

# LASER<sup>®</sup>

Part No. 5980

## Engine Timing Tools Land Rover Generation 1



 **MADE IN  
SHEFFIELD**



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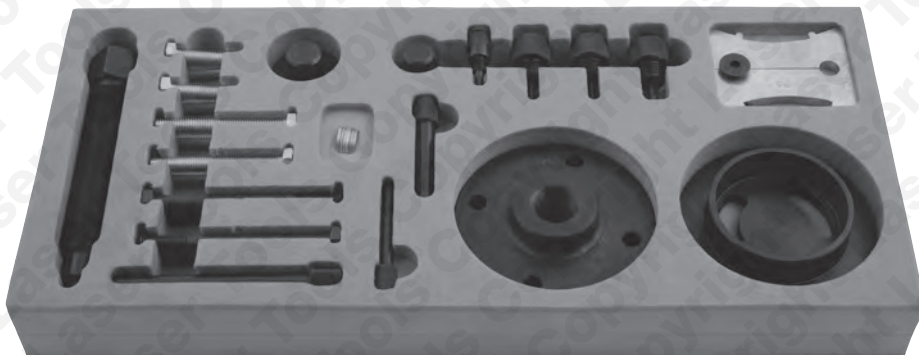
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## Introduction



### Description:

A 12 piece kit consisting of the components required to lock the crankshaft and Cam shafts in their timed position to allow the removal and replacement of the cam belt and the associated components.

## 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

## Instruction

### Component C | D | E

Flywheel locking tools – depending on bell housing/gearbox fitted select the appropriate pin and fit as shown to lock the flywheel in the timed position. Remember only turn the engine in a clockwise direction.

The centre pins of the tools should fit into the flywheel when the correct position is obtained as shown in Fig. 4.

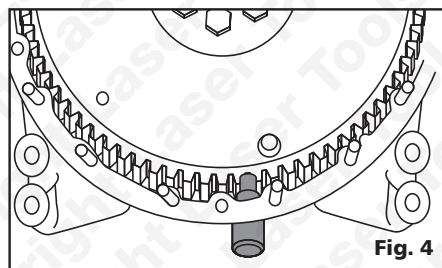


Fig. 4

### Component F

Fuel Pump Timing Pin – used to set the fuel pump timing on DPS type pumps.

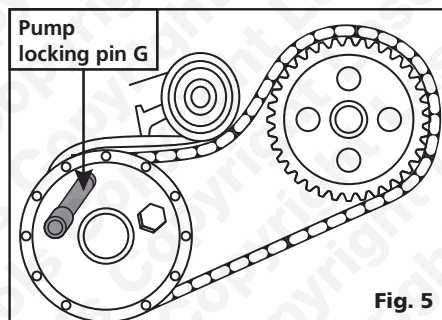


Fig. 5

### Component G

Fuel Injection Pump locking pin - used to lock the fuel pump on Land Rover TD4 engines as shown in Fig. 5.

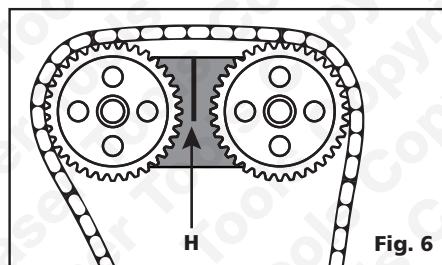


Fig. 6

### Component H

Camshaft Locking Tool - Designed to lock the cam shaft pulley gears together to prevent them turning when changing the timing belt. With the crankshaft set at TDC and locked in position check the camshaft marks are aligned and fit component H as shown in Fig. 6.

Use with component (I) on 20 T4 petrol engines.

### Component I

Flywheel Timing Pin - used to lock the flywheel at TDC on the 20T petrol engines, use as shown in Fig. 7.

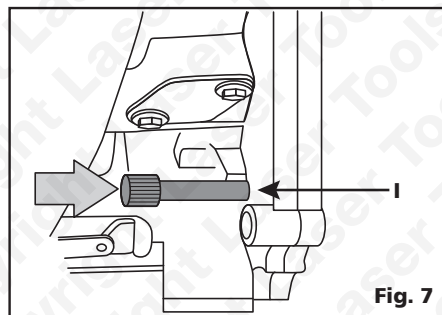
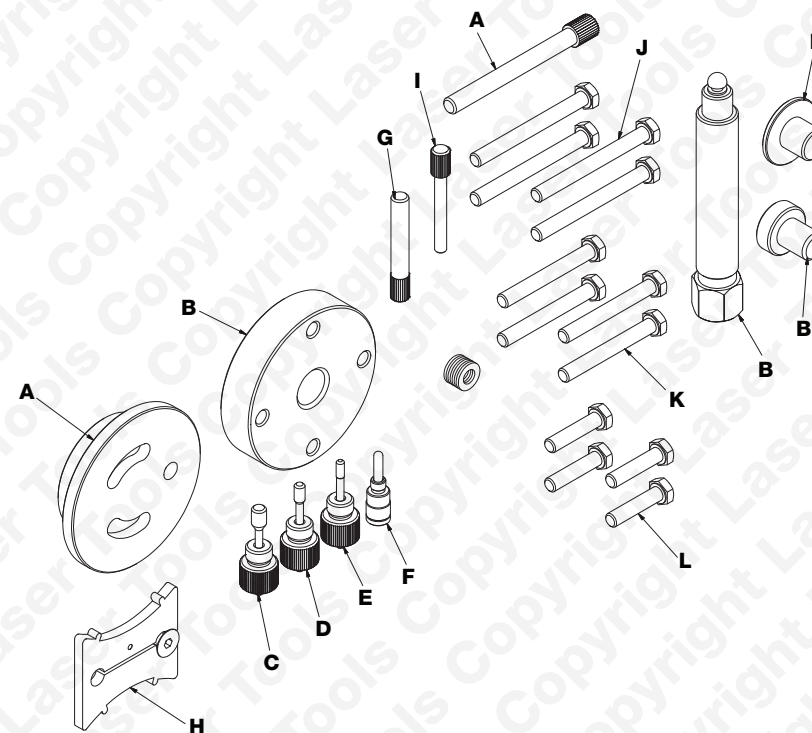


Fig. 7

## Plan Layout



Ref	Code	OEM Ref	Description
A	C610	303-864   LRT-12-045	Injection Pump Drive Gear Holding Tool
B	C611	303-868   LRT-12-049	Crankshaft Damper Pulley Puller
C	C612	303-896   LRT-12-085	Flywheel Locking Tool
D	C613	303-863   LRT-12-044	Flywheel Locking Tool (300TDi)
E	C614	303-825   LRT-12-003	Flywheel Locking Tool (4 Cylinder Diesels)
F	C615	303-851   LRT-12-030	Injection Pump Timing Pin (4 Cylinder Diesels)
G	C463	303-943   LRT-12-141	Injection Pump Timing Pin (TD4)
H	C190	303-877   LRT-12-060	Camshaft Locking Tool (4 Cylinder 16V Petrol)
I	C086	303-875   LRT-12-058	Flywheel Timing Pin 20T Engine
J	C618	M8 x 90mm Bolts	Mounting Option for A & B
K	C619	M8 x 65mm Bolts	Mounting Option for A & B
L	C063	M8 x 35mm Set Screws	Mounting Option for A & B



## 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

N.B The information given below is for reference only. Tool Connection recommends the use of Manufacturer data or Autodata.

Tool Connection tool will not accept responsibility for damage or personal injury caused by the use of this kit how so ever caused.

Model	Size	Engine code	Start year
90, 110	2.5	12j	1985 to 1992
Defender/Discovery I	2.5	200TDi	1990 to 1994
Range Rover Classic	2.5	200TDi	1993 to 1994
Defender/Discovery	2.5	300TDi	1994 to 1998
Range Rover Classic	2.5	300TDi	1994 to 1995
Discovery	2.5	20T4 & 2.0L 16v MPi	1993 to 1997

## Instruction

### Component Descriptions:

#### Component A

Fuel Injection Pump Drive Gear holding tool – used with bolts and pin supplied to remove the injection pump gear from the pump while holding the pump drive gear in place with the drive belt and housing still in place. See Fig. 1.

For cam belt replacement use pin only as shown in Fig. 2.

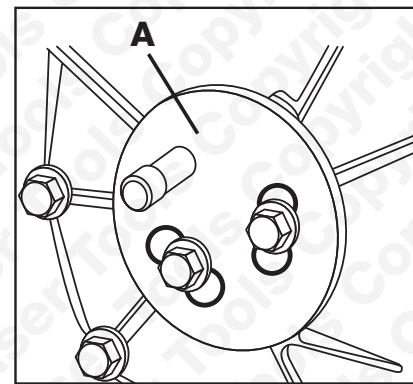


Fig. 1

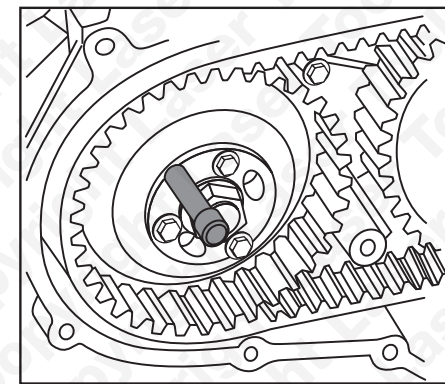


Fig. 2

#### Component B

Crankshaft Damper Pulley Puller - used to help remove the front crankshaft pulley. Remove the damper fixing bolt and fit as shown in Fig. 3.

Take care not to loose the woodruff key.

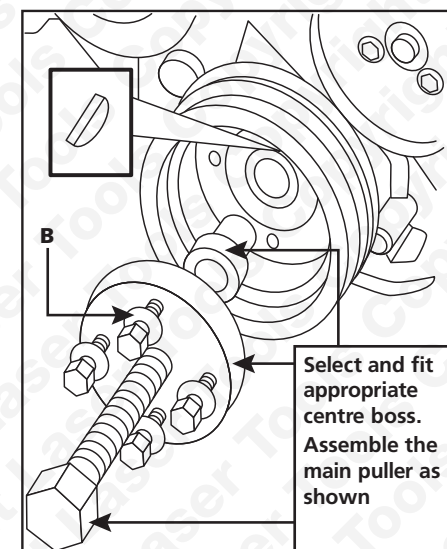


Fig. 3