

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



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Guarantee

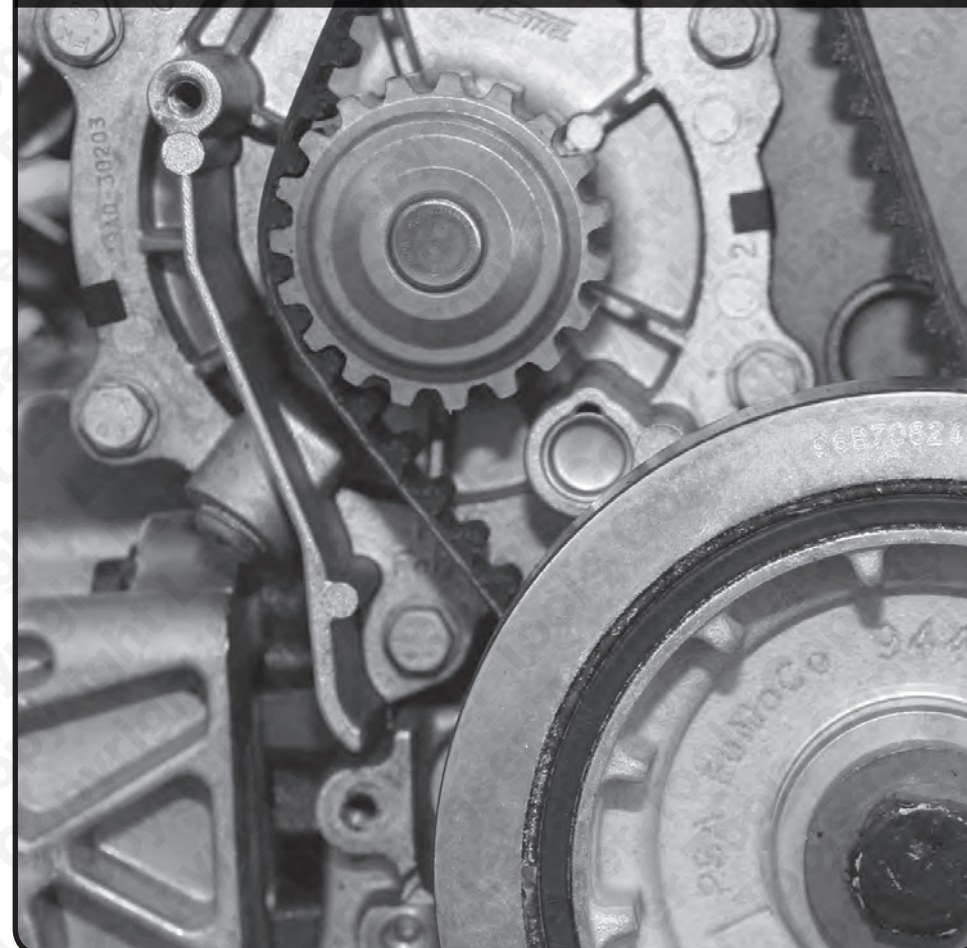
If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186**, Normal wear & tear are excluded as are consumable items & abuse.

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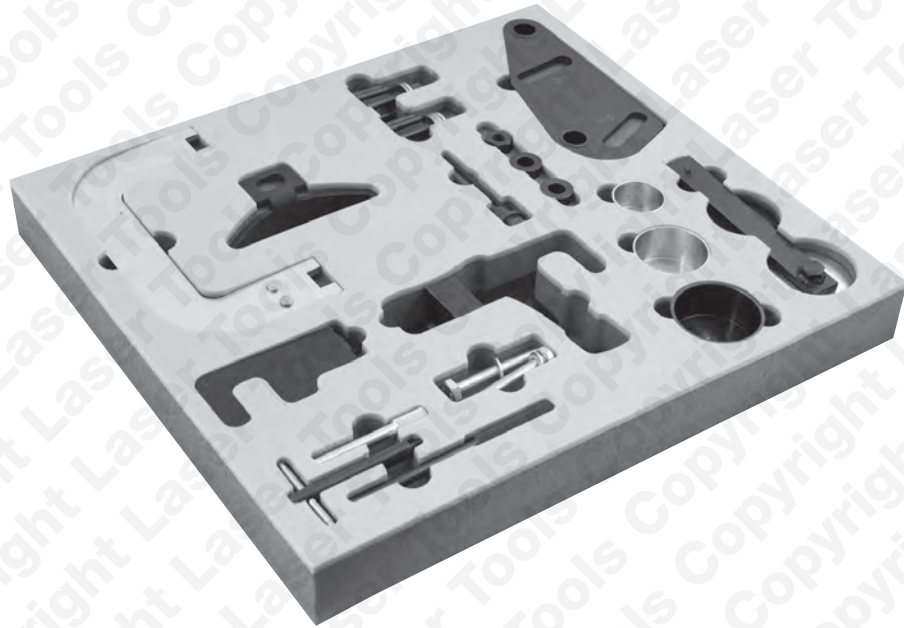
Part No. 4865

Master Engine Timing Tool Set | 2009 Renault



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Introduction



4865 Master Engine Timing Tool Set | 2009 Renault

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

This updated 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.

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.

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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 tensioner to the manufacturer's specification. For a manual tensioner see:

Cambelts Tension Gauge
3899



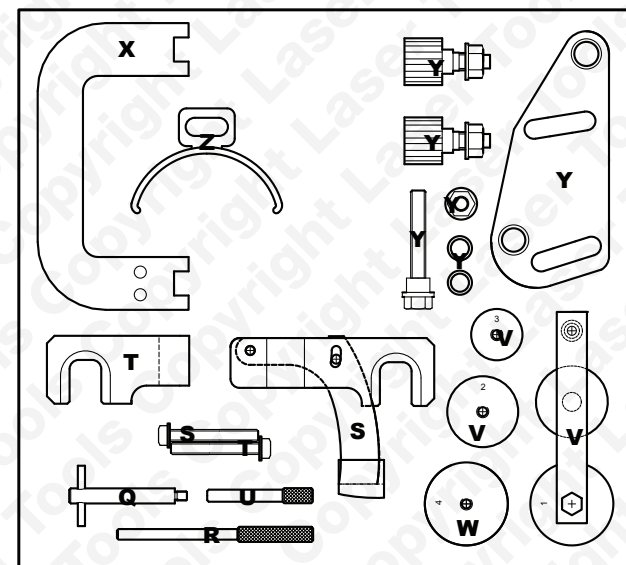
Tensioning Guage For Cambelts
4212



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



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