



INSTRUCTIONS FOR:  
**PETROL ENGINE SETTING/LOCKING SET -  
 VAG - 3.7/4.2 V8 - BELT DRIVE**  
 MODEL NO: **VS4827**

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

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



Refer to Instruction Manual  
 Wear Eye Protection

## 1. SAFETY

- 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 valve head and 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.

## 2. INTRODUCTION

Engine Setting and Locking tool set for the 3.7 and 4.2 V8 engines in Audi and VW model Kit includes camshaft setting plate, crankshaft locking pin and tensioner tools. Supplied with warning tag.

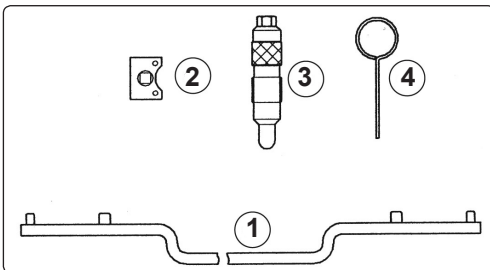
## 3. APPLICATIONS

Audi - Petrol 3.7/4.2 (Belt)

Volkswagen - Petrol 4.2 (Belt)

Models:	Engines			
Audi	3.7	4.2	4.2	4.2
A6 (99-05)				
A6 Quattro (99-05)	AKC	AKB	AUW	BCY
A8 (99-06)	AQG	ANK	AUX	BFM
S6 (00-04)	BFL	AQF	AVN	BGJ
S8 (99-03)		AQH	AVP	BGJ
RS6 (03-05)		AQJ	AWN	BGK
		ARS	AXQ	BHX
<b>Volkswagen</b>		ART	AYS	BRV
Phaeton (02-13)		ARU	BBD	
Tourareg (03-10)		ASG	BCS	

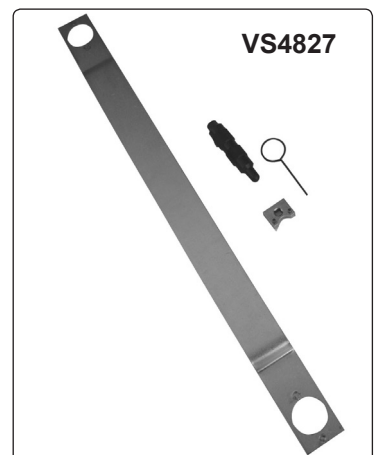
## 4. CONTENTS



Item	Part Number	Description	OEM Number
1	VS4828	Camshaft Setting Plate	T40005
2	VS4829	Tensioner Adjuster	T40009
3	VS1242/01	Crankshaft TDC Locking Pin	3242
4	VS4593/1E	Hyd. Tensioner Retaining Pin	T40011

### Associated Tools:-

	VSE5852	Support Guides	3369/T10093
	VSE5959	Camshaft Sprocket Puller	Y40001



## 5. INSTRUCTIONS

**VS5852 Front End Support Guides - Service Position (Associated Tool, not in set) comprises VS124/02, VS4742 and VS4743 Guide sets.**

Almost all VAG models have the facility of extending the front panel of the vehicle to provide increased access space in the engine compartment to carry out various service applications (fig.1).

On a number of models, including these Audi and VW 4.2L engine models, moving the front end out to the "Service Position" is part of the timing belt replacement procedure. Use VS124/02 for Audi A6/S6, VS4742 for A8(-03) and VS4743 for A8(03-)/Touareg and Phaeton.

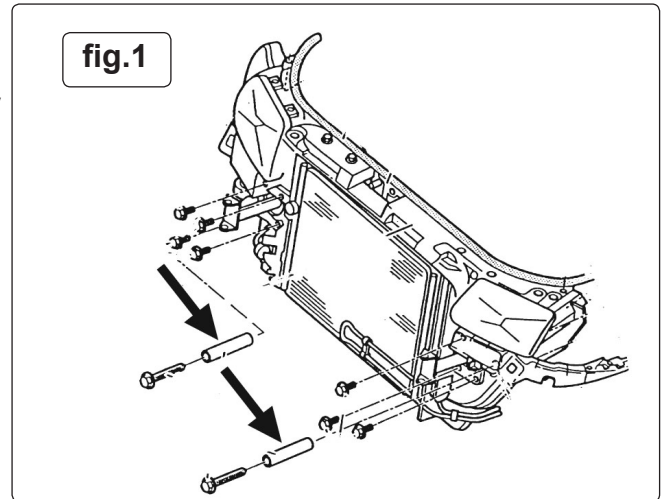
**VS4827 Petrol Engine V8 Setting/Locking Tool Set Comprises:**

**VS4828 Camshaft Setting Plate**

**VS4829 Tensiner Adjuster**

**VS1242/01 Crank TDC Locking Pin**

**VS4593/E Hyd. Tensioner Retaining Pin**



### 5.1 Removing the old timing belt

With the appropriate Front End Guides installed, move the radiator support panel to 'Service Position'.

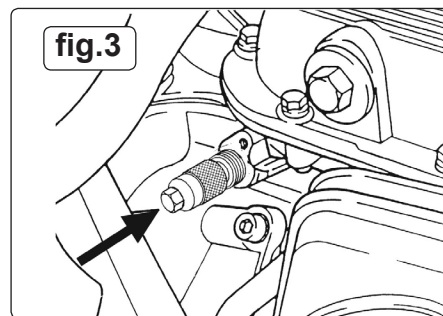
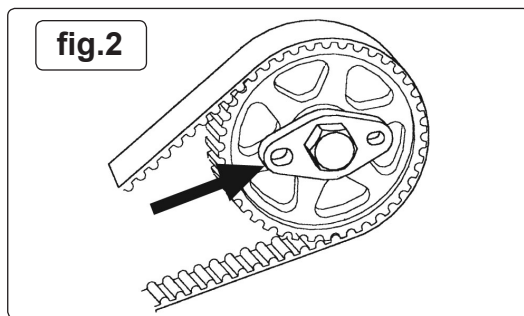
It will be necessary to remove viscous fan/casing, auxiliary belt and tensioner.

Remove the crankshaft pulley and timing covers.

Turn the crankshaft clockwise to align the timing marks.

**WARNING: Engine must be turned at the crankshaft, in direction of rotation only (clockwise)**

**IMPORTANT: Check that the larger holes in the camshaft end plates face in towards each other (fig. 2).**



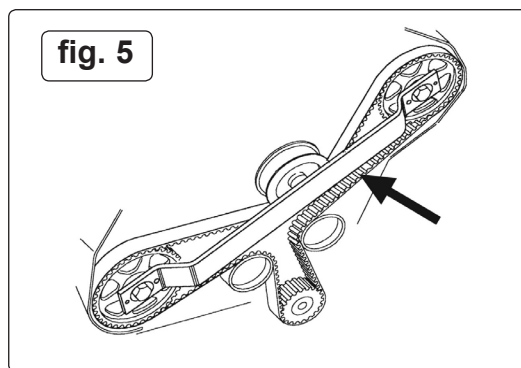
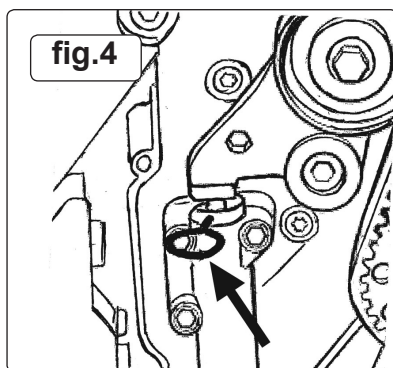
### VS1242/01 Crankshaft TDC Locking Pin

Remove crank pin blanking plug (L-H cyl. block), and check that the TDC hole in the crankshaft is aligned with the blanking plug hole. Screw in VS1242/01 Locking Pin to lock the crankshaft (fig. 3).

### VS4593/1E Hydraulic Tensioner Retaining Pin

Turn the pulley arm of the hydraulic tensioner **anti-clockwise** to depress the plunger until the hole in the plunger aligns with the hole in the body of the tensioner unit and insert VS4593/1E Pin to retain the plunger in compressed position (fig. 4).

**NOTE:** Tensioner Unit is oil-damped and can only be depressed slowly.



### VS4828 Camshaft Setting Plate

Fit VS4828 Camshaft Setting Plate onto the holes in the camshaft sprocket end plates to 'lock' the sprockets. Slacken the sprocket bolts (approx. 5 turns), and remove VS4828 Plate.

Pull the sprockets forward to release off their taper (fig. 5)

Release and remove the secondary tensioner pulley and timing belt.

**NOTE:** Mark direction of rotation on the timing belt.

### 4.2 Installing new timing belt

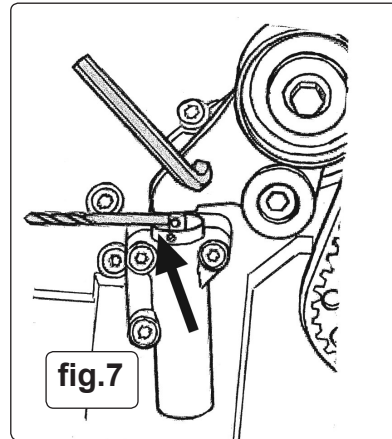
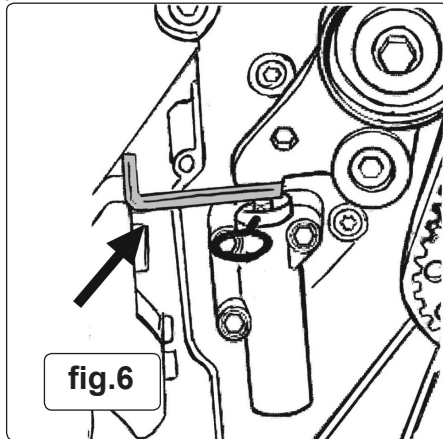
Re-fit secondary tensioner with bolt finger-tight, together with timing belt.

**NOTE:** It may be necessary to remove the R-H camshaft sprocket to fit the belt.

Replace the camshaft sprocket bolts, oil threads and mating surfaces, and screw to **finger-tight** so sprockets rotate easily but do not tilt.

Fit VS4828 Camshaft Setting Plate into holes in camshaft end plates, check that the larger holes face in towards each other.

Insert a 5mm Hex Key (with flats in contact) **between the pulley tensioner arm and the plunger** of the hydraulic tensioner unit (fig. 6). Fit VS4829 Tensioner Adjuster in to the two holes in the secondary tensioner pulley and apply an anti-clockwise torque of **4Nm** to tensioner pulley, and tighten pulley bolt.



Remove the Hex Key and turn the hydraulic tensioner pulley arm **anti-clockwise** until the VS4593/1E Retaining Pin can be removed. Turn pulley arm back **clockwise** until a 7mm drill bit can be inserted **between the hydraulic tensioner BODY and the tensioner pulley arm** (fig. 7).

Tighten the camshaft sprocket bolts and remove all tools.

To check timing position is correct, turn the crankshaft over two times and return the engine to TDC position.

Insert VS1242/01 Crank Pin and check the larger holes in the camshaft end plates face in towards each other.

Insert VS4528 Camshaft Setting Plate.

Check that the 5mm Hex Key can be easily inserted between the hydraulic tensioner **BODY** and the **tensioner pulley arm**.

#### Environmental Protection



Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable dispose of it according to local regulations.

**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 product.

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



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