

Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.



**IMPORTANT:** PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS, AND CAUTIONS. USE THIS PRODUCT CORRECTLY, AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY.

## 1. SAFETY INSTRUCTIONS

- ✓ Maintain the tools in good and clean condition for best and safest performance.
- ❑ **WARNING!** Ensure that all Health & Safety, local authority and general workshop practice regulations are strictly adhered to when using these tools.
- ✗ **DO NOT** use tools if damaged.
- ❑ **WARNING!** Incorrect or out of phase camshaft timing can result in contact between valve head and piston crown, possibly causing damage to the engine.

**IMPORTANT:** Always refer to the vehicle manufacturer's service instructions, or a proprietary manual, to establish the current procedures and data. These instructions are provided as a guide only.

## 2. INTRODUCTION & APPLICATION

VS4544 Kit covers specific variants of the Fiat 1.8 16 valve engines - see applications.

The kit incorporates Camshaft Setting Plates, which are fixed in place of the camshaft bearing caps to accurately position the twin camshafts in their timed position, Flywheel Holding Tool to remove/install the crankshaft pulley, Belt Tensioner Adjuster and Crankshaft Locking Tool.

### 2.1 APPLICATIONS

#### 2.1.1 FIAT

1.8 16v. Twin Cam Petrol

engines (99-) in:

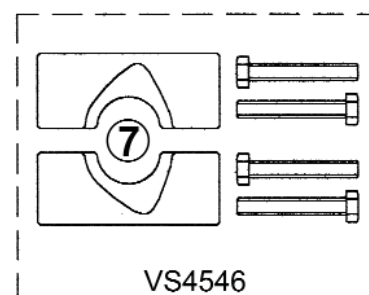
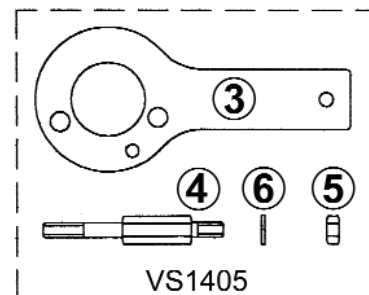
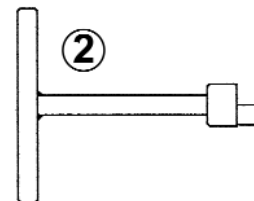
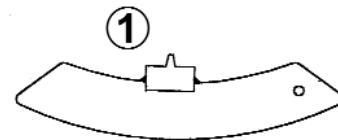
Punto HGT                      Stilo

183A1.000, 188A6.000 & 192A4.000 engines

**NOTE:** Not to be used on 183A1.000 engines in Fiat Barchetta/Coupe - see kit VS1403

## 3. CONTENTS & ASSOCIATED TOOLS

ITEM	PART NO.	DESCRIPTION
01	VS1403/03	FLYWHEEL HOLDING TOOL (CRANK PULLEY REMOVAL)
02	VS1403/04	BELT TENSIONER ADJUSTER
	<b>VS1405/02</b>	<b>CRANKSHAFT LOCKING TOOL SET</b>
		<b>COMPRISES - ITEMS 03-06</b>
03	VS1405/1	MAIN BODY
04	VS1405/2	SUPPORT SPINDLE
05	VS1405/3	NUT
06	VS1405/4	WASHER
07	VS4546	CAM SETTING PLATE SET (ORANGE)
-	VS4544/84	CASE + INSERT



## 4. OPERATING INSTRUCTIONS

Note: Ensure you turn the engine so the mark on the crankshaft pulley is aligned with the mark on the timing belt cover. This will position the engine at TDC No. 1 Cylinder on its ignition stroke

### 4.1 FLYWHEEL HOLDING TOOL (CRANK PULLEY REMOVAL) - VS1403/03

- 4.1.1 In order to remove the timing belt it will be necessary to remove the crankshaft pulley.
- 4.1.2 Remove the flywheel access cover and install VS1403/03 Flywheel Holding Tool to 'lock' the engine to facilitate release of the crank pulley bolt, once the cam setting plates have been fitted.

### 4.2 CAMSHAFT SETTING PLATE SET (ORANGE) - VS4546

- 4.2.1 Cam Setting Plates are bolted in position in place of designated bearing caps on both the inlet and exhaust camshafts. Each Setting Plate is machined to provide the exact profile and 'timed' position of the cam at the designated bearing location.

**IMPORTANT:** Care MUST BE taken when fitting Cam Setting Plates to ensure:

- 1) The correct set of plates is being used for the engine being worked on - plates are part numbered and colour coded.
  - 2) The correct plate is used on the Inlet camshaft and Exhaust camshaft - plates are clearly marked "Inlet" and "Exh".
  - 3) Each plate is fitted in place of the bearing cap of the designated cylinder only - plates are marked eg. "2 Cyl".
  - 4) Fixing holes in the plates match the off-set bearing cap holes and plates exactly match the cam lobe profile.
- 4.2.2 Camshaft Setting Plates/Locations - 1.8 16v. engines VS4546 (ORANGE) Punto HGT / Stilo Engine No.'s 183A1.000, A188A6.000, 192A4.000  
Inlet: Bearing Cap of No. 2 cyl.  
Exhaust: Bearing Cap of No. 3 cyl.
  - 4.2.3 When removing camshaft bearing caps, clearly mark which is the inlet and exhaust and keep clean at all times. When installing Cam Setting Plates and subsequently re-fitting bearing caps, always tighten bolts to specified torque.
  - 4.2.4 Remove crankshaft pulley, remove Flywheel Holding Tool, slacken tensioner and remove old belt.

### 4.3 FITTING NEW BELT

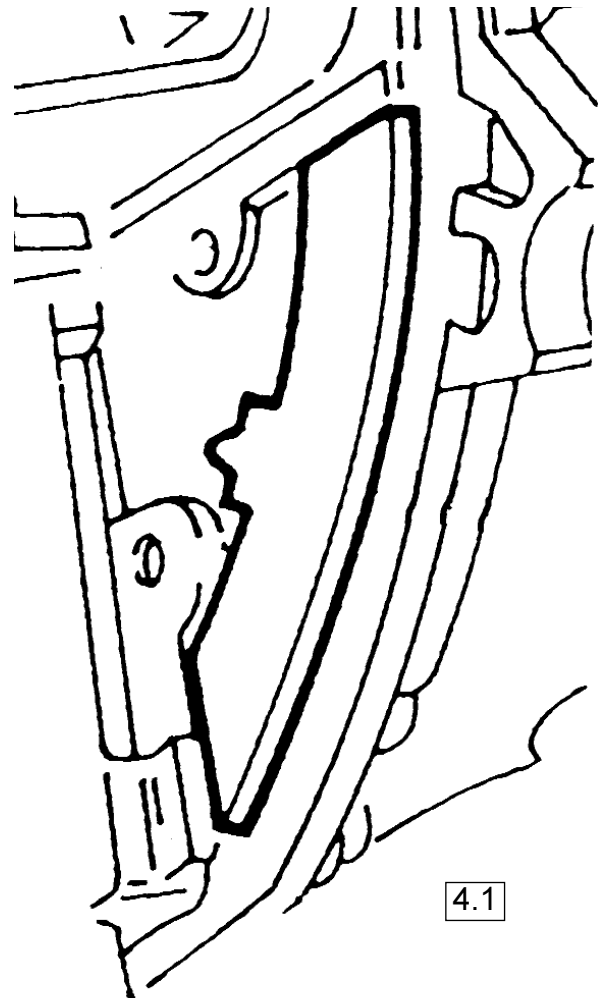
- 4.3.1 Both camshaft sprockets bolts should be released and the sprockets be 'free to turn' on camshafts.

**WARNING:** DO NOT use camshaft Setting Plates to hold camshafts in position whilst releasing or tightening the sprocket bolts. Plates are for retention of timing position only. Use a suitable Sprocket Holding Tool.

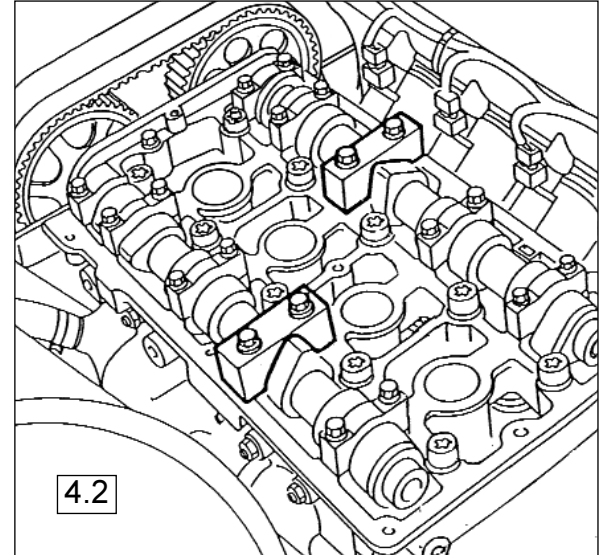
- 4.3.2 Fit the new timing belt over the crank gear prior to fitting VS1405/02 Locking Tool set.

### 4.4 CRANKSHAFT LOCKING TOOL SET - VS1405/02

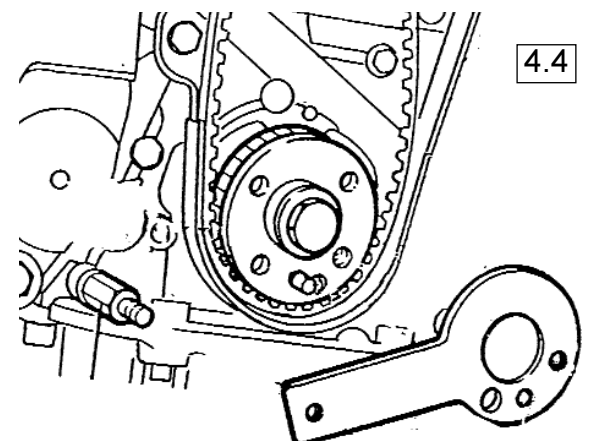
- 4.4.1 To fit VS1405/02 Locking Tool set remove the oil pump bolt and insert Support Spindle VS1405/2.
- 4.4.2 Turn the crankshaft a little at a time to locate the dowel on the crank gear into the hole in the main body of the tool.
- 4.4.3 Fix VS1405/1 into place with VS1405/4 and VS1405/3 with the dowel correctly located and secure with a bolt through to the crank gear.
- 4.4.4 Continue fitting the new belt in the following sequence - crank gear, guide roller, exhaust cam sprocket. Inlet cam sprocket, water pump and tensioner.



4.1



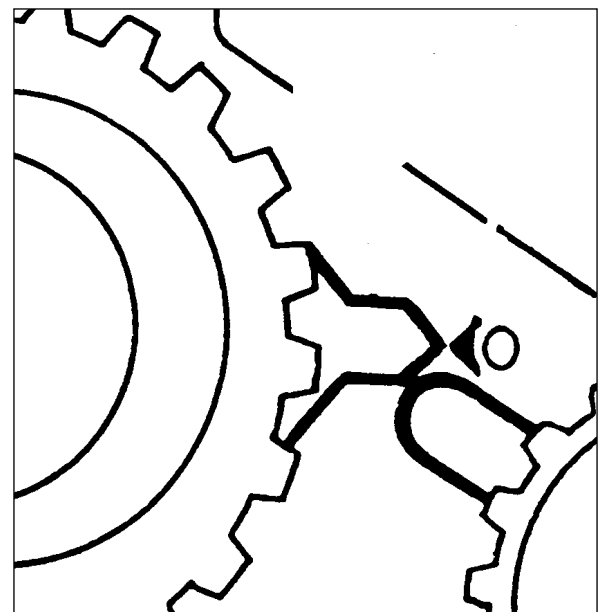
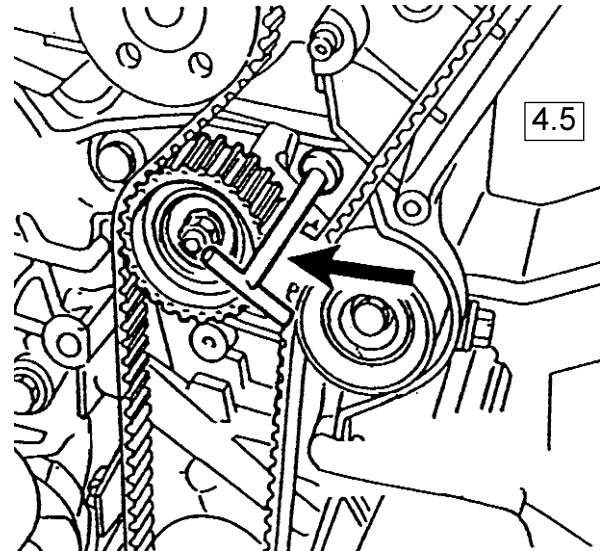
4.2



4.4

#### 4.5 TENSIONER ADJUSTER - VS1403/04

- 4.5.1 This 'T-Handle' Adjuster is inserted through an opening in the tensioner support and after fitting new belt, turned to initially adjust to maximum tension position.
- 4.5.2 Tighten both camshaft sprocket bolts counter-holding sprockets with suitable Holding Tool.
- 4.5.3 Remove the Camshaft Setting Plates and the Crank Locking Tool.
- 4.5.4 Re-fit the camshaft bearing caps and tighten bolts to specified torque.
- 4.5.5 Rotate the crankshaft two revolutions, by hand, and return to the TDC position.
- 4.5.6 Adjust tensioner to final position using VS1403/04 so that the pointer aligns with the reference on the crankcase - see diagram below.



1.8 16V. FINAL TENSIONER POSITION

**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 liability is accepted for incorrect use of this equipment. **WARRANTY:** Guarantee is 12 months from purchase date, proof of which will be required for any claim. **INFORMATION:** For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.



Sole UK Distributor, Sealey Group, Bury St. Edmunds, Suffolk.



01284 757500



01284 703534



[www.sealey.co.uk](http://www.sealey.co.uk)



[sales@sealey.co.uk](mailto:sales@sealey.co.uk)