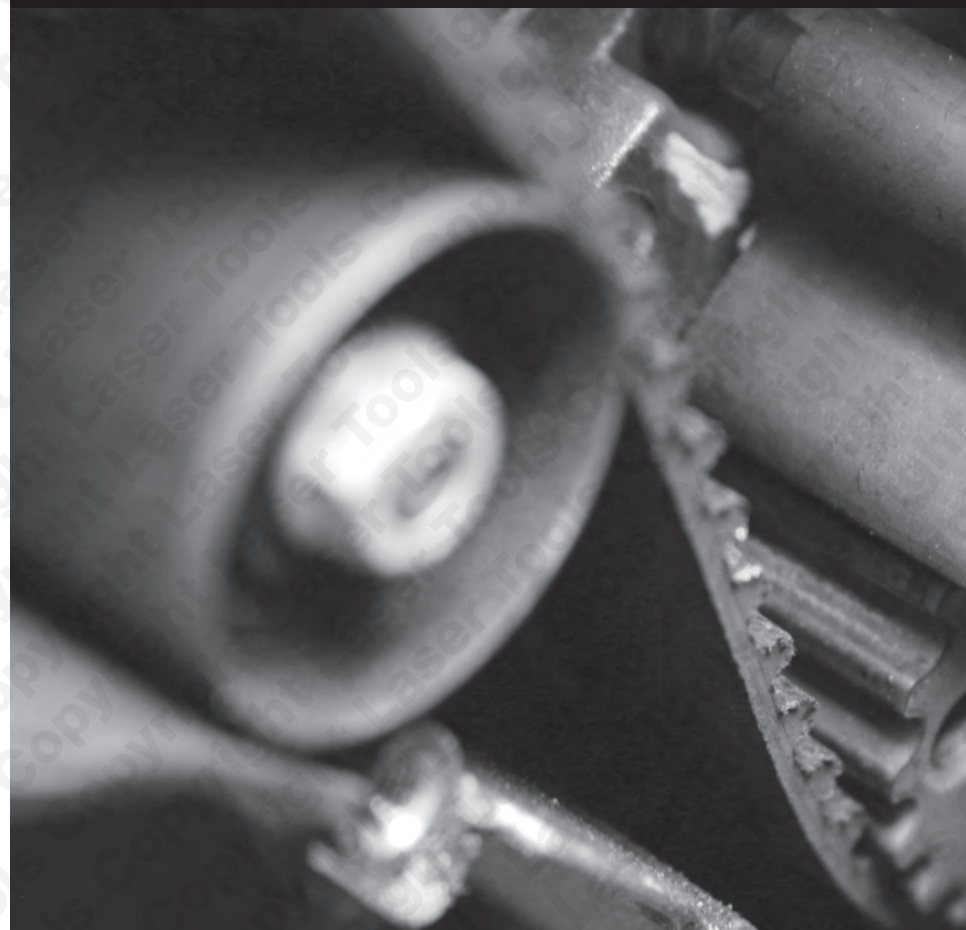


4897

LASER[®]

Master Engine Timing Tool Kit

Honda | Mazda | Daewoo | Hyundai | Subaru vehicles



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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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Introduction



4897 Master Engine Timing Tool Kit

Honda | Mazda | Daewoo | Hyundai | Subaru vehicles

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.

Instructions for use

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:



Autodata Timing Belts
Part No 3601



Autodata Timing Chains and Gears
Part No 3626

Or for a one off application chapter and instructions on a specific engine go to:
<http://www.autodata-online.com/uk/timingbelt.asp>

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Also Available

4898 Master Engine Timing Tool Kit Toyota | Mitsubishi

This comprehensive tool kit includes a large number of crankshaft pulley tools for use on a wide range of Toyota vehicles.



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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

Languages

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

English

Dutch

French

German

Portuguese

Spanish

Warning

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/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

General Guidance Notes for Timing Tools

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 Laser 4212 or Laser 3899

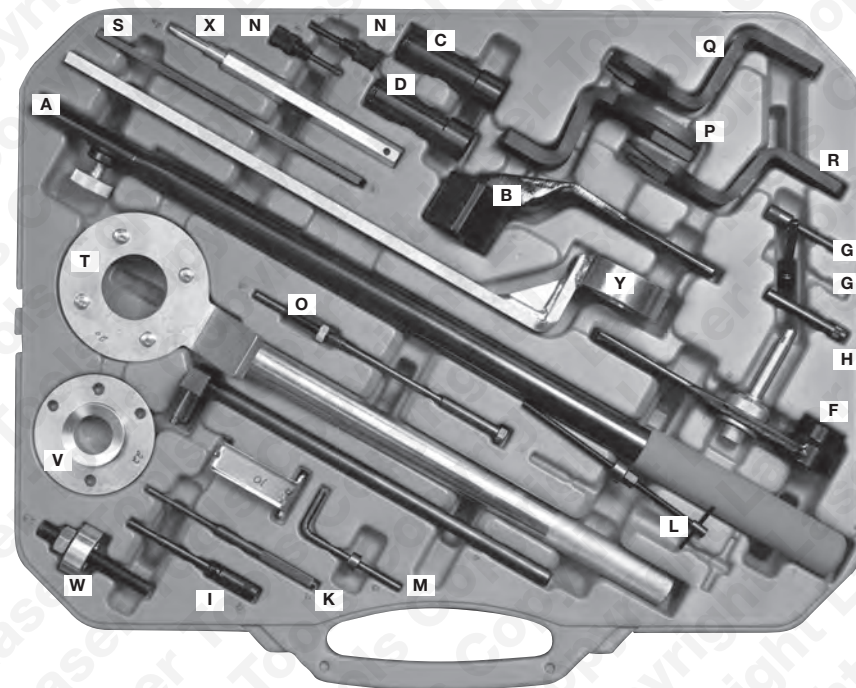
Special Tools



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



Layout	Component Code	Description	OEM Reference
A	C268	Crankshaft Pulley Holding Tools 50mm	07MAB-PY30100/07JAB-0010200/B
B	C258	Crankshaft Pulley Holding Tool 45mm	07 MAB-PY 30100/ 07 JAB-0010200
C	C459	17mm Socket	JAA 0010100 V17
D	C460	19mm Socket	JAA 0010100 V19
E	C461	Camshaft Sprocket Holding Tool	18G 1521
F	C462	Crankshaft Pulley Holding Tool	JAB-0010100
G	C086	Camshaft/Crankshaft Locking Pin (2)	LRT 12-058/18G 1549/18G 1523
H	C463	Fuel Injector Pump Timing Pin	18G 1717A
I	C191	Balancer Shaft Locking Screw	07LAG-PT 20100/18G 1671
J	C464	Auto Tensioner Holding Tool	14540-P13-003
K	C089	Camshaft Locking Pin	07744-00104-00
L	C465	Camshaft Tensioner Pin	18G 1719
M	C466	Alignment Pin	13mm x 112mm
N	C467	Locating Pin	14mm x 55mm
O	C018	Tensioning Bolt	09244-28100
P	C468	Water Pump Wrench 41mm	KM421A

Layout	Component Code	Description	OEM Reference
Q	C469	Water Pump Wrench 46mm	KM472
R	C470	Water Pump Wrench 40mm	J42492
S	C034	Locking Strap	49JE01 054
T	C471	Crankshaft Holding Tool	499977000
U	C472	Crankshaft Assembly Tool	49 JE01 061
V	C473	Pulley Holder	49 JE01 002
W	C474	Crankshaft Assembly Tool	49 JE01 062
X	C475	Crankshaft Locking Tool	49 JE01 050
Y	C476	Crankshaft Retaining Tool	49D011 102