



TIMING TOOL FOR MERCEDES 1.6D/2.0D - CHAIN DRIVE

MODEL NO: **VSE4820**

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
instructions



Wear eye
protection



Wear protective
gloves



Wear safety
footwear



Wear protective
clothing

1. SAFETY

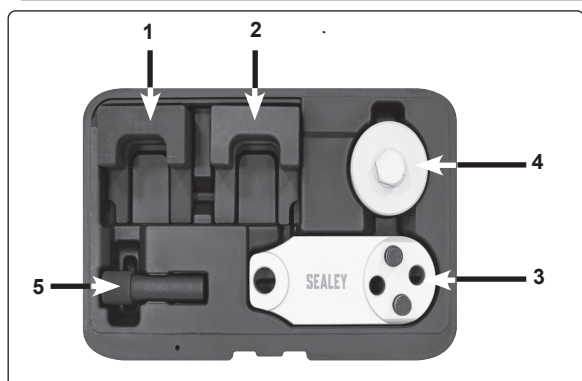
- ☐ **WARNING!** Wear approved eye protection. Wear appropriate Personal Protective Equipment. A full range of Personal Protective Equipment is available from your Sealey stockist.
- ☐ **WARNING!** Ensure that Health & Safety, Local Authority Regulations and general workshop practice Regulations are 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

Contains tools vital for setting and locking the engine. Suitable for use with Mercedes 1.6D/2.0D. Suitable for use with Chain Drive engines. Supplied in a storage case with instructions and a warning tag.

3. CONTENTS

Item	Part number	Description	OEM Number	Associated Tools
1	VSE4820-01L	Camshaft Alignment Tool (Left Side)	589.014.000	VSE4801 VSE4802
2	VSE4820-01R	Camshaft Alignment Tool (Right Side)	589.014.000	
3	VSE4820-02	Crankshaft Alignment Tool	589.002.100	
4	VSE4820-03	Crankshaft Turning Tool	589.004.000	
5	VSE4820-05	Crankshaft Alignment Tool Pin	589.002.100	



4. APPLICATIONS

4.1. MODELS: MERCEDES:

A180D (20-24), A200D (19-24), A220D (19-24), B180D (20-24), B200D (20-24), B220D (19-24), C200D (18-21), C200D Cabriolet (18-24), C200D Coupe (18-20), C220D (18-21), C220D Cabriolet (18-24), C220 Coupe (18-24), C300D (18-24), C300D Cabriolet (18-24), C300D Coupe (18-24), CLA 200D (19-23), CLA 200D Coupe (19-23), CLA 200D Shooting Break (19-23), CLA 200D Shooting Break (19-23), CLS220D (19-24), CLS300D (18-21), E200D (16-24), E220D (16-24), E220D Cabriolet (17-24), E220D Coupe (17-24), E200D (16-20), E300D (18-24), E300D Cabriolet (18-21), E300D Coupe (18-21), GLB 180D (19-24), GLB 200D (19-24), GLB 220D (19-24), GLC200D (19-22), GLC220D (19-22), GLC300D (19-22), GLC200D Shooting Break (19-22), GLC200D Coupe (19-22), GLC220D Coupe (19-24), GLE300D (19-21), GLE350D (19-24), Marco Polo 200CDi (19-24), Marco Polo 220CDi (20-24), Marco Polo 300CDi (20-24), Sprinter 211 (20-24), Sprinter 215 (20-24), Sprinter 311 (20-24), Sprinter 315 (20-24), Sprinter 317 (20-24), Sprinter 319 (20-24), Sprinter 417 (20-24), Sprinter 419 (20-24), Sprinter 511 (20-24), Sprinter 519 (20-24), V220D (19-24), V250D (19-24), V300D (19-20), Vito 114CDi (19-24), Vito 116CDi (19-24), Vito 119CDi (19-24)

4.2. ENGINE CODES: 1.6D - 654.916 , 2.0D - 654.920

4.3. OEM TOOLS: 589.004.000 , 589.002.100 , 589.004.000

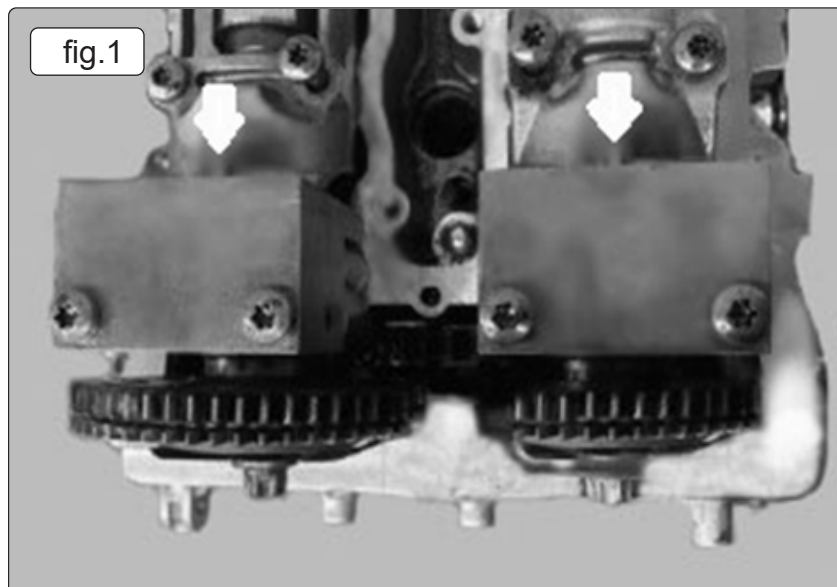
5. INSTRUCTIONS

5.1. ADJUSTING/SETTING VALVE TIMING

5.1.1. Timing chain can be changed with minimal dismantling of the engine by using the Sealey VSE4802 Timing Tool Kit. Using this kit, the new chain can be linked to the old chain, passed round the sprockets and then joined. The timing chain is located at rear of engine.

5.1.2. Ensure engine is positioned at TDC on cylinder No.1

5.1.3. Ensure timing mark on each camshaft is aligned with mark on camshaft bearing cap (Fig.1)



5.1.4. Fit the camshaft holding tools as shown in fig.1 ensuring the camshaft holding tools about the cylinder head.

5.1.5. If camshaft holding tool cannot be correctly fitted, slacken the securing bolt of camshaft gear slightly so minor adjustments of the camshafts is possible. The exhaust camshaft bolt is left hand thread.

5.1.6. Remove the crankshaft pulley, fit the crankshaft alignment tool and ensure the pin is located correctly. (Fig.2)

5.1.7. Fit new bolts to camshaft gears, tighten the bolt of each camshaft gear to 50 Nm + 90°

5.1.8. Remove camshaft holding tool

5.1.9. Remove crankshaft alignment tool

5.1.10. Turn crankshaft through two revolutions in a clockwise direction.

5.1.11. Position the engine at TDC on No.1 cylinder.

5.1.12. Ensure the timing mark on each camshaft is aligned with mark on camshaft bearing cap. (fig.1)

5.1.13. Fit the crankshaft alignment tool and ensure the pin is located correctly. (Fig.2)

5.1.14. Fit the camshaft holding tools as shown in fig.1 ensuring the camshaft holding tools about the cylinder head.

5.1.15. Remove special tools, reassemble in the reverse order of dismantling.

5.1.16. Tighten crankshaft pulley bolts as follows;



Stage 1: 50 Nm.

Stage 2: 45°.

Stage 3: 45°.

Stage 4: 45°.

Stage 5: 45°.

6. END OF LIFE

6.1. Dispose of unit in accordance with local and national regulations and contents of page footer "Environment Protection".



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.



REGISTER YOUR
PURCHASE HERE

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 is required for any claim.

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