



TIMING TOOL KIT - FOR VAG 1.0 - BELT DRIVE

MODEL NO: VS5140.V3

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 & 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

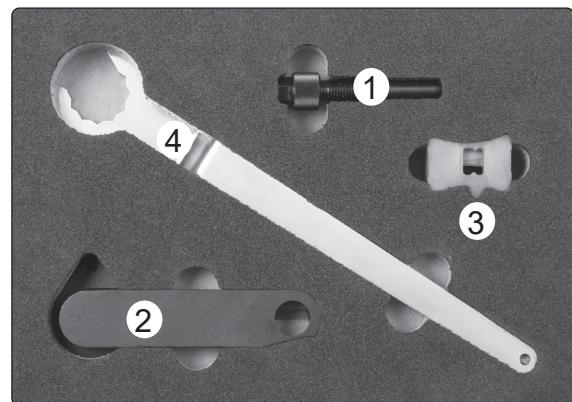
- WARNING!** Wear approved eye protection. Wear appropriate Personal Protective Equipment. A full range of Personal Protective Equipment is available from your Sealey stockist.
- WARNING!** Ensure that Health & Safety, Local Authority Regulations and general workshop practice Regulations are adhered to when using tools.
 - DO NOT** use tools if damaged.
 - Maintain tools to ensure that they are in an adequate condition for safe use and optimum performance.
 - Ensure that a vehicle that has been raised by a jack is adequately supported. Use axle stands.
 - DO NOT** attempt to start or move a vehicle whilst in gear and with timing devices fitted.
 - Wear suitable clothing to avoid snagging. **DO NOT** wear jewellery. Tie back long hair.
 - Account for all tools, parts and components being used. **DO NOT** leave these in or near the engine. Return tools to suitable storage after use.
 - When not in use, store in a safe, dry childproof place.
 - Keep children and unauthorised persons away from the work area.
- 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 correct procedure and data.**
- WARNING!** The warnings, cautions and instructions in this manual cannot cover all possible conditions and situations. The Operator / user must apply caution and common sense (good practical sense).
 - When timing an engine, always prevent the engine from being turned over. Use a notice and / or inhibit the engine.
 - WARNING!** Incorrect or out of phase camshaft timing can result in contact between the valve head and the piston crown. This will cause damage to the engine.

2. INTRODUCTION

Covers the range of VAG 1.0 petrol engines. Includes the tools required to hold the camshaft sprockets and to adjust the timing belt tensioner.

3. CONTENTS

Item	Part No.	Description	OE Tools Ref.
1	VS5140.01	Crankshaft Locking Pin	T10340
2	VS5140.02	Camshaft locking plate	T10477
3	VS5140.03	Camshaft sprocket locking tool	T10476
4	VS5140.04	Tensioner adjusting spanner	T10499
Associated Tools			
	VS783	Camshaft holding tool	



4. APPLICATIONS

Models:

Audi: A1 (15-18), A1 Sportback (15-18), A3 (16-18), A3 Sportback (16-18), A3 Saloon (16-18), Q2 (16-18).

Seat: Arona (17-19), Ateca (16-19), Ibiza (12-20), Mii (12-20), Toledo (17-19).

Skoda: Citigo (11-19), Fabia III (14-21), Octavia III (16-18).

Volkswagen: Caddy (15-18), Caddy/Caddy Maxi (15-21), Golf VII (15-18), Golf SV/Sportvan (15-17), Polo (15-23), Up! (11-20), Load Up! (16-20)

Engines 1.0: CHYA, CHYB, CPGA, CWVA, CWVB

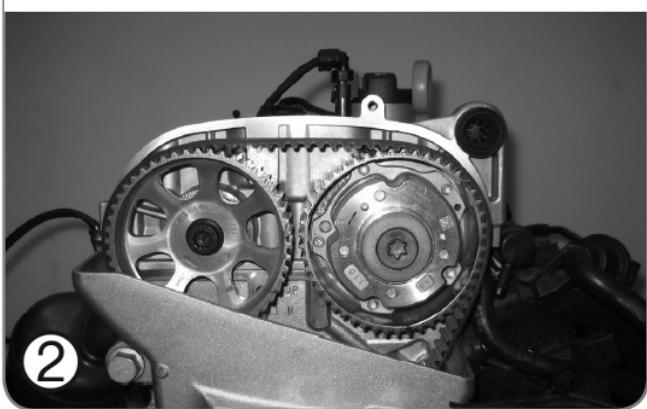
5. INSTRUCTIONS

5.1. ENGINE TIMING CHECK

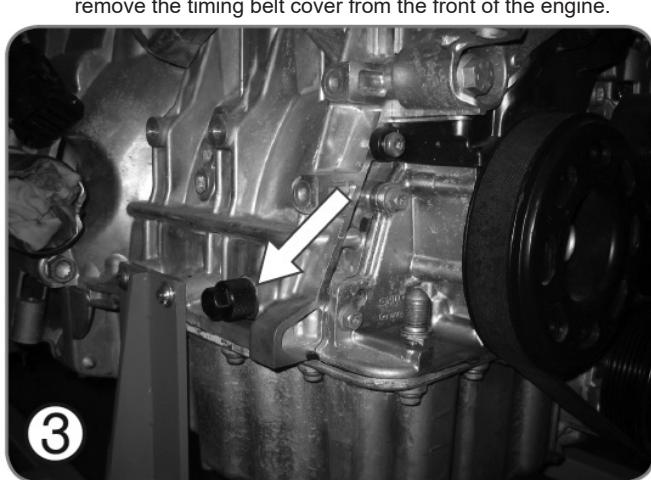
5.1.1. Remove the air filter housing, the fuel line and breather pipe.



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3

5.1.3. Remove the crankshaft blanking plug from the engine.
NOTE: With the vehicle raised, the blanking plug may be hidden by the driveshaft.

5.1.4. Fit VS5140.01, Crankshaft Locking Pin, ensuring that it is located fully in the engine.

5.1.5. If VS5140.01 Crankshaft Locking Pin cannot be fully inserted, remove it from the engine. Rotate the crankshaft 90° in the normal direction of engine rotation. Refit VS5140.01 Crankshaft Locking Pin, ensuring that it is located fully in the engine.

5.1.6. Tighten VS5140.01 Crankshaft Locking Pin to 30Nm.

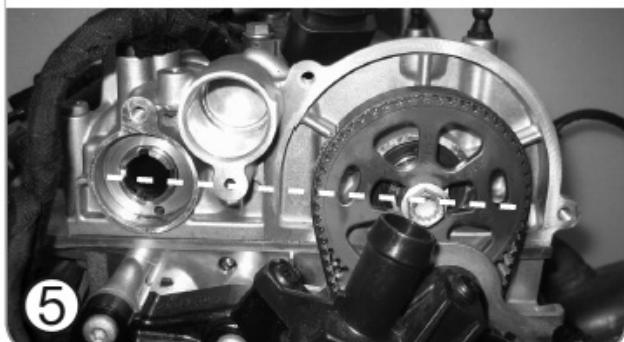
5.1.7. Rotate the crankshaft in the normal direction of engine rotation until the crankshaft contacts VS5140.01 Crankshaft Locking Pin.



4A

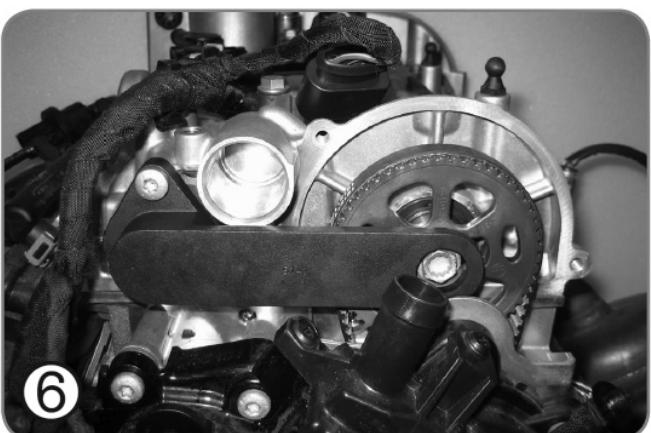


4B



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5.1.8. Check that the timing marks on the camshaft sprockets are aligned with the timing marks on the engine and that the timing slots in the rear of the camshafts are aligned and above the centerline.



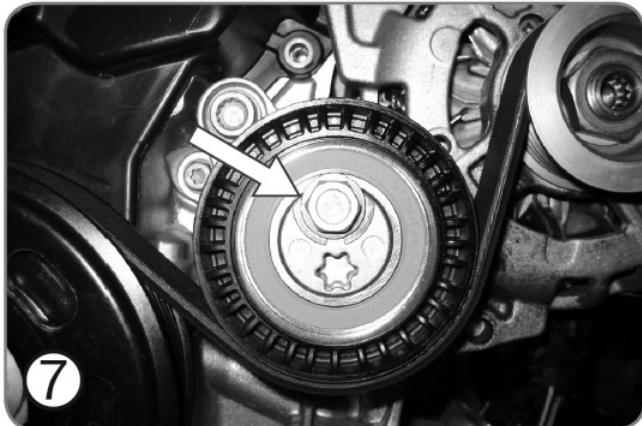
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5.1.9. Fit VS5140.02 Camshaft Setting Plate into the timing slots at the rear of the camshafts.

5.1.10. If VS5140.01 Crankshaft Locking Pin and VS5140.02 Camshaft Setting Plate cannot be fitted, the valve timing will require adjustment.

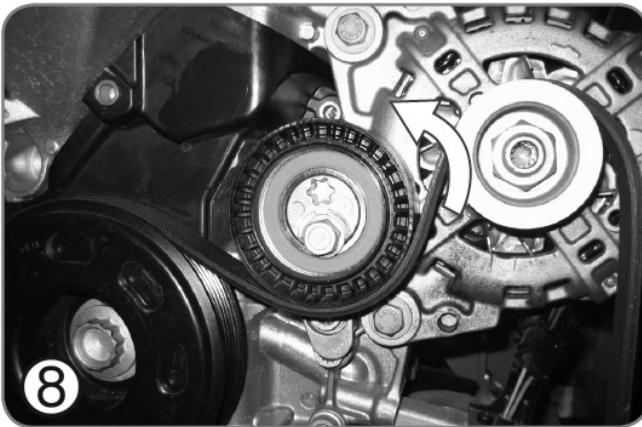
5.2. ENGINE TIMING - ADJUSTMENT

5.2.1. Remove all timing tools from engine.



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5.2.2. Remove the centre cap from the auxiliary belt tensioner pulley and release the tensioner retaining bolt.



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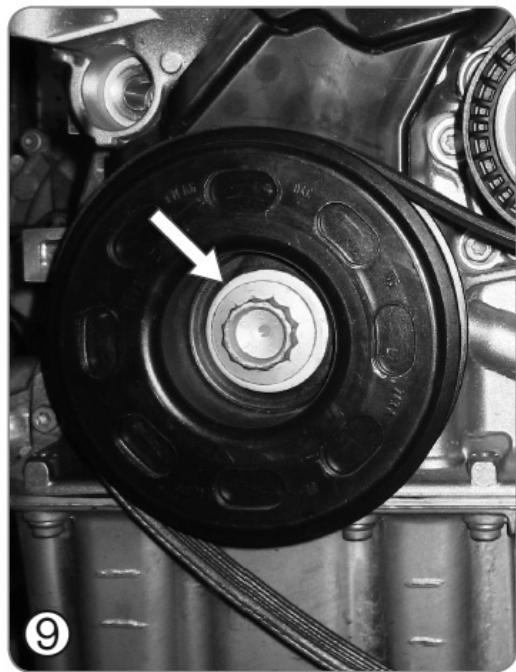
5.2.3. Rotate the tensioner in an anti-clockwise direction to release tension from the belt, then remove the auxiliary drive belt.

NOTE: If the auxiliary drive belt is to be refitted, mark the direction of rotation on the belt before removal.

5.2.4. Vehicles Without Air Conditioning

Vehicles without air conditioning do not have an auxiliary belt tensioner fitted. These vehicles utilise a stretch belt, running on the crankshaft pulley and alternator pulley.

When removing the auxiliary belt on these engines, the old belt should be cut off and discarded.



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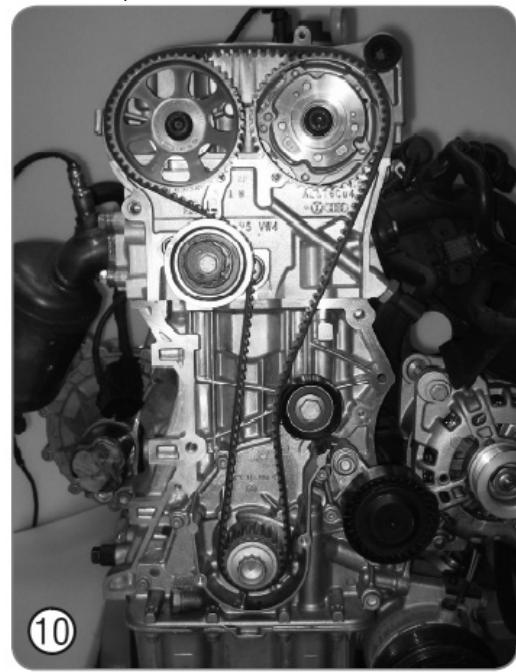
5.2.5. Using a suitable counterhold tool, release the central bolt of the crankshaft pulley.

▲ **IMPORTANT!** Engine setting/locking tools **MUST NOT** be used to counterhold the crankshaft when releasing or tightening the crankshaft pulley bolt.

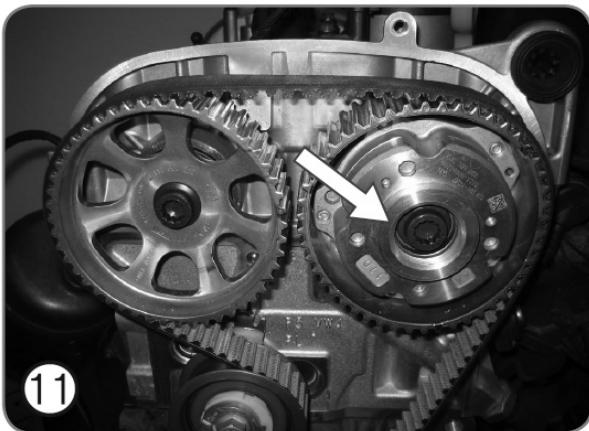
5.2.6. Remove the crankshaft pulley and discard the used crankshaft pulley central bolt.

5.2.7. Loosely fit a new crankshaft pulley central bolt to retain the sprocket on the crankshaft.

□ **WARNING!** **DO NOT** tighten the crankshaft pulley bolt with the pulley removed. Tightening the crankshaft pulley bolt without the pulley fitted could damage the profile face of the crankshaft sprocket.



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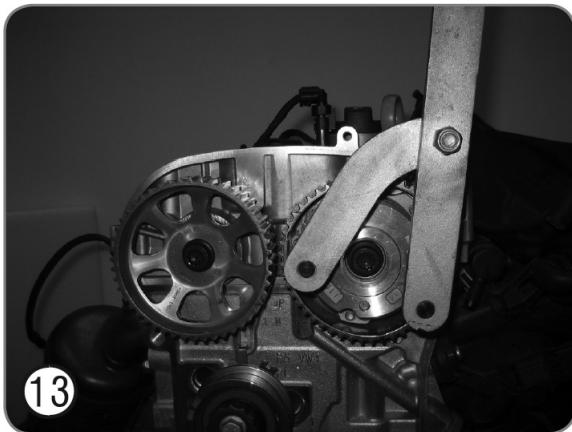
5.2.9. Using a suitable counter hold tool, such as VS783 Camshaft Holding Tool, remove the blanking plug from the VVT unit on the inlet camshaft sprocket.

5.2.10. Using a suitable counter hold tool, such as VS783 Camshaft Holding Tool, loosen the central bolt of the inlet and exhaust camshaft sprockets. **DO NOT** remove the camshaft sprocket central bolts at this stage.

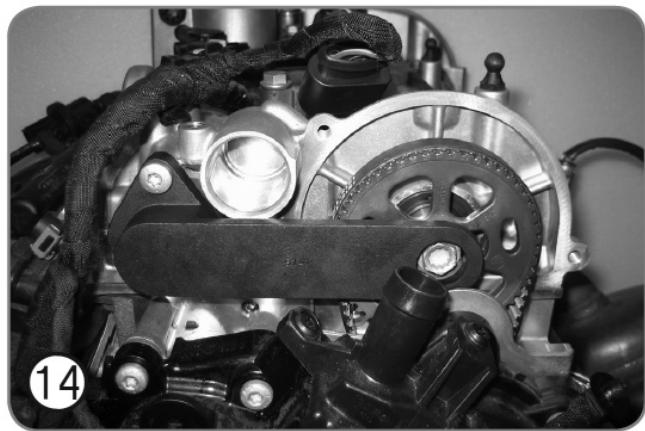
NOTE: The camshaft sprockets must be free to rotate on camshafts during the engine timing adjustment procedure.



5.2.11. Loosen the timing belt tensioner retaining bolt. Using VS5140.04 Tensioner Adjuster, rotate the tensioner in an anti-clockwise direction to release tension from the belt.

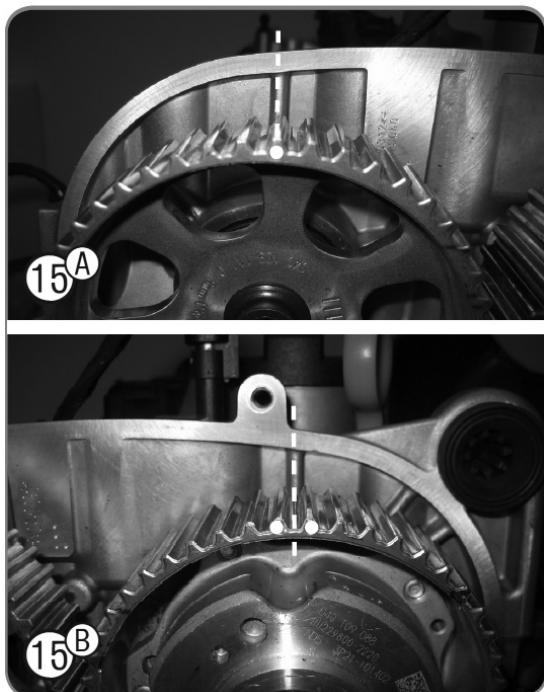


5.2.15. Using a suitable tool, such as VS783 Camshaft Holding Tool rotate the inlet camshaft until the timing slot in the rear of the camshaft is horizontal and above the centerline of the camshaft. Repeat this procedure for the exhaust camshaft.



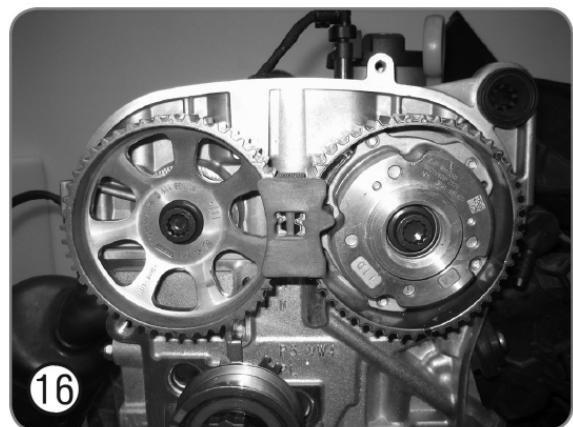
5.2.16. Fit VS5140.02 Camshaft Setting Plate into the timing slots on the rear of the camshafts.

▲ **IMPORTANT! DO NOT** use excessive force when fitting VS5140.02 Camshaft Setting Plate. Small adjustments to the camshaft position may be required when fitting the tool.

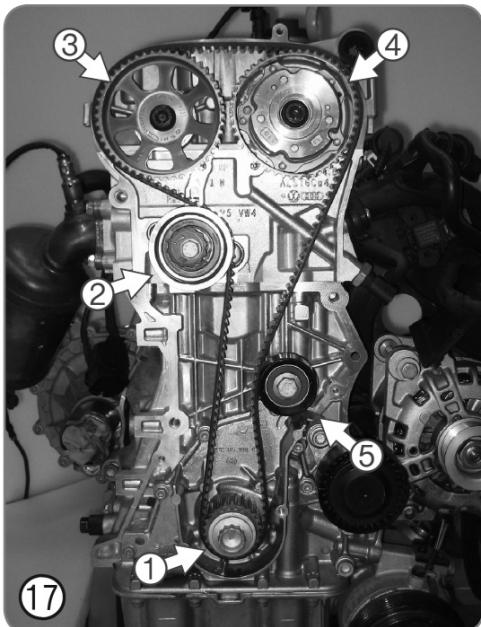


5.2.17. Loosen the central bolts of the inlet and exhaust camshaft sprockets so that the sprockets are free to turn on the camshafts.

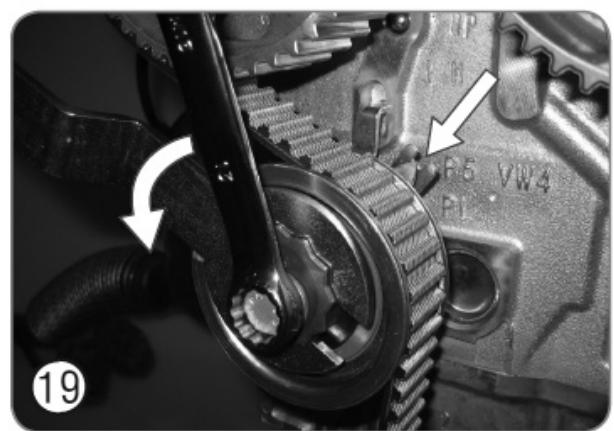
5.2.18. Align the timing marks of the inlet and exhaust camshaft sprockets with the timing marks on the engine.



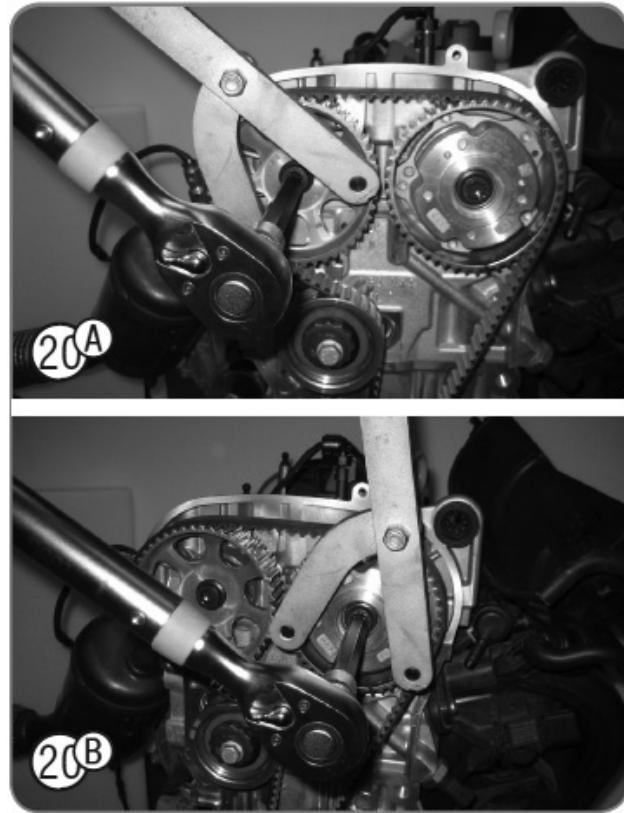
5.2.19. Fit VS5140.03 Camshaft Sprocket Locking Tool onto the front of the camshaft sprockets. Ensure that the timing arrows of VS5140.03 Camshaft Sprocket Locking Tool are aligned with the timing marks on the camshaft sprockets.



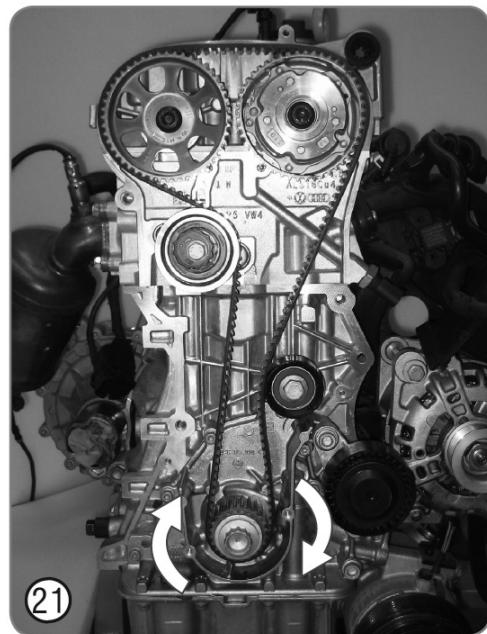
5.2.20. Ensure that the crankshaft is set in the correct position, contacting VS5140.01 Crankshaft Locking Pin.
 5.2.21. Install the timing belt on the crankshaft sprocket, tensioner pulley and exhaust camshaft sprocket.
 5.2.22. Install the timing belt on the inlet camshaft sprocket and finally on to the idler pulley.
 5.2.23. Remove VS5140.03 Camshaft Sprocket Locking Tool.



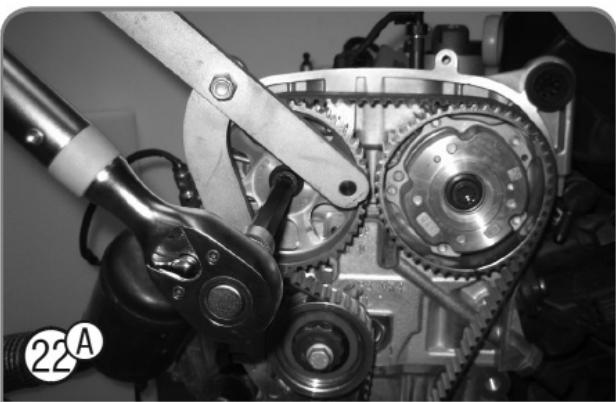
5.2.25. Rotate the mandrel in an anti-clockwise direction until the pointer is aligned with the indicator groove.
 5.2.26. Maintaining the position of the tensioner, tighten the tensioner locking bolt to 25Nm.



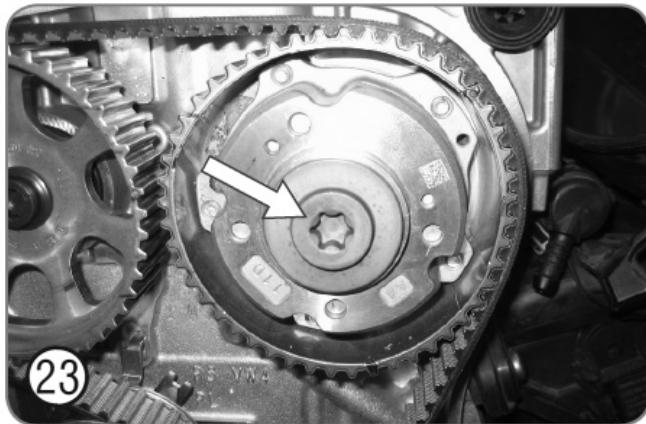
5.2.27. Using a suitable counter hold tool, such as VS783 Camshaft Holding Tool, tighten the central bolts of the camshaft sprockets to 50Nm.



5.2.28. Refit the crankshaft pulley, tightening the crankshaft central bolt hand tight only at this stage, in order to retain the crankshaft pulley while rotating the crankshaft.
 5.2.29. Remove VS5140.01 Crankshaft Locking Pin and VS5140.02 Camshaft Setting Plate.
 5.2.30. Rotate the engine two full turns in the normal direction of engine rotation.
 5.2.31. Refit VS5140.01 Crankshaft Locking Pin and VS5140.02 Camshaft Setting Plate. **DO NOT** use excessive force when fitting VS5140.02 Camshaft Setting Plate.
NOTE: If it is not possible to fit all timing tools correctly, the engine timing adjustment procedure must be repeated.
 5.2.32. Remove VS5140.02 Camshaft Setting Plate.



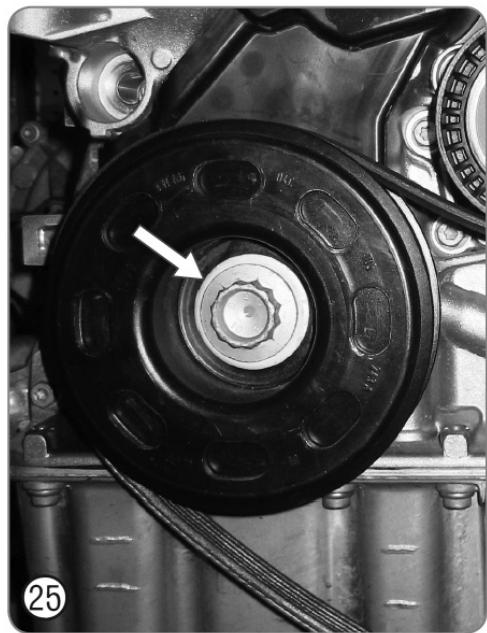
5.2.33. Using a suitable counter hold tool, such as VS783 Camshaft Holding Tool, tighten the central bolts of the camshaft sprockets to 50Nm+90°.



5.2.34. Refit the blanking plug from the VVT unit on the Inlet camshaft sprocket. Using a suitable counter hold tool, such as VS783 Camshaft Holding Tool, tighten blanking plug to 20Nm.

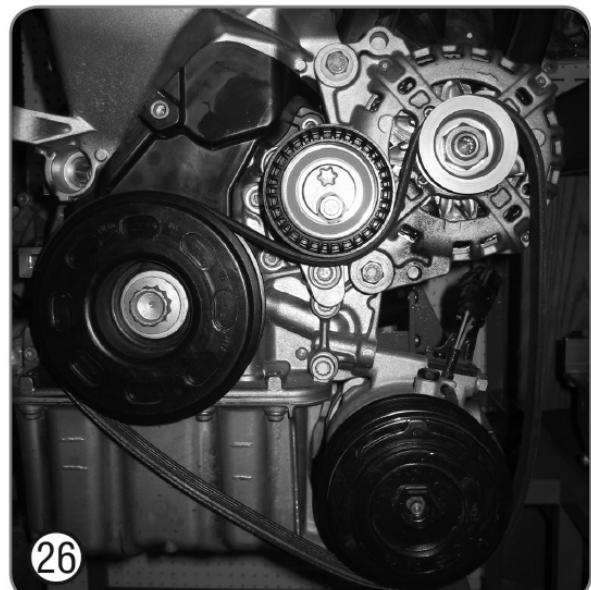


5.2.35. Remove VS5140.01 Crankshaft Locking Pin and refit crankshaft blanking plug, tighten to 30Nm. Remove the crankshaft pulley. Refit lower timing belt cover, the crankshaft pulley and the crankshaft pulley central bolt.



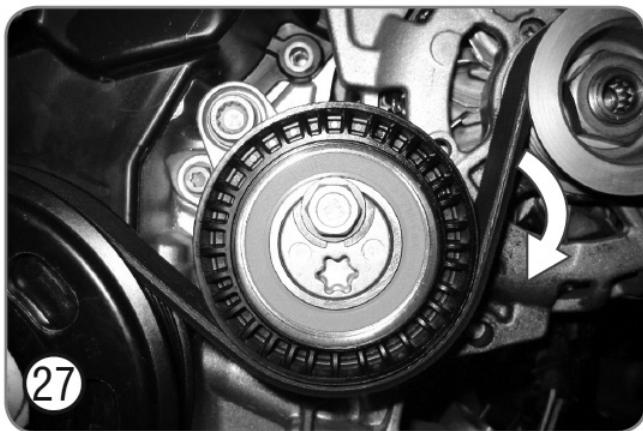
5.2.36. Using a suitable counterhold tool, tighten the central bolt of the crankshaft pulley to 150Nm+180°.

▲ **IMPORTANT!** Engine setting/locking tools **MUST NOT** be used to counterhold the crankshaft when releasing or tightening the crankshaft pulley bolt.



5.2.37. Refit the engine mount and the alternator.

5.2.38. Refit the auxiliary belt, ensuring that the auxiliary belt is correctly located on the tensioner pulley and in the grooves of the crankshaft alternator and air conditioning compressor pulleys.



5.2.39. Rotate the auxiliary belt tensioner in a clockwise direction until the Torx drive of the tensioner is positioned at approximately 6 o'clock relative to the locking bolt. Maintaining the position of the tensioner, tighten the tensioner locking bolt to 23Nm. Refit the tensioner centre cap.

5.2.40. Vehicles Without Air Conditioning

A stretch belt fitting tool should be used to ensure correct fitment of auxiliary belts on engines without air conditioning. A suitable tool is included when purchasing an OE belt, VAG reference: 03L998037C.

5.2.41. Refit the camshaft covers to the rear of the engine and the timing belt cover to the front of the engine. Refit the air filter housing, the fuel line and breather pipe.



ENVIRONMENT 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 and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids 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. Please note that other versions of this product are available. If you require documentation for alternative versions, please email or call our technical team on technical@sealey.co.uk or 01284 757505.

Important: No Liability is accepted for incorrect use of this product.

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



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Jack Sealey Ltd t/a Sealey Group, Kempson Way, Suffolk Business Park, Bury St Edmunds, Suffolk, IP32 7AR UK
Jack Sealey (EU) Ltd t/a Sealey Group, Farney Street, Carrickmacross, Co. Monaghan, A81 PK68 Ireland
Tel: 01284 757500 • **Email:** sales@sealey.co.uk • **Web:** www.sealey.co.uk