Note: these instructions are provided for guidance only. Please refer to the vehicles manufacturers' instruction or a reputable data provider. The Tool Connection Ltd recommend Autodata.

Safety Precautions – 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 compresion 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 has been removed
- To make turning the engine easier, remove the spark plugs
- 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
- Check the ignition timing after the belt has been replaced.
- 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

The Tool Connection cannot be held responsible for damage to engine or personnel whilst using this tool kit.

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When you have finished with this leaflet please recycle it

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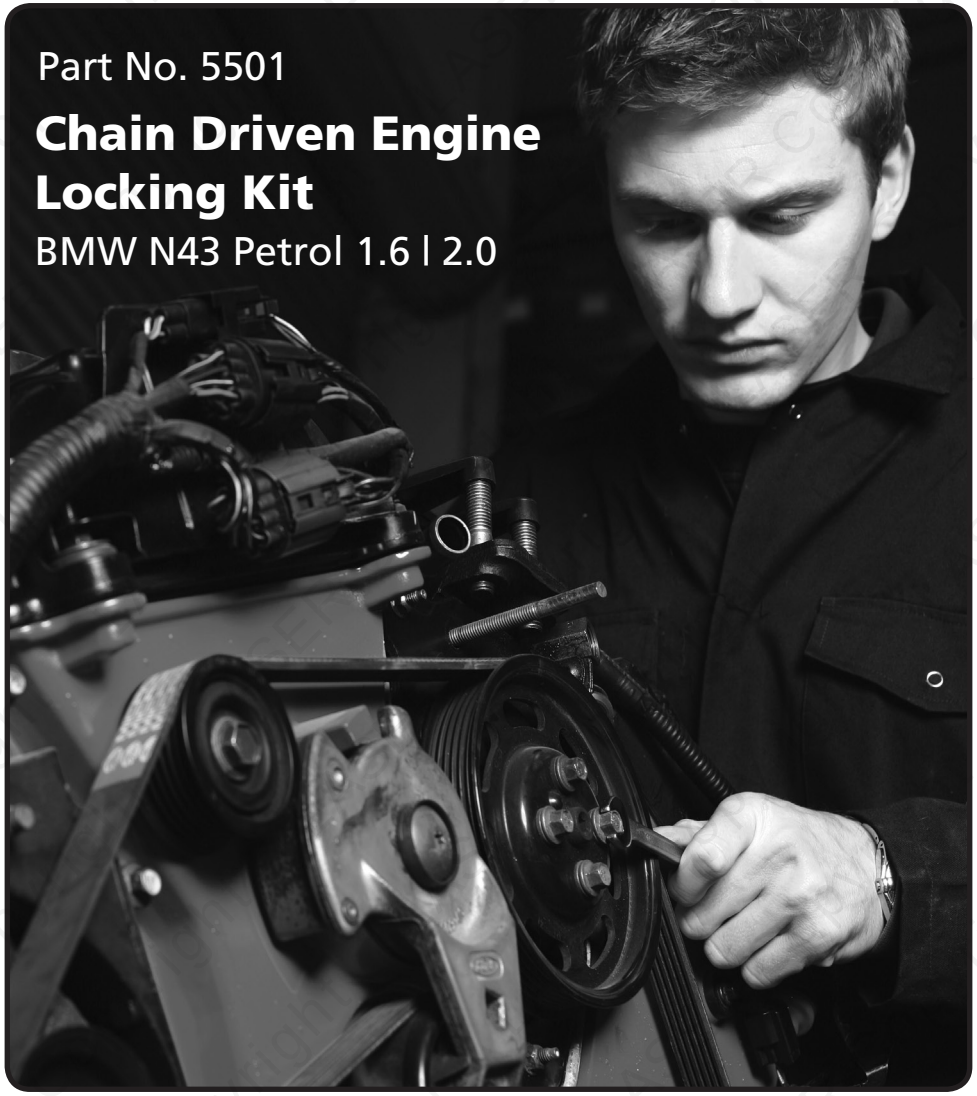
If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186.** Normal wear and tear are excluded as are consumable items and abuse.

LASER®

Part No. 5501

Chain Driven Engine Locking Kit

BMW N43 Petrol 1.6 | 2.0



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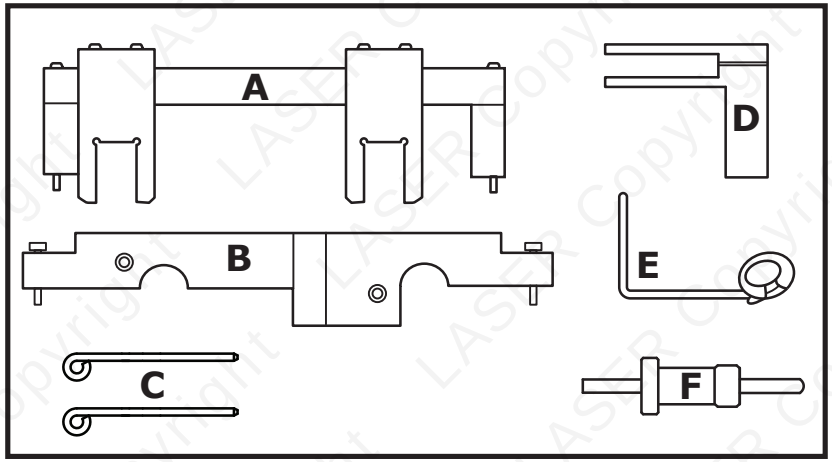
Chain Driven Engine Locking Kit - BMW N43 Petrol 1.6 | 2.0

This tool kit has been designed to check, adjust and set the Camshaft timing and remove/replace the Cam chain. The kit also includes the VANOS plate which is required to set the VANOS sensor in the correct position and the alignment too required to set the balancer shaft.

Applications:
1 series E81 | 82 | 87 | 88 (06-12)
3 series E90 | 91 | 92 | 93 (06-12)
5 series E60 | 61 (07-10)

Engine codes:
N43 B16A/AA | N43 B20A | N43 B20AA | N43 B20AY | N43 B20KO | N43 B20UO
2006 to current (2012) chain drive engines only.

Plan Layout



Ref	Code	OEM Ref	Description
A	C562	11 8 690 (11 8 691/11 8 692/11 8 693)	Camshaft Locking Tool
B	C563	11 8 710 (11 8 711/11 8 712)	VANOS Sensor Alignment Tool
C	C030	11 3 340	Chain Tensioner Locking Pins X 2
D	C564	11 8 700	Balance shaft Locking Tool
E	C572	11 5 120	Flywheel Locking Tool
F	C328	11 9 340 (11 9 341/11 9 342)	Chain Tensioner Tool

Instructions

Preparation
Due to positioning of the chain drive and the balancer shaft it will be necessary to remove the sump for removal/refitting of the timing chain/sprocket.

The engine should be set at TDC no.1

Component Descriptions

Component A - Camshaft Locking Tool
Used to lock the camshafts in their timed position.

With the engine set at TDC No.1, this component should fit on the end of the Camshafts as shown in **Fig.1**

Ensure the tool sits squarely on the head surface.

Components B - VANOS Alignment Tool
Component B is designed to align the VANOS sensor to ensure the VANOS system will function correctly. **Fig. 2**

Components C - Chain Tensioner Locking Pins x 2
These pins are used to lock the chain tensioner in its retracted position. To retract the tensioner use component (F)

Components D - Balancer shaft Locking Tool
Used to lock the balance shaft in it timed position as shown.

NB the balance shafts are located in the sump.
Fig. 3

Components E - Flywheel Locking Tool
This locates into the back of the flywheel through the engine block as shown. **Fig. 4**

Component F - Timing Chain Tensioner Tool
Provided to release the tension on the camshaft chain tensioner which is required when

- Removing or replacing the Cam chain
- Setting valve timing

Fig. 1

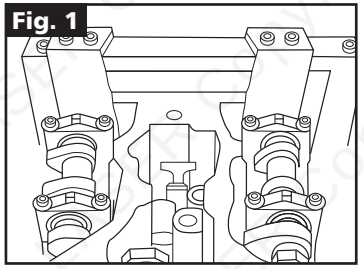


Fig. 2

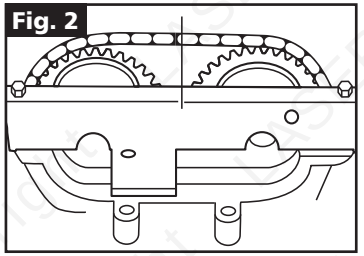


Fig. 3

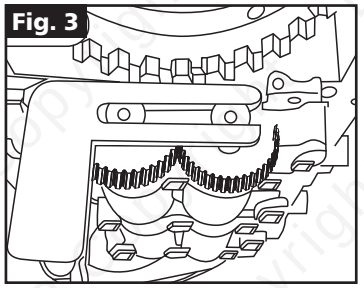


Fig. 4