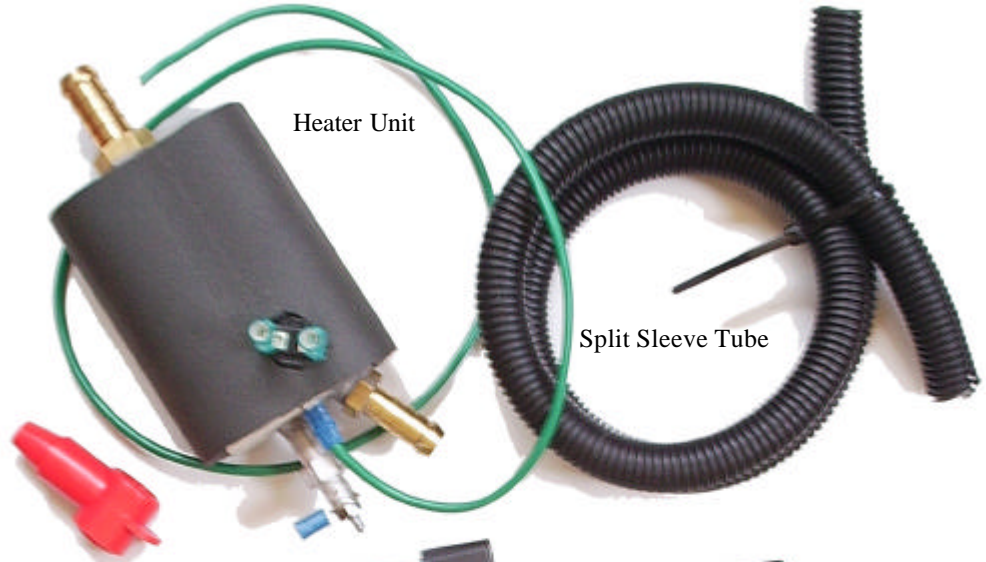




Installation instructions

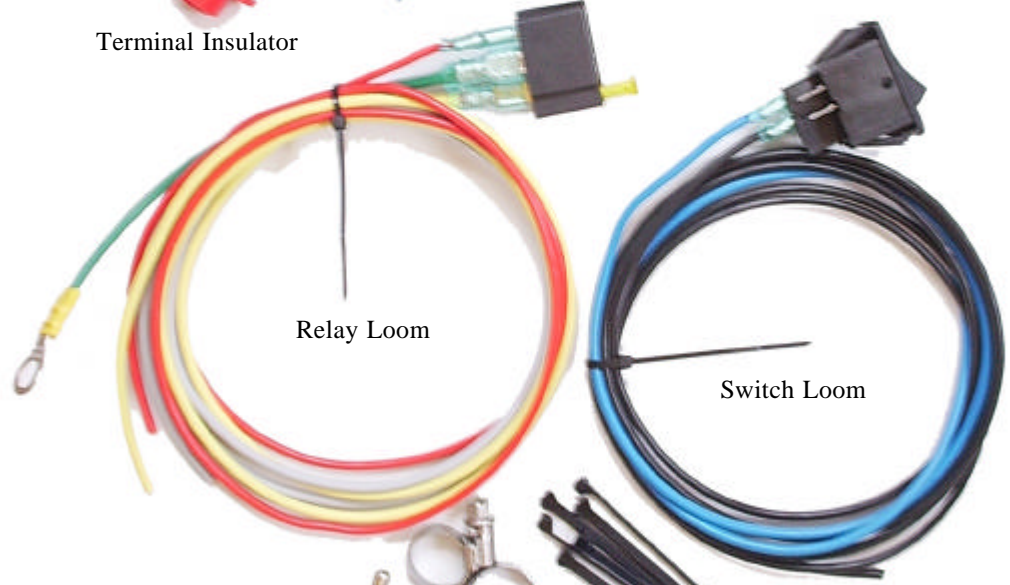
**16 amp Fuel Heater**



Heater Unit

Split Sleeve Tube

Terminal Insulator



Relay Loom

Switch Loom

Spare Connectors

Cable Ties





The components included with this kit:

**Heater Unit**

The body of the unit is constructed from a solid block of Aluminium, with ports drilled for fuel to flow over the tip of the glow plug heating element. The glow plug (matches Toyota Landcruiser BJ60 3B motor) comes complete with ring terminal attached for crimping by the installer. The thermostat switches off at 90°C and back on again at 75°C offering a mean temperature of around 82°C. The thermostat comes with two blade terminals attached for the installer to crimp at a later stage. The foam cover is a specialist fire rated non-porous closed cell elastomeric foam. The green earth wire has been riveted at one end to the body.

**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 blade terminal crimped to one end, fitted to the relay in the correct positions.

**Switch Loom**

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

**Split Sleeve Tube**



This fire retardant polypropylene tube is used to tidy up the wiring.

**Cable Ties**

140mm Black Cable Ties for fixing the unit to nearby objects if necessary.

**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 hose clamps, self drilling screws for fixing earth wires to the body of the vehicle, white wire tap connectors for splicing into an existing wire, and a toggle switch incase the rocker doesn't fit anywhere.





## What you will need to provide

Pliers or a crimping tool for cutting and crimping cables.

A sharp knife

Electric screwdriver/drill

## Getting Started

**IMPORTANT: It is advised to have the fuel line primed with fuel before activating the heating element.** The heater uses a glow plug as a heating element. The heating element must be immersed in fuel before being switched on as it will burn out within 10 seconds if activated in air.

Read all of the instructions before starting, and study the area around where you intend to install the heater to work out how much equipment it is sensible to strip away before starting to install the kit.

If you have a leaking injector pump, we would suggest that it be serviced or replaced prior to installing this kit as air accumulating in the body of the heater may cause failure of the heating element. It is important that there are no fuel leaks around the area as leaking fuel may ignite under these conditions.

The heater should be installed just before the injector pump at a low point of the fuel system incase there is air in the fuel lines.

Clean the area as there is nothing worse than trying to work in an area that is coated with a thick layer of built up grease and grime. This dirty oily film may ignite under extreme conditions.

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



## Installing The system

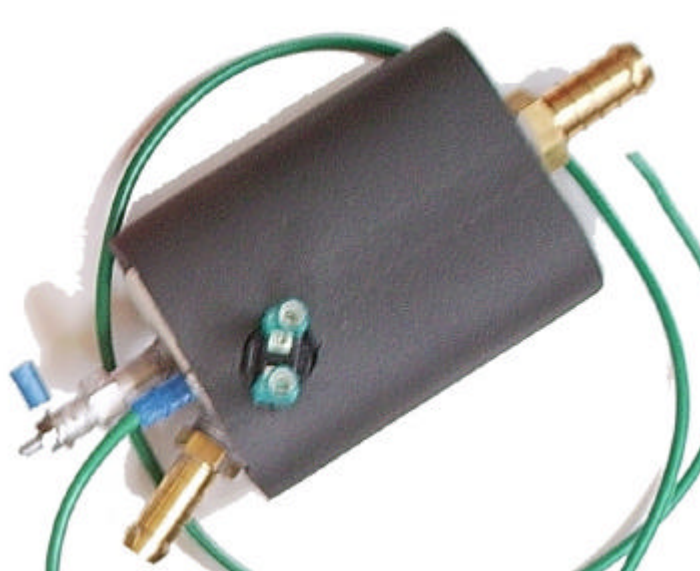
### 1. Installing the Heating Unit.

Choose a position along the fuel line as close to the injector pump as practical. This will hopefully be a point that is lower than the fuel hose before it, as if air accumulates in the heating unit, the glow plug may burn out, especially at start up.

Using a sharp knife, cut the fuel hose and fit the 2 ends to the barbs at each end of the heating unit.

### 2. Wiring the Heater.

Take the green cable and work out where you can screw the ring terminals 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 a ring terminal to the end using a crimping tool or a pair of pliers. Fix the ring terminal to the body or engine.



### 3. 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 have a wire going to the thermostat on the heater unit. 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 on the green wire from the relay over the screw, and screw into place with a power drill or power driver.



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 one of the white wire tap connectors to splice it into an existing similar sized cable.

Run the red cable off to the ring terminal secured to the end of the glow plug on the heater unit. Slip the red terminal insulator over the cable, cut to length, strip and crimp. Pull the insulator up over the head of the glow plug.

Run the grey cable off to the thermostat and cut to length. Crimp into

one of the female blade terminals that are fitted on the thermostat. You may find that you need to take the terminal off the thermostat to crimp it onto the wire.

#### **4. 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 circuit, incase something is wired incorrectly.

Pull the Black cable through to the engine bay, to the thermostat and cut to length. Crimp into one of the female blade terminals that are on the thermostat. You may find that you need to take the terminal off the thermostat to crimp it onto the wire.





## Operating the System

Reassemble all of the equipment that you removed to fit the kit and ensure that the fuel line and heater unit is primed with fuel. Reconnect the battery and turn the ignition to on - not start, just on and flick the switch down to the on position.

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.

Touch your finger quickly against a metal side of the heater unit to see if it is warming up. The thermostat should be turning off at about 90°C and back on again around 75°C so it will quickly become too hot to touch.

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

