Precautions:

- Always refer to the vehicle manufacturer's documentation to establish the correct procedure for injector removal.
- Eye protection must be worn when carrying out the cleaning process.
- Take care when using the cleaning brush (**B**, **C** or **D**), that the end does not get caught in the port sealing plug (**G**).
- Maintain the tools and kit in a clean condition to maintain performance and safety. Brake cleaner or similar solvent can be used to clean the brushes and nozzle port cleaner.

Safety First. Be Protected.

Our products are designed to be used correctly and with care for the purpose for which they are intended. No liability is accepted by the Tool Connection for incorrect use of any of our products, and the Tool Connection cannot be held responsible for any damage to personnel, property or equipment when using the tools. Incorrect use will also invalidate the warranty.

If applicable, the applications database and any instructional information provided has been designed to offer general guidance for a particular tool's use and while all attention is given to the accuracy of the data no project should be attempted without referring first to the manufacturer's technical documentation (workshop or instruction manual) or the use of a recognised authority such as Autodata.

It is our policy to continually improve our products and thus we reserve the right to alter specifications and components without prior notice. It is the responsibility of the user to ensure the suitability of the tools and information prior to their use.

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The Complete Connection

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Guarantee

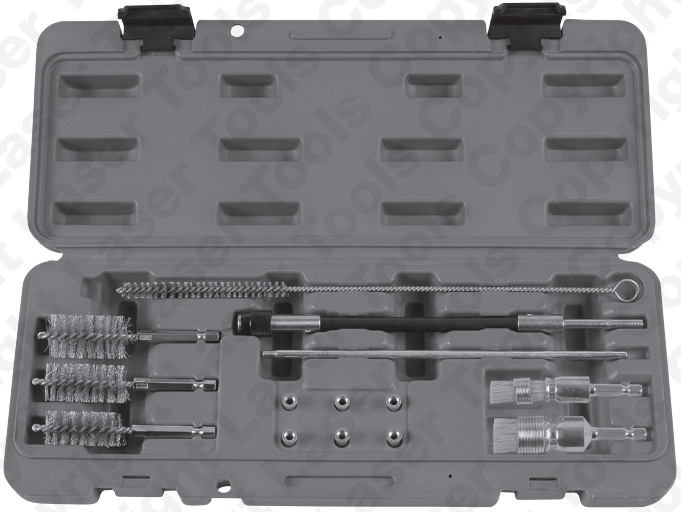
This item contains consumable elements and are **NOT** covered by the Tool Connection Guarantee. For spares contact our service department direct on: **+44 (0) 1926 818186**.

LASER®

Part No. 6101

Diesel Injector Seat Cleaner Set

14pc



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Introduction

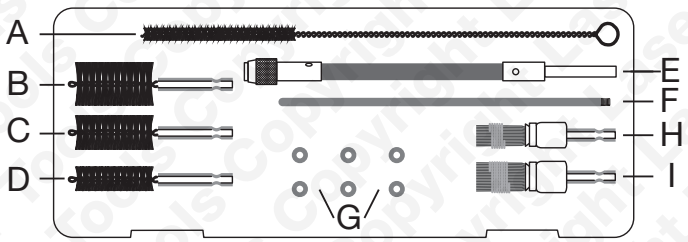
Part of the Laser Tools' specialist range for diesel engines, this kit provides everything for efficient cleaning of the injector port and seating surface prior to fitting new injectors. Suitable for a wide range of vehicles, helps to avoid blow-back due to poorly seated injectors.

The kit contains three brass coated steel wire brushes for cleaning the carbon deposits from the inner side walls of the port and two silicone nylon brushes for cleaning the base/injector seat area. The silicone nylon brush is required on the base/injector seat area as this type of brush gives a smooth and consistent finish to an aluminium surface, particularly important on this sealing surface. This is not so easily achieved with forward facing steel wire brushes which can damage the sealing face (see **Fig 4**). Area on LEFT has been cleaned with a steel wire brush: the surface is uneven and pitted. Area on RIGHT has been cleaned with the silicone nylon brush and is smooth and flat.

These cleaning brushes are fitted with quick-chuck shafts which fit into the chuck of the 224mm flexible extension provided. This extension is designed to be driven by an electric cordless drill.

A set of six plugs (plus insertion rod) are provided to seal off the injector nozzle ports at the bottom of the main injector port, to stop any carbon or dirt entering the combustion chamber during the cleaning process. Subsequently these plugs are removed to enable cleaning of the injector nozzle port. A thin bore steel wire brush is provided for this task.

Components

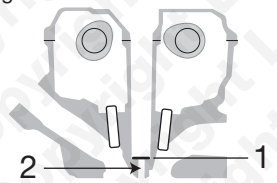


Ref.	Description	Replacement Part No.
A	Injector nozzle port cleaner	2874
B	Cleaning brush (inner injector port) 25mm	2875 (3pc set - 18, 22 & 25mm)
C	Cleaning brush (inner injector port) 22mm	
D	Cleaning brush (inner injector port) 18mm	
E	Quick chuck 224mm flexible extension	2876
F	Insertion rod for **G**	2877
G	Injector nozzle port sealing plugs (6)	2878 (6pc)
H	Cleaning brush (base/injector seat area) 15mm	2879 (2pc set - 15 & 20mm)
I	Cleaning brush (base/injector seat area) 20mm	

Instructions

Before attempting to remove the existing injector(s), thoroughly clean the area around each injector.

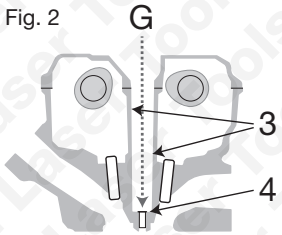
Fig. 1



Refer to **Fig. 1**: Extract the injector, then remove the copper sealing washer (**1**) from the base of the injector port. We recommend the use of a diesel injector seal puller for this task, for example Laser 5450.

The next step is to seal off the injector nozzle port (**2** in **Fig. 1**) at the bottom of the main injector port, to stop any carbon or dirt entering the combustion chamber during the cleaning process. Refer to components diagram above: lightly screw a injector nozzle port sealing plug (**G**) onto the insertion rod (**F**). The sealing plugs are sized to fit the majority of injector nozzle ports.

Fig. 2



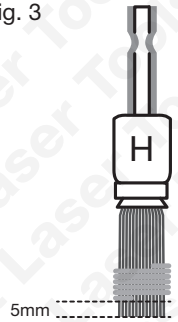
Instructions

Refer to **Fig. 2**: place the injector nozzle port sealing plug (**G**) into the nozzle port. Then turn the insertion rod (**F**) anticlockwise to remove it, leaving the sealing plug (**G**) in place.

Now choose an appropriately sized cleaning brush (**B**, **C**, or **D**) and fit to the quick chuck 224mm flexible extension (**E**). When choosing the size of brush, be aware that some injector ports are tapered, getting narrower near the bottom. Then, mounting the assembly to a cordless electric drill, clean out the sides of the injector port (area **3** in **Fig. 2**). Work carefully and ensure that all carbon and dirt deposits have been removed. Take care when using the cleaning brush that the end does not get caught in the port sealing plug (**G**).

Hold the sealing plug (**G**) in place with the insertion rod (F) then vacuum out the injector port.

Fig. 3



Fit an appropriately sized base cleaning brush (**H** or **I**) and fit to the quick chuck 224mm flexible extension (**E**). Refer to **Fig. 3**: Push the steel coil mounted over the brush bristles down to about 5mm from the end of the bristles. The purpose of the steel coil is to keep the bristles tightly bunched and straight. As the bristles wear, continue to adjust the steel coil to keep it 5mm from the end of the bristles.

Use the base cleaning brush (**H** or **I**) to clean out the base of the injector port (area **4** in **Fig. 2**). Again, holding the sealing plug in place, vacuum out the injector port.

Insert the insertion rod (**F**) and screw it back into the nozzle port sealing plug (**G**), then withdraw.

The final step is to clean the injector nozzle port (**2** in **Fig. 1**). Apply a small amount of grease to the lower wire brush section of the injector nozzle port cleaner (**A**). Carefully insert into the nozzle port and clean by turning the cleaner anticlockwise a few turns. Then continue to turn anticlockwise as the cleaner is withdrawn. The grease will hold any dirt or carbon deposits and the anticlockwise turning motion bring these deposits upwards and away from the combustion chamber.

To finish, remember to fit a new copper sealing washer to the base of the injector post before fitting the new injector.

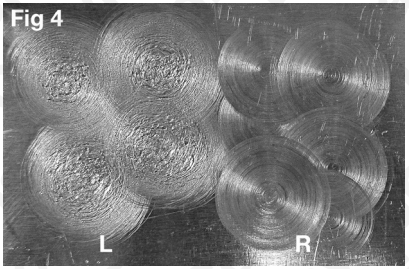






Fig. 5: Before cleaning.
Fig. 6: After cleaning.