

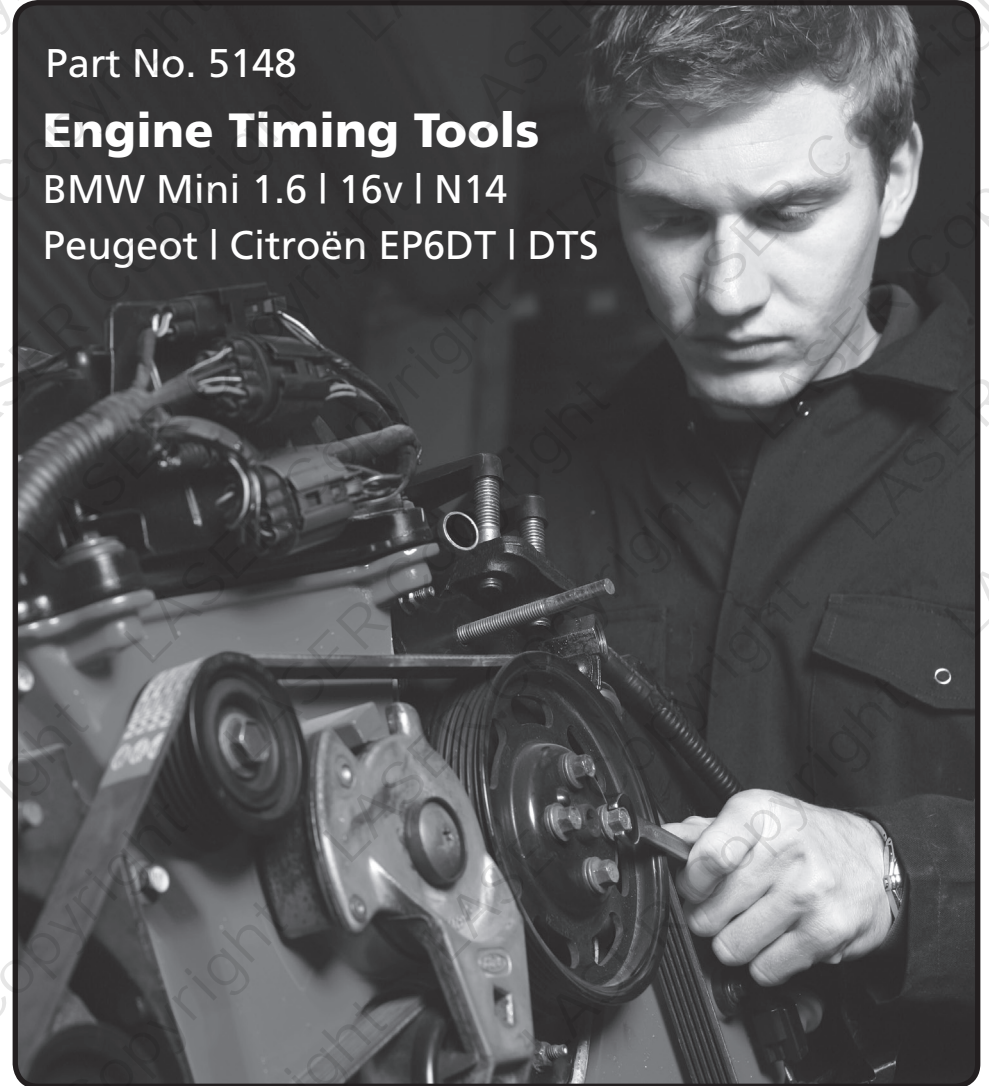
LASER[®]

Part No. 5148

Engine Timing Tools

BMW Mini 1.6 | 16v | N14

Peugeot | Citroën EP6DT | DTS



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Guarantee



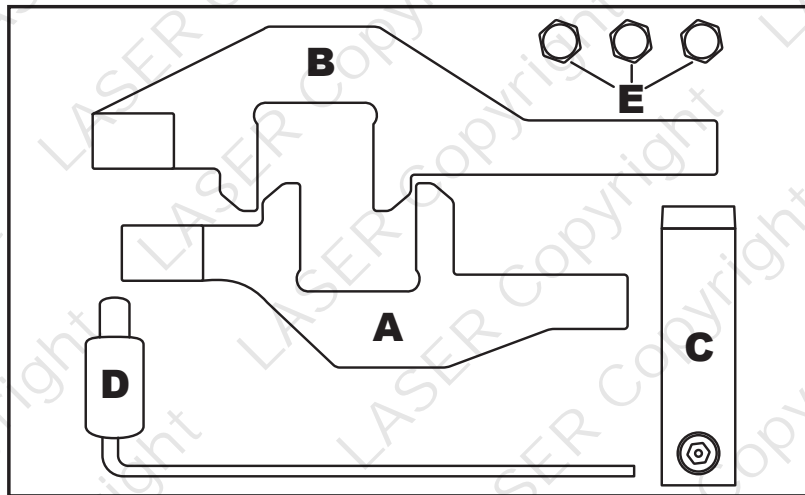
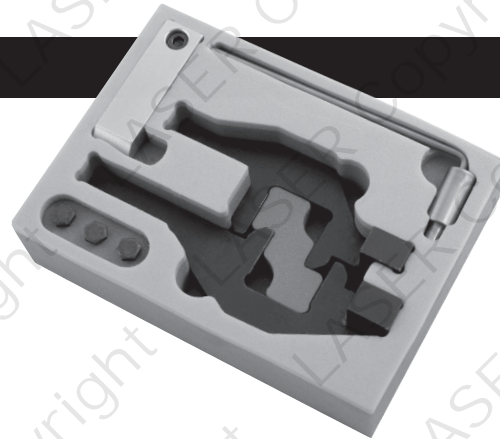
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Plan Layout



Ref	Code	OEM Ref BMW	OEM Ref - PSA	Description
A	C509	11 9 550	0197-A2	Camshaft Locking Tool - Inlet
B	C510	11 9 551	0197-A1	Camshaft Locking Tool - Exhaust
C	C511	11 9 552		Camshaft Alignment Clamp
D	C512	11 9 590	0197-B	Crankshaft Setting Pin
E				M6 Setscrews (3)

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

Manufacturer	Mode	Type	Engine Code	Year
BMW	Mini Cooper S	1.6	N14B16A	2007-2010
Peugeot	207 307	1.6	EP6DT(5FX)	2006-2010
	GT THP GTi	1.6	EP6DTS (5FY)	2006-2010
Citroën	DS3 C4 C4	1.6	EP6DT(5FX)	2006-2010
	Grande Picasso TPH	1.6	EP6DT(5FX)	2006-2010

BMW Mini Cooper S and PSA 1.6 16v Turbo 2007

BMW Mini and Peugeot have developed a pair of engines. The N14 ranges have been developed to incorporate the latest technologies to give the best performance, economy and emissions possible.

This kit has been designed to replace the timing chain on the N14 engines. These engines are 1.6 Turbo charged petrol engines.

The tools have been specifically designed to allow the camshaft and crankshaft to be locked in position to correctly check and set the camshaft timing.

NB: It may be necessary to use a pre-load tool on the chain tensioner which is not supplied in the kit but is available separately – Part No 5153

Preparation

1. The valve timing on these engines is not set with No1 piston at TDC but with all the pistons in the 90° position. For this reason it is recommended by the manufacturers that the spark plugs be removed so the pistons are checked and are at the same height in the bores.
2. Where the crankshaft locking pin slots into the flywheel there are also balance slots in the flywheel which the pin could slot into by mistake. To ensure the tool is in the timing hole, check the piston heights are equal with the pin fitted.
3. Remove the cam cover to gain access to the camshafts
4. Remove the front splash guard (Mini only)
5. It is highly recommended that the Vanos unit be checked and if found faulty replaced (See Manufacturers Workshop Manual)

Component Descriptions

Components A

Inlet camshaft locking tool – this tool fits on top of the inlet camshaft and locks it in place. It interlocks with the exhaust camshaft locking plate (B) and both are held in place with (C)

Components B/E

Exhaust camshaft locking tool - interlocks with (A) and is held down by (C).

Components C

Locking Block.

Components D

Crankshaft Locking Pin – used to lock the crankshaft in position as shown in Fig1.

Component E

Setscrews for (A/B/C) Fig2.

Instructions – Checking The Timing

Note: these instructions are for reference only. Please refer to the vehicle manufacturer's instructions or other such reputable data provider. The Tool Connection recommends the use of Autodata.

1. Turn the engine in a clockwise direction using the crankshaft pulley centre fixing until the Crankshaft Locking Pin can be slotted in as shown in Fig. 1
2. Double check correct positioning by checking the piston heights as described.
3. Check that the camshafts are in the correct position by ensuring the markings 'IN' on the inlet camshaft and 'EX' on the Exhaust camshaft are facing upwards – if not turn the crankshaft 360° and reset.
4. Fit (B) onto the exhaust camshaft as shown in Fig. 2
5. Fit (A) the inlet camshaft locking tool as shown in Fig. 2
6. Fit the locking block (C) to hold (A/B).
7. The timing is correct when the locking tools sit on the surface of the cylinder head with ease.

Note: In order to adjust the camshaft timing the cam chain tensioner must be removed and the camshaft adjuster centre bolts must be loosened to allow the crank shaft and 2 cams to be turned independently of each other so the timing can be set.

N.B. It may be necessary to use a pre-load tool on the chain tensioner which is not supplied in the kit but is available in (5153).

Please refer to the vehicle manufacturers data.

Fig. 1

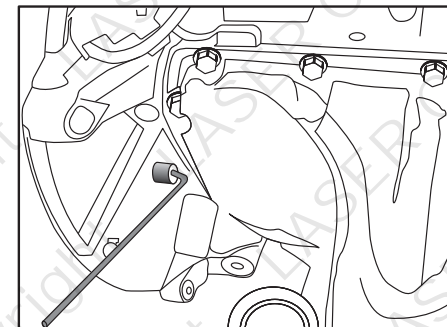


Fig. 2

