

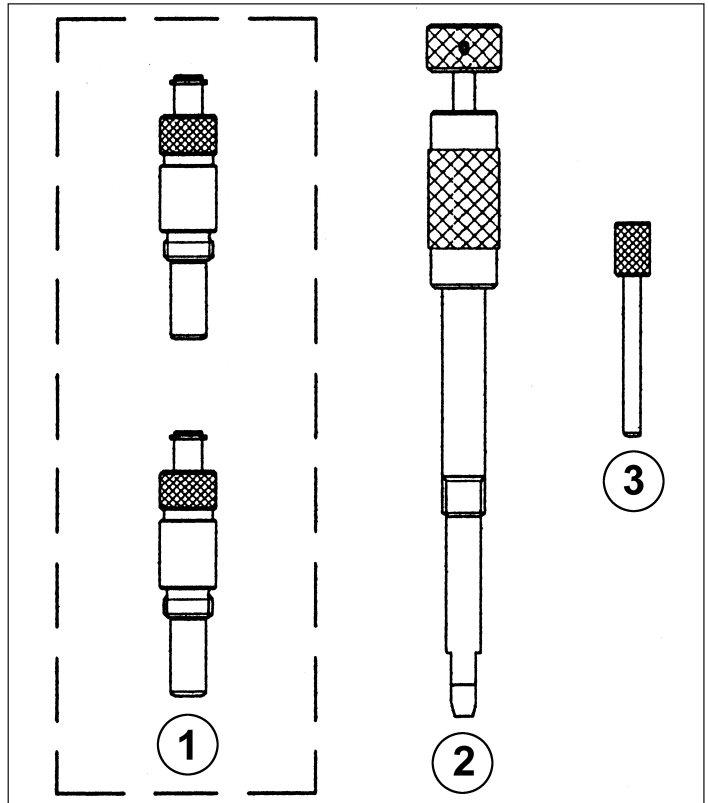
Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.

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.

Diesel Engine Setting / Locking Tool Set - FIAT & IVECO 2.3JTD Diesel engine



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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.
- 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.

WARNING: The warnings, cautions and instructions discussed 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.

2. INTRODUCTION & APPLICATIONS

Suitable for setting and locking Fiat 2.3JTD Diesel engine (belt driven timing) and also Fiat 3.0JTD Diesel engine (chain driven timing). Kit comprises of camshaft setting pins, crankshaft locking pin and sensor locking pin. Supplied with warning tags.

F1AE0481C **FIAT** **IVECO**
 Ducato **Daily**

NOTE:
 These timing tools also cover 3.0JTD engines – F1CE0481D

4. INSTRUCTIONS

The Fiat 2.3JTD common rail diesel engine has twin camshafts connected at the rear by a chain, within the cylinder head. The timing belt connects the crankshaft to the inlet camshaft.

The Fiat 3.0JTD engine, although CHAIN DRIVE, utilises the same 'locking tools' as the 2.3JTD for engine timing applications

4.1 Timing Belt replacement

It will be necessary to drain the cooling system, remove the R-H front wheel, engine undershield as well as the auxiliary belt and tensioner.

Remove the crankshaft pulley and timing belt covers. In addition remove the PAS reservoir/bracket and inter-cooler-manifold hoses. On later models the R-H headlight, screen washer reservoir, coolant expansion tank and R-H engine mounting will also need to be removed.

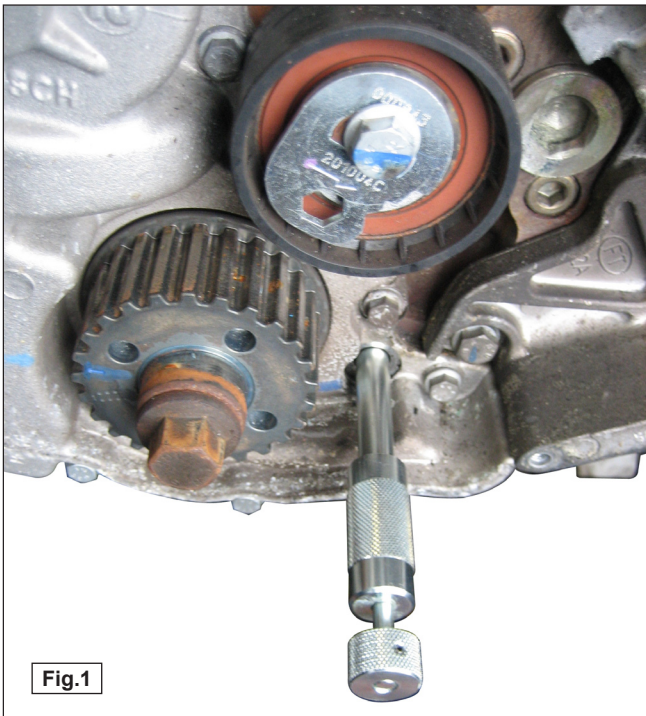


Fig.1

4.1.1 VS4927 Crankshaft Locking Pin

Remove the blanking plug, for the VS4927 Crankshaft Locking Pin, situated in the front crankcase near the crankshaft gear. The Locking Pin is screwed into the crankcase and its plunger locates into the gear situated behind the front casing. This gear has holes for engine speed pick-up. Slowly turn the crankshaft to TDC No.1 cylinder pushing the plunger of the Pin into the 'timing hole' in the gear. (Fig.1).

IMPORTANT: The 'flats' on the end of the Crankshaft Pin plunger must be in a VERTICAL plane in order to enter the 'timing hole' in the gear. The vertical plane is confirmed by the roll pin in the knob of the plunger being positioned on top (uppermost).

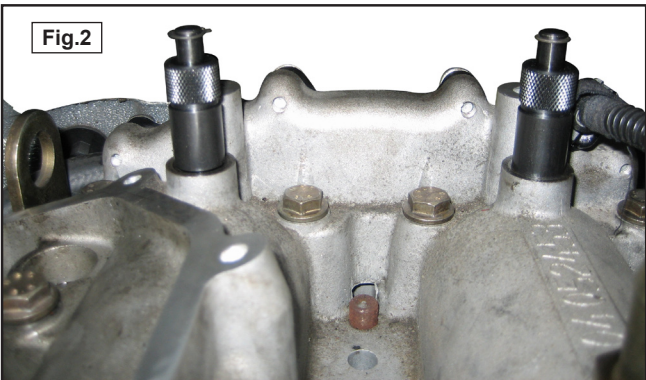


Fig.2

4.1.2 VS4926 Camshaft Setting Pins (Pair)

The VS4926 Camshaft Setting Pins screw into the camshaft housing and locate into holes in the camshafts. (Fig.2). Remove the glow plug control module and bracket. Remove the studs on the camshaft housing and visually check that the holes in the camshafts are in position. Screw in both Camshaft Setting Pins and ensure that the plungers are fully inserted into the holes in the camshaft. Release the belt tensioner bolt and allow the tensioner pulley to move away from the belt.

4.2 Fitting new timing belt

With the VS4927 Crankshaft Locking Pin and VS4926 Camshaft Setting Pins installed, counter-hold the camshaft sprocket with a suitable Holding Tool and slacken the sprocket bolt.

WARNING: DO NOT use the Camshaft Setting Pins as a means of counter-holding the camshaft whilst releasing or tightening the sprocket bolt. Using a suitable remover pull the camshaft sprocket off its taper so it is 'free to turn' but does not tilt.

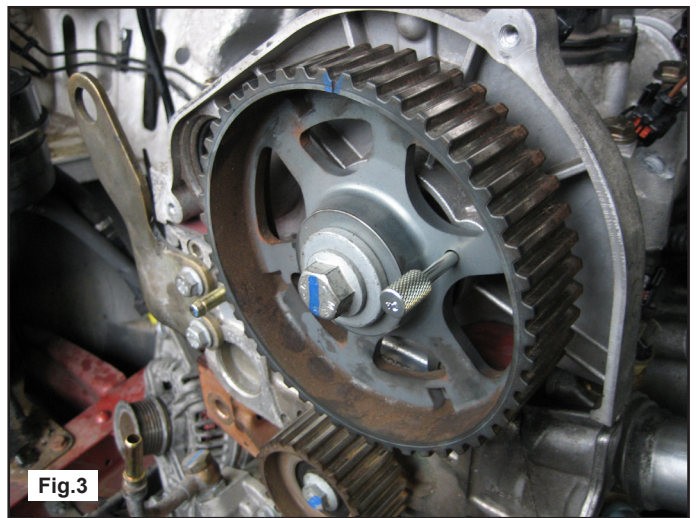


Fig.3

4.2.1 VS125/C4 Sensor Position Locking Pin

Insert VS125/C4 Locking Pin through the camshaft sprocket to fix the sprocket/timing sensor slots in correct position (Pin enters at approx. 3-0-clock position). (Fig.3).

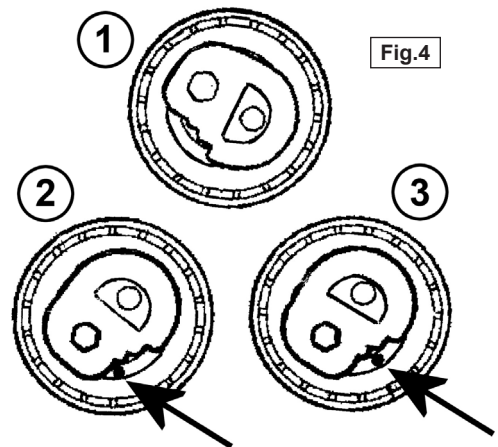


Fig.4

4.3 Belt Tensioner Positions (Fig.4)

Turn the tensioner pulley to **Position 1**, to facilitate fitting the new belt. Fit the belt ensuring it is taut on the non-tensioned side. Remove the VS125/C4 Locking Pin. Counter-hold the camshaft sprocket with a suitable Holding Tool and tighten the sprocket bolt. Turn the tensioner pulley **anti-clockwise** to achieve **Position 2**, and tighten the tensioner bolt. Remove the Crankshaft and Camshaft Locking Pins and rotate the crankshaft 8 revolutions in normal direction of engine rotation. Slacken the tensioner bolt and carefully move the tensioner to **Position 3**, and tighten tensioner bolt. Rotate the crankshaft 2 more times returning to TDC. Insert the VS4927 Crankshaft Locking Pin, remembering to keep the plunger 'flats' vertical, and check that the Camshaft Setting Pins can be inserted correctly into the camshafts. Check that the belt tensioner has remained correctly in Position 3.

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.

INFORMATION: For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.



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