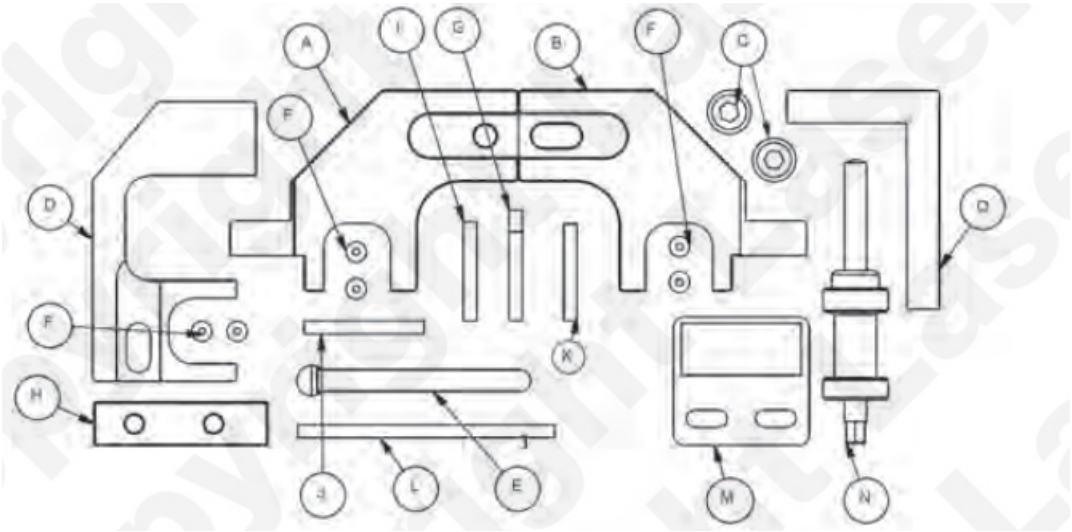
LASER 6814 Timing Chain Locking Kit Instructions

LASER 6814 Timing Chain Locking Kit

A complete engine timing kit designed to allow the timing to be set and checked on the 1.4 & 1.6 PSA/ BMW engines found in the BMW, MINI and PSA ranges. Engine codes covered include N12, N13, N14, N16 & N18 for BMW & MINI and EP3, EP6 for Citroën/Peugeot. Includes the digital angle gauge (Inclinometer) recommended by PSA for checking the chain wear in-situ.

Contents

Components



NOTE:

A, B, D components are EU Registered Design

Ref	Code	OEM Ref	Description
A		0197-A1/A1Z, 0197-A11, 11 7 440, 11 9 551, 11 9 540	Exhaust Camshaft Alignment Tool
B		0197-A2, 11 9 551	Inlet Camshaft Alignment Tool
C			M10 Screw
D		0197-A3, 0197-031, 11 7 440, 11 9 540	Inlet Camshaft Alignment Tool
E	C785	0197-BZ, 11 9 590, 49 6 709, 2 299 362	Flywheel Timing Pin
F			M5 Screws x6 off
G		0197-A1/AZ, 11 7 440, 11 9 540	Exhaust Camshaft Alignment Tool Adapter
H		All Cam Assemblies	Link Bar For A & B
I		0197-A2, 11 9 551	Inlet Camshaft Alignment Tool Adapter
J		0197-A31, 11 7 440	Inlet Camshaft Alignment Tool Adapter
K		0197-A11, 11 9 551, 11 9 440	Exhaust Camshaft Alignment Tool Adapter
L		0197-A3, 11 9 540	Inlet Camshaft Alignment Tool Adapter
M	C784	G-1376-A	Digital Inclinometer
N	C786	0197-M, 11 9 340	Dummy Timing Chain Tensioner
O	C787	E1.100	Angle Bracket

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

Camshaft Locking Cross Reference – PSA		
OEM Numbers	**Component Code**	**Items**
0197-A1/A1Z	C788 – Exhaust Camshaft Alignment Tool Assembly	A+G
0197-A11	C789 – Exhaust Camshaft Alignment Tool Assembly	A+K
0197-A2	C790 – Inlet Camshaft Alignment Tool Assembly	B+I
0197-A3	C791 – Inlet Camshaft Alignment Tool Assembly	D+L
0197-A31	C792 – Inlet Camshaft Alighment Tool Assembly	D+J
Camshaft Locking Cross Reference – BMW		
11 7 440	C793 – Camshaft Alignment Tool Assembly	A+K+H+D+J
11 9 551	C794 – Camshaft Alignment Tool Assembly	A+K+H+B+I
11 9 540	C795 – Camshaft Alignment Tool Assembly	A+G+H+D+L

Applications

Make, Model, Year			**Engine Codes**	
Citroen	Berlingo III	2009 – 2018	**1,4**	
	C3, C3 Picasso	2009 – 2015		
	C4, C4 Picasso	2008 – 2019		
	C5 III	2009 – 2015		
	DS3, DS3 Cabrio	2009 – 2017		
	DS4	2011 – 2015		
	DS5	2012 – 2015		

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

	Paceman	2013 – 2017		

Instructions

The following instructions are for guidance only. Please refer to OEM derived data such as the vehicle manufacturers' own data or Auto data.

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

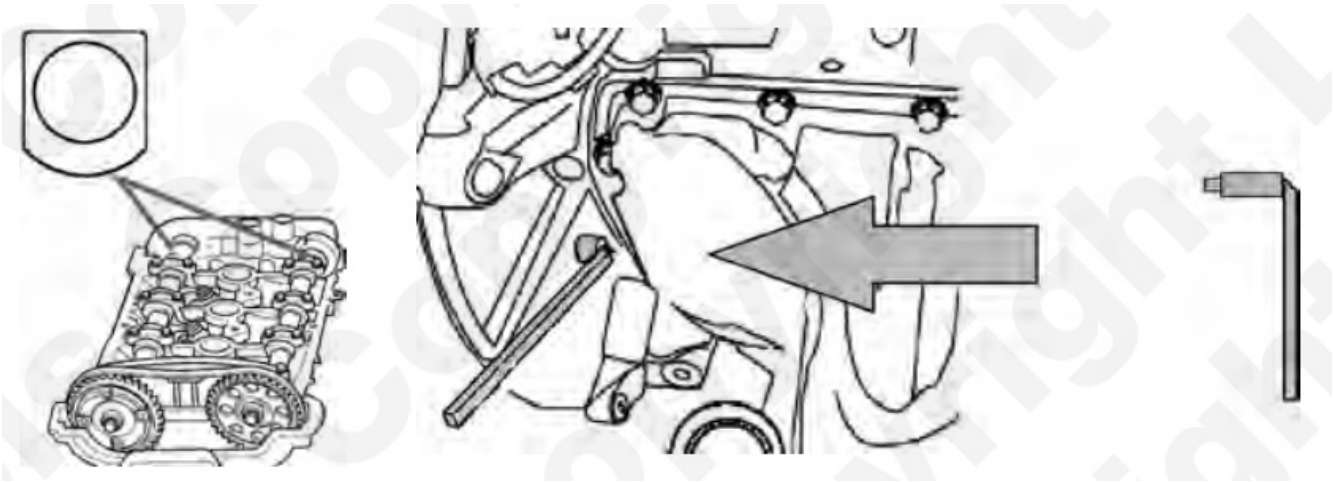
The engine applications listed use two distinct camshaft positons. One engine style positions the camshafts level and the second positions the inlet camshaft noticeably higher than the exhaust camshaft.

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.

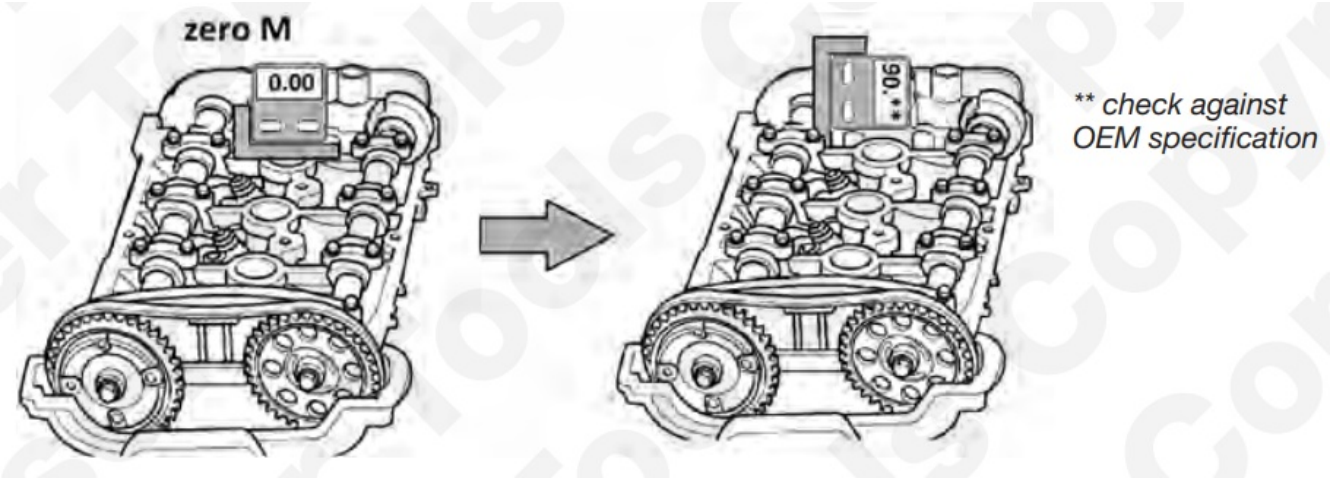
Use the OEM tool numbers with the Laser cross reference chart and drawings below to identify the tool configuration required.

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.

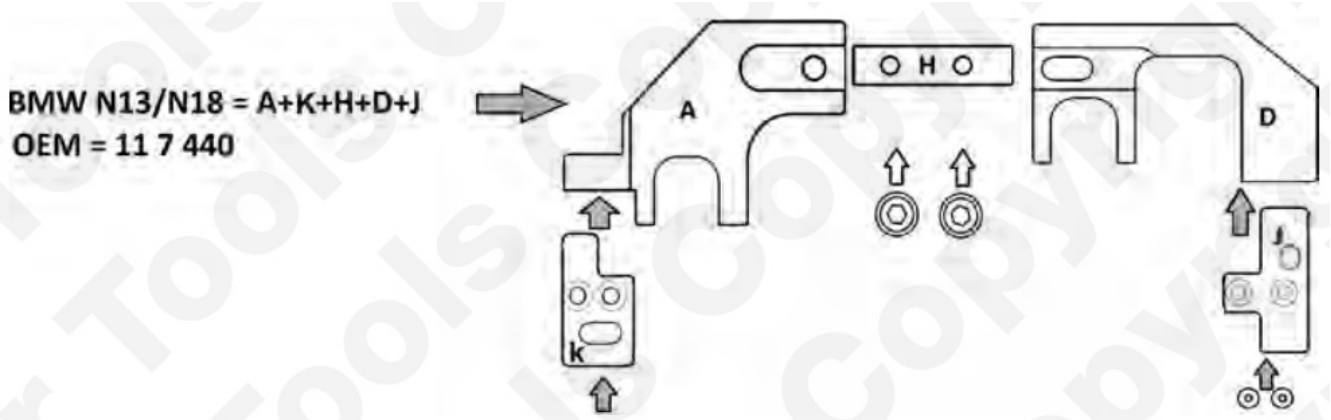


- Use components (M) digital inclinometer and (O) to check the chain stretch in accordance with OEM specification (PSA). Place (M) and (O) on the cylinder head as shown and zero M. move components (M) and (O) so that the angle of the side flat of the camshaft is displayed on (M) as shown. Compare to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

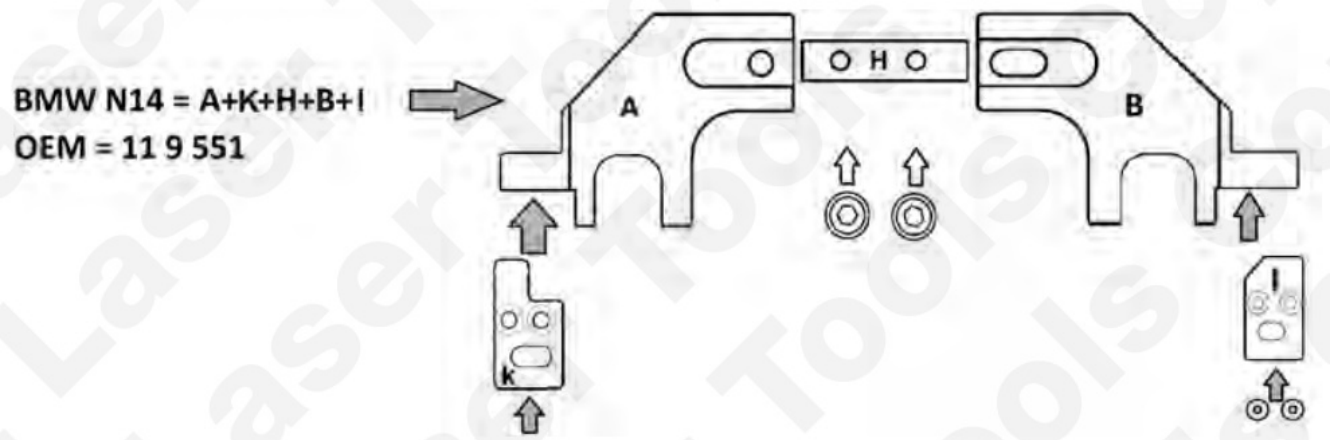


- Lock both camshafts with component A + B or A + D with appropriate alignment adaptors as dictated by the OEM part numbers required.
- **NB:** Mount the camshaft locking components with the link bar (H) facing the Gear box end of the engine.

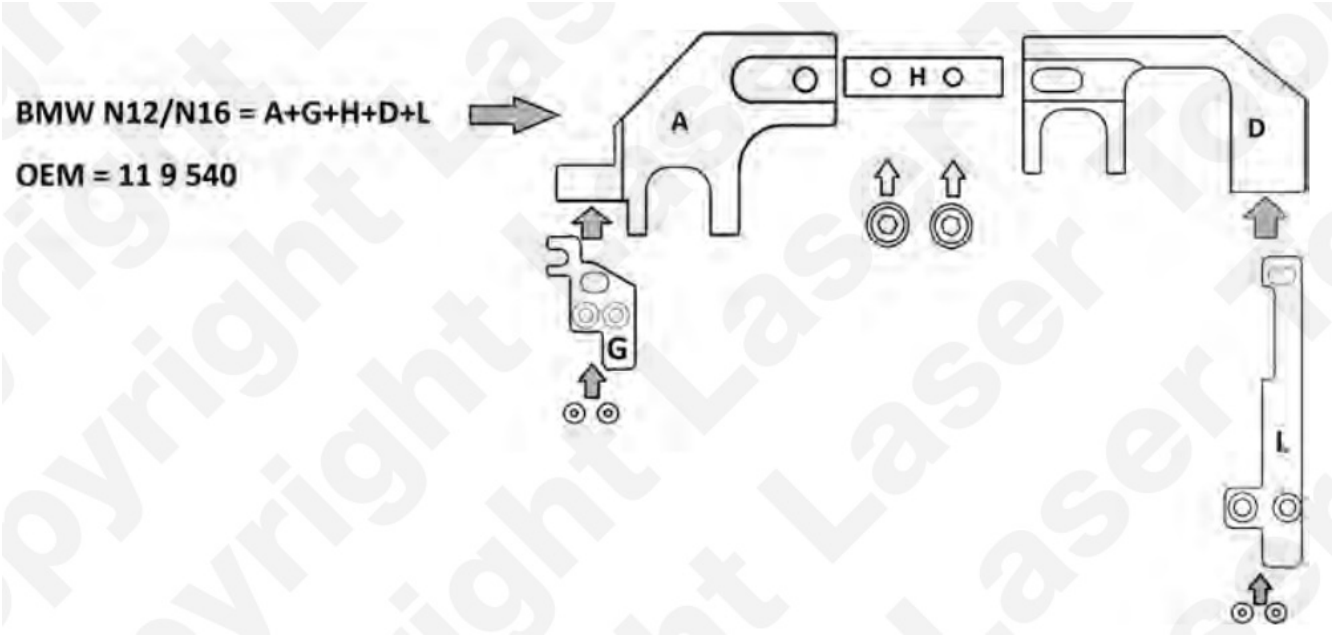
For BMW N13 and N18 Engines assemble the camshaft locking components as shown.



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

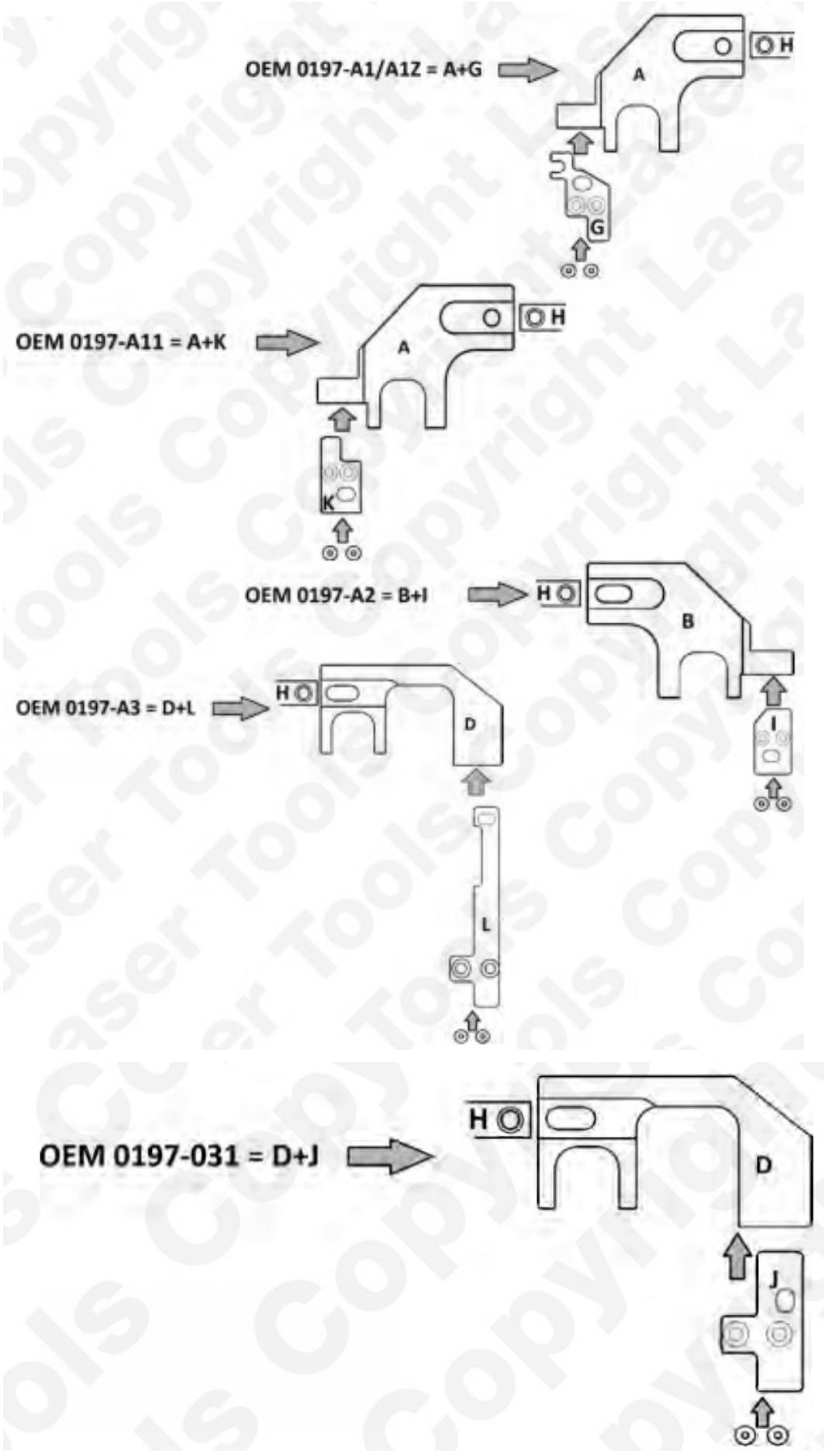


For BMW N12 engines assemble the camshaft locking components as shown.

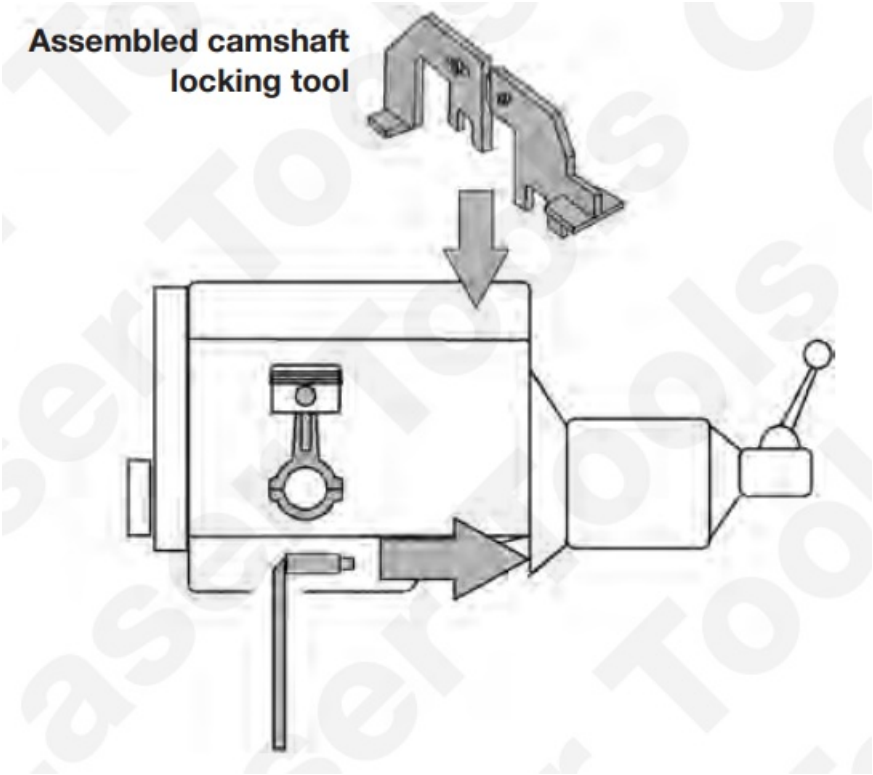


For Peugeot Citroen assemble the camshaft tools according to the OEM tool numbers required as shown here:

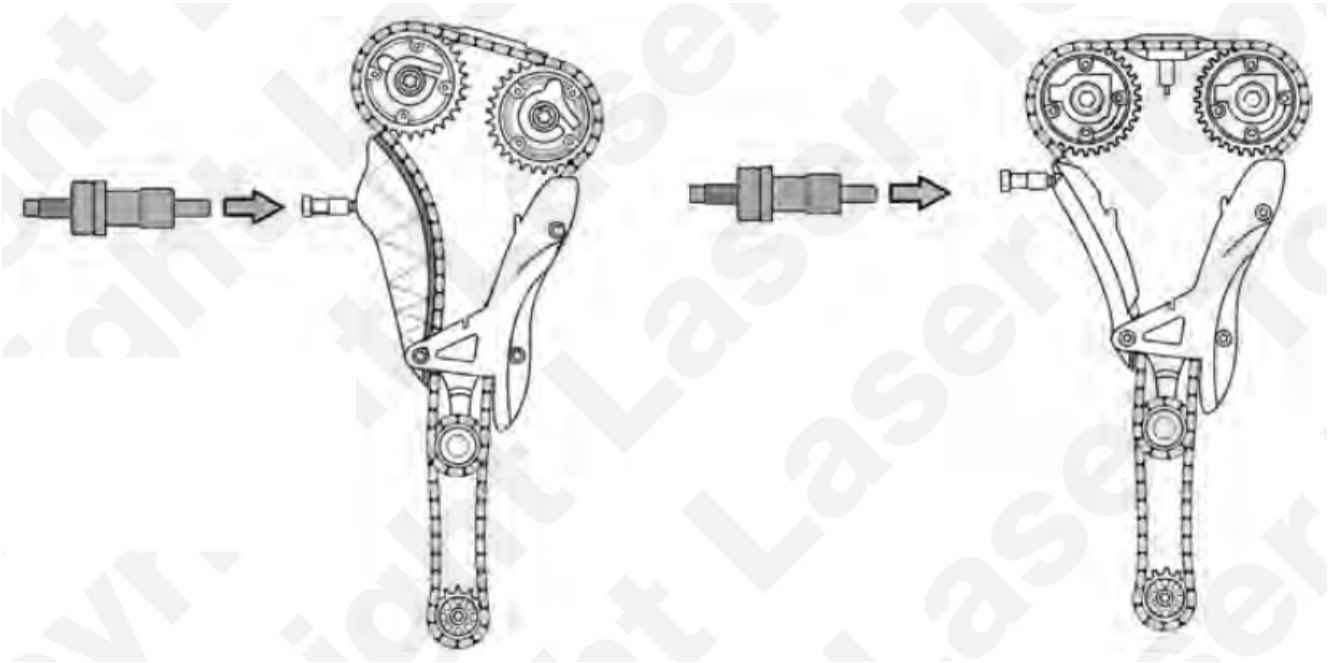
- NB: Mount the camshaft locking components with the link bar (H) facing the Gear box end of the engine.



Basic Use of Locking Components



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

Our products are designed to be used correctly and with care for the purpose for which they are intended. No liability is accepted by the Tool Connection for incorrect use of any of our products, and the Tool Connection cannot be held responsible for any damage to personnel, property or equipment when using the tools. Incorrect use will also invalidate the warranty.

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 Auto data.

It is our policy to continually improve our products and thus we reserve the right to alter specifications and components without prior notice. It is the responsibility of the user to ensure the suitability of the tools and information prior to their use.

Guarantee

If this product fails through faulty materials or workmanship, contact our service department direct on: +44 (0) 1926 818186. Normal wear and tear are excluded as are consumable items and abuse.

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Distributed by The Tool Connection Lid Kineton Road, Southam, Warwickshire CV47 ODR T +44 (0) 1926 815000 F +44 (0) 1926 815888 info@tooloonnection.oo.uk www.toolconnecrtion.co.uk

www.lasertools.co.uk

Documents / Resources

	LASER 6814 Timing Chain Locking Kit [pdf] Instructions 6814 Timing Chain Locking Kit, 6814, Timing Chain Locking Kit, Chain Locking Kit, Locking Kit

References

- Laser Tools | Premier Automotive Hand Tools designed to make easy work of difficult and awkward jobs.
- Laser Tools 6814 Timing Chain Locking Kit - for PSA, BMW 1.4, 1.6 Petrol