



# INSTRUCTIONS FOR: DIESEL ENGINE COMPRESSION TEST KIT - MASTER

MODEL No: **VS2044**

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions and maintained properly, 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!** Ensure all Health and Safety, local authority, and general workshop practice regulations are strictly adhered to when using product.
- ✓ Compression tests on diesel engines should be conducted when the engine is cold.
- ✓ Maintain tools in good and clean condition for best and safest performance. **DO NOT** use test kit if damaged.
- ✓ 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.
- ✓ Use proper ventilation and avoid breathing in exhaust fumes.
- ✓ Keep a fire extinguisher to hand.
- ✓ Fuel delivery must be prevented by either operating the engine stop lever or disconnecting fuel pump solenoid.
- ✓ Ensure you keep tester at arms length when relieving pressure to avoid personal injury.
- ✓ Protect your hands from burns as quick release coupling and adaptors may become hot during use.
- ✓ Account for all tools and parts being used and do not leave them in, on or near the engine after use.
- x **DO NOT** remove the compression test equipment while engine is being cranked.

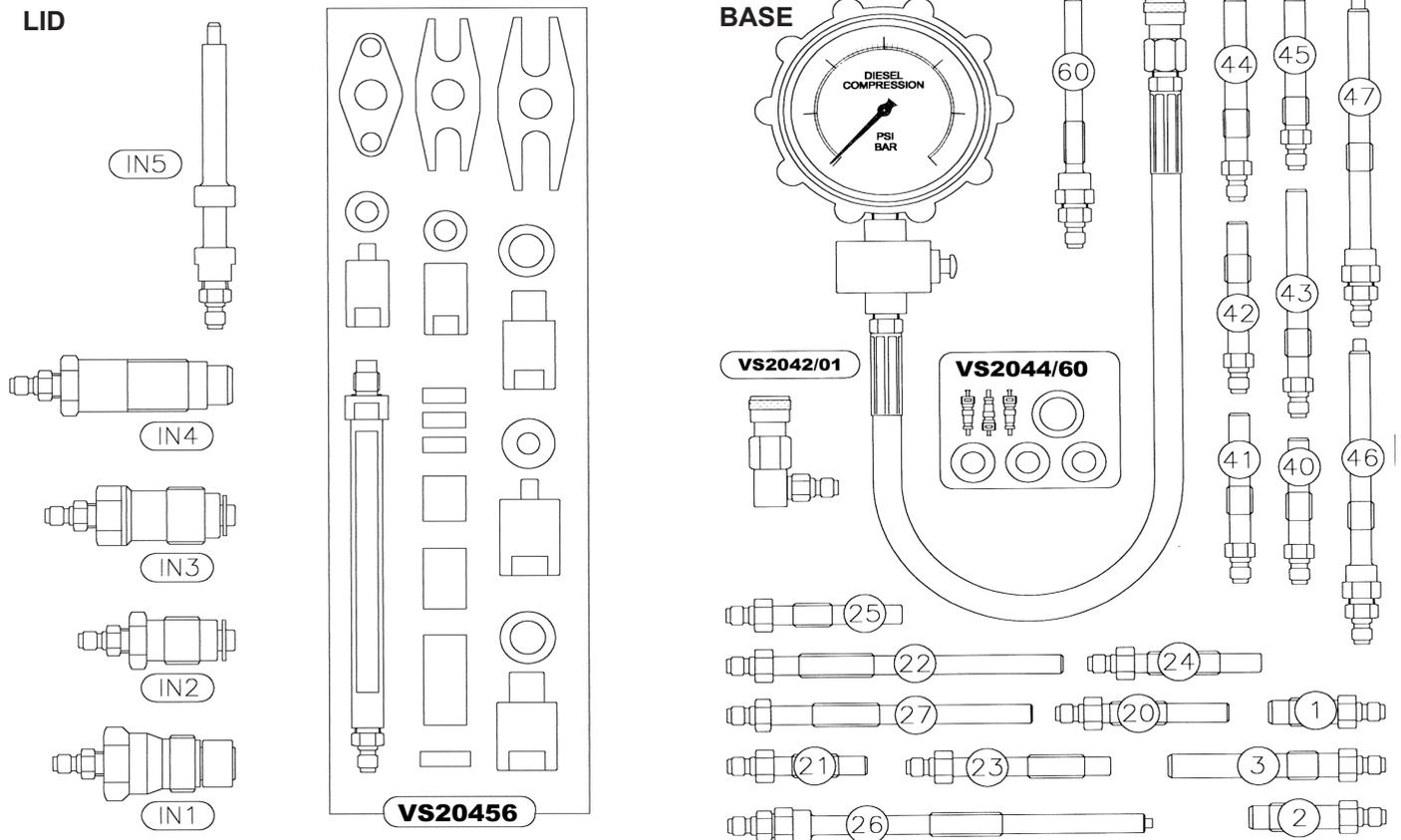
**IMPORTANT:** Always refer to the vehicle manufacturer's service instructions, or proprietary manual to establish the current procedure and data. These instructions for use are provided as a guide only .



## 2. INTRODUCTION

The extensive range of glow plug and injector adaptors enable this kit to cover the vast majority of car, van, truck, bus, agricultural and marine diesel engines. Supplied in carry-case with preformed liner and foam filled lid.

## 3. CONTENTS



### Test Kit Contents.

**VS2042/01 Gauge & Hose  
Assy c/w 90° Coupler Elbow**

### Dummy Glow Plug Adaptor

VS2043/1 GP Adaptor  
VS2043/2 GP Adaptor  
VS2043/3 GP Adaptor  
VS2043/20 GP Adaptor

VS2043/21 GP Adaptor

VS2043/22 GP Adaptor

VS2043/23 GP Adaptor  
VS2043/24 GP Adaptor  
VS2043/25 GP Adaptor  
VS2043/26 GP Adaptor  
VS2043/27 GP Adaptor  
VS2043/40 GP Adaptor  
VS2043/41 GP Adaptor  
VS2043/42 GP Adaptor

### Test Kit Contents.

### Dummy Glow Plug Adaptor (continued)

VS2043/43 GP Adaptor  
VS2043/44 GP Adaptor  
VS2043/45 GP Adaptor  
VS2043/46 GP Adaptor  
VS2043/47 GP Adaptor  
VS2043/60 GP Adaptor

### Dummy Injector Adaptors

VS2044/1 Injector Adaptor (IN1)  
VS2044/2 Injector Adaptor (IN2)  
VS2044/3 Injector Adaptor (IN3)  
VS2044/4 Injector Adaptor (IN4)  
VS2044/5 Injector Adaptor (IN5)  
VS2044/60 Valve & Seal Set  
VS20456 Clamp-on Injector  
Adaptor Set  
VS2042/02 Case + Inserts

## 4. OPERATION

### Diesel Engine Compression Test Kits

VS2042/01 Compression Tester is at the centre of the Sealey Diesel Engine Compression Test range. It comprises a quality dual scale pressure gauge (0-70 bar/0-1000psi), Re-test valve (pressure relief valve), hose assembly with straight connecting coupler and a swivel 90° coupler elbow providing an alternative connection onto the adaptors.

The Adaptor Range comprises Dummy Glowplug and Dummy Injector Adaptors.

All adaptors connect to the Tester via a quick coupler system.

### Diesel Engine Compression Testing - General

- ❑ **WARNING: When carrying out a cranking test, engine fuel delivery must be prevented by either operating the engine stop lever or disconnecting the fuel pump solenoid.**

**The engine MUST NOT be allowed to 'fire' or damage could result to the tester, particularly the non-return valves.**

**The VS2042/01 Compression Tester** is connected to the adaptor via the quick coupler on the hose assembly. Alternatively, when space is restricted, the 90° swivel coupler elbow can be fitted into the quick coupler to improve access.

**Crank Test:** Crank the engine whilst observing the gauge. The indicator needle will rise in increasing steps until a maximum reading is reached, then stop cranking. **Note** down the gauge reading. Depress the Re-test valve to relieve pressure.

- ❑ **WARNING:** Hold gauge away from you, at arms length, owing to high pressure release.  
Remove the tester and adaptor, install on the next cylinder, and repeat test until all cylinders have been assessed. Compare data obtained comparatively and to that published by the vehicle/engine manufacturer.  
Compression tests on diesel engines should be conducted when the engine is COLD.  
Always ensure that the battery is fully charged when carrying out a crank test as this could influence the results.  
Remove the glowplug or injector from the cylinder to be tested and replace with the appropriate adaptor.

### Performance Guide:

Compression should build up quickly in a healthy. 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).

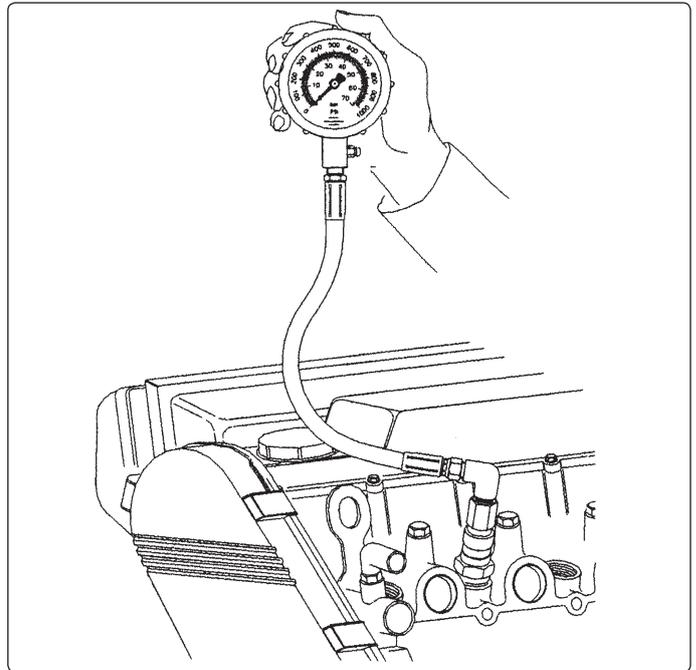
Deposits on the underside of the valve heads can also cause low compression.

If the pressure in any cylinder is considerably lower than the others, introduce a small quantity of clean oil into that cylinder 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 decarbonised.



## Environmental 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, dispose of it according to local regulations.

**NOTE:** It is our policy to improve products continually 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.



**Sole UK Distributor, Sealey Group,**  
Kempson Way, Suffolk Business Park,  
Bury St. Edmunds, Suffolk,  
IP32 7AR



01284 757500

01284 703534



www.sealey.co.uk

sales@sealey.co.uk