

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.



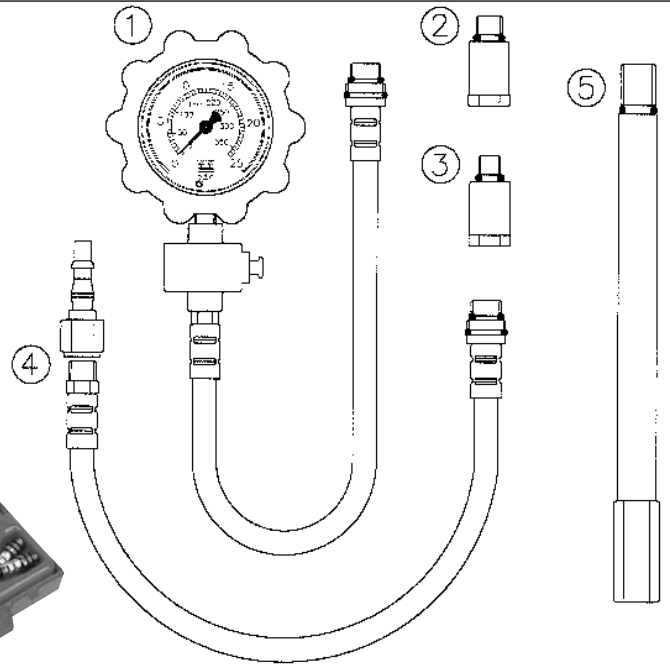
**IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.**

Item	Part Number	Description
1	VS200D/01	Compression Tester c/w 14mm/18mm Thread Adaptor
2	VS200/5	12mm Thread Adaptor
3	VS200/6	10mm Thread Adaptor
4	VS200D/02	Flexible Air Input Adaptor c/w Airline Coupling
5	VS200/A	Long Reach 14mm Thread Adaptor (VS200D ONLY)
--	VS200D/84	Case + Insert



VS200D

VS200.V2



## 1. INTRODUCTION & APPLICATIONS

PETROL ENGINES - Cylinder Compression testing incorporating Air Input Adaptor for valve seal/spring replacement.

### 1.1 VS200D Deluxe Kit

Includes Compression Tester VS200D/01 and a range of Adaptors for tests through 10mm, 12mm, 14mm & 18mm spark plug holes.

The VS200D Kit also incorporates VS200/A Long Reach Adaptor for deep seated 14mm spark plug holes in 16v. and V6 engines eg. Ford Zetec/Duratec, Vauxhall Ecotec etc. and VS200D/02 Flexible Air Input Adaptor for valve seal and spring replacement applications.

VS200.V2 is as above but does not include VS200/A Long Reach Adaptor.

### 1.2 CONTENTS

**VS200D/01 Petrol Engine Compression Tester** comprises a quality dual scale pressure gauge (0-25 bar/0-350psi), re-test valve (pressure relief valve) and flexible hose fitted with standard 14mm/18mm spark plug adaptor.

**VS200/5 & VS200/6 Adaptors** convert the 14/18mm adaptor of VS200D/01 Tester to cover 10mm and 12mm spark plug holes.

**VS200/A Long Reach Adaptor** (VS200D only) is used in conjunction with VS200D/01 Tester for tests on engines with very deep seated 14mm. long thread spark plug holes, found on many 16v. and V6 engines.

**VS200D/02 Air Input Adaptor** assists valve seal/spring replacement by providing the connections to allow compressed air into the cylinder to maintain the valves in closed position. Utilises the adaptors in the kit to allow use across a wide range of engines.

## 2. SAFETY INSTRUCTIONS

- WARNING!** Ensure all Health & Safety, local authority and general workshop practice regulations are strictly adhered to when using tools.
- DO NOT** use equipment if damaged.
- Maintain the equipment in good and clean condition for best and safest performance.
- If required, ensure vehicle to be worked on is adequately supported with axle stands, ramps and chocks.
- 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 equipment being used and do not leave them in, on or near engine.
- When not in use, place in protective case and store in a safe, dry, childproof area.
- IMPORTANT:** Always refer to the vehicle manufacturer's service instructions, or a proprietary manual, to establish the current procedure and data. These instructions are provided as a guide only.

### 3. INSTRUCTIONS

#### 3.1 Performance Guide:-

Compression should build up quickly in a healthy engine.

A low compression on the first stroke, followed by gradually increasing pressure on successive strokes, indicates worn piston rings.

A low compression reading on the first stroke, which does not build up during successive strokes, indicates leaking valves or a faulty head gasket (a cracked head could also be the cause).

Deposits on the undersides of the valve heads can also cause low compression.

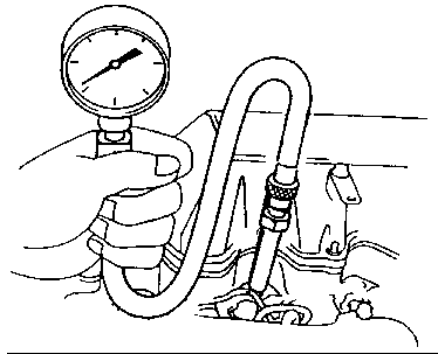
If the pressure in any cylinder is considerably lower than the others, introduce a small quantity of clean oil into that cylinder through its spark plug hole, and repeat the test.

If the addition of oil temporarily improves the compression pressure, this indicates that bore or piston wear is responsible for the pressure loss.

No improvement suggests that the leakage is past the valves, or a faulty head gasket may be to blame.

A low reading from two adjacent cylinders suggests a faulty head gasket between the two cylinders. The presence of coolant in the engine oil will confirm this.

If the compression is unusually high, the combustion chambers are probably coated with carbon deposits. If this is the case, the cylinder head should be removed and de-carbonised.



#### 3.2 When engine performance is down, or if misfiring occurs which cannot be attributed to ignition or fuel systems, a compression test can provide diagnostic clues as to the engine's condition.

As a guide engines having a compression pressure in excess of 6.9 bar (100psi), compression loss should not exceed 0.69 bar (10psi), on older engines with lower compression pressure, loss should not exceed 0.35 bar (5psi).

#### 3.3 OPERATION

3.3.1 Check engine oil is up to recommended level.

3.3.2 Remove the spark plugs.

3.3.3 Attach the required adaptor to VS200D/01 Tester and screw into the first spark plug port ensuring a good seal onto the O-ring.

3.3.4 Turn over the engine using the starter motor and observe the gauge, looking for a steady increase in the reading (see Performance Guide) and noting the maximum reading obtained. Refer to the engine manufacturer's workshop manual for compression data.

3.3.5 Depress the Re-test Valve (situated under the gauge) to release the pressure. The Re-test Valve allows the test to be repeated without disconnecting from the cylinder.

**WARNING!** Always release pressure via the Re-test Valve BEFORE disconnecting the Tester. Press Re-test valve slowly to release pressure gradually.

3.3.6 Disconnect the compression tester and adaptor and install on the next cylinder.

Repeat the test for each of the remaining cylinders in turn.

NOTE: A variation in compression readings between cylinders is often a better indication of engine problems than the absolute values of compression.

#### 3.4 VS200D/02 Air Input Adaptor - Valve Seal/Spring Replacement.

3.4.1 Remove the spark plugs and turn over the engine so that the piston of the cylinder being worked on is at TDC with all valves closed.

3.4.2 Select the appropriate spark plug thread adaptor and attach it to the VS200D/02 Air Input Adaptor.

**▲ IMPORTANT:** If using the VS200/A Long Reach Adaptor, the non-return valve MUST BE REMOVED from the adaptor to allow free air flow.

3.4.3 Attach the airline coupling to the Air Input Adaptor.

3.4.4 Screw this assembled Air Input Adaptor into the spark plug hole and connect to the workshop compressed air supply which will pressurise the cylinder and maintain the valves in the closed position facilitating work on seal/spring replacement.

#### VS200D/01 Petrol Engine Compression Tester Spares: -

VS200D/011 Gauge & Cover

VS200D/012 Hose Assembly

VS2042/012 Re-Test Valve Assembly

VS2042/014 Replacement Valve Assy for VS2042/012 Re-Test Valve

**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 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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