

Warning

Incorrect or out of phase engine timing can result in damage to the valves. The Tool Connection cannot be held responsible for any damage caused by using these tools in anyway.

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 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 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



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Guarantee

If this product fails through faulty materials or workmanship, contact our service department direct on: +44 (0) 1926 816186. Normal wear and tear are excluded as are consumable items and abuse.

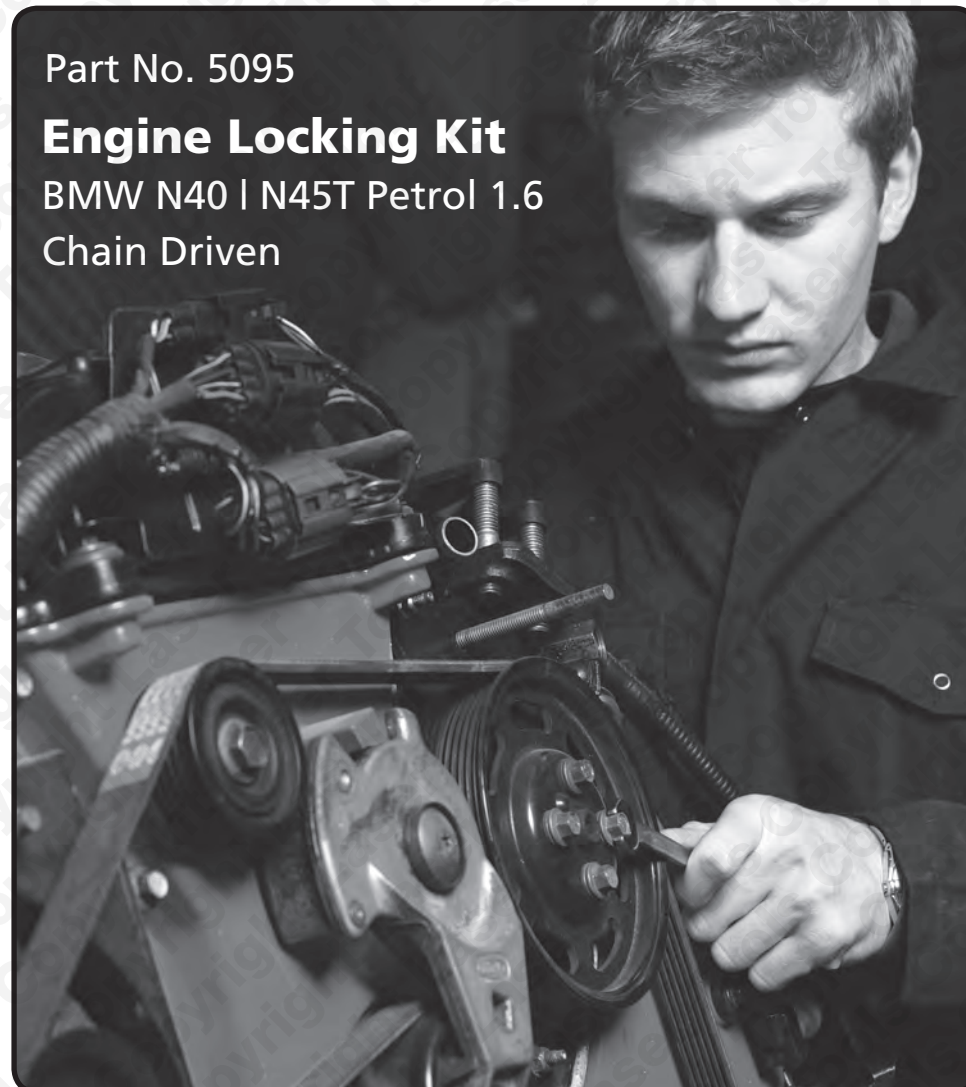
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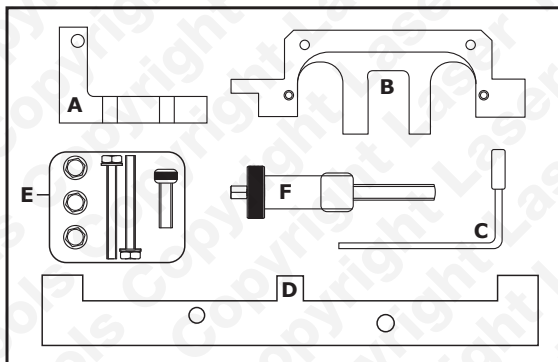
Engine Locking Kit

BMW N40 | N45T Petrol 1.6
Chain Driven



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Plan Layout



Ref	Code	OEM Ref	Description
A	C518	11 7 252	Camshaft Locking Tool, inlet
B	C517	11 7 251	Camshaft Locking Tool, Exhaust
C	C327	11 9 190	Flywheel Locking Pin
D	C519	11 7 260	VANOS Sensor Setting Tool
E			Fixing Screws
F	C328	11 9 340 11 9 341	Chain Tensioner Tool

Applications

The application list for this product has been compiled cross referencing the OEM Tool Code with the Component Code.

In most cases the tools are specific to this type of engine and are necessary for Cam belt or chain maintenance.

If the engine has been identified as an interference engine valve to piston damage will occur if the engine is run with a broken Cam belt.

A compression check of all cylinders should be performed before removing the cylinder head.

Always consult a suitable work shop manual before attempting to change the Cam belt or Chain.

The use of these engine timing tools is purely down to the user's discretion and Tool Connection cannot be held responsible for any damage caused what so ever.

ALWAYS USE A REPUTABLE WORKSHOP MANUAL

Model	Type	Engine Code	Year
1 Series 116i	(E81 82 87 88)	N45 B16A B16AC	2004-2010
3 Series 316/316ti	(E46)	N40 B16A N45 B16A B16AC	2002-2005
3 series	(E90)	N45T B16	2007-2009

Engine Locking Kit - BMW N40 | N45T Petrol 1.6 Chain Driven

Locks the engine to check and adjust the camshaft timing and remove or replace the cam chain. This kit also includes the VANOS plate which is required to lock the variable valve timing system in the correct position.

Preparation:

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

The engine should be set at TDC no.1

As a precautionary check the camshafts are in their TDC No 1 position when the slots in the end of the cams is facing vertically and the cam lobes on No 1 cylinder are pointing vertically and slightly outwards.

If the timing needs to be adjusted the camshaft sprockets bolts will need to be loosened.

The camshaft sprocket retaining bolts should not be re-used.

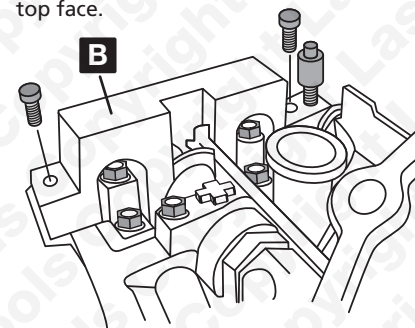
Component Descriptions

Components A Camshaft Locking Tool - Inlet

This tool is used to lock the inlet camshaft in its timed position.

With the engine set at TDC No 1 the tool should fit at the end of the camshaft opposite the cam chain sprockets.

When correctly fitted component (A) should sit squarely on the cylinder head top face.



Components B

Camshaft Alignment Tool - Exhaust

This tool locates on the exhaust Cam. When correctly fitted and the exhaust cam is correctly timed (B) should sit squarely on the cylinder head with no less than 1mm gap between (B) and the cylinder head.

Components C

Flywheel Locking Pin

This is used to lock the crankshaft in it's timed position (TDC No1 cyl).

The Flywheel locking pin locates through the engine block into the flywheel just below the starter motor.

Components D

VANOS Sensor Setting Tool

Designed to set the start position of the VANOS units on the camshafts to ensure the variable valve timing will function correctly.

Components E

Fixing Screws for above.

Component F

Timing Chain Tensioner Tool

This is provided to release the tension on the camshaft chain tensioner which is essential when

- Removing or replacing the Cam chain
- Setting/removing/replacing the VANOS units(s)

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

The Tool Connection Ltd cannot be held responsible for any damaged to engine or personnel whilst using this tool.