

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 THIS 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.

1. SAFETY INSTRUCTIONS

- ✓ Ensure that Health & Safety, local authority and general workshop practice regulations are strictly adhered to when using tools.
- ✓ Maintain the equipment in good and clean condition for best and safest performance. DO NOT use if damaged.
- ✓ If required, ensure that the vehicle to be worked on is adequately supported with axle stands, ramps and chocks.
- ❑ **WARNING!** Select neutral (or 'park' if automatic transmission) and keep hands clear of the engine as engine rotation may occur when using this tool. **The ignition MUST BE turned off.**
- ❑ **WARNING!** Turn regulator knob fully anti-clockwise before connecting to compressed air. Excess pressure will damage the gauge and will invalidate the warranty.
- ✓ 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 and parts being used and do not leave them in, on, or near the engine.
- ▲ **IMPORTANT:** Refer to the vehicle manufacturer's service instructions, or proprietary manual, to establish the current procedure and data. These instructions are provided as a guide only.

2. INTRODUCTION & APPLICATION

Designed to detect a variety of common engine faults including: Worn piston rings, worn valves, cracks in cylinder walls and blown head gaskets. Gauges show % of cylinder leakage and cylinder pressure. Suitable for use on any petrol engine with 14 or 18mm spark plugs. Supplied in carry-case with instructions.

3. INSTRUCTIONS FOR USE

3.1 LOCATION OF LISTENING POINTS

- 3.1.1 Oil Dipstick Tubefor leakage from damaged or worn rings and/or cylinder wall.
- 3.1.2 Radiator Fillerfor cylinder wall cracks or head gasket leakage.
- 3.1.3 Adjacent Cylinderfor head gasket leakage.
- 3.1.4 Tail Pipefor exhaust valve leakage.
- 3.1.5 Carburettor Air Inletfor intake valve leakage.
- 3.1.6 Fuel Injection Throttle Bodyfor intake valve leakage.

3.2 CONNECTING THE SYSTEM

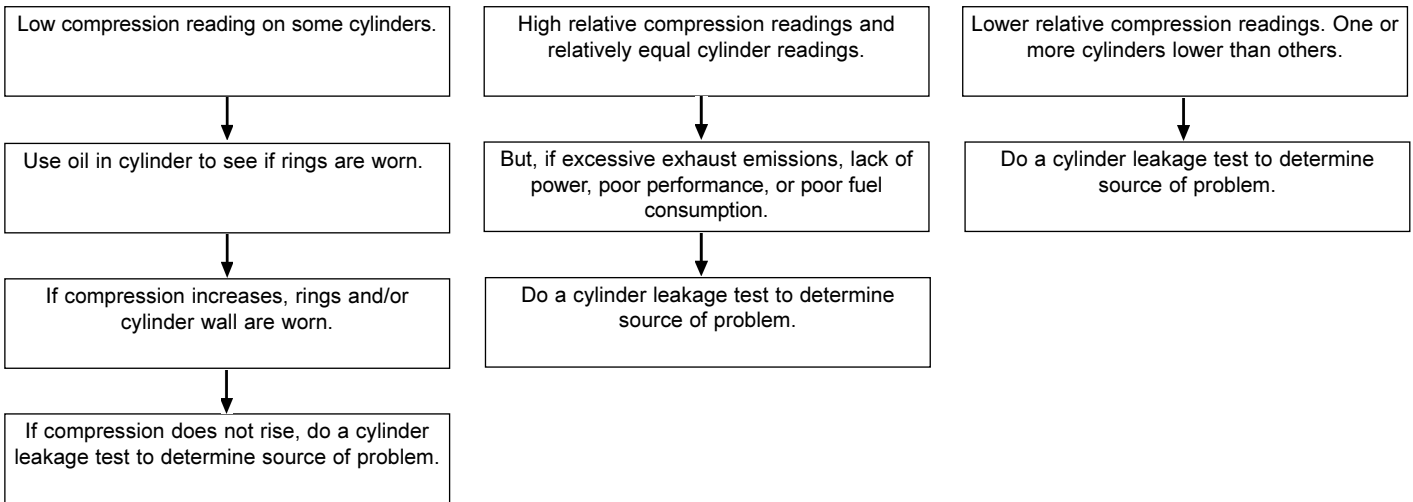
- 3.2.1 Run the engine until it reaches operating temperature.
- 3.2.2 Remove spark plugs, oil dipstick, radiator cap, air filter from carburettor or, if fuel injected, remove air filter or hose from the throttle body.
- 3.2.3 Position No. 1 piston at TDC on the compression stroke so that both inlet and exhaust valves are closed. Note: Always rotate the engine in the normal operating direction. To position the piston correctly use a piston position gauge and remove the cam/rocker cover so that closed valves can be confirmed.
- 3.2.4 Turn the regulator knob fully anti-clockwise. Connect the compressed air, which must be between 45 and 150psi, to the regulator. Turn the regulator knob clockwise until the gauge reads zero (at the end of the yellow 'Set' band).
- 3.2.5 Screw the cylinder hose into the spark plug hole and then connect to the tester. The amount of leakage will show on the gauge as a percentage loss.
- 3.2.6 Test all other cylinders, each at TDC, and compare the leakage figures to determine which cylinders are faulty.
- 3.2.7 If necessary, retest the cylinder(s) showing high leakage. Check the listening points (see 3.1) to determine the cause of the leakage.

3.3 HELPFUL SUGGESTIONS

- 3.3.1 If 100% or excessive leakage shows on gauge the cylinder may not be at TDC on the compression stroke. Check to ensure that the valves are closed. Always try to position piston at TDC for uniform results.
- 3.3.2 If rings are broken or cylinder walls are scored excessive leakage will be identified.
- 3.3.3 It is important that all cylinders have reasonably uniform readings (as in compression testing). Differences in excess of 15% indicate excessive leakage.
- 3.3.4 Large engines tend to leak more than small engines.
- 3.3.5 If leak is excessive on a vehicle with low mileage, piston rings may be stuck. Treat engine with quality tune-up oil for a period of time and then re-test before disassembling.
- 3.3.6 The lower the pitch of the leakage sound, the greater the leak.
- 3.3.7 To assist with listening use a length of clean hose, or a mechanic's stethoscope with the probe removed.
- 3.3.8 When making repeat tests on the same cylinder, variations in the piston position and engine temperature can cause gauge readings to differ by up to 10%.
- 3.3.9 If an engine has multiple faults (such as worn rings and burned valves), the tester may indicate only the most serious fault.

Note: There is always some leakage past the piston rings. As a result you will always hear some leakage when listening to the dipstick tube.

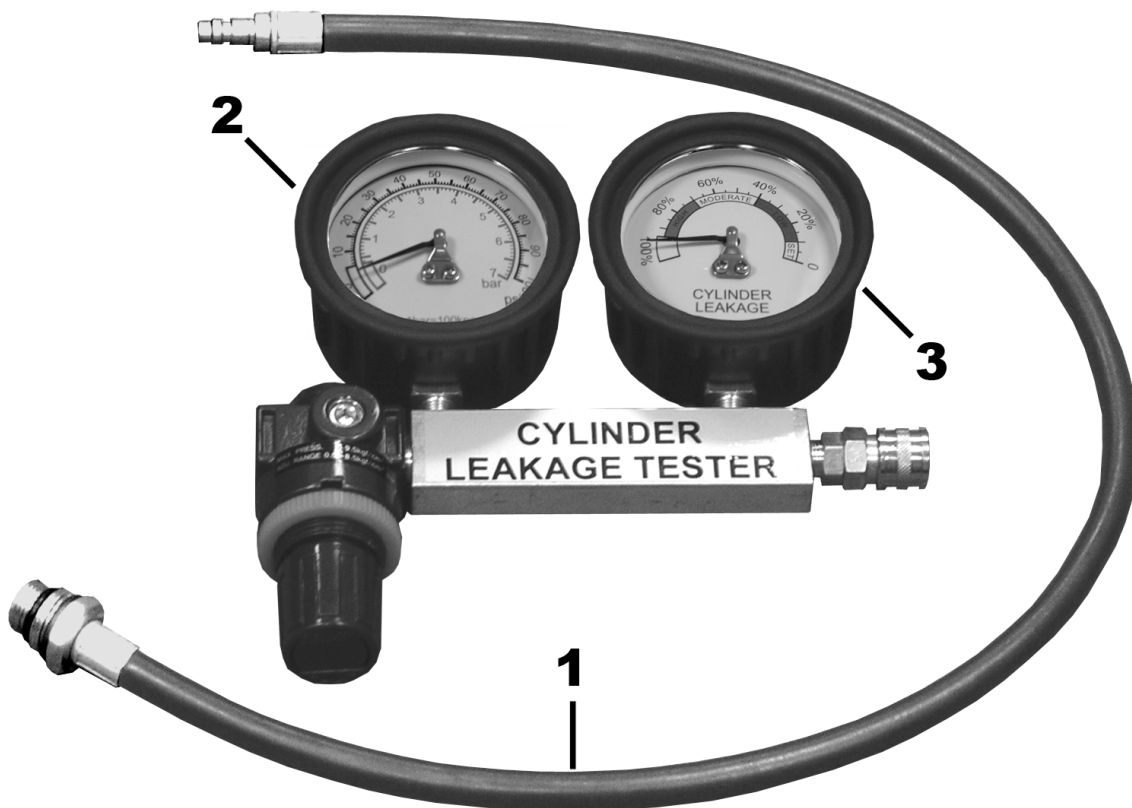
3.4. COMPRESSION FAULTS



4. PARTS AVAILABILITY

The replacement parts available for the VSE2020 are:

1. VSE2020.H Replacement Hose
2. VSE2020.PG Replacement Pressure Gauge
3. VSE2020.LG Replacement Leakage Gauge



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.

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