FG 201/CR
SAFETY INSTRUCTIONS AND INSTRUCTION MANUAL

ITALIANO

ENGLISH

ELECTRICAL INJECTOR BACK LEAKAGE TEST KIT – COMMON RAIL DIESEL ENGINES

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1. WARNINGS

Before to use the tool, please read carefully the instruction contained in this manual.
Improper or unsafe use of this power tool can result in death or serious bodily injury.
This manual of instructions constitutes an integral part of product and it has to be edited by the end user for every possible future consultation. It contains important informations about the safety use of the product.

Usage destination.
This tool and its accessories, must only be used for the purpose for which they have been conceived. A different use from that one suitable could cause damages to people, animals or things and it's considered improper and unreasonable action. The producer can't be considered responsible for possible damages caused by improper, wrong and unreasonable uses, as,for example, the un-observance of the safety instruction, the use of no original accessories and operation not authorized on the product.

ATTENTION
These instructions for use are provided as a guide only. Always refer to the vehicle manufacturer's service instructions and data to establish the currect usage procedure and data. Each operation shall be performed by higly trained personnel, in suitably equipped places.
Fasangas Srl can not be held responsible for any damages caused by using this tool.

2. IMPORTANT SAFETY INSTRUCTIONS

When using this tool, the following basic safety precautions should always be followed to reduce the risk to personal injury

Always wear protectuve gloves in accordance with current standards.
Protect your hands from burns as the engine my be hot after the test.

Always wear safety glasses with side shields in accordance with current standards.

Always wear suitable clothing . Do not wear jewellery and tie back long hair.

Always protect the respiratory by using protective equipment (mask) in accordance with current standards. Use proper ventilation and avoid brething in exhaust fumes.

- Do not use test kit if damaged.
- Keep tools in a good clean condition for the best and safest performance.
- Always ensure to not leave any used part in or on the engine after use.

DANGER:

I COMMON RAIL systems operate at very high pressures. Damage or personal injury can result if safety procedures are not adhered too.

After switch off the engine, wait at least one minute before commencing installation work.

Do not loosen or remove fuel lines while the engine is running.

3. INTRODUCTION

This kit is used to measure the back fuel quantity of the injectors for diesel engines with Common Rail injection system. The back fuel volume from the injector is a good indicator of the deterioration or contamination of the injector. This kit is suitable to test up 6 electrical injector on cars with Common Rail systems manufactured by the companies BOSCH, DELPHI, DENSO, SIEMENS.

WARNING

It must be very careful to not contaminate the COMMON RAIL system during the test.

The Common Rail injection system consists of components which are manufactured with high precision. Failure may occur even if small amount of dirt falls into the injection system.

CONTENT:

- 6 pcs of graduated measuring bottles (100 ml) on a support with hook
- 6 pcs of Fuel Measuring Tubes BOSCH (used when cranking engine only)
- Adaptors

4. HOW TO USE

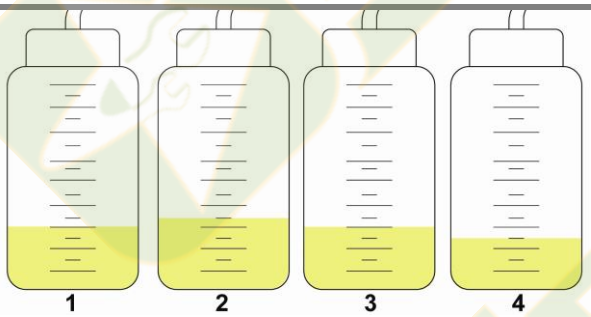
WARNING

The engine must be heated to working temperature.

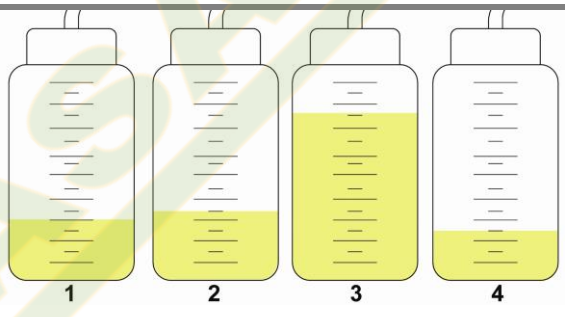
1. Switch off the engine and wait at least one minute before to install the test tool on the car .
2. Hook the bracket of the tool (the bottles need to be totally empty) to the engine bonnet, ensuring that the bottles are laying flat.
3. Disconnect the diesel oil recovery fittings of the electrical injectors, after releasing the safety spring.

   WARNING

   During the operation do not lever the pipes of the fittings.
4. Close the pipes using suitable tools (pliers/clamps for closing pipes and sleeves).
5. Install the plastic adaptors into the diesel oil recovery holes and place the safety springs in position.
6. Make sure that no diesel oil is leaking out, turning the ignition key to ON..
7. Start the engine and mantain a speed of 2500 RPM for 2 minutes, while checking the diesel oil level in the bottles..
8. Turn off the engine.
9. The quantity of fuel in the bottles should be the same for all the electrical injectors. Any difference in the levels are indicative of a malfunction requiring the injector to be overhauled or replaced (Fig.1)



The 4 electrical injectors operate normally.



The electrical injector n°3 need to be overhauled or replaced

Fig.1 *Example of test on a 4 cylinder engine .*

10. If the engine does not start / run, then i twill be difficult to generate a sufficient volume of leak back fuel to fill the connectiion tubes of the measurement bottles and enter the bottles to give meaningful results.

    In this case, the Fuel Measurement Tubes (Fig.2) can be used and fitted directly to the injectors, therefore providing a much reduced distance from the leak back fuel to travel.

    The leak back pipe must still be closed (using suitable tools: pliers/clamps for closing pipes and sleeves) to avoid fuel spillage .

    Crank the engine over for 10 or 15 seconds.

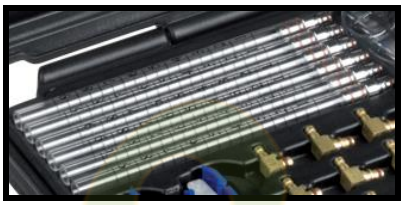


Fig.2

WARNING

Only repeat the cranking procedure if really necessary, because repeated cranking can damage the Starter Motor.