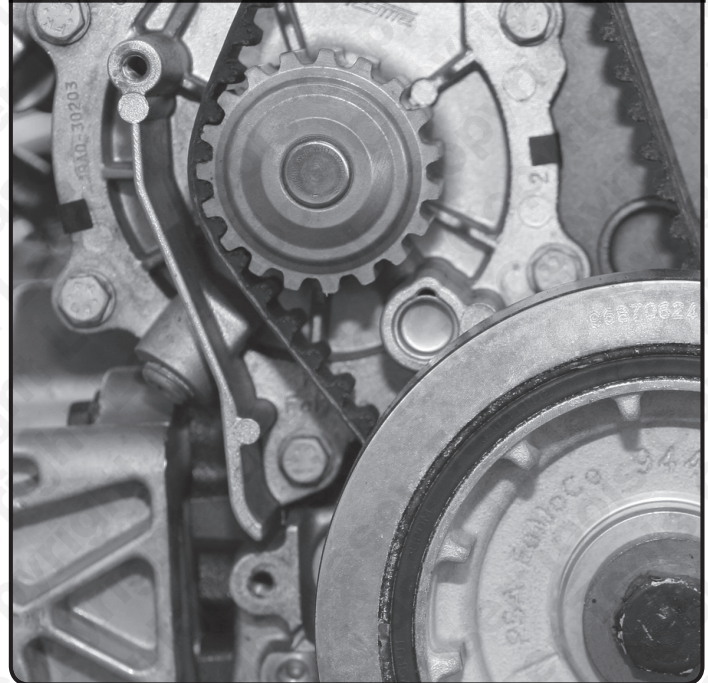


# LASER®

Part No. 3388

## Engine Timing Tools Renault Twin Cam 16v



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T +44 (0) 1926 815000 F +44 (0) 1926 815888

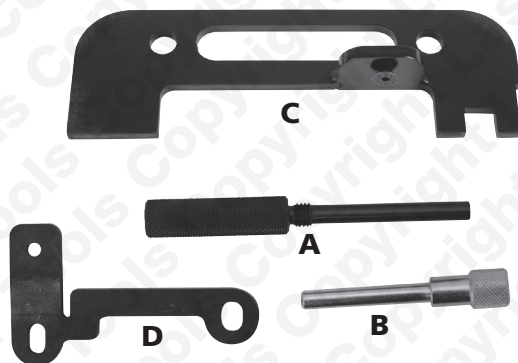
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## Plan Layout



Ref	Code	Oem Ref	Description
A	C037	Mot 1489	Crankshaft Timing Pin
B	C099	Mot 1054	Crankshaft Timing Pin
C	C120	Mot 1496	Camshaft Setting Bar
D	C402	Mot 1750	Mounting Bracket

## Plan Layout

**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 has been removed (unless specifically stated)
- Do not use the timing chain to lock the engine when slackening or tightening crankshaft pulley bolts
- Do not turn the crankshaft or camshaft when the timing belt/chain has been removed
- Mark the direction of the chain 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
- Check the diesel injection pump timing after replacing the chain
- Observe all tightening torques
- Always refer to the vehicle manufacturer's service manual or a suitable proprietary instruction book
- Incorrect or out of phase engine timing can result in damage to the valves
- It is always recommended to turn the engine slowly, by hand, and to re-check the camshaft and crankshaft timing positions

## 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 The Tool Connection cannot be held responsible for any damage caused what so ever.

ALWAYS USE A REPUTABLE WORKSHOP MANUAL

Manufacturer	Model	Engine Code	Year
Clio I Clio III	1.4   1.6	K4J 712   713   750 K4M 700   701   720 724   748	2003
Mégane I Scenic	1.6		1998
Laguna	1.6		1998
Clio Sport	2.0	F4P   760   F4R   700 701   730   740   741   780	1998
Mégane I Scenic	2.0		1998
Laguna	1.8   2.0		1998
Espace	2.0		1998

## Instruction 1.4 | 1.6 16v

### Removal

1. Raise and safely support the front of the car.
2. Remove the engine top cover, right hand splash guard and auxiliary drive belt.
3. Safely support the engine.
4. Remove the right hand side engine mounting, blanking plugs from rear of camshafts, blanking plug from cylinder block.
5. Lock flywheel and slacken the crankshaft pulley bolt.
6. Rotate crankshaft clockwise to the setting position ensuring that the grooves in the camshaft align. The grooves are positioned below the upper face of the cylinder head. (Fig 1.)
7. Insert the Crankshaft Timing Pin (A) to locate against the crankshaft web. (Fig 2.)
8. Fit the Camshaft Setting Bar (C) to rear of the camshafts. (Fig 3)
9. Remove the crankshaft pulley bolt, crankshaft pulley and timing belt covers.
10. Slacken the tensioner nut.
11. Move the tensioner pulley away from the timing belt.

Fig. 1

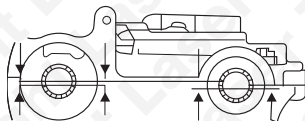


Fig. 2

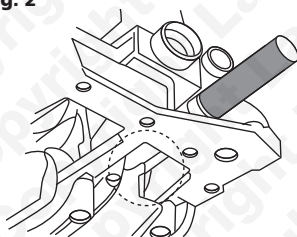


Fig. 3

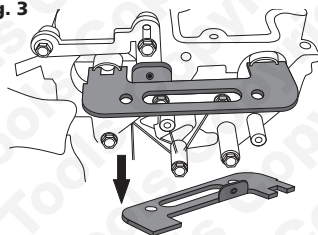
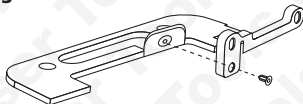


Fig. 3a



## Installation

### Installation

1. Check that the Crankshaft Timing Pin is still correctly fitted and contacting the crankshaft web.
2. Check that the Camshaft Setting Bar is still correctly fitted and the grooves in the camshaft are aligned
3. Fit guide pulley and tighten to 45Nm.
4. Fit the tensioner pulley and finger tighten, ensuring that the lug on rear of the pulley is located in the groove in the cylinder head.
5. Remove and de-grease the crankshaft sprocket and the mating end of the crankshaft.

#### Note:

Double check crank position by ensuring the crankshaft key is at 12 O Clock

6. Fit the new timing belt in an anti-clockwise direction, starting at the crankshaft sprocket. Check that the belt is taut on the non-tensioned side.
7. Refit the crankshaft pulley using a new bolt, leaving 2-3 mm. clearance between bolt face and pulley.
8. Slacken the tensioner nut and using a 6 mm. hexagon key, turn the tensioner pulley clockwise until the pointer is at the right hand stop. The moveable pointer should be 7-8 mm. past the fixed pointer.
9. Lightly tighten the tensioner nut to 7 Nm.
10. Lock the flywheel and increase the tensioner nut tightness to 20 Nm,
11. Remove both timing tools.
12. With the flywheel locked tighten the crankshaft pulley bolt by 120-150°. Use Angular Torque Gauge 2245.
13. Rotate the crankshaft two full turns clockwise back to the setting position.

14. Re fit the Crankshaft Timing Pin to correctly contact the crankshaft web and check that the Camshaft Setting Bar can be easily fitted.
15. Hold the tensioner pulley using the 6 mm. hexagon key and slacken the tensioner nut.
16. Turn the tensioner pulley anti-clockwise until the pointers align and tighten the tensioner nut to 27 Nm.
17. Remove both timing tools and refit the blanking plug.
18. Fit new blanking plugs to the rear of the camshafts.
19. Reinstall the remaining parts in reverse order of removal.

### Instruction 1.8 | 2.0 16v

The procedures for removing and installing timing belts on these engines is similar to those detailed above, but the Crankshaft Timing Pin is different. Use part (B) This Pin must be fitted into the slot in the crankshaft web. (Fig. 4)

This Pin must NOT be fitted into the balance hole.

Double check crank position by ensuring the crankshaft key way is aligned centrally between the casting lugs on the front of the engine. (Approximately 10 O Clock position)

Fig. 4

