

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. SAFETY INSTRUCTIONS

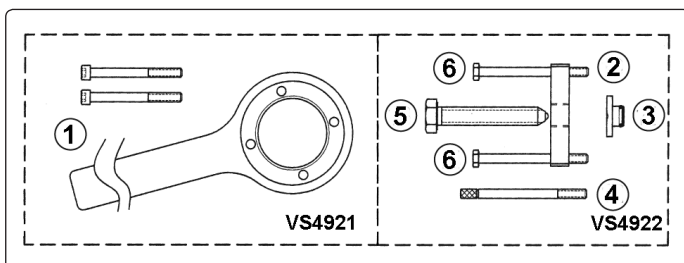
- WARNING!** Ensure Health and Safety, local authority and general workshop practice regulations are adhered to when using tools.
- DO NOT** use tools if damaged.
- Maintain tools in good and clean condition for best and safest performance.
- Ensure that a vehicle which has been jacked up is adequately 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.
- 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.
- 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. CONTENTS & APPLICATIONS



VS4985 Set contents/spares

Item	Part Number	Description
1	VS4921	Crankshaft Pulley Holding Tool
VS4922 Crankshaft Pulley Remover Set – items 2 - 6		
2	VS4922-1	Bridge Piece
3	VS4922-2	Thrust Plate
4	VS4922-3	Guide Pin
5	VS4922-4	Force Screw
6	VS4922-5	Securing Bolts (Pair)



Applications:

JAGUAR / LAND ROVER 3.2, 3.5, 4.0, 4.2 & 4.4 V8 Petrol engines in

JAGUAR

XJ S-Type XK
XF

LAND ROVER

New Range Rover (LM) Range Rover Sport (LS)
Discovery III (LA)

AJ26, AJ27, AJ28, AJ34 engines

3. INSTRUCTIONS

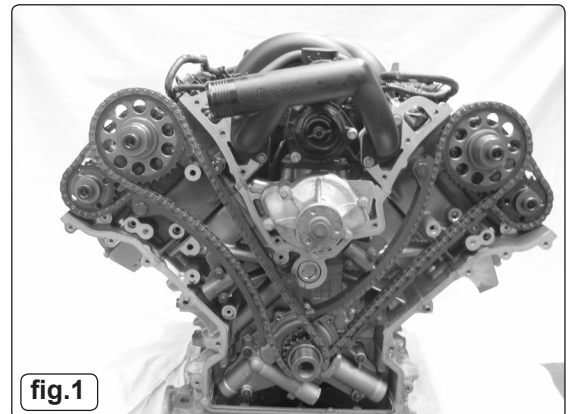


fig.1

This V8 petrol engine was first introduced by Jaguar in 1997 and is still in use today. Land Rover also started to use the later versions of the engine in 2005. There have been many changes, both in engine capacity and components over the years, but most of the basic procedures for checking and adjusting engine timing, dis-mantling and assembly of the front-end gears, timing chain, camshafts etc., applies across the engine range.

On most variants the pulley bolt has a very high torque specification and removal and installation of this pulley requires the Special Remover and Holding Tool in Set VS4985.

VS4985 Crankshaft Pulley Remover/Installer Tool Set

**Comprises: VS4921 Crankshaft Pulley Holding Tool
VS4922 Crankshaft Pulley Remover Set**

3.1 VS4985 Crankshaft Pulley Remover/Installer Tool Kit

The VS4985 Set comprises VS4921 Crankshaft Pulley Holding Tool and VS4922 Crankshaft Pulley Remover Set.

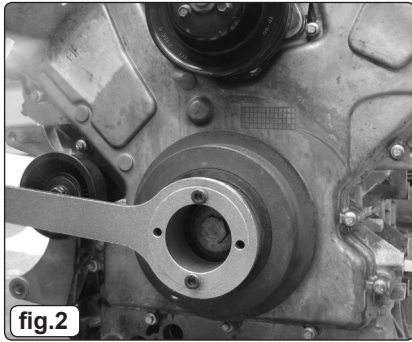
These tools must be used together when removing the crankshaft pulley.

The VS4922 Holding Tool is also used to counter-hold the crankshaft pulley during installation.

WARNING: Some crankshaft pulley bolts require a torque as high as 375Nm. making the tools in VS4895 Set an essential part of the procedures requiring removal/ installation of the crankshaft pulley.

Crankshaft pulley removal

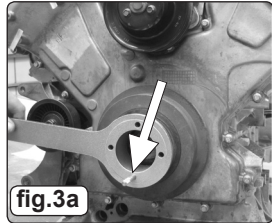
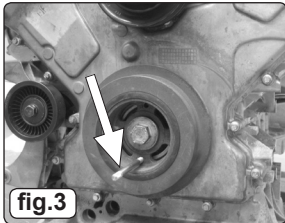
WARNING: The Flywheel Locking Pin **MUST NOT** be used to counter-hold flywheel/crankshaft for releasing or tightening the crankshaft pulley bolt as engine damage will result.



3.1.1 VS4921 Crankshaft Pulley Holding Tool – releasing and tightening pulley bolt.

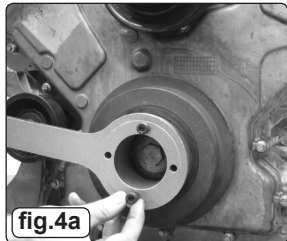
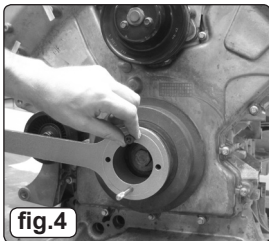
The VS4921 Holding Tool is attached to the pulley using the shorter securing bolts supplied in the Set. The bolts pass through the Holding Tool and are screwed in to the threaded holes in the pulley.

IMPORTANT: The threaded holes in the crankshaft pulley, which accept the securing bolts, can be corroded or blocked. Always check these threads and ensure they are clean and clear to accept the securing bolts.



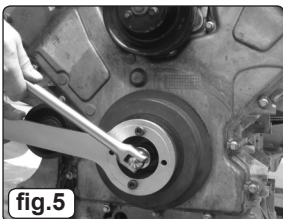
NOTE: It can be difficult to align the threaded holes in the pulley when attaching the Holding Tool, therefore utilise the Special Guide Pin from the VS4922 Remover Set (fig.3).

3.1.2 First, screw the Guide Pin into one of the threaded holes in the pulley and then locate one of the holes in VS4921 Holding Tool on to the Guide Pin and slide the Holding Tool in place in to the recess of the pulley (fig.3a).



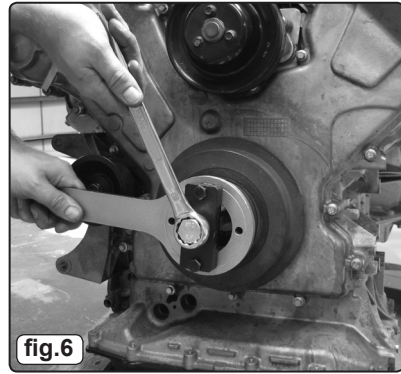
3.1.3 Insert a bolt in to the opposite hole in the Holding Tool and screw it into the pulley (fig.4). Remove the Guide Pin and replace it with the second bolt, screwing in to the pulley (fig.4a).

3.1.4 Tighten both bolts, **firmly**, to secure the Holding Tool to the crankshaft pulley.



3.1.5 Using a breaker bar and socket, release the bolt of the crankshaft pulley whilst counter-holding with the VS4921 Holding Tool (fig.5).

3.1.6 Undo the bolts attaching the VS4921 and remove the Holding Tool (fig.5a).

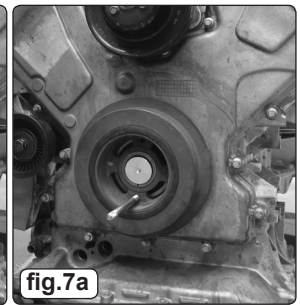
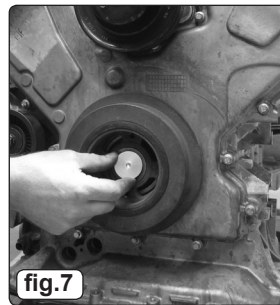


3.2 VS4922 Pulley Remover Set – Removal of crankshaft pulley

NOTE: To remove the crankshaft pulley, the Holding Tool and the Pulley Remover are assembled together onto the pulley.

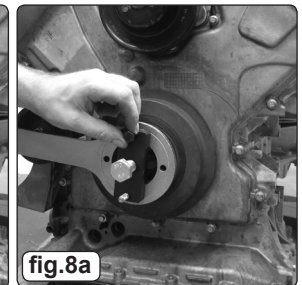
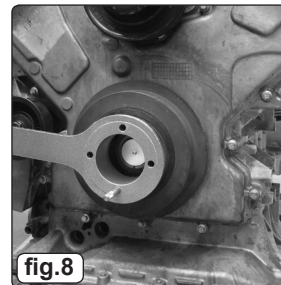
The VS4921 Holding Tool is used to prevent the crankshaft pulley from rotating whilst the force screw of the Pulley Remover is screwed in to remove the crankshaft pulley (fig.6).

3.2.1 Pre-assemble the Bridge Piece, Force Screw and Securing Bolts (the longer bolts in VS4895 Set) to make up the VS4922 Pulley Remover.



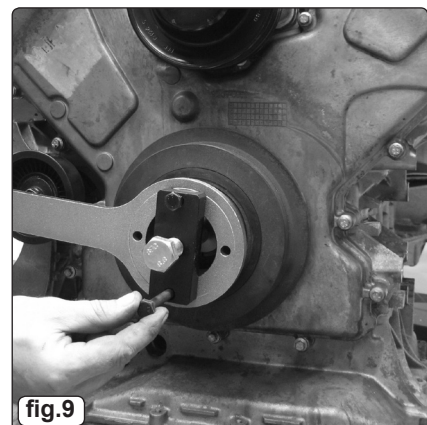
IMPORTANT: Insert the Thrust Plate into the centre hole of the pulley (fig.7).

3.2.2 Screw the Guide Pin in to one of the threaded holes in the pulley (fig.7a).



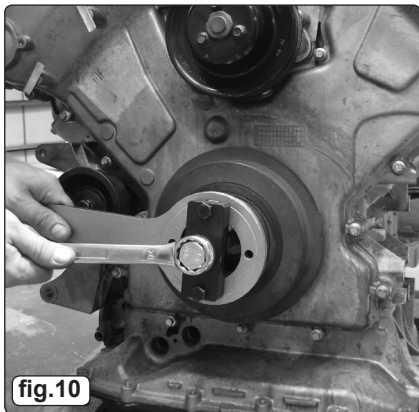
3.2.3 Slide the VS4921 Holding Tool over the Guide Pin and into the recess to the pulley (fig.8).

3.2.4 Attach the VS4922 Remover on to the Holding Tool, and to the crankshaft pulley, by inserting one of the securing bolt through the opposite hole to the Guide Pin (in the VS4921 Holding Tool), and into the crankshaft pulley threaded hole (fig.8a).

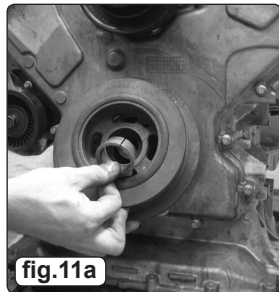


3.2.5 Remove the Guide Pin and replace it with the second securing bolt, passing it through Pulley Remover and the Holding Tool and into the threaded hole of the pulley (fig.9).

3.2.6 Tighten both bolts, **firmly**, to secure the Pulley Remover and Holding Tool assembly to the crankshaft pulley.



3.2.7 Prevent the crankshaft pulley from rotating by counter-holding with the VS4921 Tool. Screw in the Force Screw of the VS4922 Remover to extract the pulley off the crankshaft (fig.10).



3.2.8 Remove the Thrust Plate (fig.11), the crankshaft pulley and the split ring (if fitted) (fig.11a).

3.3 Installing crankshaft pulley

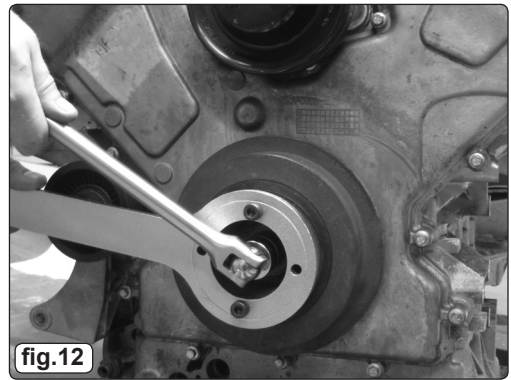
IMPORTANT: The thread in the end of the crankshaft must be cleaned out before installing a new pulley securing bolt. All mating surfaces should be cleaned.

All except very early pulleys utilise a split locking ring.

3.3.1 **If the pulley is a type without a locking ring** - apply Loctite 648 to the bore of the crankshaft pulley. **DO NOT** apply to the faces or to the crankshaft.

WARNING: The pulley must be fitted and the securing bolt fully tightened, within 7 minutes of the Loctite being applied.

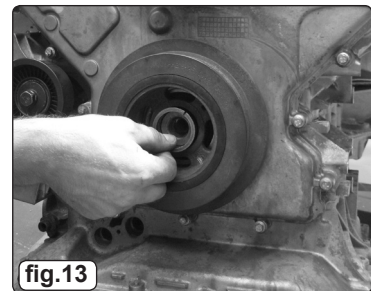
3.3.2 Fit the pulley to the crankshaft and wipe off any excess Loctite.



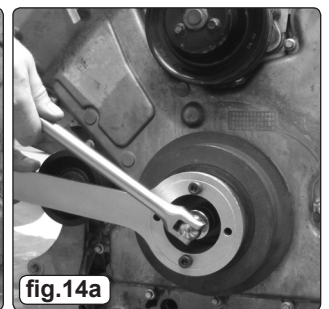
3.3.3 Screw in a new pulley securing bolt to finger-tight only.

3.3.4 Fit VS4921 Holding Tool to the crankshaft pulley and use it to counter-hold whilst tightening the securing bolt to the specified torque for the engine variant being worked on (fig.12).

3.3.5 **If the pulley utilises a split locking ring** – fit a new o-ring seal to the pulley and apply petroleum jelly to the bore and O-ring.



3.3.6 Fit the pulley on to the crankshaft and fit the split locking ring inside the bore of the pulley (fig.13).



3.3.7 Screw in a new pulley securing bolt to finger-tight only (fig.14).

3.3.8 Fit VS4921 Holding Tool to the crankshaft pulley and use it to counter-hold whilst tightening the securing bolt to the specified torque for the engine variant being worked on (fig.14a).

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.

SEALEY Professional
TOOLS
AUTO SERVICE LINE

Sole U.K. Distributor
Sealey Group
Bury St. Edmunds
Suffolk.



01284 757500

01284 703534



www.sealey.co.uk



sales@sealey.co.uk