

Beta **1464AP**



IT Manuale d'uso e istruzioni

EN Operation manual and instructions

FR Notice d'utilisation et instructions

DE Bedienungsanleitung

ES Manual de uso e instrucciones

NL Gebruikshandleiding

PL Instrukcja obsługi i zalecenia

PT Manual de uso e instruções

HU Használati kézikönyv és útmutató

BETA 1464AP COMMON RAIL HIGH PRESSURE TESTER

DESCRIPTION

The tester you have just purchased is an essential tool for proper diagnosis of the common rail injection system. When a common rail engine has problems starting or running, the first parameter you should measure is the pressure in the high pressure circuit.

Most of the testers that are currently available in the market do not actually measure the real pressure; instead, they take the signal from the pressure sensor installed in the vehicle itself and show a pressure based on the pressure read by that sensor. This tester can check the real pressure in the high pressure circuits in common rail systems using a high pressure gauge (2000 bar) and high pressure hoses.

The tester is equipped with a pressure release valve which allows the maximum pressure produced by the pump to be tested. The hoses make simple connection to the injection system possible.

CHARACTERISTICS

Sensor range	0 – 2000 bar
Hoses max. pressure	2000 bar
Hoses max. length	500 mm
Hoses connection	2 - M12x150 and 2 - M14x150
Packaging	Plastic case with high density foams

INSTRUCTIONS

Engine running test

Using this tester is extremely simple. You must replace one of the high pressure pipes with the tester fitted with two hoses, so that you can check the circuit pressure while the engine is running.

The connection is usually made by replacing the high pressure pipe from the high pressure pump to the injection rail.

In some vehicles, access to the high pressure pump may be difficult; in that case, the connection can be made by replacing any pipe connecting the injection rail to the injectors, since the pressure is the same at any point in the high pressure circuit.

All the pipes shown in the following figure (Fig. 1) can be replaced by the high pressure tester.



Fig. 1

To connect the tester properly, follow these steps:

- Locate an easy-to-access high pressure pipe.
- Loose and remove the pipe connections. The pipe should be stored in a place where it cannot get dirty, because any dirt coming into the injection circuit may damage the injection system.
- Choose the appropriate hoses, according to the threads of the connectors of the vehicle. The thread can be either M12x150 or M14x150.
- Ensure they are free of dirt, to prevent particles from entering the injection system, and mount the hose in the "T" sensor, so that you get a set like Fig. 2.



Fig. 2

- Start the engine and check that idle pressure is about 300 bar. It is normal that it will take some time to start the engine after the tester has been mounted, which is due to the presence of air inside the tester.
- Even in case the engine should have a problem that prevents it from starting, you should be aware that only with the starter the pressure should reach 300 bar on the rail.
- Once the engine has started, you can speed it up to check that the pressure rises properly.

TEST RESULT

The most important parameter to test is that 300 bar should be reached with the engine idling or activating the starter. If this pressure is correct, you can deduce that the low-pressure circuit is working properly and the high pressure pump is supplying the minimum pressure needed to start the engine properly.

In the event that the pressure is correct but the engine does not start, you should find what the problem is, which will not be the high pressure pump. The problem could be an electrical fault, injector etc.

If the pressure does not reach the required pressure, follow these steps:

- Test the pressure at the inlet of the pressure pump with a low-pressure tester.
- If the pressure at the pump inlet is correct, you must check the maximum pressure of the pump. (See "Maximum pump pressure test" section).

PRECAUTIONS TO CONSIDER

- Because you are dealing with very high pressures, you are required to take all necessary precautions to avoid being injured (wear goggles and gloves, do not disconnect the pipe while under pressure etc.)
- Hoses can withstand high internal pressures; therefore, it is essential not to assemble them in a way that they are strangled or forced, since they may get damaged if they are mowed internally.
- In common rail injection systems, cleanliness is very important. Before connecting any pipe or hose, check that the tester or anything else is perfectly clean.

Maximum pump pressure test

Some high pressure pumps disconnect the third piston when low pressure is required. Thus they only work with two pistons, whereby the engine power requirement is less. The third piston is activated by a solenoid when 600-700 bar are reached.

Once you have verified that the pressure at idle is correct or if there is no pressure on the ramp, proceed to check that the pressure may rise above 1050 bar, which tells you that the pump is working optimally. To perform this test, the tester must be connected as shown in Fig. 3; a hose must be connected from the pump outlet to the tester, and the other connection of the tester must be closed with the metal plug supplied with the tester.

The kit comes equipped with a bottle to collect waste diesel. Connect the pipe to the valve to collect such excess.

When the starter is activated, the pressure should exceed 1050 bar. If that pressure is reached, it means that the pump is working correctly; otherwise, either the pump or the regulator is damaged.

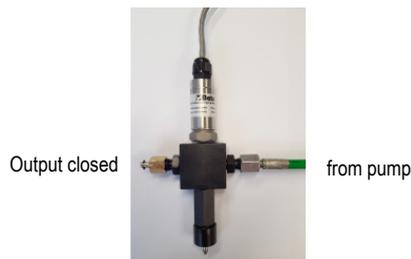


Fig. 3



BETA UTENSILI S.p.A.

Via Alessandro Volta, 18 - 20845 Sovico (MB) ITALY

Tel. +39 039.2077.1 - Fax +39 039.2010742

www.beta-tools.com