

Part No. 6814

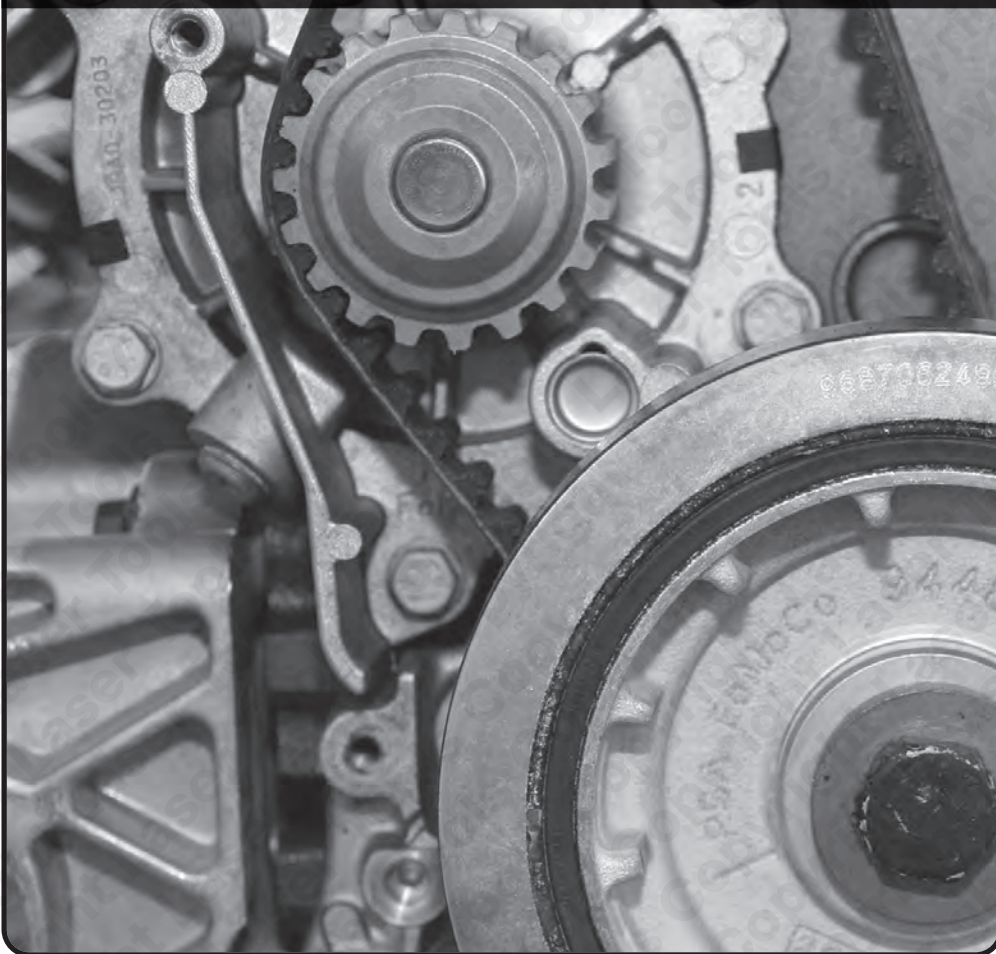
# LASER®

## Instructions

### Timing Chain

### Locking Kit

PSA, BMW 1.4, 1.6 Petrol



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## Components

The diagram shows an exploded view of a mechanical assembly. The components are labeled as follows:

- A**: A small circular component, possibly a pin or washer.
- B**: A rectangular component with a central slot.
- C**: A small circular component, possibly a pin or washer.
- D**: A large, complex bracket or housing component.
- E**: A long, thin rectangular component.
- F**: A small circular component, possibly a pin or washer.
- G**: A small circular component, possibly a pin or washer.
- H**: A rectangular component with two circular holes.
- I**: A small circular component, possibly a pin or washer.
- J**: A small circular component, possibly a pin or washer.
- K**: A small circular component, possibly a pin or washer.
- L**: A small circular component, possibly a pin or washer.
- M**: A rectangular component with two circular holes.
- N**: A small circular component, possibly a pin or washer.

Items identified in **GREY SHADED TABLE CELLS** are built up of a number of components. To identify which components are required for each kit please refer to the cross reference below.

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Make, Model, Year			Engine Codes	
Citroen	Berlingo III	2009 - 2018	1,4	5FU (EP6CDTX)
	C3, C3 Picasso	2009 - 2015	N12 B14A	5FV (EP6CDT)
	C4, C4 Picasso	2008 - 2019	1,4 Vti	5FX (EP6DT)
	C5 III	2009 - 2015	8FN (EP3C)	5GM (EP6FDTX)
	DS3, DS3 Cabrio	2009 - 2017	8FP (EP3C)	5GR (EP6FDTX)
	DS4	2011 - 2015	8FR (EP3C)	5GT (EP6FDTX)
	DS5	2012 - 2015	8FS (EP3)	5GW (EP6FDT)
Peugeot	207, 207 CC	2006 - 2016	1,6	5GY (EP6FDT)
	208	2012 - 2019	N13 B16A	5GY (EP6FDTM)
	308, 308CC	2007 - 2019	N14 B16A	5GZ (EP6FDT)
	508	2011 - 2018	N14 B16C	EP6CDT (5FA)
	2008	2013 - 2017	N16 B16A	EP6CDT (5FE)
	3008	2009 - on	N18 B16A	EP6CDT (5FM)
	5008	2009 - on	N18 B16C	EP6CDT (5FN)
	Partner	2009 - 2018	1,6 Vti	EP6CDT (5FV)
	RCZ	2010 - 2016	5FK (EP6CB)	EP6CDTR (5FG)
DS	3	2015 - 2019	5FL (EP6C)	EP6CDTX (5FU)
	4	2015 - 2019	5FP (EP6)	EP6DT (5FT)
	5	2015 - 2018	5FS (EP6C)	EP6DT (5FX)
	7 Crossback	2017 - on	5FW (EP6)	EP6DTE (5FR)
			EP6 (5FW)	EP6DTS (5FY)
BMW	1 Series	2011 - 2016	EP6C (5FH)	EP6FDT (5GW)
	3 Series	2012 - 2015	EP6C (5FK)	EP6FDT (5GZ)
MINI	Mini	2006 - 2015	EP6C (5FS)	EP6FDTM (5GY)
	Clubman	2007 - 2014	1,6 THP	EP6FDTR (5GN)
	Countryman	2010 - 2017	5FD (EP6DTS)	EP6FDR (5GP)
	Coupe	2011 - 2015	5FE (EP6CDTM)	EP6FDTX (5GR)
	Roadster	2012 - 2015	5FF (EP6DTS)	EP6FDTX (5GT)
	Paceman	2013 - 2017	5FM (EP6CDTM)	1,6 PureTech
			5FN (EP6CDT)	5GY (EP6FADTXD)
			5FR (EP6DTE)	5GF (EP6FADTX)
		5FT (EP6DT)	5GG (EP6FADTX)	

## Instructions

The use of this engine timing tool kit is purely down to the user's discretion and The Tool Connection Ltd. cannot be held responsible for any damage caused whatsoever.



## Introduction

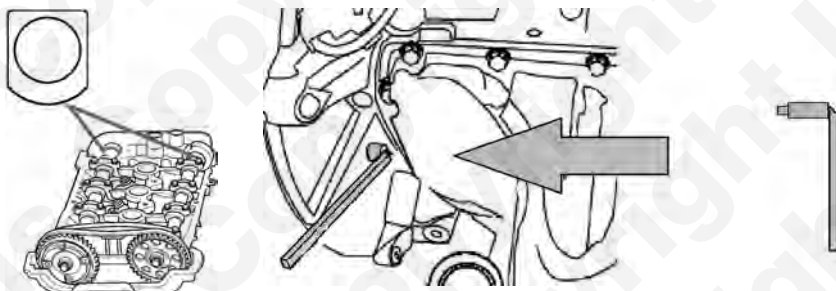
The engine applications listed use two distinct camshaft positions. One engine style positions the camshafts level and the second positions the inlet camshaft noticeably higher than the exhaust camshaft.

While there are only two basic engine configurations there are many different mounting adaptor positions dependent on specific engine code detail. In order to identifying the correct assembly method of the camshaft locking tool for the engine being worked on it is important the OEM tool numbers are correctly identified.

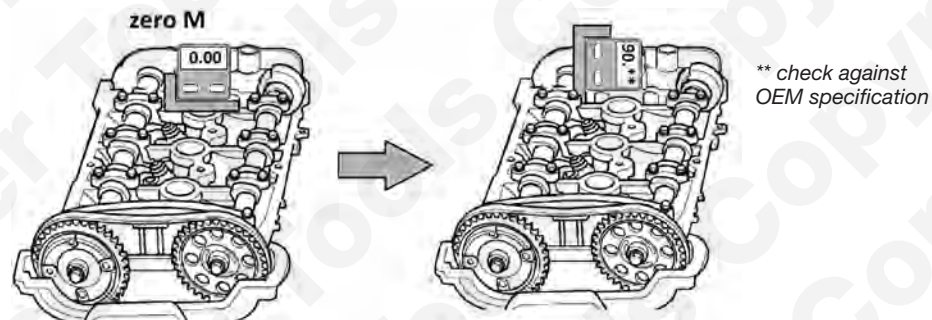
Use the OEM tool numbers with the Laser cross reference chart and drawings below to identify the tool configuration required.

## Basic Component Use

- Lock the Engine with all pistons at equal heights, use a suitable rod or measurement tool to ensure piston 3 and 4 are level. Insert the flywheel timing pin (E).
- Ensure the camshafts are correctly aligned with their alignment flats positioned as shown.



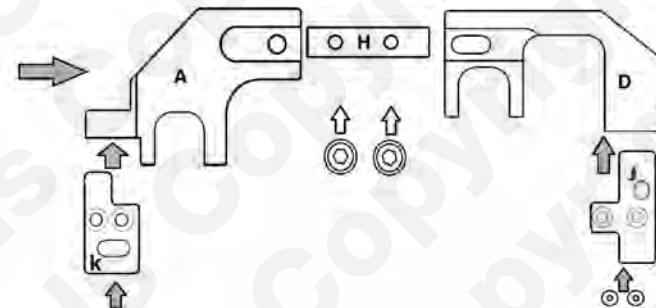
- Use components (M) digital inclinometer and (O) to check the chain stretch in accordance with OEM specification (PSA). Place (M) and (O) on the cylinder head as shown and zero M. move components (M) and (O) so that the angle of the side flat of the camshaft is displayed on (M) as shown. Compare to OEM specification.



- Lock both camshafts with component A + B or A + D with appropriate alignment adaptors as dictated by the OEM part numbers required.
- NB: Mount the camshaft locking components with the link bar (H) facing the Gear box end of the engine.

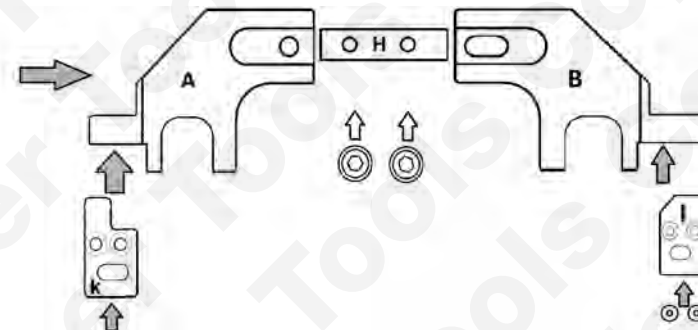
For BMW N13 and N18 Engines assemble the camshaft locking components as shown.

**BMW N13/N18 = A+K+H+D+J**  
**OEM = 11 7 440**



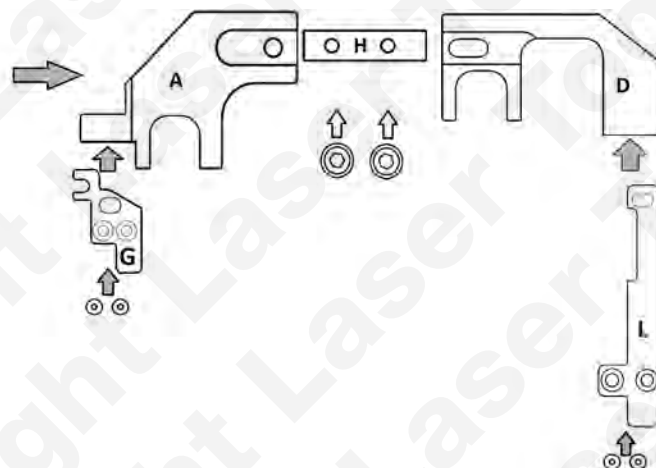
For BMW N14 engines assemble the camshaft locking components as shown.

**BMW N14 = A+K+H+B+I**  
**OEM = 11 9 551**



For BMW N12 engines assemble the camshaft locking components as shown.

**BMW N12/N16 = A+G+H+D+L**  
**OEM = 11 9 540**

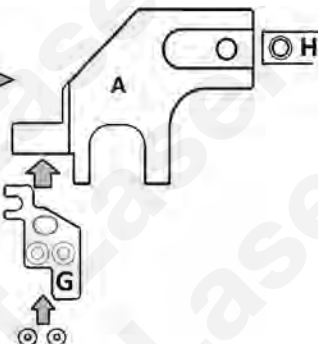




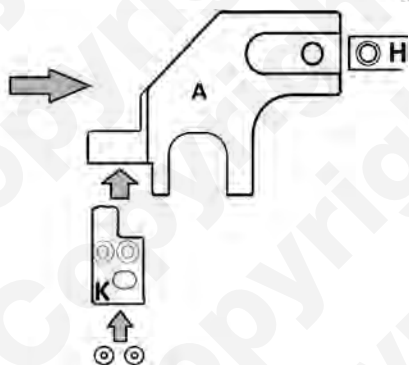
For Peugeot Citroen assemble the camshaft tools according to the OEM tool numbers required as shown here:

- NB: Mount the camshaft locking components with the link bar (H) facing the Gear box end of the engine.

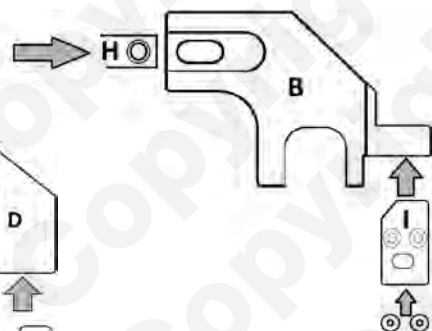
OEM 0197-A1/A1Z = A+G



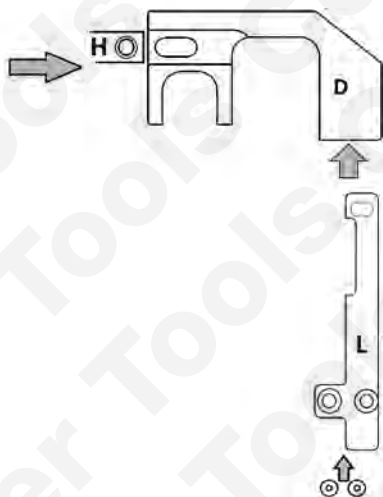
OEM 0197-A11 = A+K



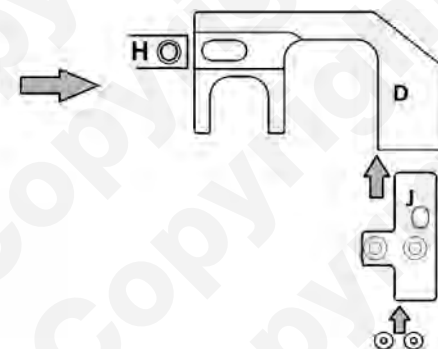
OEM 0197-A2 = B+I



OEM 0197-A3 = D+L

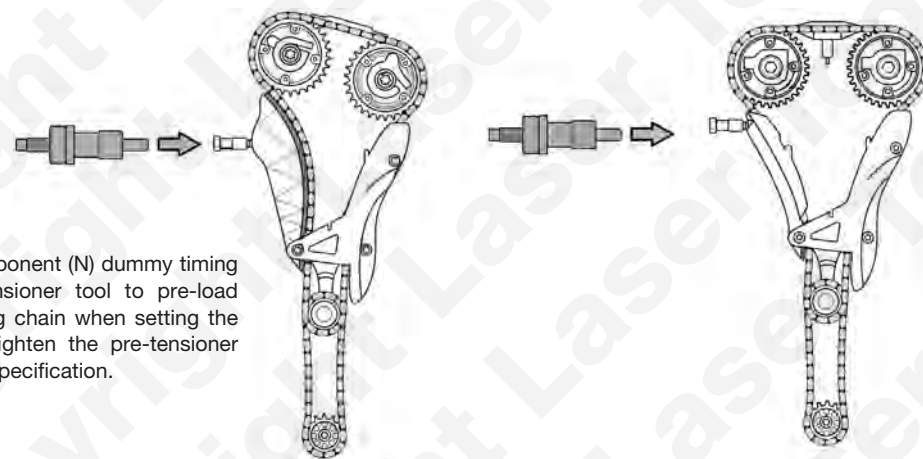
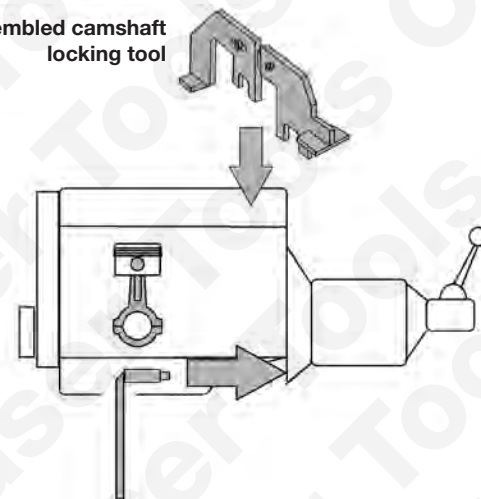


OEM 0197-031 = D+J



## Basic Use of Locking Components

Assembled camshaft locking tool



Use component (N) dummy timing chain tensioner tool to pre-load the timing chain when setting the timing. Tighten the pre-tensioner to OEM specification.

## Safety Warnings - please read

- If the engine has been identified as an Interference engine, damage to the engine will occur if the timing belt has been damaged. A compression check of all the cylinders should be taken before the cylinder head (s) are removed.
- Do not turn crankshaft or camshaft when the timing belt/chain has been removed.
- To make turning the engine easier, remove the spark plugs/glow plugs or injectors.
- Observe all tightening torques.
- Do not turn the engine using the camshaft or any other sprocket.
- Disconnect the battery earth lead (check Radio code is available).
- Do not use cleaning fluids on belts, sprockets or rollers.
- Some toothed timing belts are not interchangeable. Check the replacement belt has the correct tooth profile.
- Always mark the belt with the direction of running before removal.
- Do not lever or force the belt onto its sprockets.
- Do not use timing pins to lock the engine when slackening or tightening the crankshaft pulley bolts.
- ALWAYS REFER TO A REPUTABLE MANUFACTURERS WORKSHOP MANUAL.



**Safety First. Be Protected.**

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If applicable, the applications database and any instructional information provided has been designed to offer general guidance for a particular tool's use and while all attention is given to the accuracy of the data no project should be attempted without referring first to the manufacturer's technical documentation (workshop or instruction manual) or the use of a recognised authority such as Autodata.

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