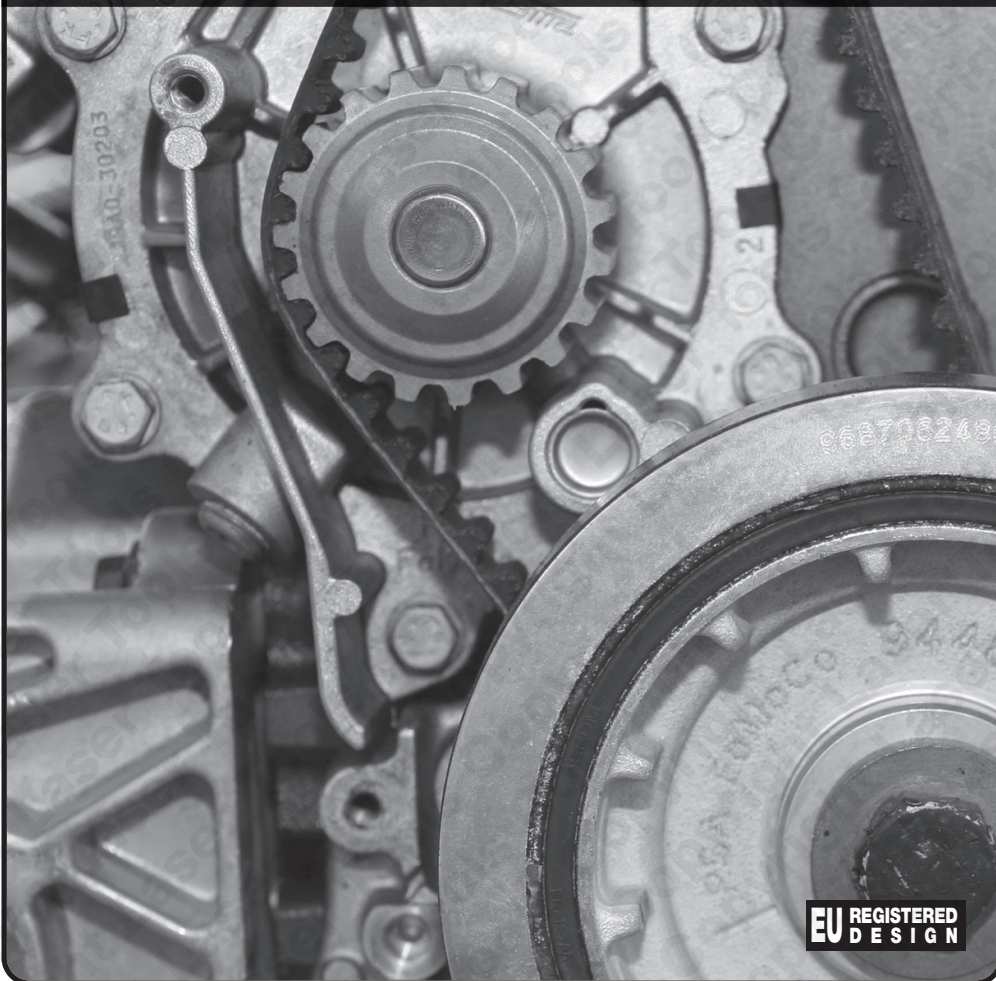


LASER[®]

Part No. 8076

Instructions

Engine Timing Tool Kit for Ford EcoBoost (FOX) Engine



**EU REGISTERED
DESIGN**

www.lasertools.co.uk

Introduction

The design of Ford's latest version of the 1.0L EcoBoost petrol engine has changed significantly from the original EcoBoost; gone is the oil wetted cambelt drive, the latest design is chain driven and this means the engine timing tools have also changed.

This kit has been designed specifically for these post 2018 chain driven engines.

- Kit includes VVT locking tools equivalent to OEM refs. 303-1661, 303-1661/1, 303-1661/2 & 303-1661/3.
- Includes VVT camshaft sprocket socket.

For removal and replacement of the crankshaft pulley, we recommend the use of Laser Part Nos. 7317 adaptor set and 7318 torque multiplier.

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

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.

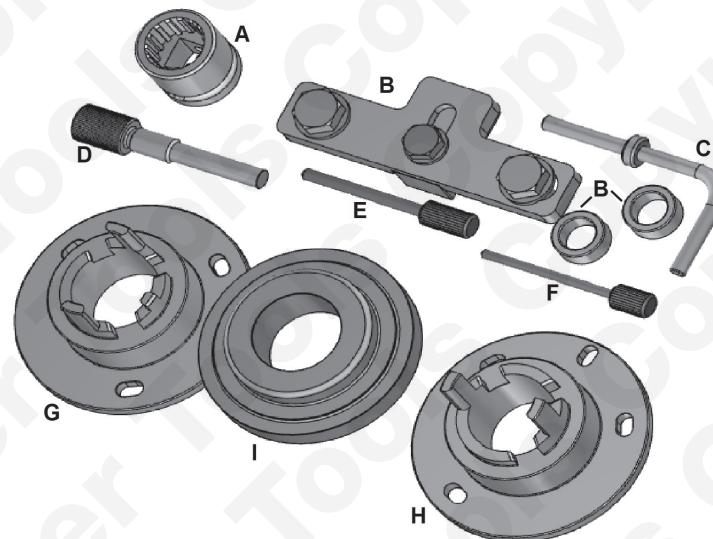


Applications

Manufacturer	Model	Year	Engine Codes	
Ford	C-MAX	2018 - 2020	1.0L EcoBoost B3DA B7DA B7JA M0JA M0JB	1.0L EcoBoost Hybrid mHEV B7JB BZJA B7DC M0DC
	Grand C-MAX	2018 - 2020		
	Fiesta	2019 - on		
	Fiesta Active	2018 - on		
	Focus	2018 - on		
	Focus Active	2019 - on	1.0L SCTI EcoBoost B3GA B3GB	
	Puma	2019 - on		
	Tourneo Connect	2018 - 2021		
	Transit Connect	2018 - 2021		
	Transit Connect Active	2021 - on		

Always refer to the website for most up to date applications:
www.lasertools.co.uk/product/8076

Components



Ref.	Code	OEM Ref.	Description
A	C921	303-1661-3	Camshaft Sprocket Socket
B	C863	303-1643	Flywheel Locking Tool
C	C050	310-018	VCT Setting Pin
D	C702	303-1604	Crankshaft Timing Pin
E	C089	303-732	Crankshaft Front Pulley Timing Pin
F	C488	4mm pin	Tensioner Locking Pin
G	C954	303-1661-1	Variable Camshaft Timing Tool - Exhaust
H	C955	303-1661-2	Variable Camshaft Timing Tool - Inlet
I	C705	303-1603	Front Cover Oil Seal Installer

Instructions

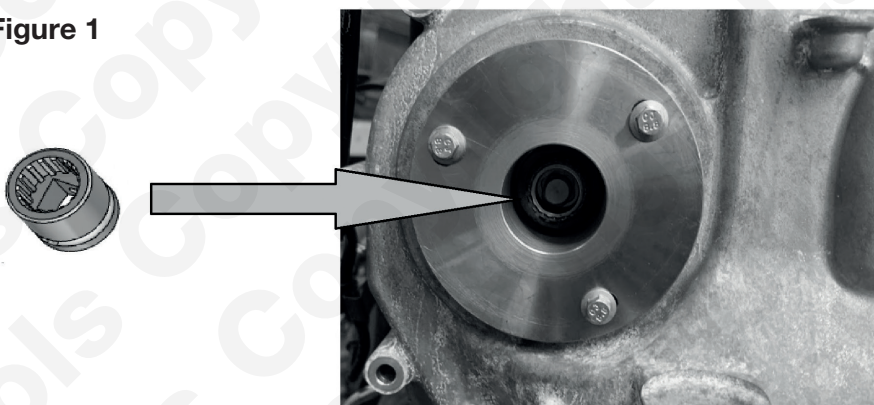
Instructions for use:

- Always refer to manufacturer specific data and instructions
- Turn engine to TDC number one before disassembly of engine
- Remove starter motor and use component **B** to hold the flywheel when undoing the crankshaft pulley bolt.

Component A – Camshaft Sprocket Socket

Use component **A** to remove or fit the sprocket mounting bolts once components **G** and **H** have been fitted. See figure 1.

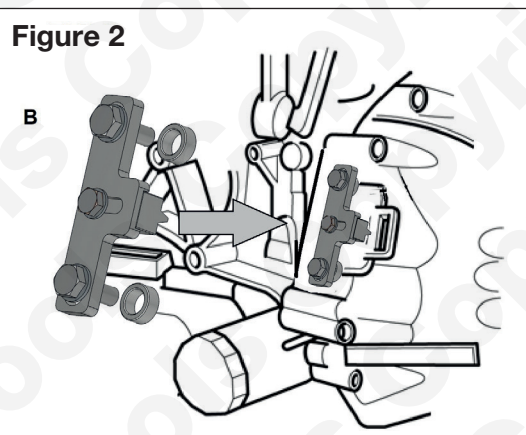
Figure 1



Component B – is used to lock and hold the flywheel while undoing the crankshaft pulley bolt. With the starter motor removed bolt component **B** in to the starter motor aperture to lock the flywheel. Remove the pulley bolt and pulley. See figure 2.

Note: Spacers may not be required depending on application

Figure 2



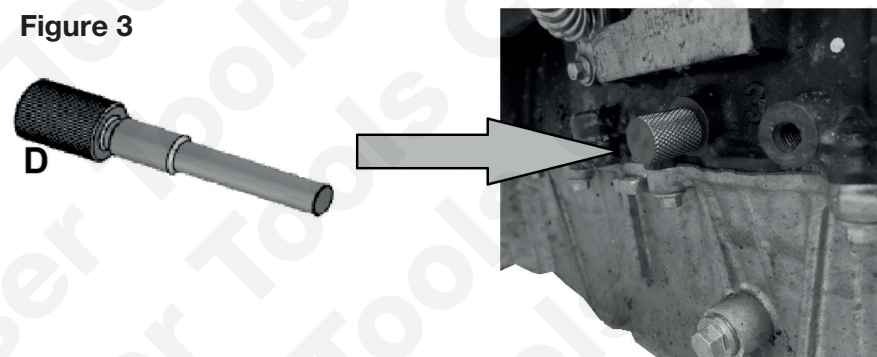
Component C – is used to align components **G** and **H** when checking the timing with the engine front cover still in place. See figure 5 (pg 6).

Instructions

Component D – is used to set the crankshaft position.

Remove the blanking plug in the side of the engine block and fit component **D**. Turn the crankshaft slowly clockwise until the crankshaft web contacts the end of component **D**. See figure 3.

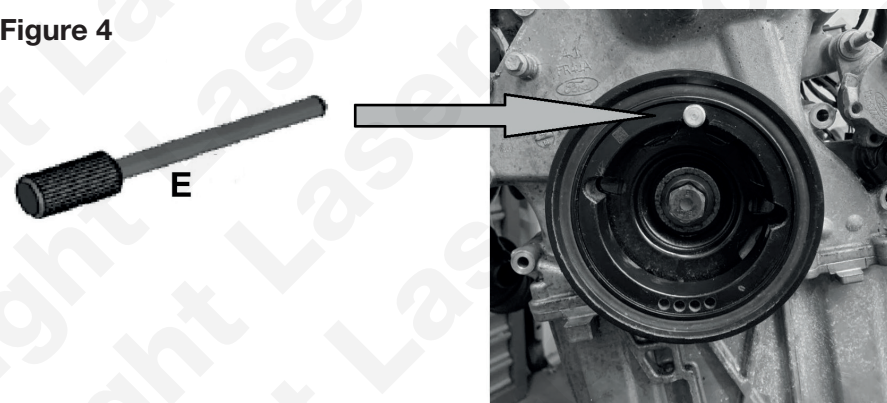
Figure 3



Component E – is used to set and check the position of the crankshaft via a hole in the front crankshaft pulley as shown in figure 4.

*Note: this is not a holding tool – to hold the crankshaft when tightening the front pulley bolt use component **B**. The front pulley bolt MUST be replaced with a new bolt.*

Figure 4

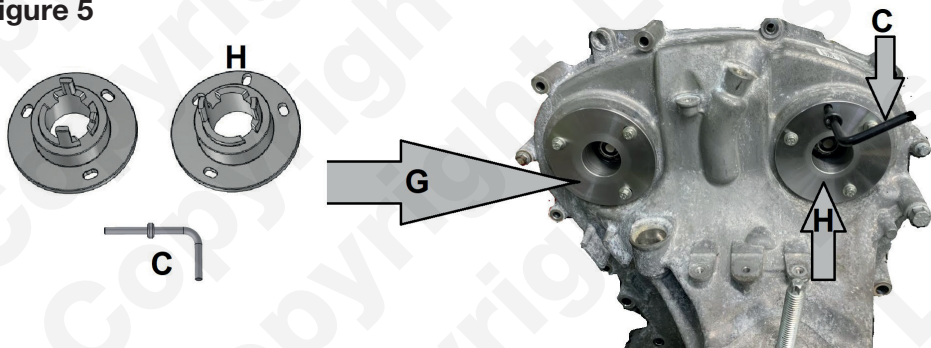


Instructions

Component G/H – Variable Camshaft Timing Tool Exhaust & Inlet.

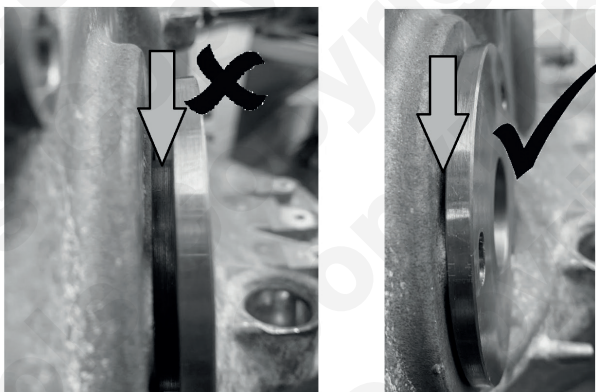
The timing chain, camshaft sprockets and crankshaft sprockets are aligned using marks. Once the chain is fitted, fit the cam chain cover (front cover) and then fit components **G**, **H** and **C** as shown in figure 5.

Figure 5



*Note: components **G** and **H** must fit touching the face of the cover. If not, the camshafts are 180 degrees out. See figure 5.1.*

Figure 5.1

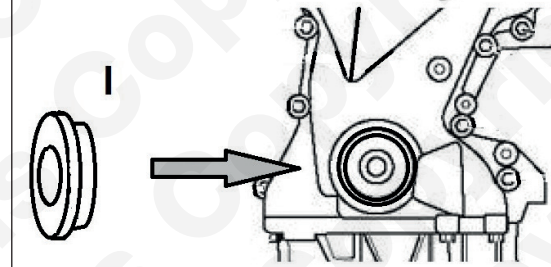


Instructions

Component I – is used to fit the new front crankshaft oil seal into the front cover after the front cover has been re-fitted to the engine. See figure 6.

Note: Observe manufacturers tightening sequence and torques for the front cover bolts.

Figure 6



Safety Warnings - please read

- Disconnect the battery earth leads (check radio code is available)
- Remove spark or glow plugs to make the engine turn easier
- Do not use cleaning fluids on belts, sprockets or rollers
- Always make a note of the route of the auxiliary drive belt before removal
- Turn the engine in the normal direction (clockwise unless stated otherwise)
- Do not turn the camshaft, crankshaft or diesel injection pump once the timing chain has been removed (unless specifically stated)
- Do not use the timing chain to lock the engine when slackening or tightening crankshaft pulley bolts
- Do not turn the crankshaft or camshaft when the timing belt/chain has been removed
- Mark the direction of the chain before removing
- It is always recommended to turn the engine slowly, by hand and to re-check the camshaft and crankshaft timing positions
- Crankshafts and camshafts may only be turned with the chain drive mechanism fully installed
- Do not turn crankshaft via camshaft or other gears
- Check the diesel injection pump timing after replacing the chain
- Observe all tightening torques
- Always refer to the vehicle manufacturers' service manual or a suitable proprietary instruction book
- Incorrect or out of phase engine timing can result in damage to the valves

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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 Autodata.

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.



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