

PETROL ENGINE TWIN CAM SETTING/LOCKING TOOL KIT FOR FIAT 1.2 16v.

1. INTRODUCTION & APPLICATION

1.1. Introduction

A kit covering engine timing and timing belt replacement on the Fiat 1.2 16v. engine. The timing position on this engine is checked with all four pistons in line and therefore this kit provides the required Piston Positioning Tools. It also includes the essential Camshaft Setting Tools and an Adjuster for the timing belt tensioner.

1.2. Applications

Fiat - 1.2 16v. Twin Cam engine in Punto, Brava/Bravo

2. SAFETY INSTRUCTIONS

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

DO NOT use tools if damaged.

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. A full range of personal safety equipment is available from your Sealey dealer.

Wear suitable clothing to avoid snagging. Do not wear jewellery and tie back long hair.

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 service instructions, or a proprietary manual, to establish the current procedure and data.

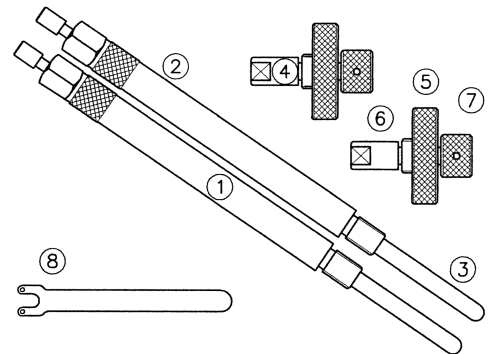
3. CONTENTS & ASSOCIATED TOOLS

3.1. Contents

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|---|---------------------------------|
| 1. VS1400/01 Positioning Tool, Complete (2 per kit) | 6. VS1400/022 Spindle |
| 2. VS1400/011 Main Body | 7. VS1400/023 Knob |
| 3. VS1400/012 Indicator Pin | 8. VS1400/03 Tensioner Adjuster |
| 4. VS1400/02 Setting Tool, Complete (2 per kit) | - VS1400/84 Case & Insert |
| 5. VS1400/021 Main Body | |

3.2. Associated Tools & Applications

- | | |
|---|-------------|
| Engine Setting/Locking Tool Kit - Fiat 1.4 12v. Petrol |VS1401 |
| Twin Cam Engine Setting/Locking Tool Kit - Fiat 1.6 16v. Petrol |VS1402 |
| Twin Cam Engine Setting/Locking Tool Kit - Fiat 1.8 16v. Petrol |VS1403 |
| TDC Position Tool - 1.6 16v. & 1.8 16v. (use with AK9634M DTI) |VS1404 |
| Sprocket Holding Tool |VS173 |



4. INSTRUCTIONS

VS1400 Petrol Engine Twin Cam Setting/Locking Tool Kit - 1.2 16v. comprises VS1400/01 Piston Position Tool (2 per kit), VS1400/02 Camshaft Setting Tool (2 per kit) & VS1400/03 Tensioner Adjuster - Timing Belt.

On the 1.2 16v. engine the timing is checked, and belt replacement carried out, by positioning the height of all four pistons in line, using 2 x VS1400/01 Tools. The camshafts are 'set' in position by 2 x VS1400/02 Tools entering through the sides of the camshaft housing and locating into timing slots in the camshafts.

The camshaft sprocket is released and free to turn on the camshaft when fitting a new belt.

Fitting order as follows - Crankshaft Gear, Water Pump, Camshaft Sprocket, Tensioner. The tensioner is then positioned at maximum using VS1400/03 Adjuster.

The camshaft sprocket bolt is then tightened and all setting/locking tools removed. The engine is turned by hand, two revolutions. The tensioner is adjusted so that the marks align, the engine turned by hand again and the piston position and camshaft setting tools refitted to check that the engine timing is correct.

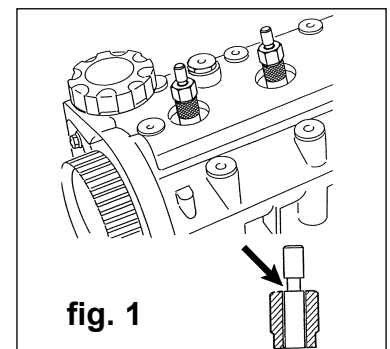
4.1. VS1400/01 Piston Position Tools

VS1400/01 Positioning Tools are used to establish the crank/engine timing position, which is correct when all four pistons are in line with one another.

4.1.1. VS1400/011 Main Bodies are screwed into the spark plug holes of No.1 and No.2 cylinders (fig. 1). Remove the spark plugs and screw the main body of each tool fully into the spark plug holes, taking care not to overtighten. Carefully slide the VS1400/012 Indicator Pins into the bodies to rest on top of the pistons.

4.1.2. The crankshaft must be turned slowly, in the direction of normal engine rotation, until the bottom of the groove on the indicator pin is visually in line with the top of the main body (fig. 1). When both tools achieve this position, the pistons will all be in line (fig. 2).

IMPORTANT: No.1 piston must be on its ignition stroke. Piston alignment can also be achieved 180° from the correct position. Check that camshaft timing slots are in line with the side entry holes in the camshaft housing (see 4.2. VS1400/02) and that the pin on the crank pulley is opposite the RPM/TDC sensor.



4.2. VS1400/02 Camshaft Setting Tools

VS1400/02 Setting Tools locate into 'timing holes' situated on the sides of the camshaft housing.

Each camshaft has a 'timing slot' which, when positioned and retained in line with the 'timing hole', provides the correct timed position for the camshaft.

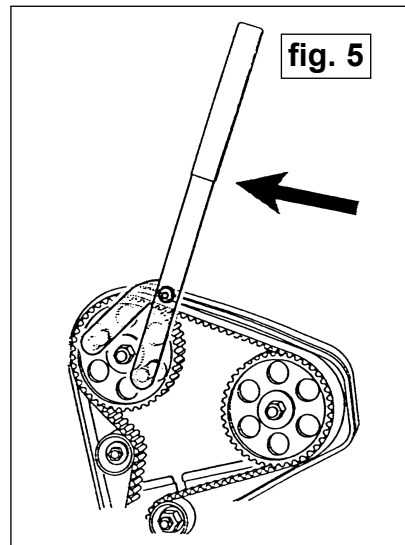
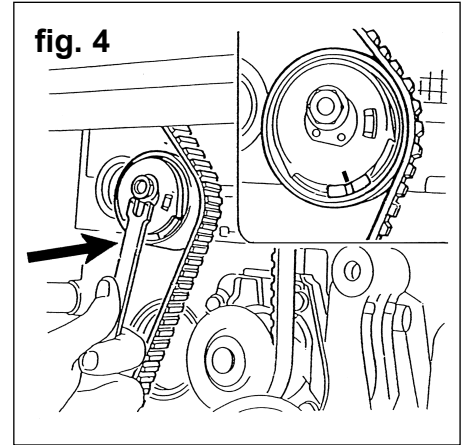
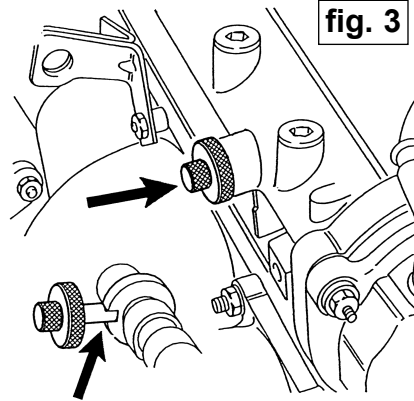
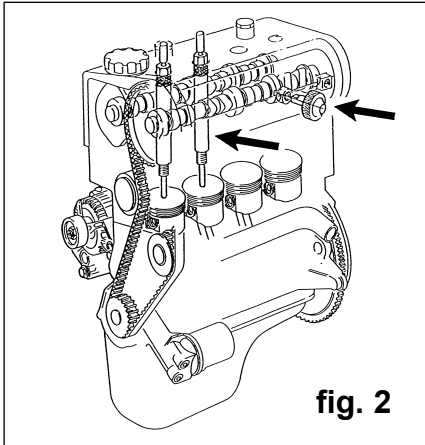
4.2.1. Remove the sealing plugs from the camshaft housing. Visually check that the camshaft 'timing slots' are in line with the hole and insert each VS400/02, holding the centre spindle steady whilst screwing in the main body of the tool (figs. 2 & 3).

DO NOT use VS1400/02 Setting Tools to counter-hold when releasing/tightening camshaft sprocket. Use Holding Tool VS173 (fig. 5) - an associated tool, not included in kit.

4.3. VS1400/03 Tensioner Adjuster - Timing Belt

VS1400/03 is a special 'peg' wrench which locates in the two holes in the tensioner, to carry out adjustment.

After fitting a new belt the tensioner is initially set at maximum. Then, after tightening the camshaft sprocket and rotating the engine by hand, the tensioner is adjusted, using VS1400/03, so that the marks align as in fig. 4.



NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No responsibility is accepted for incorrect use of this equipment.

WARRANTY: Guarantee is 12 months from purchase, proof of which will be required for any claim.

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