

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 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.**

## 1. SAFETY INSTRUCTIONS

- ❑ **WARNING! Ensure all Health and Safety, local authority, and general workshop practice regulations are strictly adhered to when using this kit.**
- ✓ Maintain tools in a good clean condition for the best and safest performance,
- x **DO NOT** use test kit if parts are 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.
- ❑ **WARNING! In a vehicle fitted with automatic transmission, select neutral or park.**
- ✓ Use proper ventilation and avoid breathing in exhaust fumes.
- ✓ Keep a fire extinguisher to hand.
- ✓ Protect hands from burns, as the engine will be hot after the test.
- ✓ Account for all tools and parts being used, and do not leave them in, or on the engine after use.
- ✓ Ensure that any collected diesel is disposed of correctly, in accordance with local authority guidelines.
- x **DO NOT** leave vehicle's engine running unattended whilst the testing kit is fitted.

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



VS2048.V2



VS2047.V2



VS2046.V2

## 2. INTRODUCTION

Designed to measure return fuel flow on diesel vehicles with up to 6 cylinders and fitted with common rail injection system. Identifies worn, blocked or inoperative injectors, quickly and easily. The VS2048.V2 Master kit contains measurement tubes for short term tests and measurement bottles for long term, more accurate evaluation. Includes range of adaptors to suit Bosch, Delphi and Denso injectors, for comprehensive coverage of common rail diesel vehicles. The VS2046.V2 kit comprises measurement tubes and measurement bottles (for Bosch injectors). The VS2047.V2 comprises adaptors for Bosch, Delphi and Denso injectors.

## 3. OPERATION

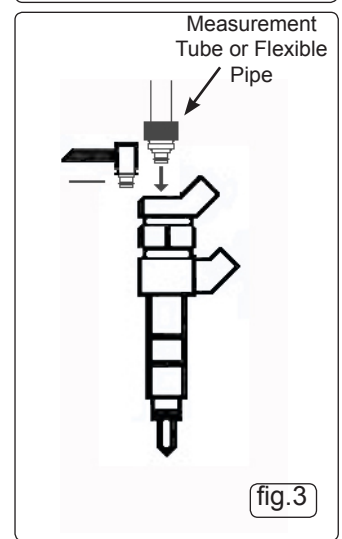
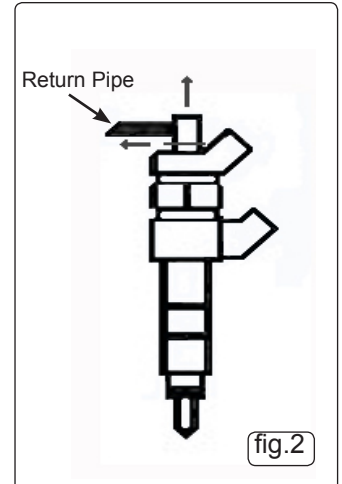
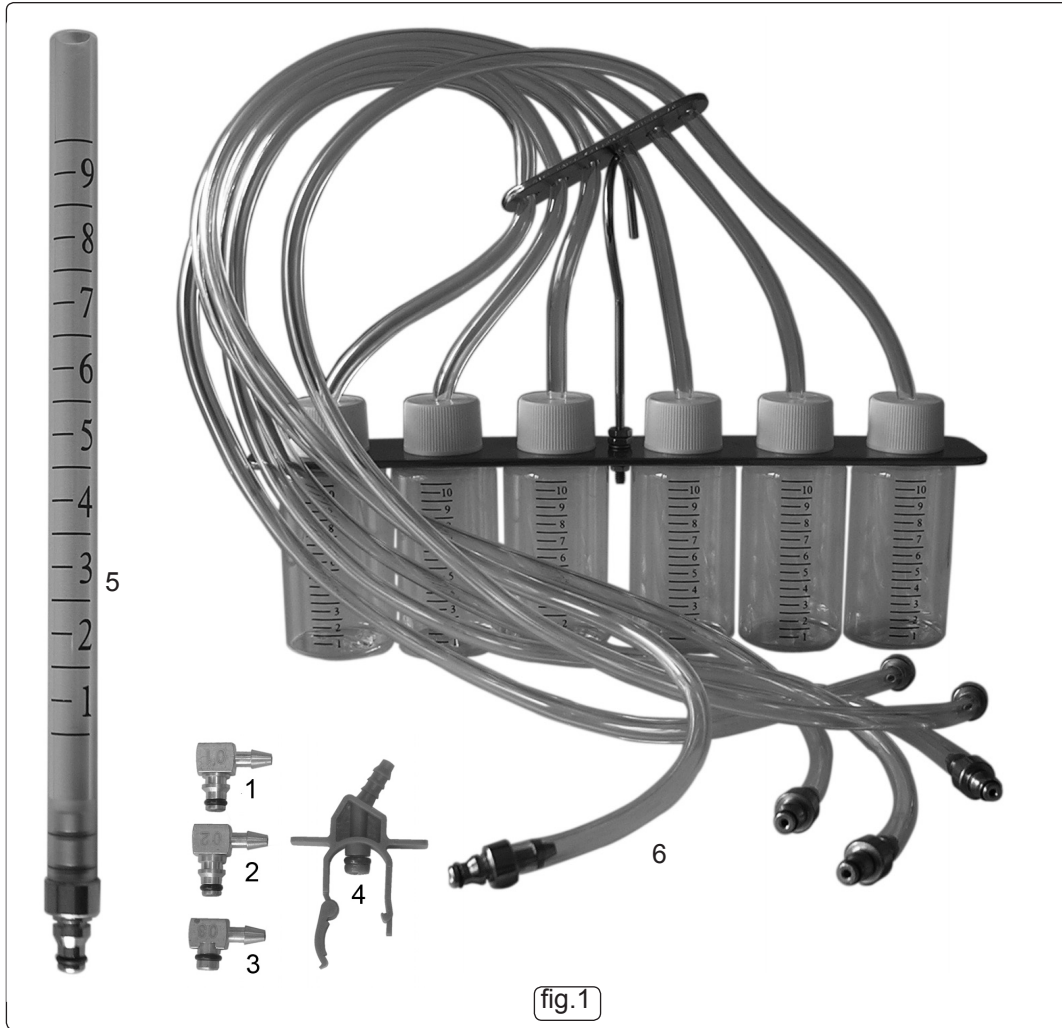
- 3.1. Most modern diesel vehicles are fitted with a sound deadening cowling over the top of the engine. If fitted, remove this cowling to gain access to the engine.
- 3.2. **Direct Connection Tubes (Bosch connectors only - see fig.1.5).**  
These tubes are ideal for a vehicle which will not start, and provide a very quick assessment.
  - 3.2.1. The return pipes are retained by wire clips, remove the clips and store in a safe place. Gently ease out each of the return pipes from the injectors (fig.2). Take care not to break the connectors as they can be brittle.
  - 3.2.2. Plug the ends of the return pipes to avoid any spillage.
  - 3.2.3. Connect the tubes to each injector (fig.3), the wire clips are not required as the return system is low pressure.
  - 3.2.4. Crank over the engine until the tubes are at least 50% full. Take care, that should the engine start, the tubes will fill up very quickly.
  - 3.2.5. Check the levels for each injector. The overall variation in the levels should be less than 10%. Any injector which has a back leakage problem will have more diesel in the tube.
  - 3.2.6. Remove the tubes from the injectors, taking care not to spill any diesel, place a finger over the end of the tube to hold the liquid in the tube and then empty into a suitable container.
  - 3.2.7. Refit the return pipes to the injectors and secure them with the wire clips as per the vehicle manufacturer's workshop manual.

**3.3. Flexible Tube, Adaptors and Bottles (fig.1.1, 2, 3, 4 and 6).**

These will provide a more accurate reading as the engine can be left running for longer.

- 3.3.1. Remove the return pipes from the injectors. Refer to the appropriate vehicle manufacturer's workshop manual.
- 3.3.2. Connect the appropriate, Bosch, Delphi or Denso adaptors to the flexible tubes.
- 3.3.3. Connect the flexible tubes to each injector and hang the bottle rack in a suitable position.
- 3.3.4. Start the engine (or crank over if it will not run), run until the one of the bottles is approximately 75% full, and stop the engine.
- 3.3.5. Check the levels for each injector. The overall variation in the levels should be less than 10%. Any injector which has a back leakage problem will have more diesel in the tube.
- 3.3.6. Remove the tubes from the injectors, taking care not to spill any diesel, if possible lower the bottle rack to a level below that of the injectors or raise the flexible tube, so that the fluid in the tubes drains into the bottles.
- 3.3.7. Refit the return pipes to the injectors as per the vehicle manufacturer's workshop manual.

**NOTE:** This system is designed to give a quick assessment of the return flow of the injectors, it is unable to determine all of the factors which may affect the operation of the vehicle.



**4. PARTS**

Part	Part No.	Description	
1	VS2048.V2-01	Adaptor Set 1 (Set of 6)	(parts 1 to 4 are included in VS2047.V2 kit)
2	VS2048.V2-02	Adaptor Set 2 (Set of 6)	
3	VS2048.V2-03	Adaptor Set 3 (Set of 6)	
4	VS2048.V2-04	Adaptor Set 4 (Set of 6)	
5	VS2048.V2-05	Fluid Measure (Set of 6)	(parts 5 and 6 are included in VS2046.V2 kit)
6	VS2048.V2-06	Bottle / Tube / Adaptor Assembly	

**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 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.

	<b>Sole UK Distributor, Sealey Group,</b> Kempson Way, Suffolk Business Park, Bury St. Edmunds, Suffolk, IP32 7AR	01284 757500	<a href="http://www.sealey.co.uk">www.sealey.co.uk</a>
		01284 703534	<a href="mailto:sales@sealey.co.uk">sales@sealey.co.uk</a>