



Installation instructions

**Generic  
Fuel Filter Heater Kit**

Heating Element

Switch Loom

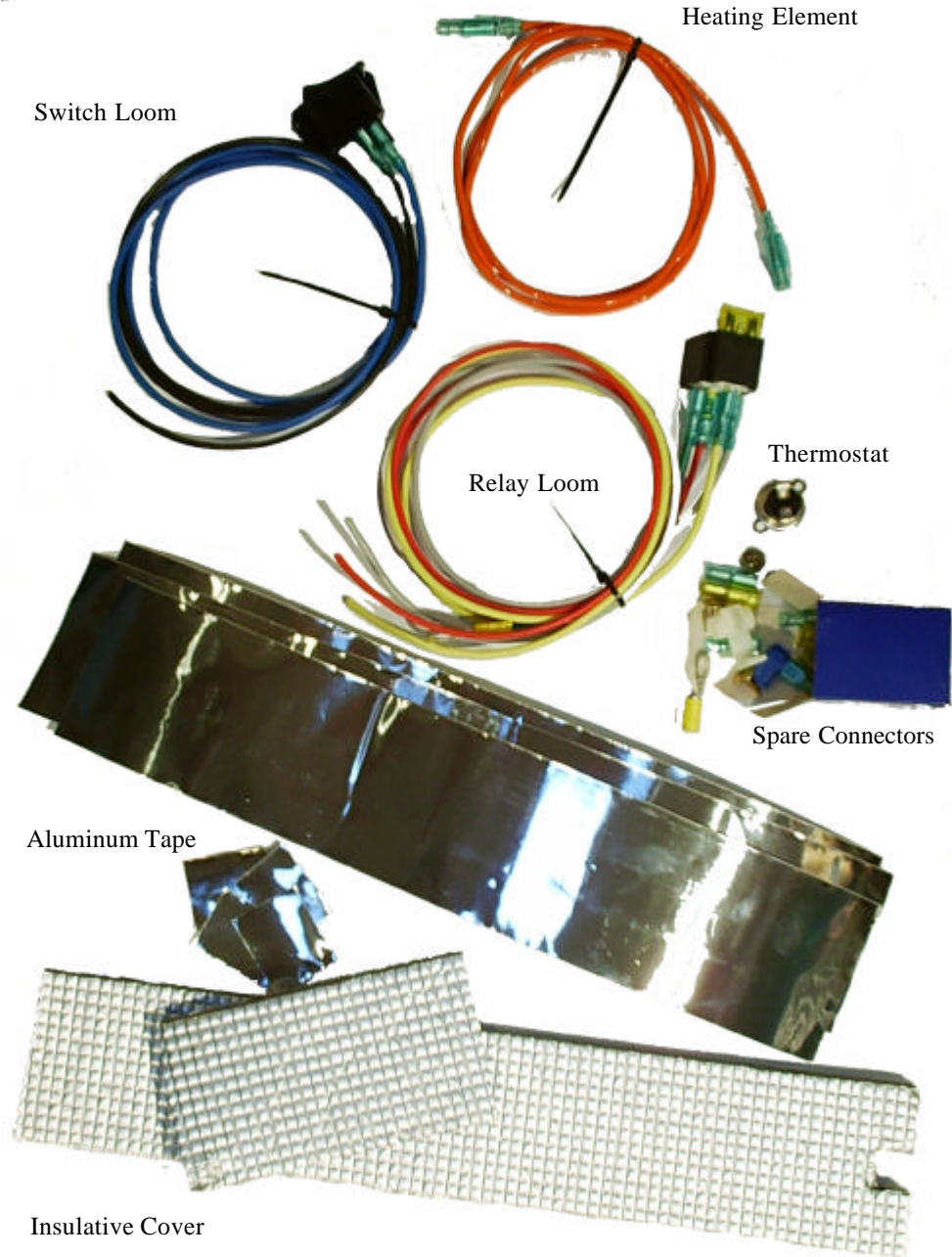
Relay Loom

Thermostat

Spare Connectors

Aluminum Tape

Insulative Cover



## Operating the System

Reassemble all of the equipment that you removed to fit the kit, reconnect the battery, turn the ignition to on - not start, just on and flick the switch down to the on position.

After a brief pause, you should notice the temperature of the element start to rise and will become too hot to touch.

Once the engine bay has heated up, the heat is likely to permeate the filter and if above 40°C, the thermostat will not switch back on. The thermostat should be turning off at about 60°C and back on again around 40°C. A dash mounted digital thermometer with probe is available as an optional extra to aid in assessing the efficiency of the heating system.

You might notice a burning smell - ignore it. All of the products involved in the installation will release some gasses until they are a bit worn in, so the first few times might smell a bit odd, but it's unlikely to be starting a fire.

In colder conditions where overnight temperatures drop below 10°C, it may be necessary to blend diesel fuel with the vegetable oil to assist with starting, and it is recommended that the vehicle be garaged with a second battery installed.

Email [marcus@vegiecars.com](mailto:marcus@vegiecars.com) if requiring assistance.

## The components included with this kit:

### **Heating Element**

This flexible element is 1200mm long with blue bullet connectors. The male connector is crimped to the element assembly, and the female connector has been inserted for crimping by the installer

### **Aluminum Tape**

This adhesive backed tape is used for creating a sock around the filter cartridge. A spare piece has been provided incase of installer error.

### **Thermostat**

The thermostat comes with two yellow blade terminals for the installer to crimp at a later stage. The thermostat switches off at 60°C and back on again at 40°C.

### **Insulative Covering**

This specialist fire rated non-porous closed cell elastomeric foam provides both an insulative cover and barrier to water vapour.

### **Relay loom**

Includes a fused relay with a 20amp fuse, a short length of green cable crimped with a yellow ring terminal, lengths of Red, Yellow and Grey cable for connecting by the installer. All of these cables have a blue blade terminal crimped to one end, fitted to the relay in the correct positions.

### **Switch Loom**

Includes a on / off 20amp switch with lengths of Blue and Black cable for connecting by the installer. These cables have a blue blade terminal crimped to one end, fitted to the switch in the correct positions.

The Bundle also includes a length of green cable crimped with a yellow ring terminal at one end.

### **Box of Spare Connectors.**

We know that when self installing, sometimes things go wrong, so we have supplied some spare bits and pieces to make the job a bit easier.

The box includes 2 self drilling screws for fixing earth wires to the body of the vehicle and white wire tap connectors for splicing into an existing wire

## What you will need to provide

Pliers or a crimping tool for cutting and crimping cables.

A pair of sharp scissors

Electric screwdriver/drill

## Getting Started

Read all of the instructions before starting.

It is important that there are no fuel leaks around the area of the heating element which becomes rather hot, and leaking fuel may ignite under these conditions.

Disconnect the battery before doing any work on your vehicle or your vehicles electrical system.



circuit, in case something is wired incorrectly.

Pull the Black cable through into the engine bay, to the thermostat and cut to length. Crimp into one of the yellow female blade terminals provided and fit to the thermostat.

Once this is done, take the green cable and work out where you can screw the ring terminal to earth. This may be an existing bolt hole on the engine, or by using one of the supplied self tapping screws to the body. Cut to length, strip and crimp to one end of the element

Push the relay up onto the mounting bracket which will click home into place. The illustration shows the relay being pushed up into position.

Find a high current power source, and cut the yellow cable to length to attach to this source. You could mount either a ring terminal to the end of the cable and attach to the battery, or use the blue wire tap connector to splice it into an existing similar sized cable.

Run the red cable off to a blue bullet connector at one end of the element, cut to length, strip and crimp.

Run the grey cable off to the thermostat and cut to length. Crimp into one of the yellow female blade terminals supplied and push onto the thermostat in either position.



### Wiring the Switch Loom

The switch requires an active power source that only comes on when the ignition is in the on position, as we want the heating elements to turn off when the ignition is off. There are many places that you could “pick up” a supply with the most universal being at the cigarette lighter or stereo, although the switch will then also operate in the accessories position.

Pull through the blue cable to the point where you intend to “pick up” the active line, and cut to length. Use a white wire tap connector to splice it into the existing cable. The blue cable should be attached to the top of the switch. Leave the switch hanging out until you have tested the

## Installing The system

### Tape and Thermostat

This kit can be installed to your existing fuel filter, but it is much easier to be making the heating sock by using a new filter cartridge.

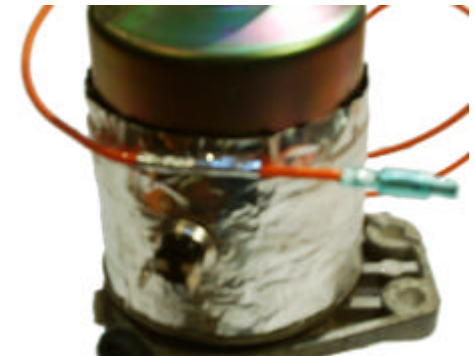
Take a piece of the aluminum tape and carefully remove the backing tape. Wind the tape around the filter with the **sticky side out**. Overlap the tape so that it is continuous and loosely in place around the filter.



Place the thermostat in the centre of the sticky tape area as illustrated.

### Heating Element

Start winding the element around the filter by holding in place with a small piece of aluminum tape provided. Allow enough of the element sticking out to bend up so that the connector will be exposed outside of the finished sock.



Continue winding the heating element around the filter with even spacing. Try to lap around the thermostat without actually making contact with it.

When nearing the end, hold the element in place with another piece of tape and loop the end back up so that the connector will be exposed out of the finished sock.



### Aluminium Coating

Take another length of aluminum tape and slowly wrap from the thermostat around with the sticky side facing in. I suggest that you remove the backing as you wrap the tape around. It is important only that the top and bottom edges of the tape are in good contact, sealing the element in between them.

When you get back to the thermostat, cut the tape with a pair of scissors to lap around the thermostat and bond with the start of the tape.



### Insulation

Remove the paper from the back of the insulation as you wrap it around the sock starting with the notched end around the thermostat.

Wrap right around to match up with the beginning. If the pad is too long, cut it with a pair of scissors while the paper backing is in place. If it is too short, splice in another piece from the short length provided.



When complete, remove the sock from the filter. Press the edges of the tape and insulation together right around the top and bottom of the sock.

This is now ready to install to the existing filter in your vehicle, and should be removed before the filter is removed for replacement.

The bullet connectors will allow for the sock to be removed from the engine bay altogether if necessary.



### Wiring the Relay Loom

The relay requires a power source, which could be directly off the positive battery terminal, or by splicing into a major current supply elsewhere in the engine bay

The relay will also have a wire going to the thermostat and to one end of the element array.

Find a suitable position in the engine bay to mount the relay, taking the above factors into account.

You might find a point that already has a screw in place, but we have supplied a self drilling screw for mounting this unit.

Start by mounting the bracket which you will find in the Narva box. Put the mounting bracket, then the ring terminal from the relay over the screw, and screw into place with a power drill or power driver.