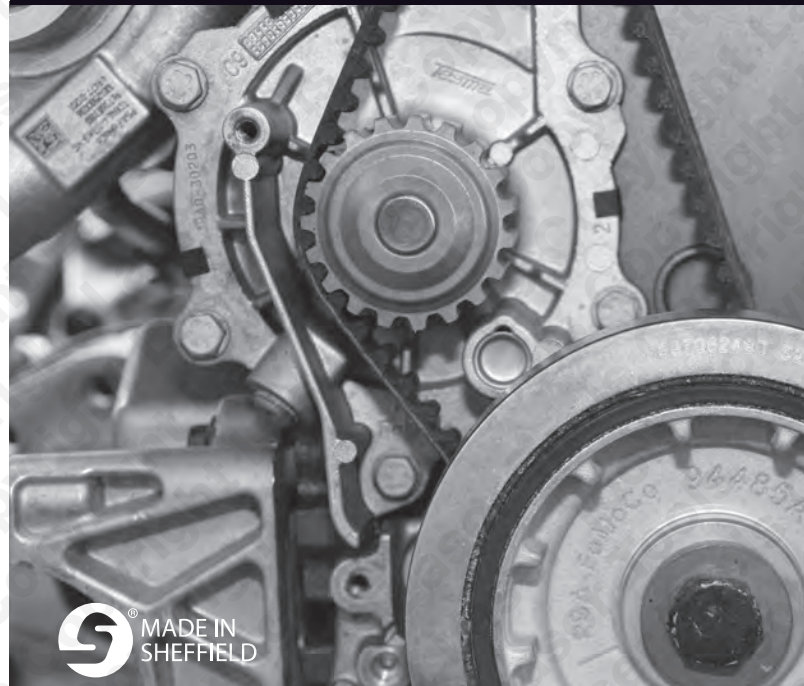


LASER[®]

5903

Engine Timing Tool Kit

Ford/Volvo 4 Cylinder Ecoboost



5903_Instructions_V2

Guarantee

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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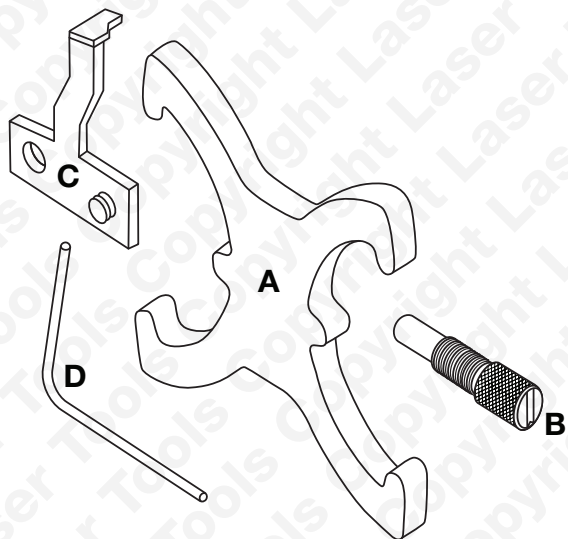
Kineston Road, Southam, Warwickshire CV47 0DR
T +44 (0) 1926 815000 F +44 (0) 1926 815888
info@toolconnection.co.uk www.toolconnection.co.uk



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Ref	Code	OEM Ref	Description
A	C349	999-7429 303-1097	Camshaft Sprocket Locking Tool
B	C311	999-7406 303-748	Crankshaft Locking Pin
C	C600	999-7431 303-1550	Crankshaft Pulley Alignment Tool
D	C282	303-1054	Tensioner Locking Pin

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

- 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 manufacturer's service manual or a suitable proprietary instruction book
- Incorrect or out of phase engine timing can result in damage to the valves

Applications

Developed specifically for the 1.6 direct injection petrol engines fitted with variable valve timing and found in both the Ford and Volvo ranges.

N.B The information given below is for reference only.

The Tool Connection Ltd recommends the use of Manufacturer data or Autodata.

Make	Model	Year	Variant
Ford	B-MAX	From 2012	1.5 EcoBoost
	C-MAX/ Grand C-MAX	From 2010	1.6 EcoBoost
	Fiesta	From 2013	STCt/ GTDi
	Focus III	From 2011	
	Galaxy	From 2010	
	Kuga	From 2013	
	Mondeo	From 2010	
	S-MAX	From 2010	
	Tourneo Connect	2013 - 15	
	Transit Connect	2013 - 16	
Volvo	S60	2011 - 15	
	S80	2010 - 15	
	V40	2012 - 15	
	V60	2011 - 15	
	V70	2010 - 15	

Engine Size	Engine Code
1.5	BNMA, M8DA, M8DB, M8MA, M9DA, M9DB, M9MA, UNCA, UNCB, UNCC, UNCD, UNCE, UNCF, UNCJ, UNCK
1.6	IQJA, IQJC, JQDA, JQDB, JQGA, JQMA, JQMB, JTBA, JTBB, JTDA, JTDB, JTJA, JTJB, JTJC, JTMA, JTWA, JTWB, B4164T, B4164T2, B4164T3, B4164T4

Preparation and precautions:

- Raise the front of the vehicle and remove the right hand front wheel and inner wheel arch
- Remove the engine undershield, top cover, air intake, auxiliary drive belt(s) and crankshaft position sensor
- Ensure the engine is at TDC No1 cyl
- Ensure the chain tensioner is fully retracted and held in the retracted position using the pin provided
- Remove water pump pulley, alternator and cam belt covers
- Remove the crankshaft pulley using an appropriate pulley holding tool or flywheel holding tool
(Part No. 4275, available separately)

Instructions

Component Descriptions:

Component A

Camshaft pulley locking tool, designed to be fitted as shown once the engine has been locked at TDC No1 cyl by fitting component (B).

Ensure the camshaft pulley marks are aligned as shown in Fig. 1.

Fig. 1

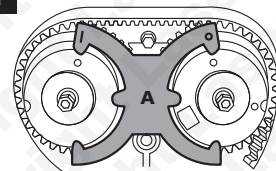
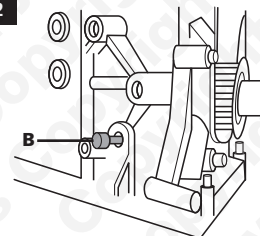


Fig. 2



Component B

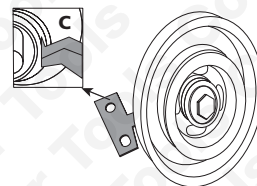
Turn the crankshaft to just before TDC No1 cyl (indicated by the camshaft marks being at 11 o'clock) and insert (B) into the engine block as shown. Turn the crankshaft until it stops against the pin as shown in Fig. 2.

Component C

Crankshaft Pulley alignment tool is used to align the crank pulley when refitting. Fit as shown in Fig. 3 and hand tighten the pulley bolt.

Remove (C) before final tightening of the pulley.

Fig. 3



Component D

Tensioner Pin is used to lock the cam chain tensioner in its retracted position as shown in Fig. 4.

Fig. 4

