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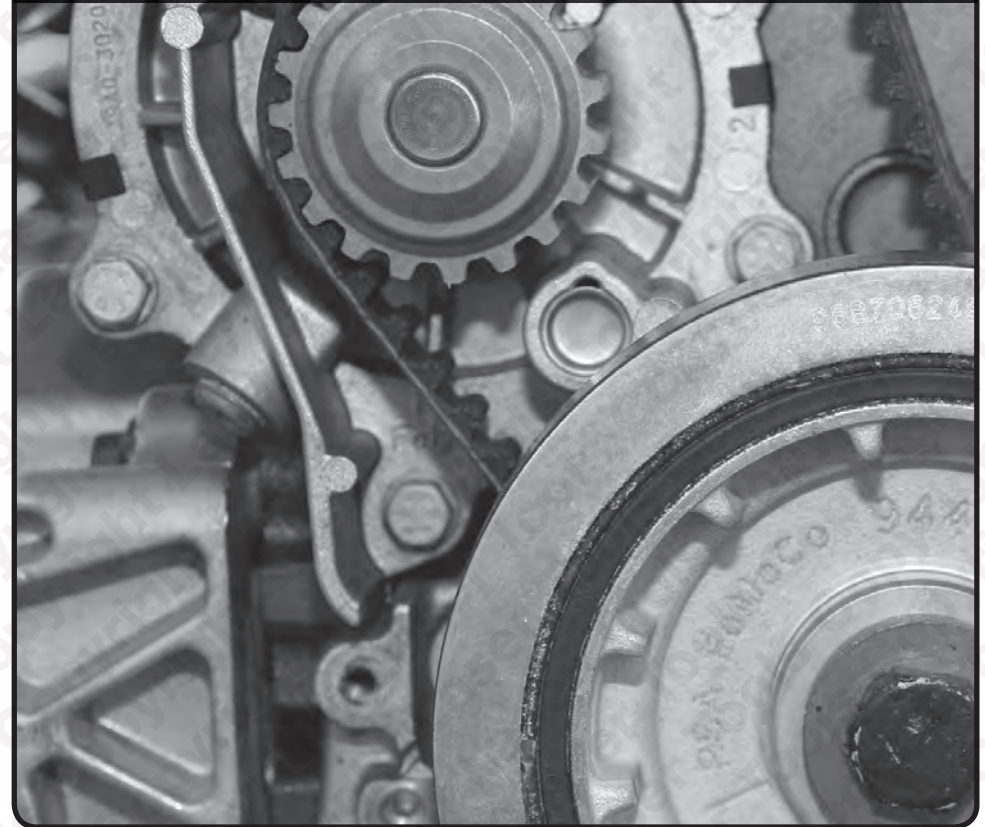
Part No. 4577

Engine Timing Tools

Rover 2.0 | 2.5 Engines KV6

Rover 825 | 46 | 75 | Land Rover

Freelander | MGZT 160 | 180



When you have finished with this tool please recycle it

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Guarantee



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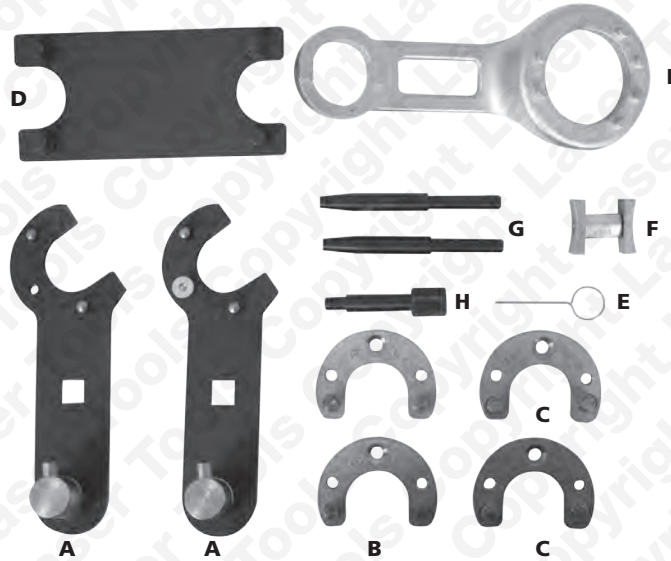
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If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186**. Normal wear and tear are excluded as are consumable items and abuse.

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Plan Layout



Ref	Code	OEM Ref Land Rover	OEM Ref Rover/MG	Description
A	C364	LRT12-196	18G 1747	Camshaft Locking tools (2)
B	C365	LRT12-187		Camshaft locking tools 2.0 (2) – Gold coloured
C	C366		18G 1747-2	Camshaft Locking tools 2.5 (2) – Silver coloured
D	C368	LRT12-175		Rear Camshaft Sprocket Tool
E	C284			Camshaft Tensioner Pin
F	C370	LRT12-195 303-986		Rear Camshaft Sprocket Spreader
G	C371	LRT12-198 303-989	18G 1746 A	Rear Sprocket Guide Pins (2)
H	C367	LRT12-232	18G 1747-5	Crankshaft Locking Pin
I	C369	LRT 12-175 303-973	18G 1747-1	Camshaft Pulley Locking Tool

This tool set does NOT have the correct Camshaft Locking Tool for the MG ZT 190 engine

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

Manufacturer	Model	Engine Code	Year	Tools
Rover	45	2.0 V6	1999-2005	B,F,D,H,I
	75	2.0 V6	1999-2005	B,F,D,H,I
	75	2.5 V6	1999-2005	A,F,D,H,I
	825	2.5 V6	1996-1999	A,E,G,D,H,I
MG	ZT ZT-T 160	2.5 V6	1999-2005	A,F,D,H,I
	ZT ZT-T 180	2.5 V6	1999-2005	A,F,D,H,I
	ZS 180	2.5 V6	1999-2005	A,F,D,H,I
Land Rover	Freelander	2.5 V6	2000-2006	A,F,H,I,D

Warning

Safety Precautions

Ensure that Health and Safety, local authority and general workshop practice regulations are adhered to when using tools.

DO NOT use tools if there is any sign of damage

Maintain tools in good and clean condition for best and safest performance.

Ensure that a vehicle which has been jacked up is adequately supported with axle stands.

Wear approved eye protection.

Account for all tools, locking bolts, pins and parts being used and do not leave them in or near the engine.

WARNING!

Incorrect or out of phase camshaft timing can result in contact between the valve head and the piston crown causing damage to the engine.

IMPORTANT:

These instructions are provided as a guide only.

Always refer to the vehicle manufacturer's workshop manual or refer to the appropriate Auto Data chapter.

Timing Belt and Chain books are available through The Tool Connection

Instruction

General Instruction:

- Disconnect battery earth lead.
- Remove spark plugs to ease turning engine.
- Turn engine in normal direction of rotation.
- Always observe the correct tightening torques.
- If fitted: Mark the Crankshaft Sensor position before removal.
- Do not use the Camshaft and/or Crankshaft Sprockets as a means to turn the engine.
- Do not turn either Camshaft or Crankshaft whilst the chain is not fitted.

Front Timing Belt

To service the front timing belt it is necessary to safely raise the front of the vehicle and support the engine to enable the removal of the right hand front wheel, splash guard and the rear cover of the left hand cylinder bank.

The camshaft position can now be observed.

Rover 825 Models

Ensure the Crankshaft position is 60° BTDC (Before Top Dead Centre) and the hubs on the rear of left hand bank of camshaft sprockets are facing together and permit the tool (F) to be fitted.

Rover 45/75 & Land Rover Freelander

The alignment of the white marking on the crankshaft pulley with the 'SAFE' arrow timing mark on the mounting

plate is required and is checked using tool (D) which is designed to fit the stepped positioning.

On these models it is also necessary to remove the Crankshaft Pulley.

Prior to installing the front timing belt it is necessary to slowly compress the tensioner pushrod into the tensioner body by using a vice until the holes align and then retain using Tensioner Pin (E).

Rover 45/75 & Land Rover Freelander

1. On these models remove the rubber blanking plug, and turn the tensioner anti-clockwise to release the tension, taking care not to loosen the tensioner pulley fastener.
2. Do not rotate the crankshaft whilst the Timing Belt is removed.
3. The two Camshaft Locking Tools (A) are assembled by using the correct and appropriate Adaptor (B) or (C) fastened to main tool and retained by the two pins and cap screw provided.
4. One set (Gold) are for 2.0 litre engine and the other set (Silver) are for 2.5 litre Also marked with the appropriate engine size.
5. The Spanner end of the tool with pegs is fitted into the front sprocket hub, and then the other end of the tool which is a spindle is inserted into the end of the exhaust camshaft with the pin locating in the slot of the camshaft.
6. Once the pegs have been located any difficulty in aligning the spindle can be assisted by using a ½" D bar in the ½" sq. hole.
7. Warning! It is possible to damage the

Instruction

camshafts if these tools have not been installed prior to releasing/tightening the sprocket bolts.

8. Once the sprocket bolts have been removed, the tools can be removed.
9. Remove the front sprockets complete with hub assemblies to enable cleaning prior to replacing onto the camshafts.
10. Using new sprocket bolts, lightly tighten until the sprockets turn freely but do not tilt.
11. Refit the Camshaft Locking Tools after installing the new timing belts in a temporary position.
12. Turn the sprockets fully clockwise and commence positioning the new belt in an anti-clockwise direction, starting from the crankshaft gear pulley.
13. When fitting the timing belt over the front camshaft sprockets turn each sprocket only the minimum amount required to engage the belt teeth.
14. Reposition the Tensioner to touch the belt, only remove the Tension Pin to release the plunger after installing the unit.

Rover 825 models

Remove the Crankshaft Locking Pin (H) and re-assemble the engine components.

Rear Timing Belt

1. The rear camshaft belt replacement procedure applies to both the right and left hand belts, but should only be carried out on one belt at a time.
2. The removal of two camshaft sprockets complete with belt is conducted as an assembly whilst using a Setting Tool to

maintain the Sprocket position.

3. The new belt is fitted over the sprockets and re assembled to the camshaft ends using the Guide Pins (G).
4. There is a choice of Rear Camshaft Sprocket Tool, see illustration:-

Rover 45 | 75 and Land Rover Freelander – Tool D Rover 825 models – Tool F

5. The Rear Camshaft Sprocket Spreader (I) is used to increase the distance between the two pulleys to assist in the easy assembly of either tool (D) or (F).
6. The tool is adjustable by either turning the centre nut or if tight the hexagon end in the centre screw can be turned with a 4mm Hex key.
7. Rear Camshaft Sprocket Guide Pins (G) are assembled into the ends of each camshaft to assist in installation of the sprocket assemblies. These are then removed to permit the replacement of new sprocket bolts.
8. The exhaust camshaft alignment is made easier by fitting the Spindle only of tool A and using it to gently turn and align the drive slot in the camshaft to match the rear sprockets during installation.
9. The sprocket setting tools should now be removed.