

## PETROL ENGINE SETTING/LOCKING TOOL KIT FOR FIAT 1.4 12v.

### 1. INTRODUCTION & APPLICATION

#### 1.1. Introduction

VS1401 Kit includes the special Camshaft Setting Plate, which is fitted in place of the cam bearing cap, and Crankshaft Locking Tool to ensure accurate retention of engine timing position.

#### 1.2. Applications

Fiat - 1.4 12v. SOHC engine in Brava/Bravo, Marea/Weekend

### 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.

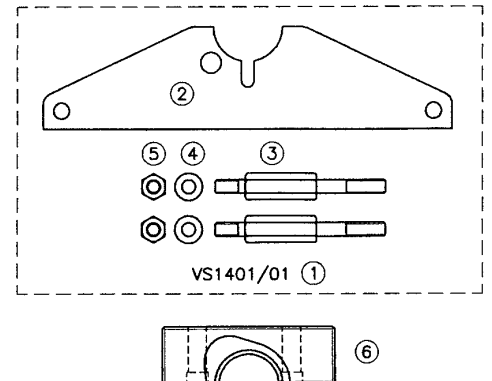
### 3. CONTENTS & ASSOCIATED TOOLS

#### 3.1. Contents

- |   |  |
|---|--|
| 1. VS1401/01 Crankshaft Locking Tool      | 5. VS1401/014 Nut (2 per kit)              |
| 2. VS1401/011 Plate                       | 6. VS1401/02 Camshaft Setting Plate (Gold) |
| 3. VS1401/012 Support Spindle (2 per kit) | -- VS1401/84 Case + Insert                 |
| 4. VS1401/013 Washer (2 per kit)          |  |

#### 3.2. Associated Tools & Applications

- |   |       |        |
|---|-------|--------|
| Twin Cam Engine Setting/Locking Tool Kit - Fiat 1.2 16v. Petrol | ..... | VS1400 |
| 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   | ..... | VS169  |



### 4. INSTRUCTIONS

VS1401 Petrol Engine Setting/Locking Tool Kit - 1.4 12v. comprises VS1401/01 Crankshaft Locking Tool and VS1401/02 Camshaft Setting Plate (Gold).

Retaining the 1.4 12v. engine in its 'timed' position requires both the crankshaft and camshaft to be 'locked' using VS1401/01 and VS1401/02. Having positioned the crank at TDC by aligning the timing marks on the crank pulley, Camshaft Setting Plate VS1401/02 is fitted in place of the bearing cap of No.2 cylinder to 'set' the camshaft in its timed position.

The tensioner can be slackened and the old belt removed.

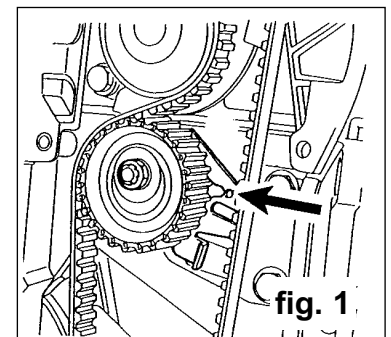
Using VS169 Holding Tool to counter-hold the camshaft sprocket, the bolt is released so that the sprocket is free to turn on the camshaft. The new belt is then first fitted around the crank gear so that VS1401/01 Locking Tool can be bolted to the engine to 'lock' the crankshaft at TDC.

The new belt is then fitted in order - Cam Sprocket, Water Pump, Tensioner.

Initially the tensioner is adjusted to maximum and the camshaft sprocket bolt tightened. Once all setting/locking tools have been removed, and bearing cap and oil pump bolts re-fitted, the engine can be turned by hand, two revolutions, and the tensioner adjusted so its lever is aligned with the tension reference point - see fig. 1.

#### 4.1. VS1401/01 Crankshaft Locking Tool

VS1401/01 Locking Tool comprises a Plate and 2 x Support Spindles. It is fitted after the new belt has been placed around the crank gear. The two bolts fixing the oil pump to the crankcase are removed and replaced by the VS1401/012 support spindles. VS1401/011 Plate is then secured to the spindles ensuring that the 'timing peg' on the crank gear aligns with the slot in the Plate. A bolt can then be passed through the hole in the Plate and screwed into the crank gear to 'lock' it at TDC position (fig. 2).

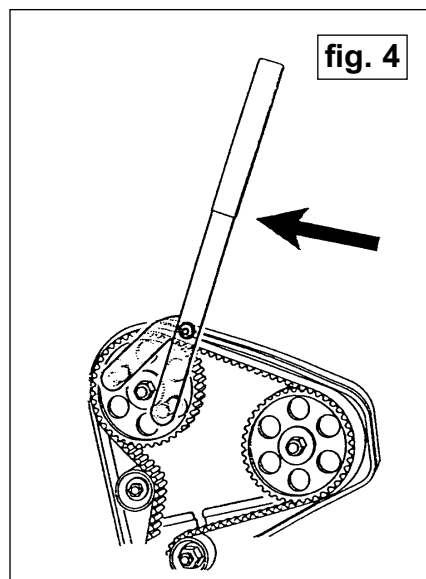
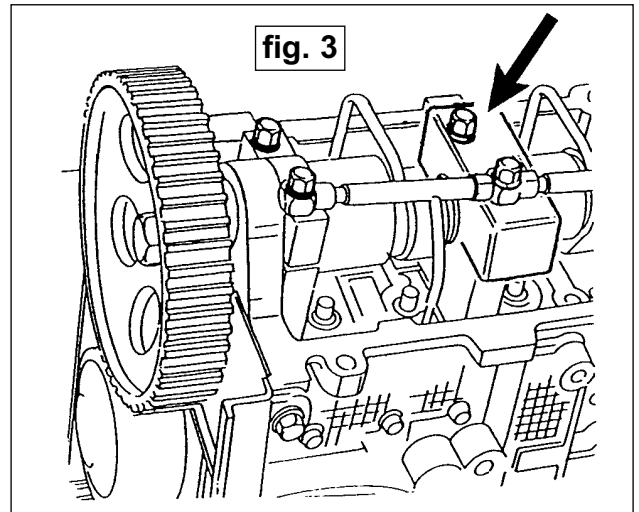
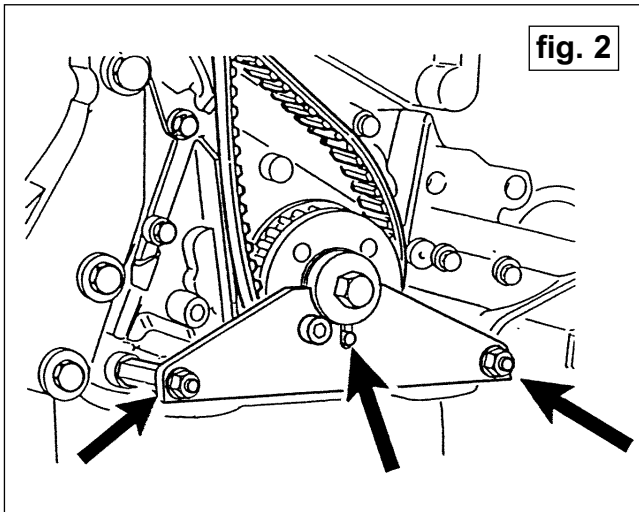


#### 4.2. VS1401/02 Camshaft Setting Plate (Gold)

The camshaft is retained in its 'timed' position by VS1401/02 which is bolted in place of the bearing cap of **No.2 cylinder** (fig. 3).

When fitting VS1401/02 Plate, the bolts fixing the bearing caps on the exhaust side are removed and the inlet side bolts loosened. Care must be taken in raising the oil supply pipe when removing the No.2 cyl. bearing cap. Once VS1401/02 is fitted, replace exhaust side bolts and tighten all bearing cap bolts to specified torque.

**Do not use VS1401/02 Setting Plate to counter-hold when releasing/tightening camshaft sprocket. Use Holding Tool VS169 (fig. 4) - an associated tool, not included in kit.**



**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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