

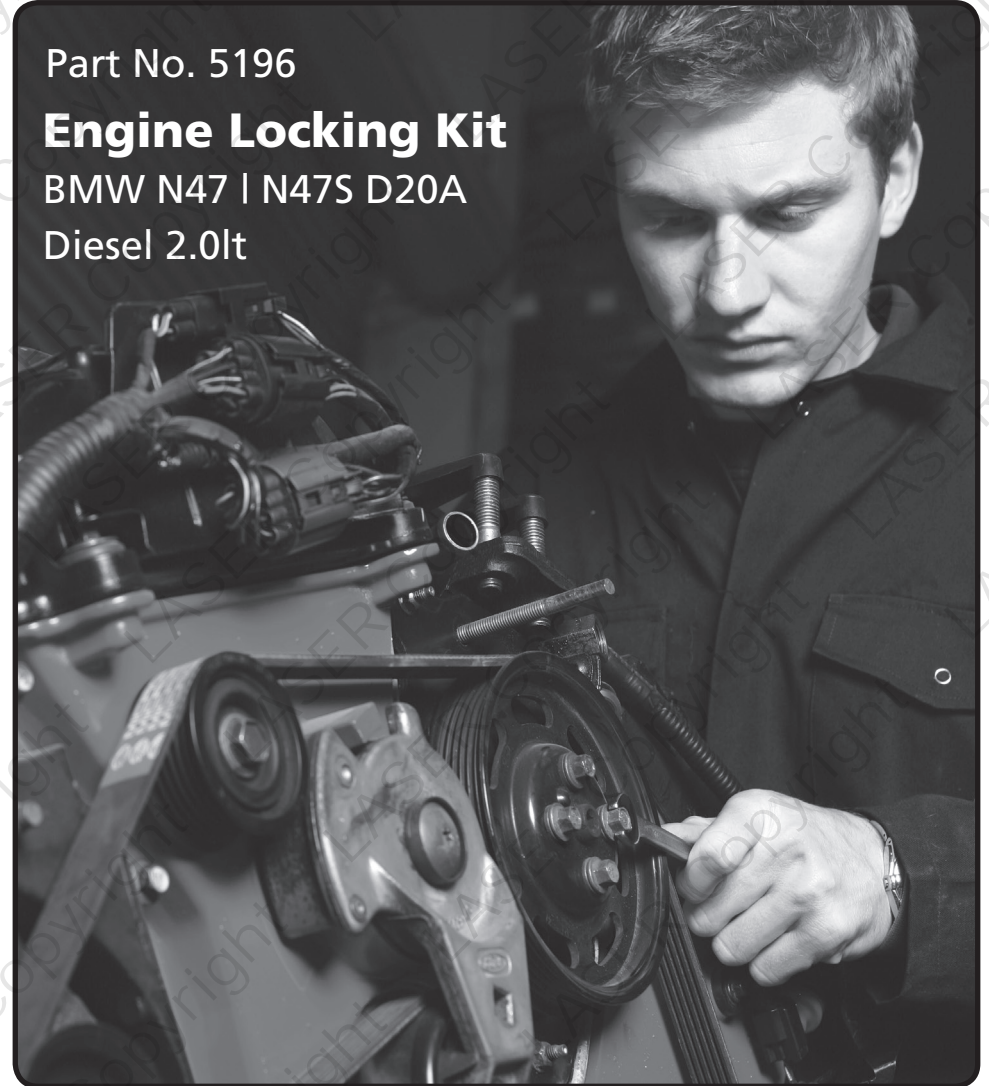
LASER[®]

Part No. 5196

Engine Locking Kit

BMW N47 | N47S D20A

Diesel 2.0lt



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Guarantee



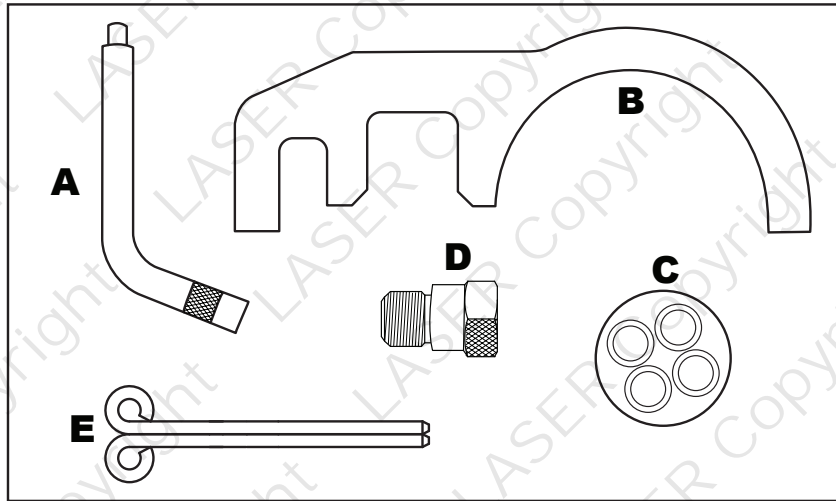
Distributed by The Tool Connection Ltd
Kington Road, Southam, Warwickshire CV47 0DR
T +44 (0) 1926 815000 F +44 (0) 1926 815888
info@toolconnection.co.uk www.toolconnection.co.uk

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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Plan Layout



Ref	Code	OEM Ref	Description
A	C529	11 5 320	Flywheel Plate Timing Pin
B	C530	11 8 760	Camshaft Alignment Tool
C	C531	11 6 480	Crankshaft Pulley Turning Tool
D	C532	11 8 740	High Pressure Pump Sprocket Removal Tool
E	C030	11 3 340	Tensioner Locking Pins X 2

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

Warning – Incorrect or out of phase engine timing can result in damage to the valves. It is always recommended to turn the engine slowly, by hand, and to re-check the camshaft and crankshaft timing positions.

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	Engine Code	Year
1 series (E81 82 87 88)	N47 D20A, N47S D20B/TO	2007-2010
3 series (E90 91 92 93)	N47 D20A, N47S D20B/TO	2007-2010
5 series (E60 61)	N47 D20A, N47S D20B/TO	2007-2010
X3 (E83)	N47 D20A, N47S D20B/TO	2007-2010

Instructions

Preparation

The valve timing on these engines Preparation:

Due to the positioning of the chain drive it will be necessary to remove the engine from the vehicle for removal/refitting of the timing chain/sprocket.

Component Descriptions

Components (A)

Flywheel Plate Timing Pin

Used to lock the crankshaft in its TDC no1 position. The pin locates through the engine block into the back of the flywheel/flywheel Plate.

Turn the engine in its normal direction of rotation until the pin can be located fully. Confirm TDC no 1 cylinder by checking the position of the Cam lobes on no 1 cylinder.

Components (B)

Camshaft Alignment Tool

Locates on the exhaust Cam just behind the Camshaft drive gears. Both ends of (B) should sit flush on the cylinder head when in place if the timing is correct.

If incorrect, check component (A) is in place correctly.

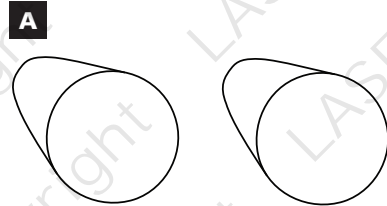
If (A) is correctly fitted then the camshaft timing must be adjusted.

Components (C)

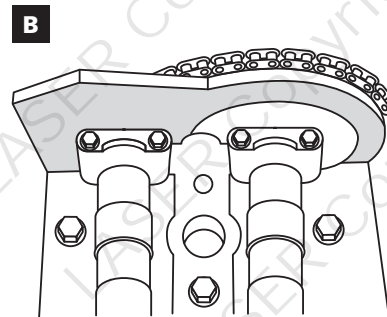
Crankshaft Pulley Turning Tool

Designed to sit over the crankshaft fixing bolt heads and provide a suitable drive for a ratchet to be used to turn the crankshaft by hand.

Only turn the engine in its normal direction of rotation.



Cylinder no1 Cam lobe positions at TDC when viewed from the front of the engine



Instructions

Component (D)

High Pressure Diesel Fuel Pump Pulley Removal Tool

Designed to allow the HP diesel pump to be removed whilst holding the pump sprocket in place so the cam chain, valve timing etc. do not need to be disturbed to remove or replace the HP pump.

Locate and remove the plastic blanking plug that covers the HP pump sprocket holding bolt.

Ensure engine is at TDC No 1.

Screw component (D) into the sprocket

Do not remove the sprocket central fixing bolt until (D) is in place.

Remove the HP pump mounting bolts and slacken the sprocket fixing via the centre of component (D).

The HP pump will be pushed out of the back of the sprocket.

Note: Do not remove the tool or centre fixing whilst the HP pump is not in place.

Components (E)

Chain Tensioner Locking Pins (2)

These are used to lock the chain tensioners in their retracted position.

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 the use of Autodata's Timing Chain and Belt instruction manuals.

The Tool Connection cannot be held responsible for any damage caused, whatsoever, whilst using these tools.

