

## 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/belt has been removed (unless specifically stated)
- Do not use the timing chain/belt to lock the engine when slackening or tightening crankshaft pulley bolts
- Mark the direction of the chain/belt 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
- Remove spark or glow plugs to make the engine turn easier
- Check the diesel injection pump timing after replacing the chain
- Observe all tightening torques

**ALWAYS REFER TO A REPUTABLE MANUFACTURERS WORKSHOP MANUAL**



[www.lasertools.co.uk](http://www.lasertools.co.uk)



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### Guarantee

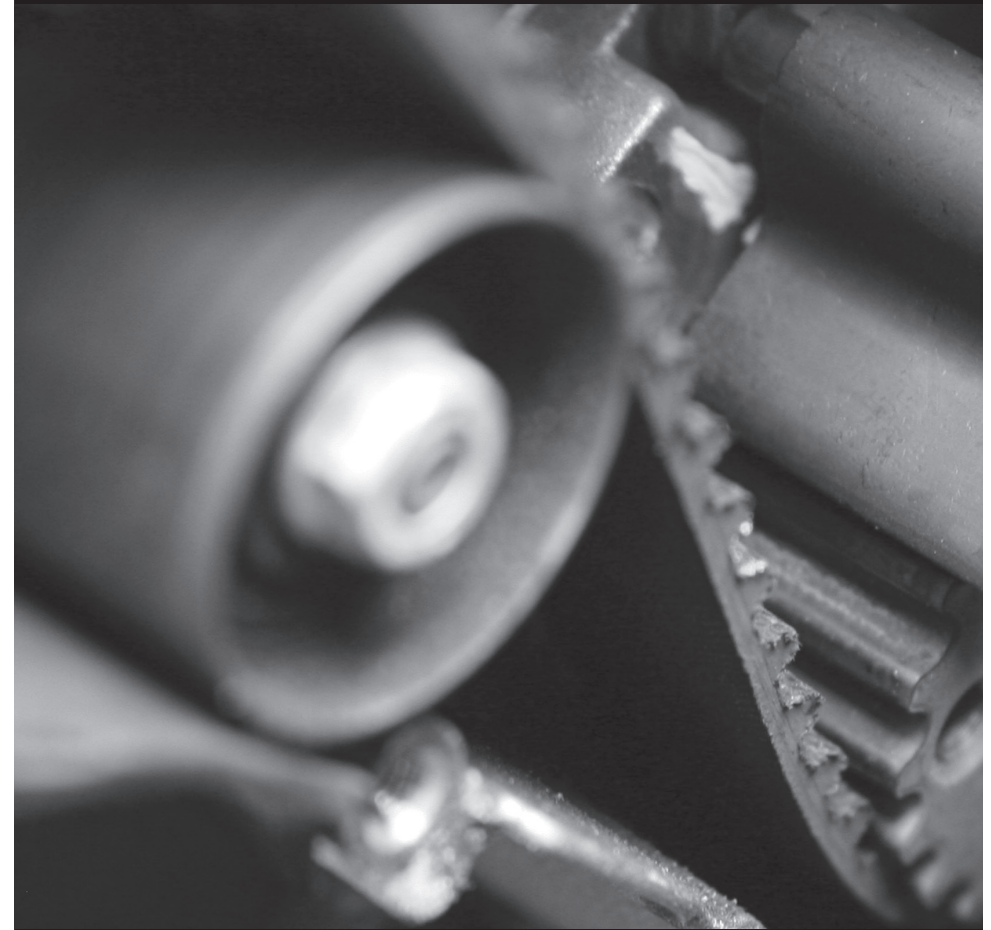
If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186**. Normal wear & tear are excluded as are consumable items & abuse.

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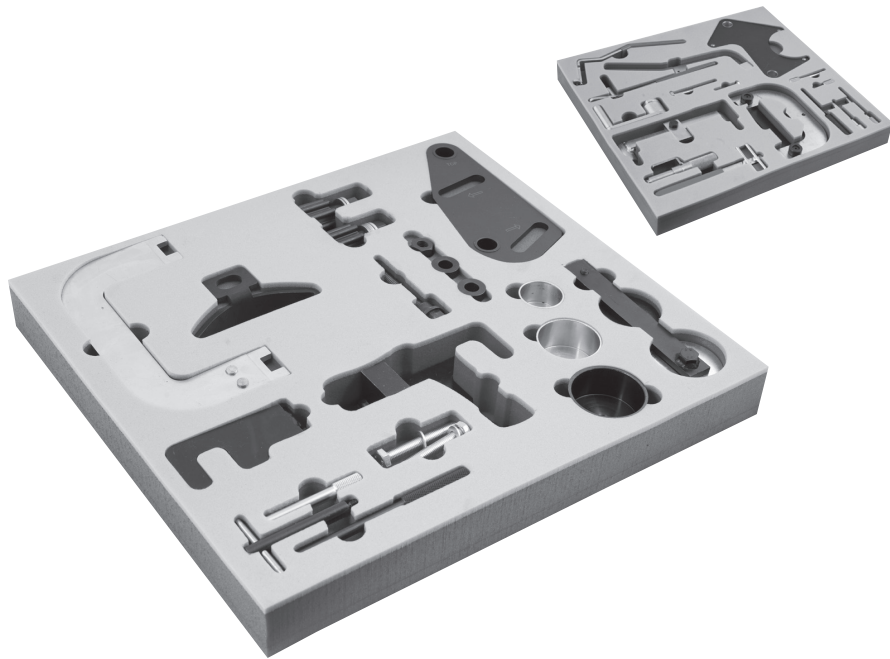
# LASER®

## Master Engine Timing Tool Set | 2009 Renault | 2 of 2



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## Introduction



**4865 | 3786**

### **Master Engine Timing Tool Set | 2009 Renault | 2 of 2**

This Master set of engine timing locking tools has been updated to include applications for the latest Renault DCi engines.

The items highlighted represent the additions to the original master kit and can be found in the second metal case.

This master timing tool kit has been specifically compiled to give a comprehensive range of engine timing locking tools for Cam belts, chains and gears.

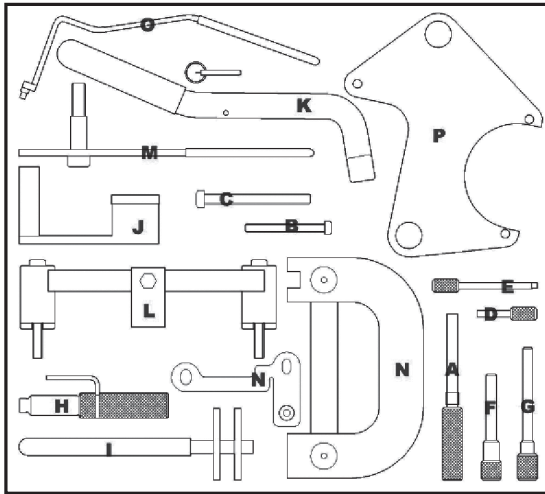
## Special Tools

### **Special Tools**

#### **Pre – Tensioning Tools**

To enable the correct pre-tension to be applied to the timing belt. This tool has 3 interchangeable covers and a spacing washer to suit the variety of tensioner used. A further cover is included to increase the application listing.

## Plan Layout



Component Code	Layout ID	OEM Ref	Description
C182	Q	MOT1538	Hi-Pressure Pump Pin Assy.
C179	R	MOT1536	Crankshaft Timing Pin
C180	S	MOT1537	Exhaust Camshaft Setting Tool
C181	T	MOT1534	Inlet Camshaft Setting Tool
C101	U	MOT1430	Locking Pin
C281	V	MOT1543	Pre-Tensioning Tool
C404	W	MOT1705	Cover Nr.4
C326	X	MOT1526	Camshaft Alignment Tool
C403	Y	MOT1801	Camshaft Sprocket Lock
C320	Z	MOT1200-01	Inj. Pump Sprocket Lock

## General Information

This master timing tool kit has been specifically compiled to give a comprehensive range of engine timing locking tools for Cam belts, chains and gears.

Always refer to the vehicle manufacturer's service manual or a suitable proprietary instruction book.

The Tool Connection Limited recommend and endorse the use of the Autodata Timing Belts, Chains and Gears instructions and applications books.

Both books are available through your Laser Tools distributor:

Part No 3601  
Autodata | **Timing Belts**

Part No 3626  
Autodata | **Timing Chains and Gears**



Or for a one off application chapter and instructions on a specific engine go to:

<http://www.autodata-online.com/uk/timingbelt.asp>

## Applications

Our applications data is supplied by Autodata and we are able to supply this data to you in a pdf format.

This application list is enclosed in the attached CD listing which tool is required for each engine code.

If this is a specific kit for a group of engine codes the application list has been supplied showing the main vehicles this kit is designed for and does not list every model each pin fits.

If this is a master kit then all vehicles are included.

**The data is the copyright of The Tool Connection and should not be reproduced.**

## Languages

On the enclosed CD you will also find this document in the following languages:

English  
Dutch  
French  
German  
Portuguese  
Spanish

## 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.**

## General Guidance Notes

### Valve Timing

Valve timing is essential to the efficient performance of the Petrol or Diesel engine. The valves are opened and closed by the camshaft(s) which are driven by the cam belt, chain or gears from the crankshaft.

- When fitting Camshaft setting/locking plates, feeler gauges/ shims of equal thickness can be inserted under either side of the plate until all free play has been eliminated. The camshaft is now locked in its timing position and service work can now be carried out.

### Crankshaft Locking Tools

- The Crankshaft TDC Location Pin is designed to screw into the cylinder block and to provide a stop for the crankshaft to be positioned against to set the TDC position.
- Turn the engine in the normal direction of rotation until the timing mark on the injection pump sprocket lines up with the cast lug on the timing cover.
- Remove the plug from the cylinder block access hole and screw in the TDC location pin.
- Slowly turn the crankshaft clockwise until the web makes contact with the end of the pin. Number 1 cylinder is now set at TDC on ignition stroke.

### Tensioning Tools

The tension of the chain is vitally important and must be set using the tensioner. If an automatic tensioner is fitted it should not be tampered with.

Manually tensioned chains must be set using the tensioner to the manufacturer's specification. For a manual tensioner see:

Cambelts Tension Gauge  
**3899**



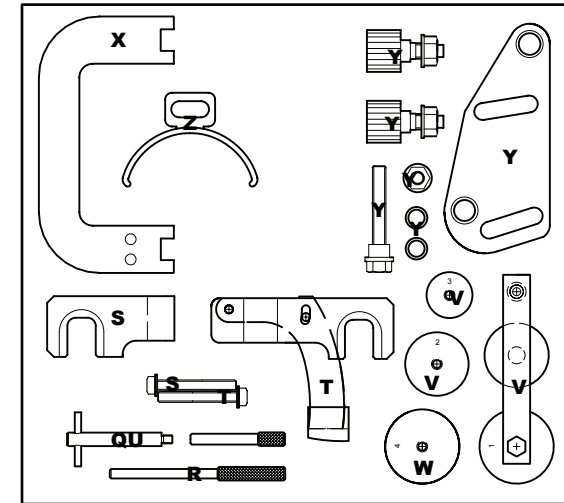
Tensioning Guage For Cambelts  
**4212**



### Camshaft Setting/Locking Tools

- Camshaft setting/locking tools are used to accurately align a datum slot, located in the end of the camshaft, with the top face of the camshaft housing to hold the camshaft at the (TDC) Top Dead Centre position.
- Follow the service manual instructions to remove the camshaft cover and timing chain covers.
- Turn engine in the normal direction of rotation until the camshaft setting/locking plate can be inserted into the machined slot in the end of the camshaft.

## Plan Layout



Component Code	Layout ID	OEM Ref	Description
C037	A	MOT 1489	Crankshaft Locking Pin
C067	B		HT Setscrew M6 x 45
C068	C		HT Setscrew M8 x 80
C097	D	MOT910	Locking Pin
C098	E	MOT910	Locking Pin
C099	F	MOT861/1863	Locking Pin
C100	G	MOT1318	Locking Pin
C110	H	MOT1340	Crankshaft TDC Timing Pin
C111	I	MOT1135-01	Tensioner Spanner
C112	J	MOT1386	Tensioning Tool
C114	K	MOT1348	Tensioning Tool
C116	L	MOT1337	Camshaft Setting Tool
C117	M	MOT1312	Tensioning Tool
C120	N	MOT1496	Camshaft Setting Tool
C124	O	MOT1384	Tensioning Tool
C126	P	MOT1490-01	Camshaft Pulley Alignment Tool