

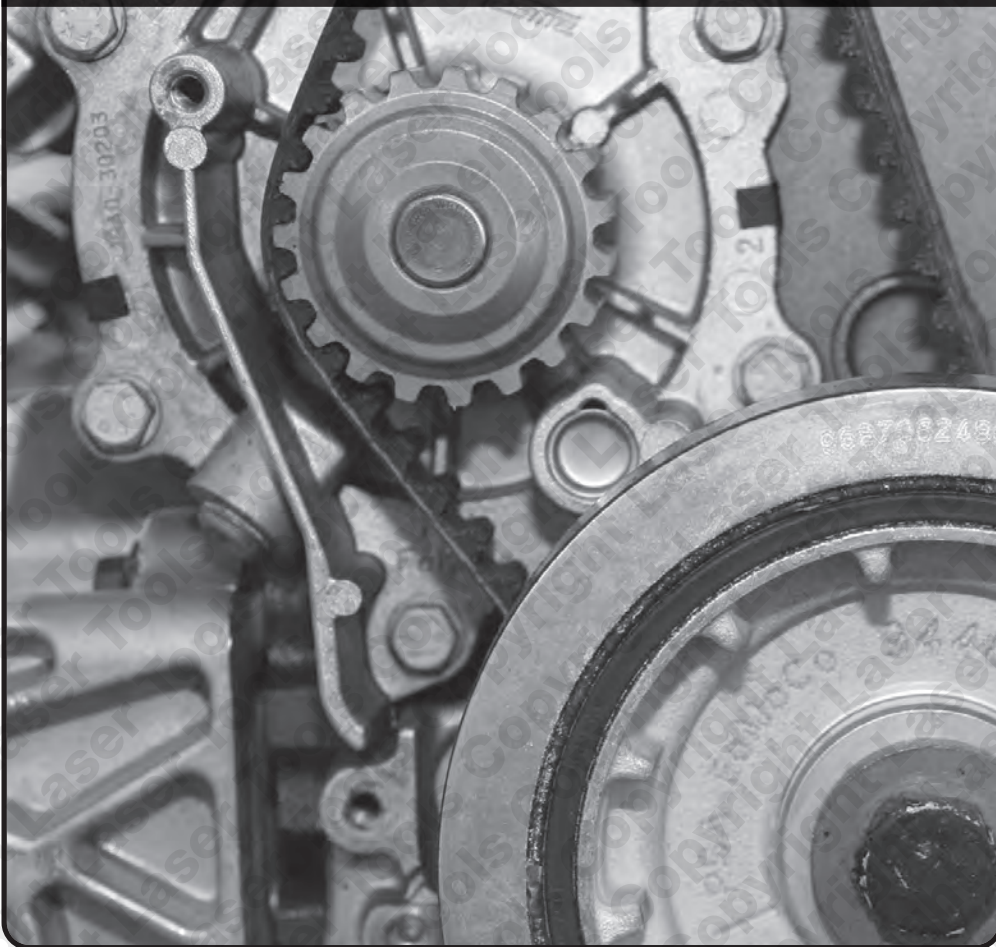
LASER[®]

Part No. 5630

Instructions

Engine Timing Tool Kit

PSA | Fiat DW10 & DW12



Please refer to www.lasertools.co.uk/toolpoint to check the most up to date product applications.

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Introduction

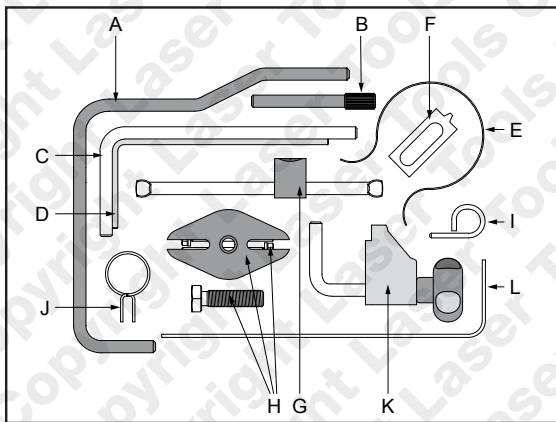
This kit introduces the tools required to set the valve timing on the extensive range of DW10 and DW12 diesel engines found in the PSA and Fiat ranges.

The DW10 engine range has a 2.0 litre capacity and was introduced in 1998; it appears in both single and twin overhead camshaft arrangements. The twin cam 16-valve systems have one camshaft driven by the cam belt and the second camshaft driven by a chain in the head.

The DW12 range is 2.2 litres capacity and was introduced in 2000. This engine had 16 valves from its introduction.

A camshaft pulley holding tool may be required when changing the chain in the cylinder head; the Laser 3661 is recommended.

Components



Ref	Code	OEM Ref	Description
A	C066	0188Y	Crankshaft locking pin (8mm)
B	C105	0188M	Camshaft locking pin
C	C351	0188X	Flywheel locking pin
D	C568	0188Q1	Auxiliary drive belt tensioner locking pin (4mm)
E	C121	0188K	Cam belt retaining clip
F	C115	0188F	Flywheel holding tool
G	C118	0188J2	Cam belt tensioner tool
H	C125	0188P	Crankshaft pulley puller / extractor
I	C570	0153AL / 4200TA	Cam Belt Tensioner locking pin
J	C390	0188AH	Crankshaft pulley centralisation tool
K	C455	0188AD	Cam belt clamp
L	C569	0188Q2	Auxiliary belt tensioner locking and crank pinion alignment tool (See instructions)

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.

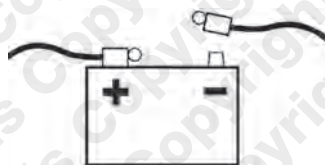
The use of these engine timing tools is purely down to the user's discretion and Tool Connection cannot be held responsible for any damage caused what so ever.

ALWAYS USE A REPUTABLE WORKSHOP MANUAL

Instructions

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.



Make, Model, Year			Engine Code	
Citroen	Berlingo/Berlingo First I/II	1999 - 2007	2,0 4WZ-FHV/DW10FC (AHW)	AHR (DW10FD) AHS (DW10FD)
	C4	2004 - 2018	4WZ-FTV/DW10FD (AHX)	AHV (DW10FD)
	C4 Picasso/Grand Picasso	2006 - 2018	4WZ-FTV/DW10FE (AHJ) 4WZ-FTV/DW10FE (AHK)	AHW (DW10FC) AHX (DW10FD)
	C4 SpaceTourer/ Grand SpaceTourer	2018 - on	2,0 HDI AHY (DW10CE)	DW10FC (AHH) DW10FC (AHT)
	C4 Sedan	2007 - 2011	AHZ (DW10CTED4)	DW10FC (AHW)
	C5	2000 - 2017	DW10ATED (RHS)	DW10FC (EHZ)
	C6	2006 - 2011	DW10ATED4 (RHM)	DW10FD (AHR)
	C8	2002 - 2015	DW10ATED4 (RHW)	DW10FD (AHS)
	C-Crosser	2007 - 2012	DW10ATED4/L4 (RHT)	DW10FD (AHV)
	Dispatch / Jumpy	1999 - on	DW10BTED (RHX)	DW10FD (AHX)
	DS4 / Crossback	2011 - 2017	DW10BTED4 (RHF)	DW10FE (AHJ)
	DS5	2012 - 2017	DW10BTED4 (RHL)	DW10FE (AHK)
	Relay / Jumper	2001 - 2019	DW10BTED4 (RHR)	DW10FUC (AHP)
	SpaceTourer	2016 - on	DW10CD (AHZ)	DW10FUD (AHN)
	Peugeot	Xsara II	2000 - 2006	DW10CE (AHY)
Xsara Picasso		1999- 2006	DW10CTED4 (RHC)	EHZ (DW10FC)
206		1999- 2006	DW10CTED4 (RHD)	2,0 JTD/MultiJet DW10ATED (RHX)
306		1999- 2002	DW10CTED4 (RHE)	DW10ATED (RHZ)
307 / CC		2001 - 2009	DW10CTED4 (RHH)	RH02 (DW10CTED4)
308 / CC		2007 - on	DW10TD (RHY)	RHG (DW10UTED4)
406		1999 - 2004	DW10UTD (RHV)	RHH (DW10CTED4)
407		2004 - 2011	DW10UTED4 (RHG)	RHK (DW10UTED4)
407 Coupe		2007 - 2012	DW10UTED4 (RHK)	RHB (DW10CTED4)
508		2011 - 2018	RHB (DW10CTED4)	RHC (DW10CTED4)
607		2000 - 2011	RHD (DW10C)	RHD (DW10CTED4)
807		2005 - 2015	RHD (DW10CTED4)	RHE (DW10CTED4)
3008		2009 - on	RHE (DW10CTED4)	RHF (DW10BTED4)
4007		2007 - 2012	RHF (DW10BTED4)	RHG (DW10UTED4)
5008		2009 - on	RHG (DW10UTED4)	RHH (DW10C)
Boxer III	2015 - on	RHH (DW10CTED4)	RHH (DW10CTED4)	
Expert	1999 - on	RHJ (DW10BTED4)	RHH (DW10CTED4)	
Partner/Partner Origin/Ranch I/II	1999 - 2007	RHJ (DW10BTED4)	RHJ (DW10BTED4)	
RCZ	2010 - 2015	RHK (DW10UTED4)	RHJ (DW10BTED4)	
Traveller	2016 - on	RHL (DW10BTED4)	RHJ (DW10BTED4)	
DS	4 / Crossback	2015 - 2018	RHM (DW10ATED4)	4HK (DW12MTED4)
	5	2015 - 2018	RHM (DW10ATED4)	4HL (DW12CTED4)
	7 Crossback	2017 - on	RHR (DW10BTED4)	4HN (DW12MTED4)
Fiat	Scudo	1999 - 2016	RHS (DW10ATED)	4HP (DW12BTED4)
	Ulysse	1999 - 2002	RHT (DW10ATED4/L4)	DW12BTED4 (4HR)
Mitsubishi	Outlander	2007 - 2013	RHT (DW10ATED4/L4)	DW12BTED4 (4HS)
	Proace	2013 - on	RHV (DW10UTD)	DW12BTED4 (4HT)
Toyota	Proace	2013 - on	RHW (DW10ATED4)	DW12CTED4 (4HL)
			RHW (DW10ATED4)	DW12CTED4 (4HL)
		RHX (DW10BTED/L3)	RHW (DW10ATED4)	DW12MTED4 (4HK)
		RHY (DW10TD)	RHW (DW10ATED4)	DW12MTED4 (4HN)
		RHZ (DW10ATED)	RHW (DW10ATED4)	DW12RUC (4HC)
		RHZ (DW10ATED/L3)	RHW (DW10ATED4)	DW12RUD (4HB)
		RHZ (DW10ATED4)	RHW (DW10ATED4)	DW12RUE (4HA)
			RHW (DW10ATED4)	DW12TED4/L4 (4HW)
			2,0 BlueHdi	DW12UTED (4HY)
			AHH (DW10FC)	2,2 Di-D
			AHJ (DW10FE)	4HK
			AHK (DW10FE)	4HN
			AHM (DW10FUE)	
			AHN (DW10FUD)	
			AHP (DW10FC)	

Always refer to the website for most up to date applications: www.lasertools.co.uk/product/5630

Instructions

Preparation

- Raise the front of the vehicle to allow removal of the front wheels and access to the inner right hand wheel arch.
- Remove engine top and bottom covers
- Remove right hand inner wheel arch
- Remove auxiliary drive belts and disconnect fuel lines as required. Ensure all fuel lines are sealed off to ensure no dirt can enter the fuel system.
- Remove right hand engine mount where access demands.

Precaution: We advise removing the exhaust pipe to avoid damaging the flexible section; this cannot withstand the flexing or bending caused by the engine movement when the engine mount is removed.

Component Descriptions

A: Crankshaft Locking Pin

Used to lock the crankshaft in its timed position by locating in the flywheel through a hole in the block accessed from underneath. Never use as a stop to tighten or loosen the pulley bolt. **(Fig. 1)**

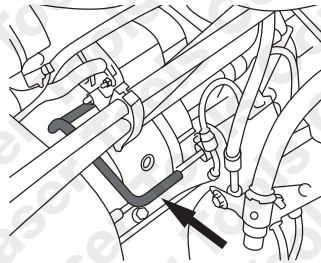


Fig. 1

B: Camshaft Locking Pin

Used to locate the camshaft pulley in its times position as shown in **Fig. 2**. Be aware that on some engines the pin alignment holes may be in a different position to the one shown. For example, the 5 o'clock position for the RHR (DW10BTED4) engine. If the cam pulley bolt needs to be removed, use a suitable pulley holding tool to hold the pulley and not the locking pin **B**.

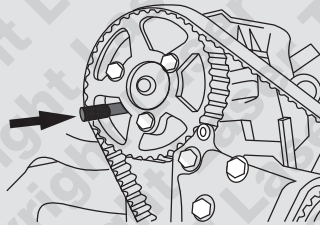


Fig. 2

C: Flywheel Locking Pin

Used to lock the crankshaft in its locked position. Insert into the flywheel via a timing hole on the front of the engine block as shown. **(Fig. 3)** Never use **C** to tighten or loosen the pulley bolt against.

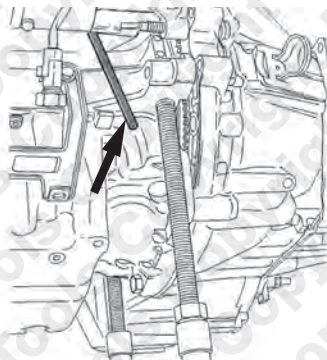


Fig. 3

Instructions

D: Auxiliary Drive Belt Tensioner Locking Pin 4mm

Used to lock the auxiliary drive belt tensioner in its retracted position as shown in **Fig. 4**.

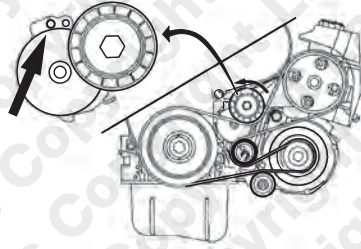


Fig. 4

E: Cam Belt Retaining Clip

Used to assist in the fitting of the new belt. When fitting a new belt, always start at the crankshaft pulley and use the Retaining clip **E** to hold the belt in place while placing the belt on other pulleys. (**Fig. 5**)



Fig. 5

F: Flywheel Holding Tool

Holds the flywheel and crankshaft assembly still while loosening or tightening the front pulley fixing bolt. Component **F** engages with the teeth of the flywheel from underneath the engine. Do not use any of the other locking tools for this, as engine can be damaged.



Fig. 6

G: Cam Belt tensioner Adjuster Tool

Used to tension the cam belt to the required tension. Locate component **G** in the square drive in the tensioner and rotate in an anticlockwise direction to increase the tension on the belt (**Fig.7**). Always consult the manufacturer's data for the correct tension. Use an appropriate tension meter.

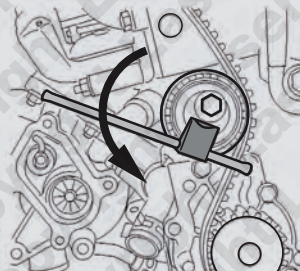


Fig. 7

H: Crankshaft Pulley Puller / Extractor

Aids the removal of the crankshaft pulley. All threads (locating set screws plus force screw) must be well lubricated to avoid thread damage during use and under tension (see **Fig. 8**).

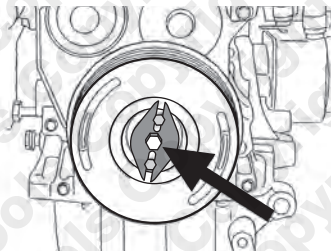


Fig. 8

Instructions

I: Cam Belt Tensioner Locking Pin

Used to lock the spring-loaded tensioners in their fully retracted position to assist in the removal and refitting of the belt.



Fig. 9

J: Crankshaft Pulley Centralisation Tool

Fit component **J** as shown (**Fig. 10**) to ensure the crankshaft pulley is centralised on the shaft (aligned with the groove, insert **J** in position on both sides of the crankshaft key) and fit the belt starting at the camshaft pulley using component **K** to hold the belt in place (**see Fig. 11**). Fit the belt in the following order: guide roller, crankshaft, water pump, tensioner (RHR / RHA engines, etc.)

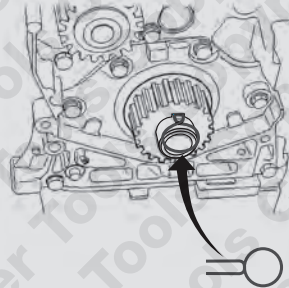


Fig. 10

K: Cam Belt Clamp

Used in conjunction with component **J** to hold the belt in place while fitting the new belt to the other pulleys (**Fig. 11**). Do not overtighten.

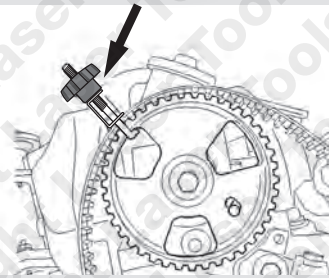


Fig. 11

L: Auxiliary belt tensioner locking and crank pinion alignment tool

Component **L** has two possible function depending on the engine code (refer to manufacturer's data).

Fig. 12A shows component **L** used to lock the spring-loaded cam belt tensioner in its fully retracted position.

Fig. 12B shows component **L** used to centralise the crankshaft pulley for RHY / RHZ engines; component **L** is pushed into the left hand side of the crankshaft pulley groove alongside the crankshaft keyway.

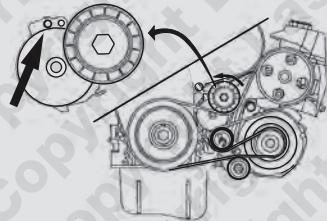


Fig. 12A

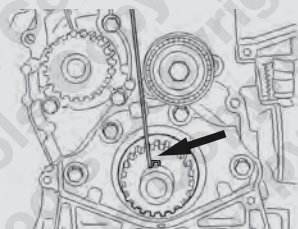


Fig. 12B

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
- 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
- It is always recommended to turn the engine slowly, by hand, and to re-check the camshaft and crankshaft timing positions

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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.

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Safety First. Be Protected.



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Guarantee



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