

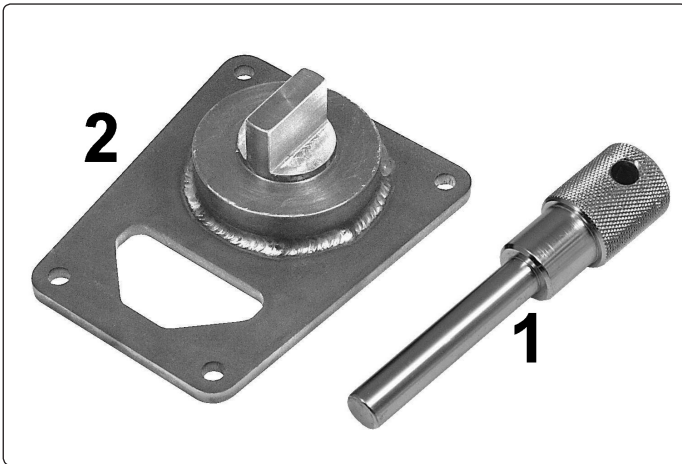
Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.



**IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THE 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. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.**

## 1. INTRODUCTION & CONTENTS

Suitable for timing belt replacement on 2.0 single overhead camshaft 16v diesel engines fitted mainly in Chevrolet and some Vauxhall/Opel vehicles. Kit features a camshaft setting plate and crankshaft timing pin. Supplied with a warning tag.



Item	Part No.	Description	OEM No.
1	VS5041	Crankshaft Locking Pin	EN-48246
2	VS5042	Camshaft Setting Plate	EN-48245

## 2. APPLICATIONS

Make:	Model:	Year:
Chevrolet:	Captiva	(07-11)
	Cruze	(09-11)
	Epica	(06-11)
	Lacetti	(07-10)
	Nubira	(07-10)
Vauxhall/Opel:	Antara	(06-10)
<b>Engine Codes:</b>		
2.0D/VDCi:	Z20DM,	Z20DMH/LLW,
	Z20S1,	Z20S1/RA420.

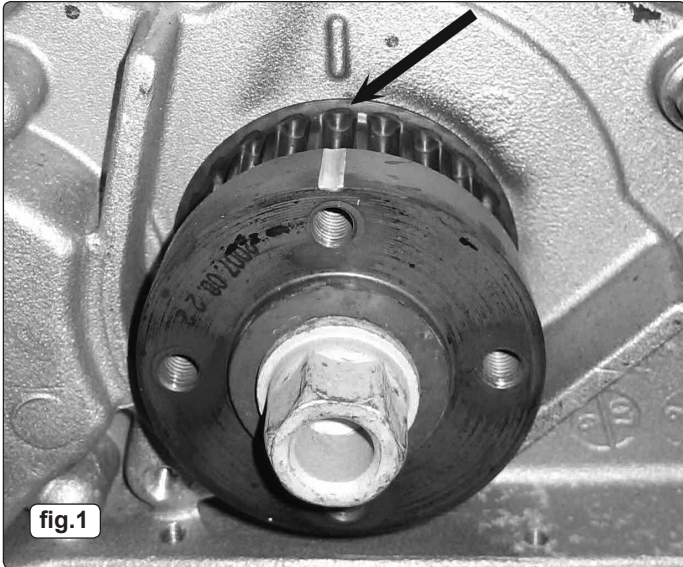
## 3. SAFETY INSTRUCTIONS

- 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 a good, clean condition for the best and safest performance.
- Ensure that a vehicle which has been jacked up is adequately supported with axle stands.
- DO NOT** attempt to start engine or move vehicle, whilst in gear with locking devices fitted.
- Always** display warning notification on steering wheel when locking engine components.
- Wear suitable clothing to avoid snagging. **DO NOT** wear jewellery and tie back long hair.
- Wear approved eye protection. A full range of personal safety equipment is available from your Sealey dealer.
- Account for all tools, locking bolts, pins and parts being used, **DO NOT** not leave them in or near the engine.
- When not in use, store in a safe, dry, childproof location.
- WARNING!** Incorrect or out of phase camshaft timing can result in contact between valve head and piston crown causing damage to the engine.
- WARNING!** The warnings, cautions and instructions in this manual cannot cover all possible conditions and situations that may occur. It must be understood that common sense and caution are factors which cannot be built into this product, but must be applied by the operator.
- 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.

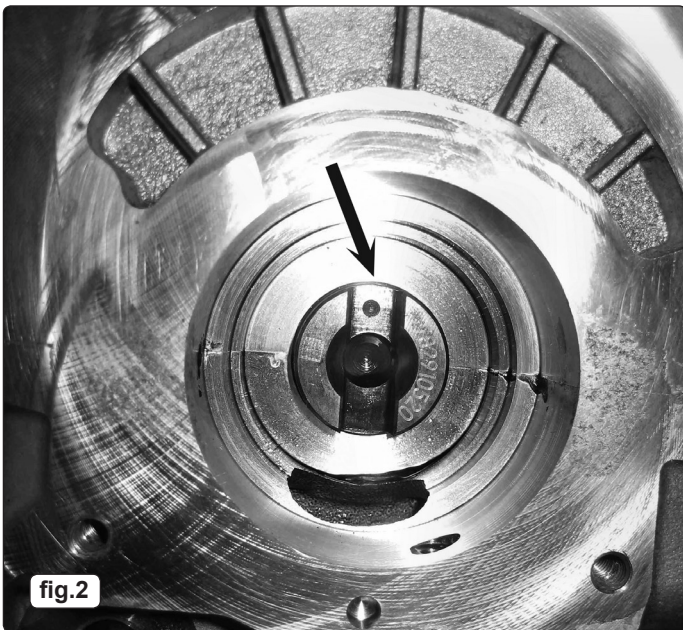
## 4. INSTRUCTIONS

### 4.1. Timing belt replacement

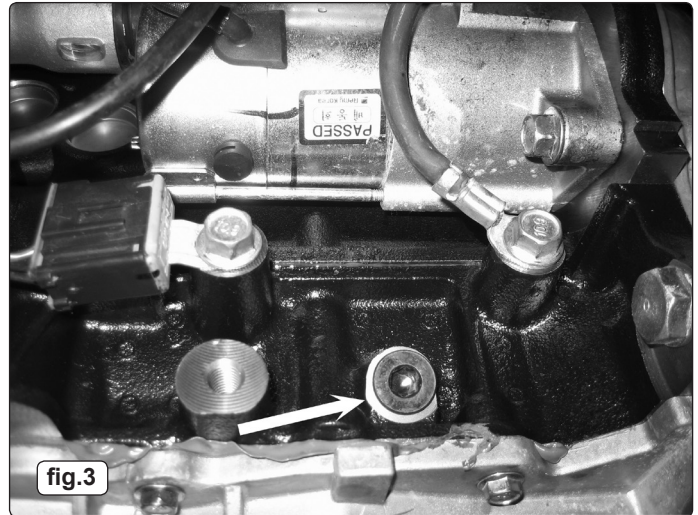
- 4.1.1. Remove the engine top cover, air hoses and auxiliary belt.
- 4.1.2. Support the engine and remove the right hand engine mounting/bracket.
- 4.1.3. Remove the timing belt cover, auxiliary belt pulley/tensioner.
- 4.1.4. Remove the crankshaft pulley and lower belt cover.
- 4.1.5. Remove the vacuum pump (rear of the camshaft).



- 4.1.6. Turn the crankshaft in a **clockwise** direction until the marks align on the crankshaft gear and the engine (fig.1).

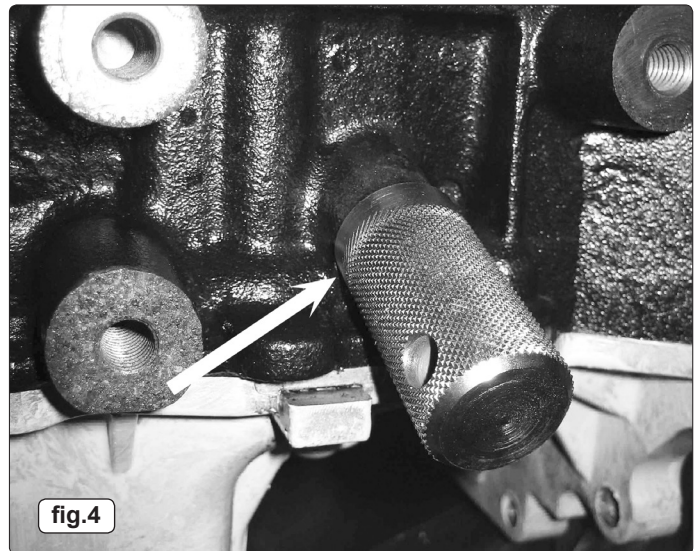


- 4.1.7. Check the camshaft position, the slot in the rear of the camshaft should be vertical and the hole must be at the top (fig.2). If it is not in this 12 o'clock position, then rotate the crankshaft 360°, and re-align the marks on the crankshaft gear and the engine.



### 4.2. VS5041 Crankshaft Locking Pin

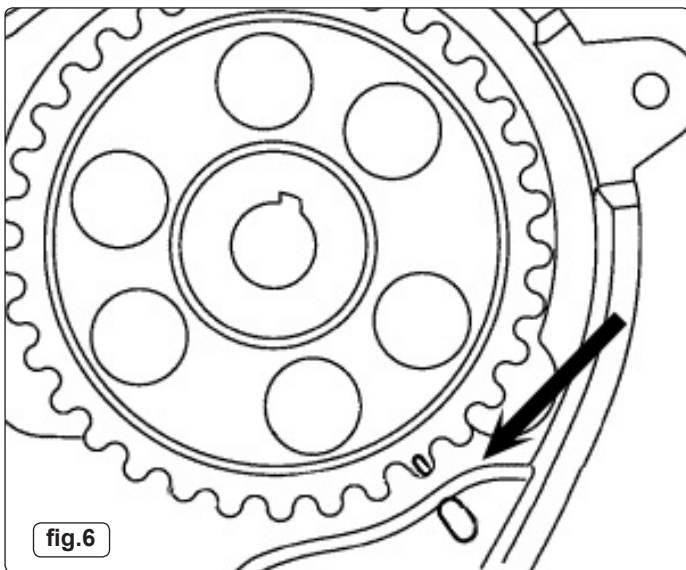
- 4.2.1. Remove the blanking plug from the cylinder block (fig.3).



- 4.2.2. Install the VS5041 Crankshaft Locking Pin (fig.4).

### 4.3. VS5042 Camshaft Setting Plate.

- 4.3.1. Fit the VS5042 Camshaft Setting Plate on to the cylinder head and tighten the four fixing bolts to 12Nm (fig.5).
- 4.3.2. Using a suitable Sprocket Holding Tool to counter-hold the camshaft sprocket, release the camshaft sprocket bolt.
- 4.3.3. Loosen the timing belt tensioner bolt and remove the old timing belt.
- 4.3.4. Tighten the camshaft sprocket bolt finger tight, ensuring the sprocket is free to rotate.



### 4.4. Installing a new timing belt.

- 4.4.1. Rotate the high pressure fuel pump sprocket to align with the mark on the engine (fig.6).
- 4.4.2. Fit a new timing belt starting at the crankshaft and working in an **anti-clockwise** direction.
- 4.4.3. Turn the tensioner **anti-clockwise** using an Allen key until the pointer aligns with the hole (fig.7).
- 4.4.4. Tighten the tensioner bolt to 25Nm.
- 4.4.5. Using a suitable Sprocket Holding Tool to counter-hold the camshaft sprocket, tighten the camshaft sprocket bolt to 133Nm.
- 4.4.6. Remove the VS5042 Camshaft Setting Plate and VS5041 Crankshaft Locking Pin.



### 4.5. Checking Timing

- 4.5.1. Turn the crankshaft two revolutions in a clockwise direction until the marks align on the crankshaft gear and the engine. Check the camshaft position, the slot in the rear of the camshaft should be vertical and the hole must be at the top, if it is not in this 12 o'clock position then rotate the crankshaft 360°, and realign the marks on the crankshaft gear and the engine.
- 4.5.2. Install the VS5041 Crankshaft Locking Pin and fit the VS5042 Camshaft Setting Plate to check that engine timing is correct.
- 4.5.3. Remove the timing tools, and refit the blanking plug to the cylinder block, tightening it to 30Nm.
- 4.5.4. Install engine components.

**NOTE:** Crankshaft pulley bolts should be tightened to 34Nm.

**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.

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