

# **ENGINE TIMING/LOCKING TOOL** TWIN CAMSHAFT & DIESEL INJECTION PUMP TIMING POSITION RETENTION

# 1. INTRODUCTION & APPLICATIONS

#### 1.1. INTRODUCTION

The VS777 is designed to 'lock' twin camshafts during timing belt removal/renewal (see right) to ensure that the timing positions are retained.

The unique design is fully adjustable and will even fit sprockets which are positioned closely together e.g. Vauxhall/Opel EcoTec engines. It also incorporates a variable pitch feature to cover a range of sprocket diameters and tooth pitches.

VS777 locates into the sprocket teeth giving a firm and secure 'lock', either as a parallel fit or with lateral/offset positioning. the ratchet locking handles provide compact, strong lever action for securing in position.

#### 1.2. APPLICATIONS

Twin Cam and Quad Cam V engines.

Diesel engines - camshaft sprocket to injection pump sprocket 'lock'.

## 2. FEATURES

#### VS777 Features:

Sprockets close together - the VS777 locates on top of the sprockets and therefore can accommodate minimal clearance between the twin cam sprockets.

Variable Pitch feature - the VS777 design incorporates adjustable arms which extend or retract to cover various sprocket diameters and tooth pitches.

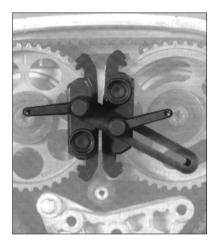
Ratchet Locking Handles - provide VS777 with strong yet compact lever action for securing in position.

Slotted Heads - allow VS777 to be used on sprockets with flanged edges (see right).

## Also now available...VS777E Extension Bridge Piece

Provides even greater application coverage. Extends distance between locking arms for applications where sprockets are further apart (see below).

VE777E is an additional product and is not included with VS777 Locking Tool.







## 3. SAFETY INSTRUCTIONS

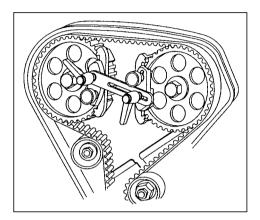
- WARNING! Ensure that Health and Safety, local authority, and general workshop practice regulations are adhered to when using tools.
- x DO NOT use tools if damaged.
- $\checkmark\,$  Maintain tools in good and clean condition for best and safest performance.
- ✓ If the vehicle to be worked on is raised, ensure that it is adequately supported with axle stands or ramps and chocks.
- ✓ Wear approved eye protection. A full range of personal safety equipment is available from your Sealey dealer.
- $\checkmark\,$  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 on or near the engine.
- WARNING! DO NOT use timing tools to hold camshaft/injection pump in position whilst releasing or re-tightening sprocket bolt. Use timing tools only for retention of timing position.
- \* **IMPORTANT:** Always refer to the vehicle manufacturer's service instructions, or a proprietary manual, to establish the current procedure and data. These instructions are provided as a guide only.

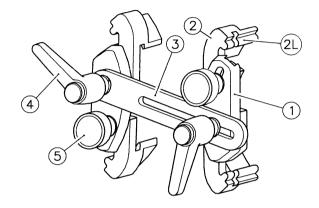
# 4. INSTRUCTIONS

WARNING! Ensure that you have read and understood Section 3 Safety Instructions before commencing.

- Note: The VS777 is suitable for 'locking' a wide range of twin cam sprockets (see below) and also injection pump and cam sprockets on some diesel engines.
- 3.1. Set the adjustable arm (2) on each plate (1) so that the top and bottom lugs (2L) engage correctly in the sprocket teeth. Ensure that both adjustment knobs (5) are fully tightened after setting.
- 3.2. Slacken both ratchet handles (4) and slide the two plates together. Position the plates on top of the sprockets with the lugs (2L) between them. Locate the lugs of the left-hand plate in the teeth of the left-hand sprocket and then slide the other plate to engage its lugs in the teeth of the right-hand sprocket. Keep the bridge piece (3) as horizontal as possible.
- 3.3. While pressing the plates into the sprocket teeth, tighten the ratchet handles (4). Check that all four lugs are fully engaged in the sprocket teeth.
- 3.4. Proceed with belt removal.

IMPORTANT: Engine locking tools, including VS777, MUST NOT be used for holding sprockets whilst releasing/tightening the sprocket retaining bolt. Locking tools are only for retaining timing position.





VS777 Patent Information (to date)

U.S. Patent Ref. 6,332,256 B1 German Patent Ref. 201 11 230.2 Plus other European and Far East Patent applications pending.

**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 the product.

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

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