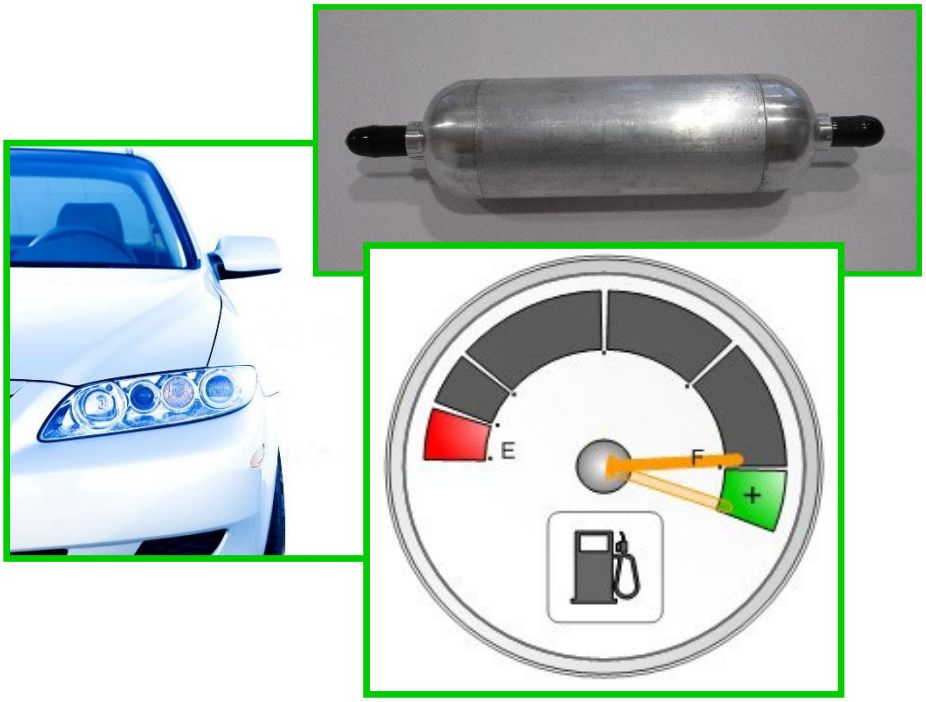
ICR - Ignition Core Reactor



Installation guide

This installation guide is for the ICR – model ICR-M plastic

Instructions and description of the ICR system

1. Short Description

The ICR system (Ignition Core Reactor) is a chemical-catalytic element to improve the combustion process in gasoline and diesel engines. Using the ICR results in a higher energy yield through faster, more even combustion combined with slightly more pressure on the piston and full use of the fuel (reduction of unburned hydrocarbons). The service life of an ICR is approx. 250.000 kilometers. When properly installed, the ICR is maintenance-free during this time. The storage temperature until installation should not exceed 30 ° C.

2. The use of an ICR has the following advantages

- ✓ Fuel savings (Gasoline or Diesel)
- ✓ Improvement of fuel quality
- ✓ Smoother and quieter cold start and running performance
- ✓ Extended life of engine and exhaust system
- ✓ Compliance with the statutory emission levels for older vehicles
- ✓ Reduction of emissions through better combustion in diesel
- ✓ Soot particles are reduced by about 80%

A comparison of exhaust emissions of the engine, when operated with or without ICR system, proves the effectiveness and thus also the benefits:
Fuel savings, better starting, smoother engine operation, increased performance and extended service life are facts which will convince you.

Lower fuel cost and protection of the environment by reducing emissions are further advantages that favor the use of the ICR system.

3. Application

The ICR system can be installed in all gasoline and diesel engines.

4. ICR – Scope of delivery

The scope of delivery of an ICR contains the following:

- 1 x ICR-M plastic - closed with plastic screws + seal on both sides
- 2 x screw fittings
- 2 x seals
- 2 x hose clamps

5. Instructions for Installation

The time required for the installation is about 0,5-2 hours
The connection pieces has to be prepared respective specified (diameter fuel line) by purchasing the ICR.

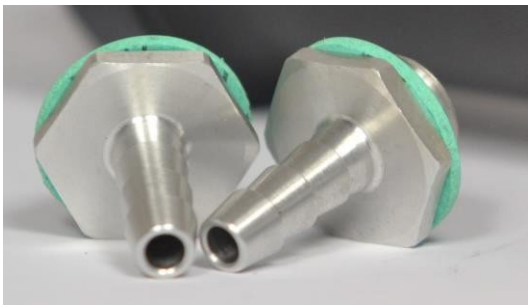


Figure 1 - connection pieces

The connection pieces are available for fuel lines in the sizes of 8 mm, 10 mm, 12 mm, 14 mm.

Find out which is the fuel line to the engine (Attention – some engines has a fuel line back to the tank, make sure to install the ICR in the line to the engine!)

Is there sufficient space available for installation?

- ➔ It can be that you need some additional fuel line for placing the ICR on a required place
- ➔ The ICR should be installed 60-70° with outlet on top (with the result of no gas in the reactor)
- ➔ The location must be carefully selected
- ➔ There should be a possibility to fit the ICR either with cable tie that the ICR keeps its position or to fit it on the bodywork of the car with a pipe clamp.
- ➔ If some adapters for the fuel line are implemented which are not from C-Innovations, please make sure that all parts are free of zinc which are in direct contact with the fuel.

Mount the ICR system as close as possible to the injection pump or carburetor.

- ➔ The ICR should be installed between the last fuel filter and injection pump.

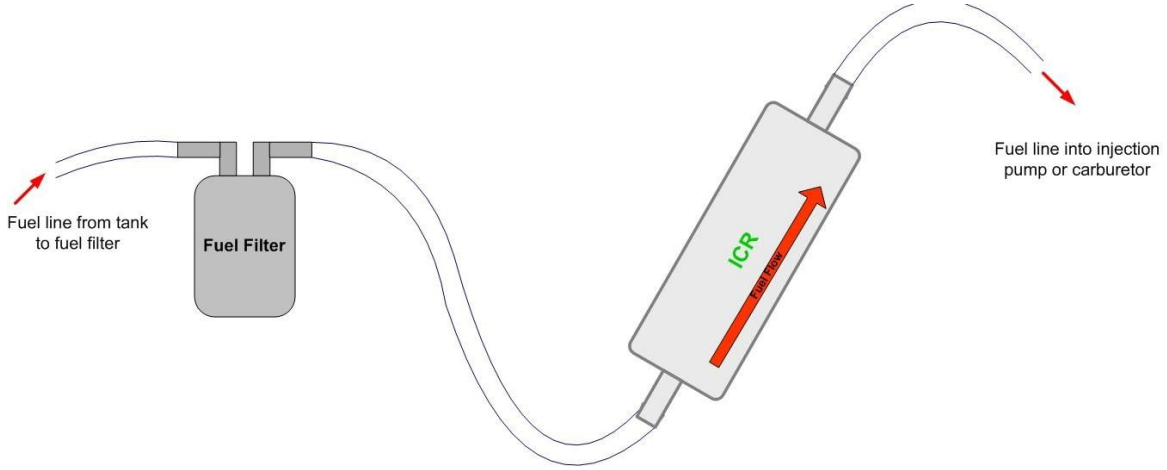


Figure 2 - Schematic diagram for final ICR installation

Make sure that ICR will be filled within few minutes with fuel as soon the locking cap is removed the first time! The ICR is delivered with nitrogen filling to protect the surface against oxidation.

- ➔ Please prepare everything before open the ICR!
- ➔ Make sure that the ICR will never be without fuel as soon it is opened the first time, otherwise it gets inactive.

Figure 3 - ICR - arrows point to locking caps

Make sure the arrow on the ICR system points in the direction of fuel flow as you can see in figure 4 when the ICR is installed.

Figure 4 - ICR - Attention on fuel flow!

6. Installation

a) Read installation instructions carefully.
b) Switch off engine and let the motor cool down.
c) Prepare the tools required such as side cutter, screwdriver, screw wrench, etc.
d) Disconnect the fuel line. **Caution!** Disconnecting the fuel line can cause fuel leakage. Pay attention to the general guidelines when handling flammable liquids.
e) Fit the hose clamps on the fuel lines.

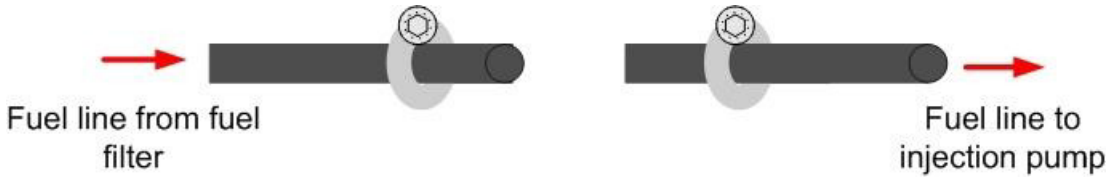


Figure 5 - Fit hose clamps into fuel line after cutting the line

f) Open the locking caps of the ICR (from that point the ICR has to be connected within 10 minutes otherwise the metal structure gets inactivated) The inside of the ICR system should not be exposed with air.

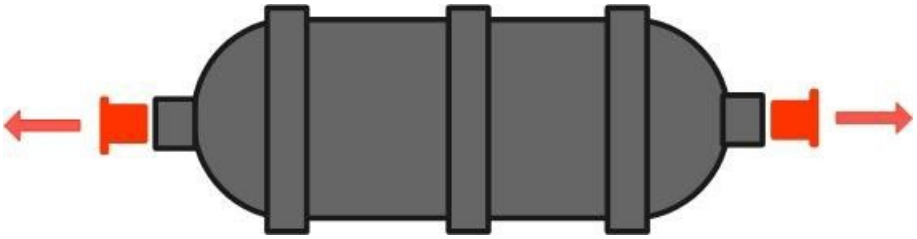


Figure 6 - Open locking caps of the ICR

g) Screw the connection pieces with the seal tight

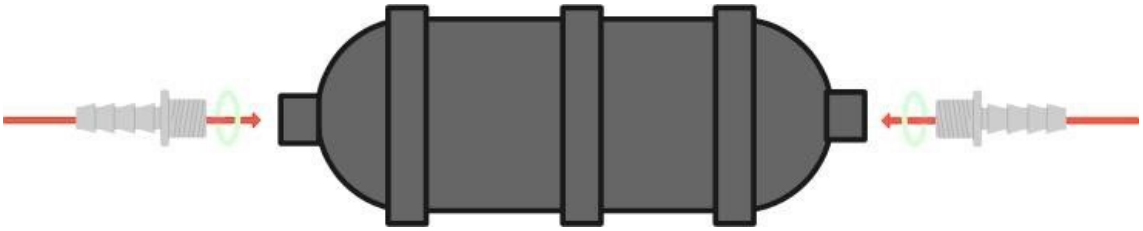


Figure 7 - Screw connection pieces

h) Connect the fuel line with the entrance side first, and then with the exit side of the ICR.

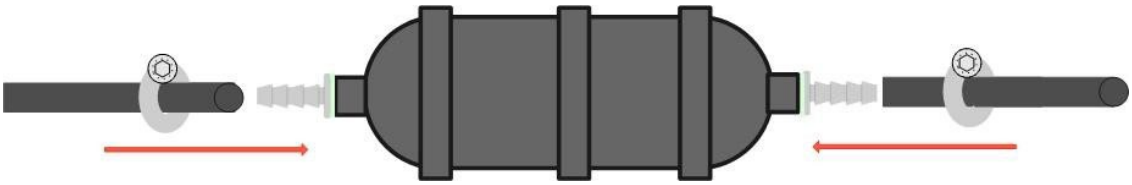


Figure 8 - Connecting fuel line

i) Make sure the tube ends are sitting properly on the stubs of the ICR system.
j) Set the hose clamps in place and tighten the screws.

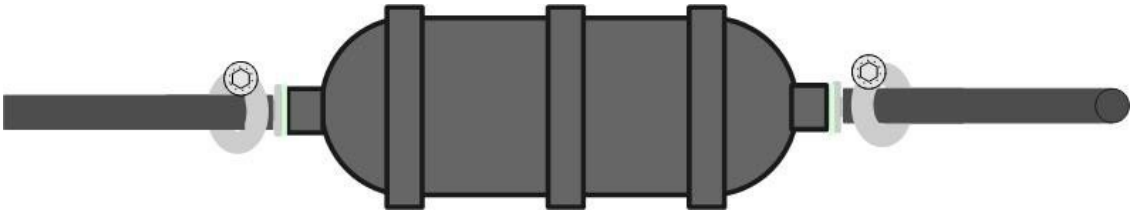
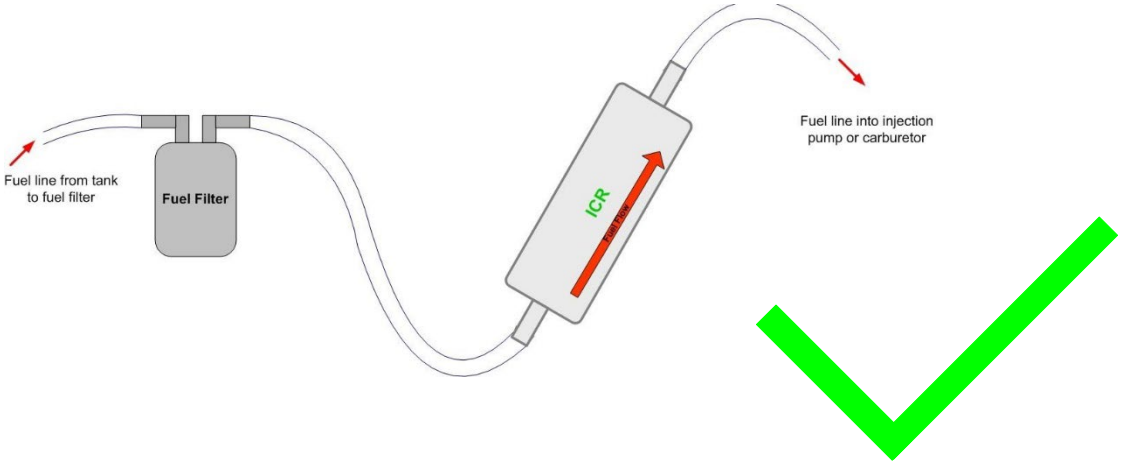


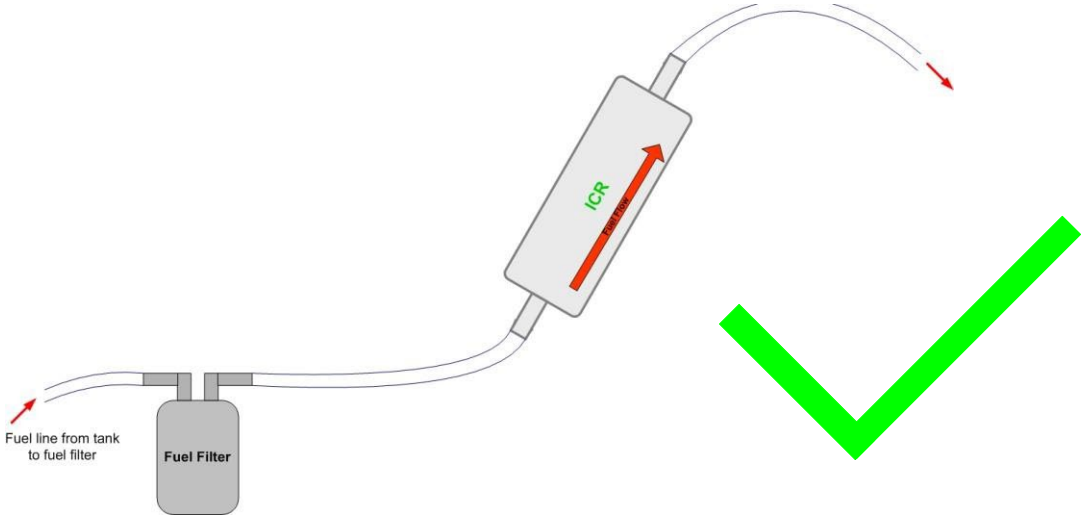
Figure 9 - Connected ICR

k) Remove any spilled fuel!
l) Start the engine and check the connections for leakage.
m) If necessary re-tighten bolts and connections.
n) Be sure the fuel line can not bend down.

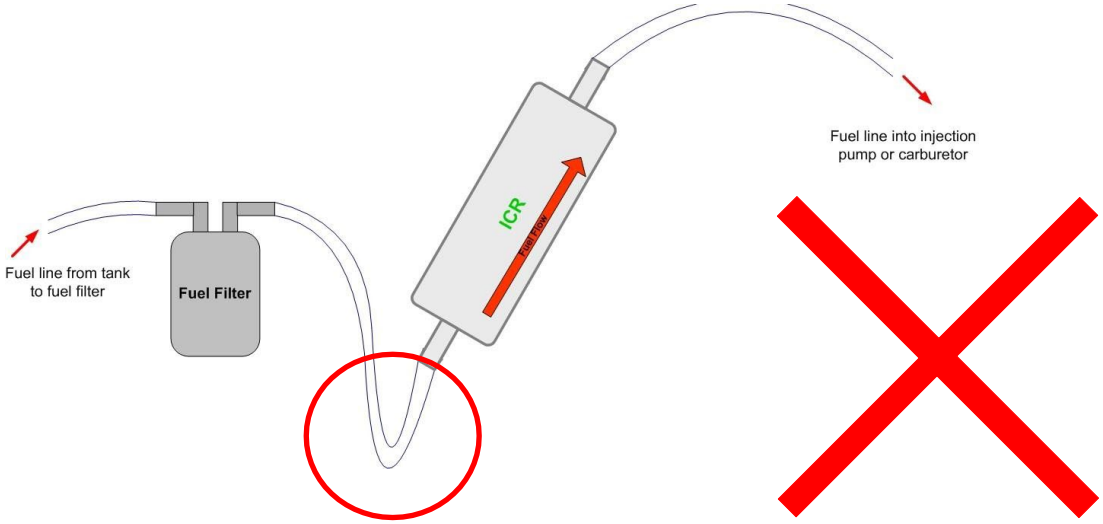
Correct installation



Correct installation



Wrong installation



Attention! Danger of bend down the fuel line if the fuel line is to high angle installed.

o) Fit the ICR either with cable tie that the ICR keeps his position or fit it on the bodywork of the car with a pipe clamp.
p) Repeat the leak test after running the engine several times at full power.

7. Maintenance / Care

If you follow the above instructions the ICR system will be completely maintenance free.

8. Recycling

Please change the ICR latest after 250.000 kilometer. The used ICRs are taken back and will be recycled.

C-Innovations UG (haftungsbeschränkt)
Feldweg 2
08412 Werdau
Germany

2022 Installation Guide ICR