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31469000 - PREMIER PETROL FUEL PRESSURE KIT & LOW PRESSURE DIESEL KIT

Safety Precautions

- Car exhaust and fuel vapour are harmful to your health.
- Work in a well ventilated area and away from any ignition source.
- Make sure the ignition is switched off before disconnecting fuel pipes and fittings.
- The fuel system may hold a residual pressure. When disconnecting fuel lines etc release the fittings slowly.
- Always wear gloves and safety glasses when working with pressurised systems.
- When pressure test is complete, check for fuel leaks.
- The 31469000 kit is designed for use on the LOW pressure side of a Common Rail Diesel system only. Never connect this kit to the high pressure side.
- Always refer to the vehicle manufacturers specifications

PETROL ENGINE

Pre Conditions

Always observe safety precautions. Some fuel spillage is inevitable!

There are many variations of electronic fuel systems and this is intended as a general guide to basic system testing.
If in doubt - always consult manufacturers data for more detailed information.
Always make sure all fuel hoses and vacuum pipes are in good condition and that pipe work and connections are tight.
Many fuel injection systems will not operate until a signal is received from the ignition system. The ignition should always be checked if no injection is found.
Ensure all relevant connections are good and that the battery is fully charged.
1. Depressurise the system.
This can be done by disabling the fuel pump (remove the fuse or earth wire) and running the engine until it stops.

2. Checking fuel delivery rate
Disconnect the fuel return pipe from the pressure regulator outlet back to the tank and place it in a suitably large container. By-pass the fuel pump relay and measure the amount of fuel delivered in 1 minute. This should be a minimum of 1.5 to 2.0 litres. But systems vary a great deal and it is essential to check manufacture's data before condemning the pump.

3. Connecting to the 31469000 kit
Connect the gauge assembly (with the tap open) to the fuel rail. The pressure tester can be connected anywhere between the fuel pump and the pressure regulator - Ideally it should be just before the pressure regulator or between the fuel supply pipe and the fuel rail. Certain manufacturers have built quick connectors into their systems and this makes 'hook up'.

Faster and simpler. By-pass the fuel pump relay again and make note of the pressure.

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IF THE PRESSURE IS TOO LOW

Clamp the fuel return line from the pressure regulator-briefly
CAUTION! - On older cars this could burst a fuel line. If the pressure rises, suspect a faulty fuel pressure regulator.
If the pressure rises slowly this could be due to a blocked fuel line or filter. Two other possible causes will be faulty fuel pump or leaking injectors.

IF THE PRESSURE IS TOO HIGH

Disconnect the fuel return line from the pressure regulator and channel the fuel into a container and run the engine.
If the pressure is still high, the pressure regulator is faulty. If the pressure is OK then check the fuel return line for blockages.

4. Maximum pump pressure
To measure the ability of the fuel pump to produce pressure briefly close the T connector valve –
CAUTION! - On older cars this could burst a fuel line. The pressure should now reach between 4 and 6 bar depending on the system. A low pressure here would indicate a faulty fuel pump.

5. Running pressure
Re-connect all electrical connections and start the engine. The fuel pressure with the engine running and the pressure regulator vacuum hose connected should be approximately 0.5bar
Under system pressure (check against manufacturers data)
With the vacuum pipe from the pressure regulator removed and plugged, the pressure should rise to the same as system pressure. If system pressure was evident before the vacuum hose was removed (and the pipe was ok) then the pressure regulator is faulty.

6. Residual pressure
Switch the engine off and check the residual pressure. This should not drop more than approximately 0.5bar in 60 seconds. If the pressure drops too fast then simultaneously shut the T connector valve and stop the engine. If the pressure still drops too fast then suspect a faulty fuel pump check valve. If the pressure drop is ok with the valve closed then suspect a faulty fuel pressure regulator or leaking injectors.

7. Completion
When all tests have been completed and the pressure test equipment is to be removed, depressurise the system via the drain hose on the gauge. Make sure all vehicle hoses and connections are refitted and tight.

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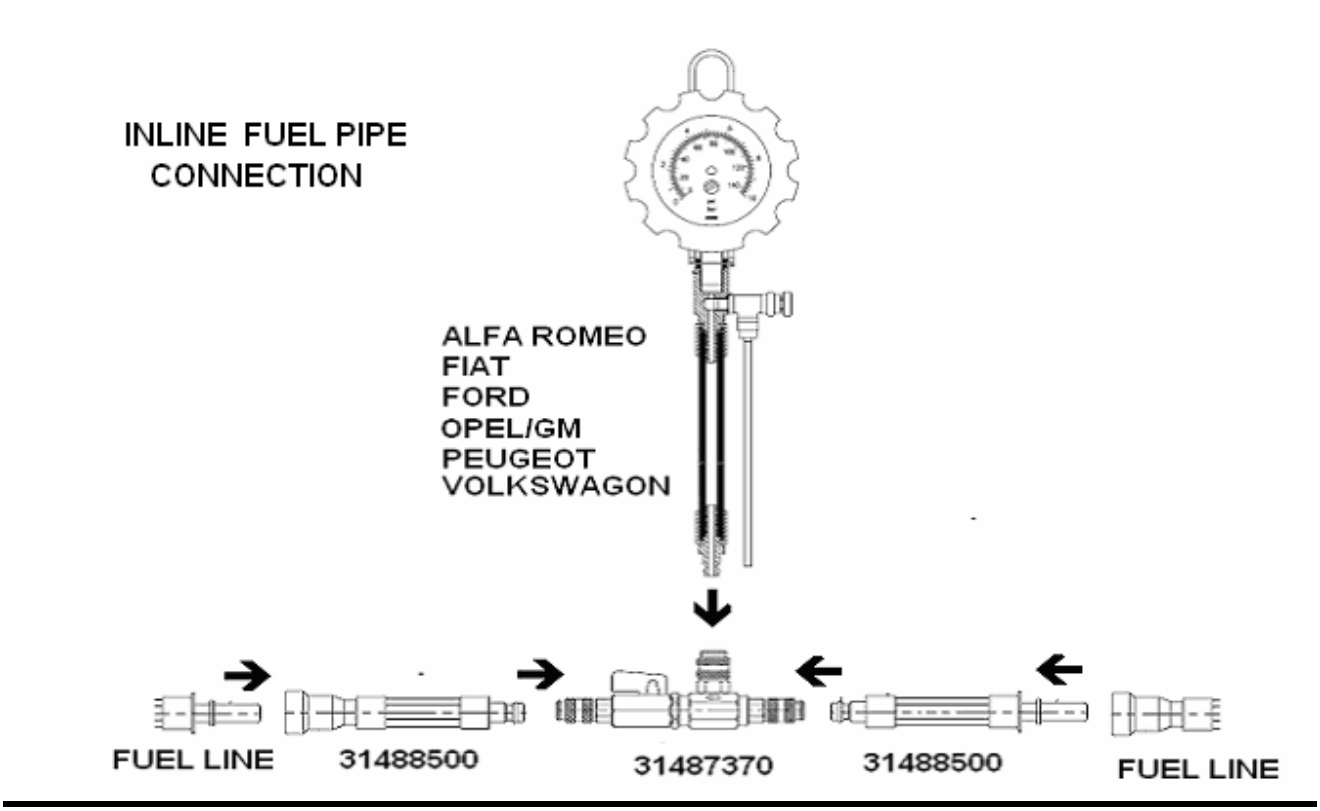

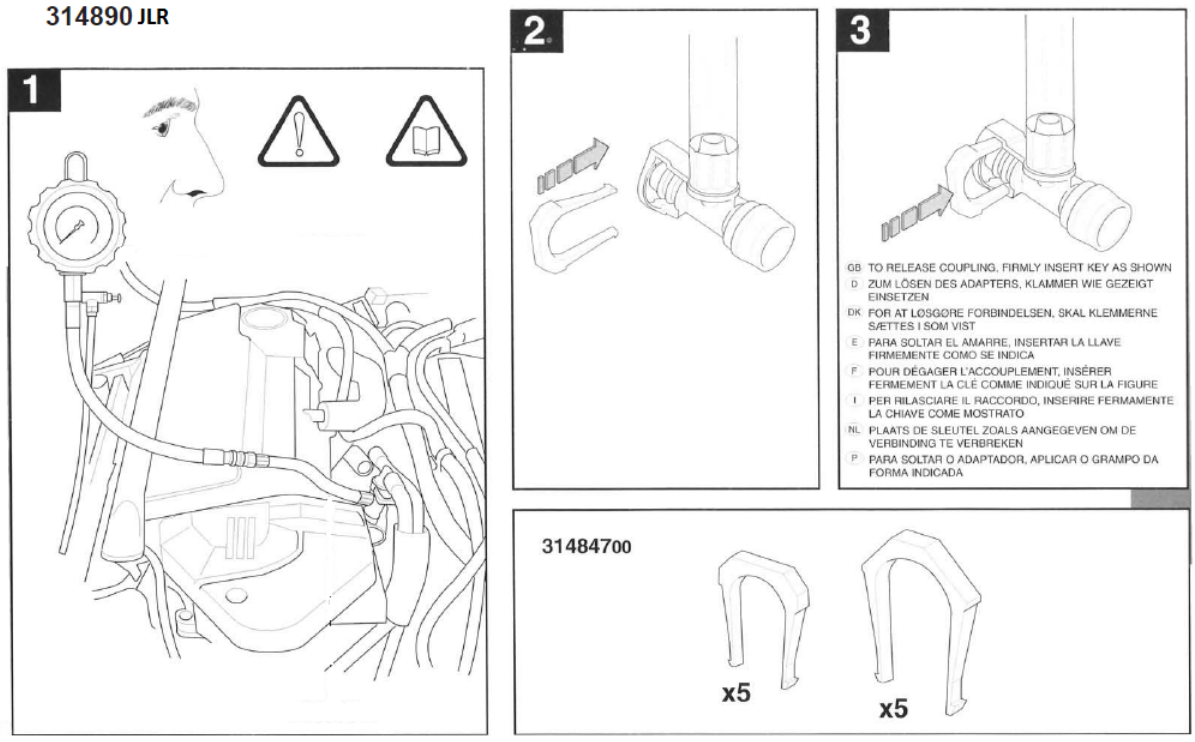

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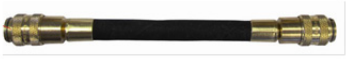
Schrader Valve Connection



Diesel Engine

Common Symptoms that may be diagnosed by measuring the low pressure side of a CR system:
- Poor starting
- None start
- Loss of power
- Blocked filter
- Crimped or blocked fuel pipe

N.B. The low pressure feed to the high pressure pump and the fuel return pressure can both be measured with this kit. Both feed and return have a minimum and maximum working pressure. See Manufacturer specifications.

Connecting the tester:
- Identify the appropriate connectors for the system fitted
- Connect the gauge to the T piece tap and connect the appropriate hoses to the T piece
- Ensure tap is open (black lever inline with hose)
- Connect into the system before the fuel filter and run or crank vehicle. Record readings
- Briefly close the tap on the T piece with the system running (engine running or cranking) and record the max. Low Pressure Pump delivery pressure then open tap
- Connect the gauge into the fuel return system using appropriate connectors and run system. Record readings
- Once all readings are recorded compare to manufacturer specification

***N.B**. A higher than normal reading on the feed side before the filter could indicate a blocked filter or blocked/crimped return pipes.*
A lower than specified reading on the feed side could indicate a Low Pressure Pump failure or leak. No pressure or a rapidly dropping pressure may indicate an injector leak back issue.
High reading on the return side indicates a restriction after the gauge.

***Special note:** Not all CRD systems have a low pressure pump mounted in the fuel tank. Some systems have a suction pump mounted in the body of the High Pressure pump. For these systems - a vacuum gauge will be required to check the feed side pressure. Please use Ref 01397000 in the kit and connect a Vacuum Gauge.*

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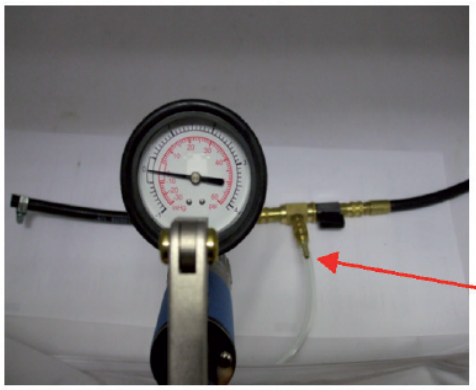

Adaptor fits into tap connector allowing connection of a vacuum gauge/pump. Connections to vehicle as for pressure fed systems

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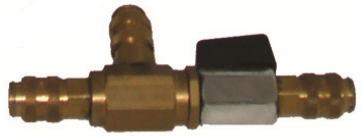
Kit Contents & Application

Ref	Description	Application	Picture
31489000	RENAULT FUEL PRESSURE ADAPTOR	Jaguar Legacy V8 Petrol	
01397000	VACUUM GAUGE ASSEMBLY		
31460400	10mm EXTENSIONS (x2)	TDV8, TDV6 & 2.2 Freelander and XF - Supply Line - Brass Joint / TDV8, TDV6 & 2.2 Freelander and XF – 5 Litre V8 Petrol - Supply to brass joint	
10066000	1/4" BORE HOSE COUPLING (x2)	Jaguar & LR	
31460700	HOSE ADAPTOR 9.65mm	5.0 Litre Jaguar & LR - Supply	
31488500	SYSTEM CONNECTOR 8mm	2.2 XF, Freelander, Evoque Supply - Return (TDV8-TDV6) - 2 litre Petrol Supply - Jaguar and LR	

31488600	SYSTEM CONNECTOR with 90 degree elbow	2.2 XF, Freelander, Evoque Supply - Return (TDV8-TDV6) - 2 litre Petrol Supply - Jaguar and LR	
31481800	GM/MERC Schrader QC Number 1	TDV8, 4.4 Diesel - LR Filter Head JAD	
31482100	4.4ltr Schrader QC Number 2	4.4 Litre V8	
31482000	2.2ltr Schrader QC Number 3	Puma Schrader Valve Adaptor - LR	
31481900	BMW/FORD/MINI/VOLVO Schrader QC Number 4	TDV6 3 Litre - Supply Schrader Valve - Jaguar & LR	
31487170	GAUGE ASSEMBLY 0 - 150 PSI		
31487370	T CONNECTOR ASSEMBLY		
31486370	DOUBLE ENDED QC HOSE