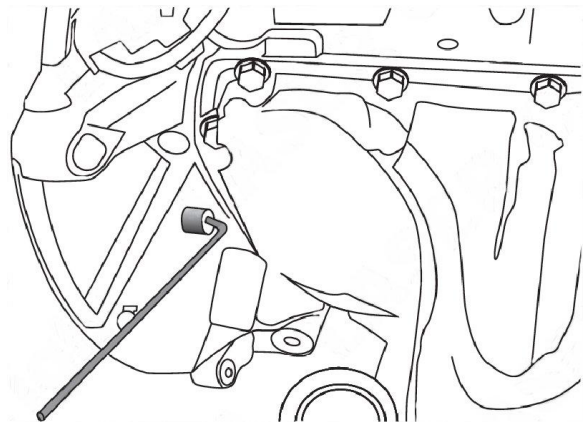
Ensure the camshafts are in the correct position by looking for the markings [IN] on the inlet camshaft and [EX] on the exhaust camshaft are facing upwards. If this isn't the case rotate the crankshaft 360 degrees and rest.

#### Step 4

Fit the exhaust camshaft locking tool onto the exhaust camshaft. Then fit the inlet camshaft locking tool shown so it bolts onto [B]. The timing is correct when the locking tools sit on the surface of the cylinder head.

#### Step 5

If the camshaft timing needs adjusting, the camshaft chain tensioner must be removed. The camshaft adjuster centre bolts should then be loosened to allow for the crankshaft and two camshafts to be turned independently of one another so that the timing is set.



## Warranty

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If you are unsure on how to use the item please contact us. If it were to fail due to a manufacturing fault or poor workmanship we will repair or replace it. Please contact your local dealer in the event you need to send the item back. You can also make a repair/replacement request on our website and download & complete the form online. Normal wear and tear along with misuse will void any warranty. Consumables are not covered under warranty.

[www.welzh.com](http://www.welzh.com)

Limited **12 month** warranty



Welzh Werkzeug Ltd.  
Loanwath Road  
Gretna, Scotland  
DG16 5HD  
+44 (0)1461 700120