

SGI filter installation instructions



These installation instructions are valid for SGI filters plastic

SGI filter installation instructions and description

1. Brief description

The SGI system is a chemical-catalytic reactor unit for improving the combustion characteristics in gasoline and diesel engines. By using the SGI filter, a higher energy yield is obtained due to faster and more uniform combustion, as well as full utilization of the fuel (reduction of unburned hydrocarbons). The service life of an SGI filter is approximately 250.000 – 300.000 kilometers. The SGI filter is absolutely maintenance-free during this time, if installed correctly. The storage temperature until installation must not exceed 30°C.

2. The use of the SGI filter results in the following advantages

- Fuel savings (gasoline or diesel)
- Improved fuel quality
- Smoother and quieter cold starting and running characteristics
- Extended engine and exhaust system (exhaust) life
- Reduction of harmful exhaust gases through more efficient combustion. The proportion of soot particles is reduced by approximately 80 percent.

A comparison of engine exhaust emissions with and without SGI filter proves the effectiveness and therefore also the advantages: Fuel savings, easier starting, quieter engine operation, reduced emissions for efficient environmental protection are facts that will convince you.

3. Application

The SGI filter can be used for all gasoline and diesel engines.

Caution! *We strongly recommend using a new fuel hose to install the SGI filter.*

4. Scope of delivery SGI filter M-plastic

The scope of delivery for an SGI filter includes the following:

- 1 x SGI filter M-plastic - closed with plastic screws + seal on both sides.
- 2 x plug fittings
- 2 x gasket
- 2 x hose clamps

5. Notes on assembly:

- time required for assembly is approximately 0.5 - 2.0 hours, depending on the model.
- before installing the SGI filter check the diameter of the fuel line. Appropriate connections are available for fuel lines with an inner diameter of 10 mm and 12 mm.



Figure 1 - SGI filter Connections

- When installing, note the direction of installation, i.e. the arrow points in the direction of flow.
- Find out where the engine fuel line is located (Note - some engines have a fuel line back to the tank. Make sure that the SGI filter is installed in the engine fuel line).

Carefully select the installation location in the engine compartment:

- ➔ Is there enough space for the installation?
- ➔ Installation should be after the fuel filter and before the injection pump/carburetor. The ambient temperature of the SGI filter must not exceed 130°.

- ➔ Please note that depending on the vehicle type, pressure brackets and fittings may have to be created or installed. In addition, it may be necessary to extend the fuel hose.
- ➔ The SGI filter should be installed 60-70° with the outlet at the top (so that no gas accumulates in the SGI filter).

The SGI filter should be placed after the fuel filter and before the injection pump or carburetor.

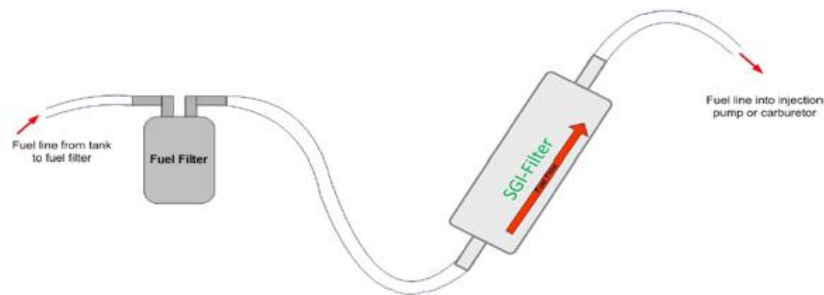


Figure 2 - Schematic diagram of the SGI filter installation

Caution! After removing the plugs (see Fig. 3), the SGI filter must be filled with fuel within a few minutes (see page 4, item f)). To do this, immediately after installing the filter, turn on the motor for a short time.

- ➔ Prepare everything carefully before opening the SGI filter sealing caps.



Figure 3 - Caps (see arrows)

Make sure that the arrow on the SGI filter points in the direction of the fuel flow after installation, as shown in Figure 4.



Figure 4 - Note the direction of flow

6. Installation

The SGI filter must be installed with extreme care in accordance with the following instructions, if possible by a qualified specialist. If necessary, parts of the engine compartment, such as air filters, etc., must be removed to gain access to the fuel line. The following procedure should be followed:

- a) Read the installation instructions carefully
- b) Turn off the engine and let it cool down.
- c) Prepare the necessary tools (knife, pliers, screwdriver, etc.).
- d) Disconnect the fuel line between the fuel filter and the injection pump or carburetor. Be careful and proceed with caution! When cutting the fuel line, fuel can leak! Observe the general instructions for handling flammable liquids!
- e) Place the hose clamps over the ends of the cutting line.

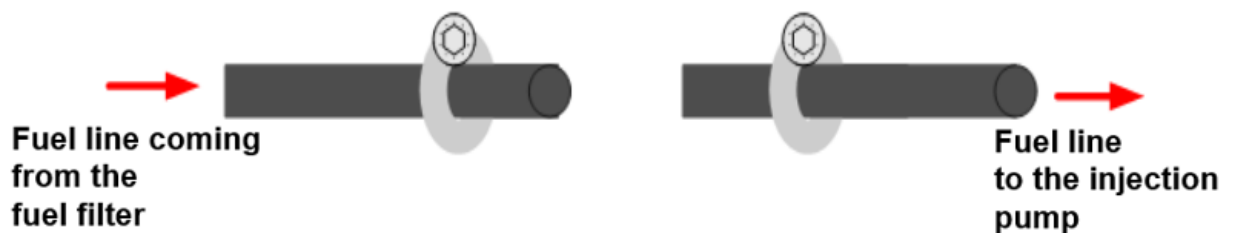


Figure 5 - Hose clamps are placed over the fuel hose

- f) Remove the SGI filter caps. The SGI filter is filled with nitrogen to protect the working element. **Under no circumstances should air enter the SGI filter for more than 10 minutes, as this will deactivate it, and reactivation will take a longer time!**



Figure 6 - Removing the seal caps

g) Screw the hose connections to the seal.



Figure 7 - Tightening Hose Connections

h) Connect the ends of the SGI filter line first to the inlet and then to the outlet. Make sure that the hose ends are properly seated on the spigot.



Figure 8 - Connecting the hose ends to the SGI filter

i) Place the hose clamps in the correct position and tighten the screws firmly.



Figure 9 - Connected SGI filter

- j) Remove any fuel residues that may have leaked out!
- k) Start the engine and check the connections for leaks.
- l) Retighten the bolts and connections if necessary.
- m) Make sure there are no kinks in the fuel line.
- n) Place the SGI filter in a slightly inclined vertical position (see picture) by means of cable ties, with the outlet in the flow direction (arrow) upwards. This prevents air from accumulating in the SGI filter.
- o) Repeat the leak test after the first loads under full power.

Correct Installation

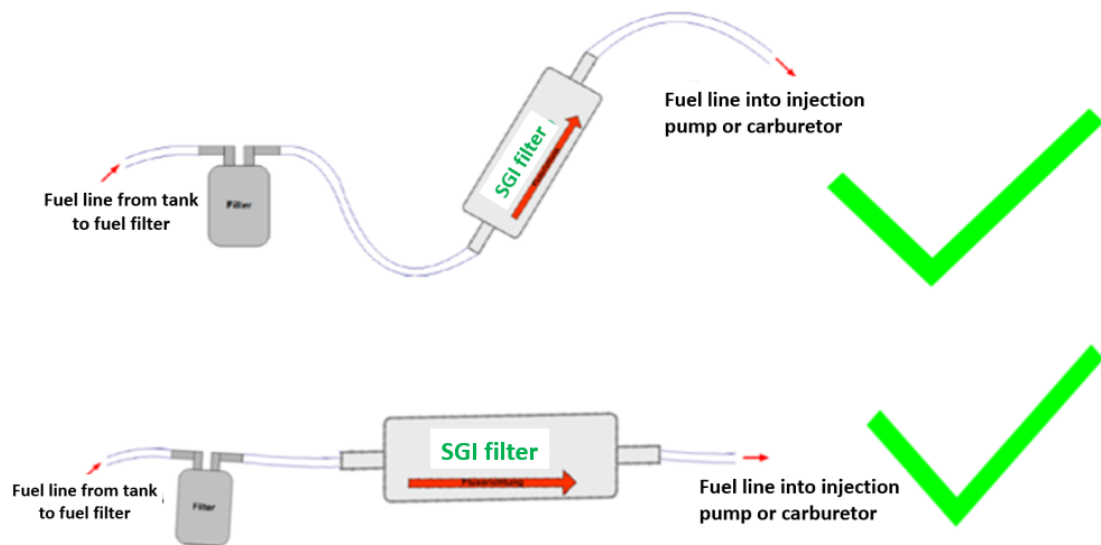


Figure 10 - Correctly installed SGI filter

Incorrect installation

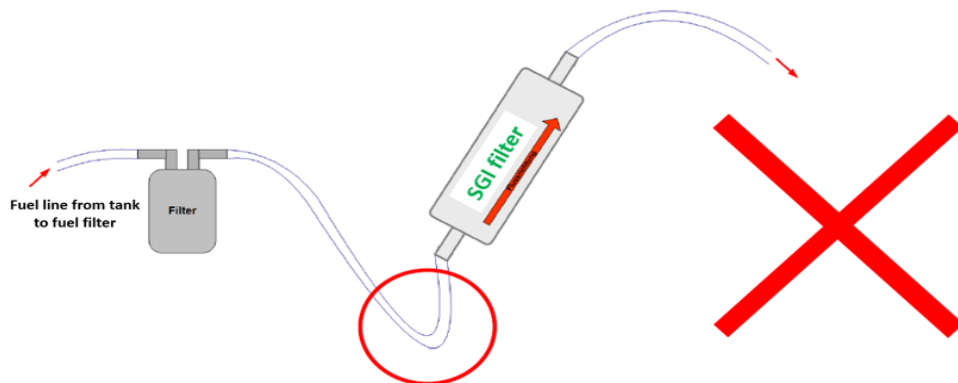


Figure 11 - Beware of the hose bend

Caution! There is a risk of kinking the hose if the fuel hose is laid at an angle.

7. Maintenance

When installed correctly, the SGI filter is maintenance free.

8. Recycling

The SGI filter should be replaced after 250.000 – 300.000 kilometers at the latest, in order to maintain the usual effect.

Caution!

After installing of the SGI filter, the soot deposits on the engine are first burned off. This process may be accompanied by a *temporary* increase in fuel consumption as well as increased soot emission and may last for about 1.000 km of driving. After that, consumption drops off rapidly.