

shillas

Shillas Diesel Cooker

Installation Instructions



Shillas Diesel Cooker

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Shillas Diesel Cooker

1. Legal notices

Improper installation or repair of a Shillas Diesel Cooker can cause fire or the leakage of deadly carbon monoxide leading to serious injury or death.

To repair the Shilla Diesel Cooker you need to have the appropriate technical documentation, special tools and special equipment.



NEVER try to install or repair the Shillas Diesel Cooker if you do not have the necessary technical skills and you do not have technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

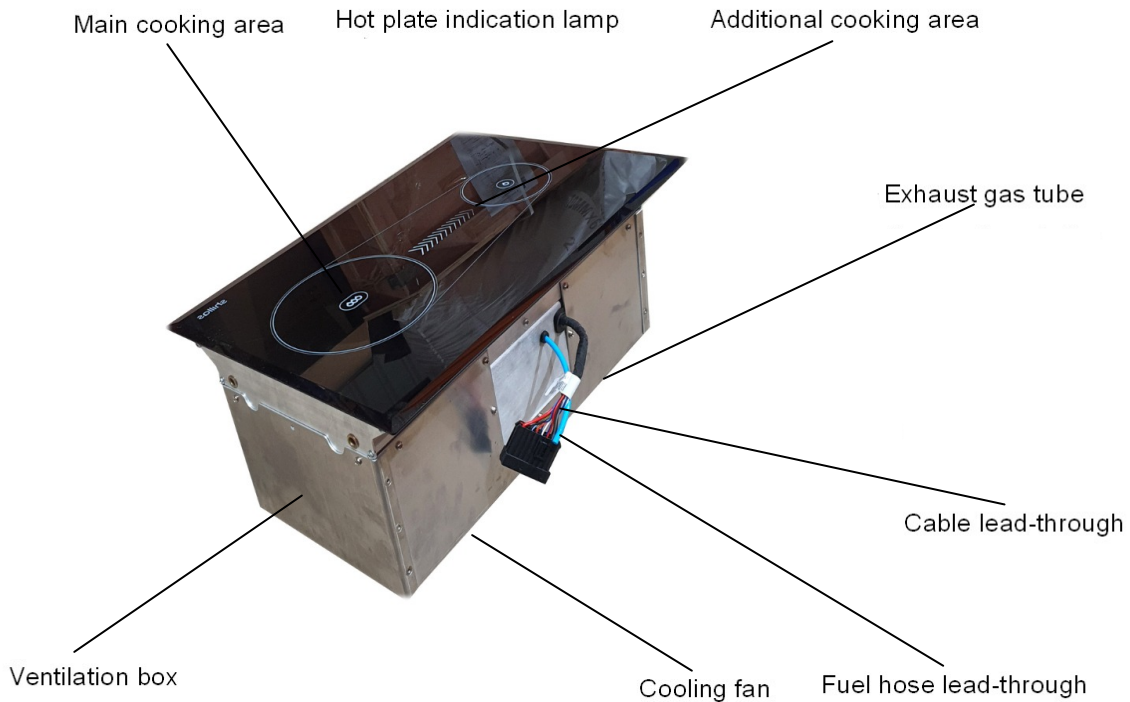
ALWAYS carefully follow Shillas installation and repair instructions

Shillas Diesel Cooker

2. Overview and function

2.1 Overview

Figure 1:



2.2 Function

The Shillas Diesel Cooker is a safe diesel cooker with no open flame. The exhaust gases are led out of the vehicle through the exhaust gas tube, which is inside the cooling air tube. The steam from the exhaust gas will not stay in the vehicle to add humidity.

As the diesel fuel burns, the released heat is transferred to the ceramic plate. The hottest area is on the round plate. Gentler heat is available on the oblong extension. The heat power is steplessly adjustable.

A cooling fan in the ventilation box ensures that the temperature in the mounting space will not rise too high. The warm air is led out through the cooling air tube.

The cooker is ideally suited for cooking and heating of all kinds of food.

The cooker is made entirely of stainless materials.

Shillas Cooker

3. Installation

3.1 Cooker location

When installing a cooker it should be noted that it has to be dismantled for servicing. It is advisable to make the connections in such a way that the device can be easily disconnected for servicing.

There must be at least 20 mm between the cooker and any vertical surface. See figure 2. Make sure that inflammable materials like curtains cannot touch the ceramic plate.

3.1.1 Location of pipes, hoses and wires

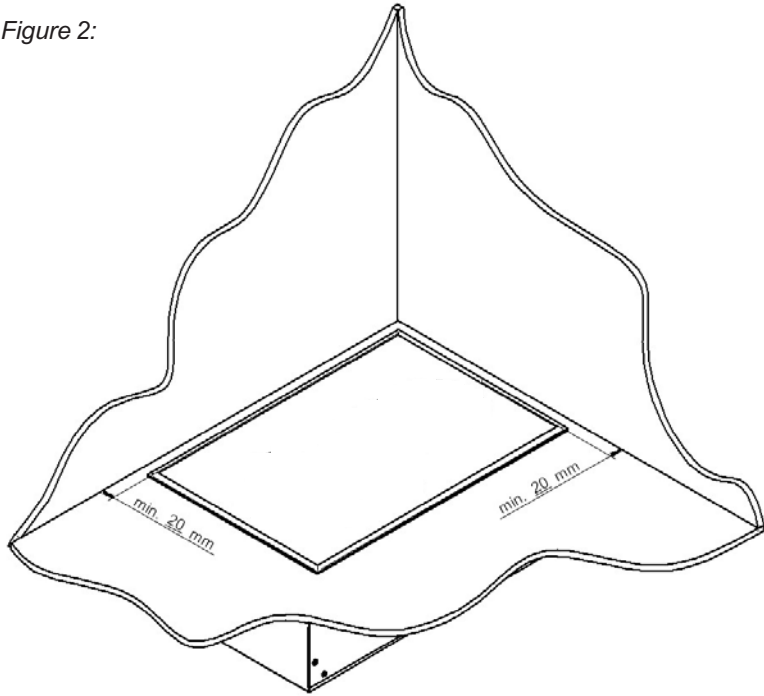
The power cords and fuel hoses must be protected in places where they are exposed to mechanical damage due to, for example, sharp objects or heat.

Materials which come into contact with parts of the cooker or the coaxial exhaust tube have to resist temperatures of 80 °C.



Do not install the cooker in an area where there may be petrol fumes ⇒ risk of explosion.

Figure 2:



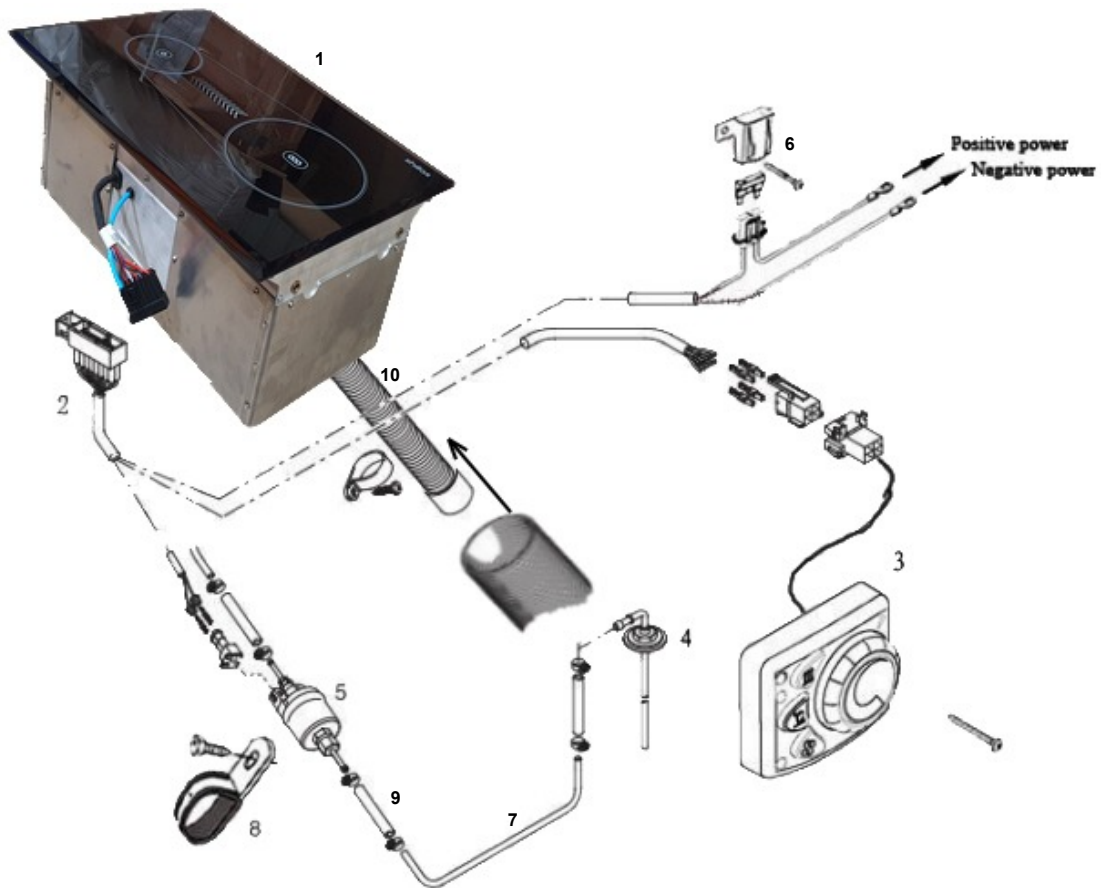
The cooker, exhaust gas tube and all other metal parts must be insulated from the vehicle metal chassis so that in case of an electrical malfunction the voltage is not transferred from the chassis to the cooker or vice versa.

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3.2 Installation example

Figure 3:

1. Cooker
2. Main connection plug
3. Cooktop controller
4. Fuel pickup pipe
5. Fuel pump
6. Main fuse
7. Fuel hose
8. Fuel pump holder
9. Fuel filter
10. Exhaust gas tube
11. Cooling air tube 60mm




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3.3 Replacement air


The cooker needs air for combustion and cooling. There must be sufficient air circulation in the whole vehicle at all times. The place and method of installation must be selected in such a way that the cooker always gets enough replacement air.

There is a cooling fan in the front plate of the ventilation box. There must be at least 200 cm² replacement air opening near the cooling fan in the installation space.



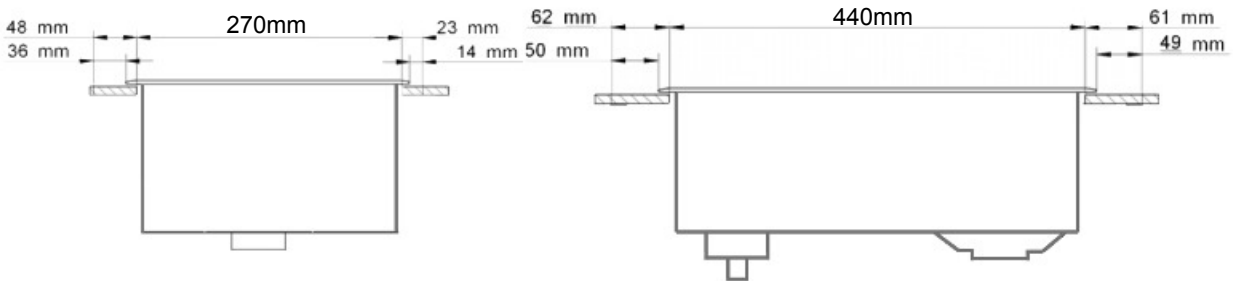
There must be at least a 200 cm² opening for replacement air in the space where the cooker is installed.

The air inlets and outlets must never be covered.



The ventilation box is an important part of the cooker. Never install the cooker without the ventilation box.

Figure 4 A:

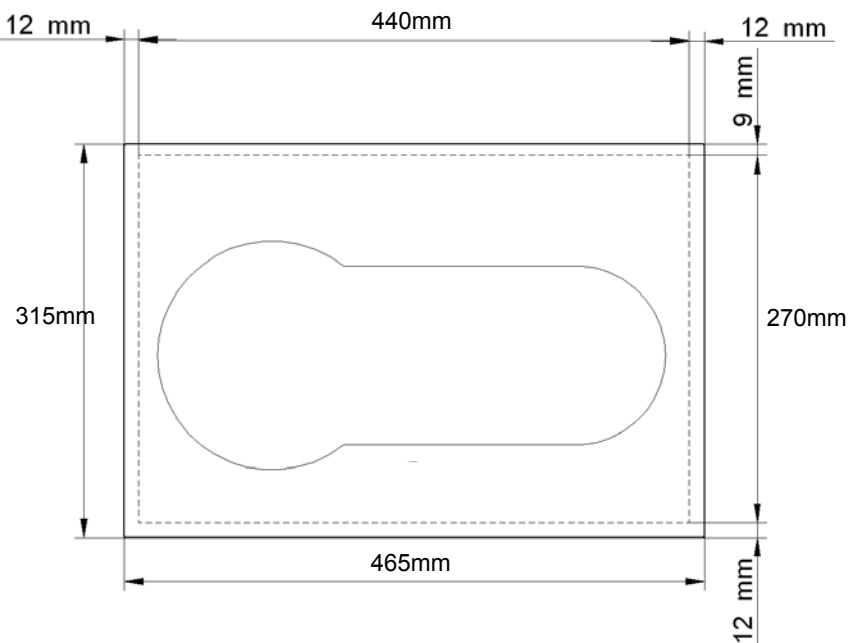


3.4 Installation opening

Saw an installation opening of 270 x 440 mm as shown in figure 4. Do not cut it larger because ceramic plate could be damaged otherwise. Make sure that the cooker is resting with the metal frame on the tabletop.

Note space requirements for ventilation box. The whole ventilation box has to fit into the installation space.

Figure 4B:



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3.5 Mounting the cooker

Figure 6:

Place the cooker in the installation opening and attach the mounting pieces to the nuts at the ends of the cooker using the M6 x 12 mm screws. Choose the mounting piece position (A or B) according to the tabletop thickness.

Figure 6:



Figure 7:

Figure 7:

Then tighten the mounting pieces against the table with M6 x 30 mm screws. Use the locking nuts (M6) and protection plugs \varnothing 6 mm.

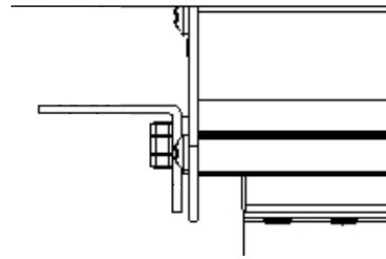
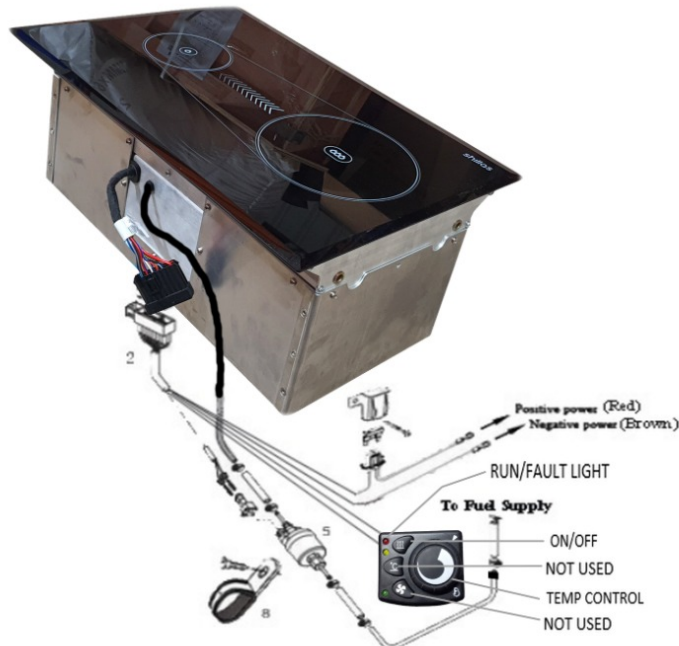


Figure 8:

Please Note:-

Before connecting the fuel hose to the fuel pump, bleed the diesel fuel in the fuel line before the fuel pump by either pressurising the fuel tank with a small amount of air-pressure to push the fuel through the fuel line, this will save you having to re-start the cooktop many times to push the fuel through for best results fuel pump should be within 4 ft of diesel cooktop

Figure 8:



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4 Fuel supply



The fuel must not be taken from the fuel hose going to the engine.
The maximum allowed pressure for cooker fuel hose is 2 bar.



The fuel couplings must be properly tightened to prevent any air leaks into the hose. Air will cause malfunction of the unit.
Always check that the coupling surfaces of the fuel hose and the fuel hose itself are clean before tightening them.

4.1 Fuel line

The maximum length of the fuel hose is 8 m. The fuel hose shall always be cut to suitable length for each installation.

The fuel hose must always be equipped with a filter. The fuel filter shall be installed inside the vehicle to prevent freezing in winter. Use a place where it can be easily checked and replaced if necessary.

4.2 Fuel feed

The fuel tank must always be situated below the cooker. The delivery lift of the fuel pump should be less than 1.5 m.

If the delivery height of the fuel pump is above 1.5 m, the fuel feeding needs to be checked and adjusted if necessary. The fuel feeding must also be checked whenever a fuel system part, such as the pump or electronics card, has been replaced.

Fuel feed adjustment must be carried out by an authorized service provider.

4.3 Fuel connection

Cut Mecanyl lines without burr and do not crush them. Do not cut them with side-cutting pliers.

A rubber hose suitable to diesel must be used with all fuel connections.

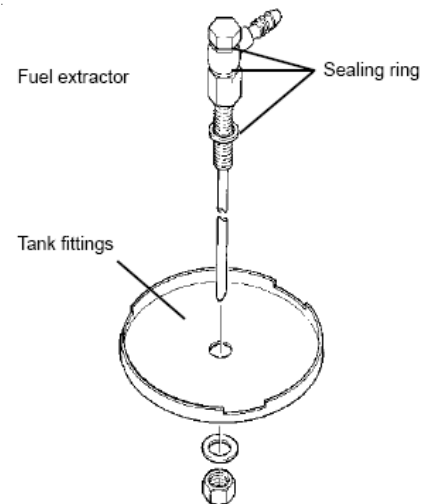
4.3.1 Fuel extractor

Figure 17.

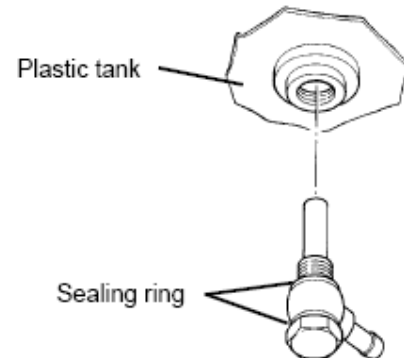
The fuel can be taken from the vehicle fuel tank or from a separate tank with fuel extractor.

Figure 17:

A) Fuel pickup from the plastic tank via tank fitting. The fitting must be made from metal.



B) Fuel pickup from the plastic tank via tank drain screw.



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Fuel Supply-

Please note the diesel fuel dosing pump is to run parallel with the ground or chassis of the vehicle is it to face slightly upward at an incline of not more than 15 degrees, with the pressure side facing upwards. The pump will not operate if it is mounted vertically

Fuel pipes should be protected from any mechanical damage, when connecting fuel pipes with the fuel line connectors please ensure they are butt connected to prevent any bubbles forming.

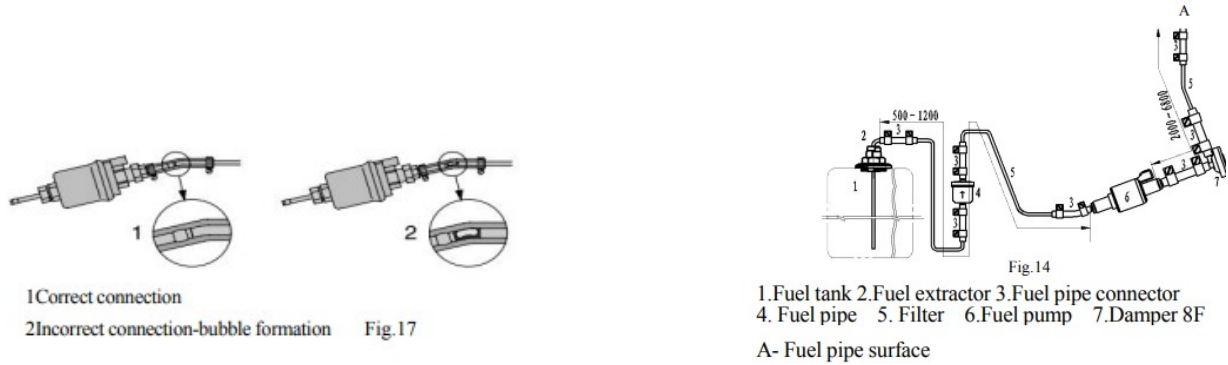
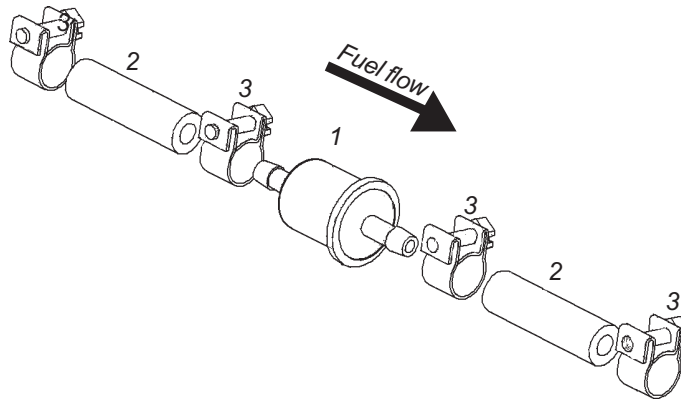


Figure 19:

1. Filter, 2. Rubber hose \varnothing 5 mm, 3. Hose clamp \varnothing 10 mm.



5 Electrical connections

5.1 Connections of device

The device operates on 12 V DC. Attach the red wire of the power cord to the plus pole of the battery and the black wire to the minus pole.

5.2 Cable Diameter

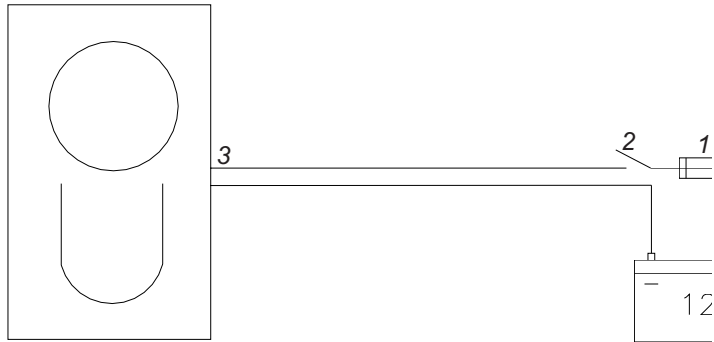
In order to minimise voltage losses we recommend you make the power cord as short and with as few couplings as possible.

The cross-sectional area of the cable depends on the length of the power cable. See table 1. The maximum cable length is 10 m.

The fast coupling of the cooker is for 4 mm² cable. If cables >4 mm² are needed, the cable connection should be made as close to the cooker as possible (maximum distance 1m).

Figure 20:

1. Main fuse, 2. Main switch, 3. Device quick coupling.



5.3 Battery main switch

A main switch must be installed to the plus wire of the device. Always cut the power from the main switch when the device is not used for a long time.

5.4 Main fuse

A main fuse must be installed in the red plus wire near the battery. See figure 20.

5.5 Voltage

The power consumption of the device is the highest when the glow plug is on during start-up, and so are the voltage losses. During glowing, the voltage must be at least 10.7 V, measured at the quick coupling of the device. See figure 20. If the voltage is below that, starting may fail.

Tabel 1:

Total length of electrical cable (m)	Cross-section of cable (mm ²)
0 - 4	4
4 - 6	6
6 - 10	10



Never cut the power from the device before the run down phase has been completed.

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6 Exhaust system

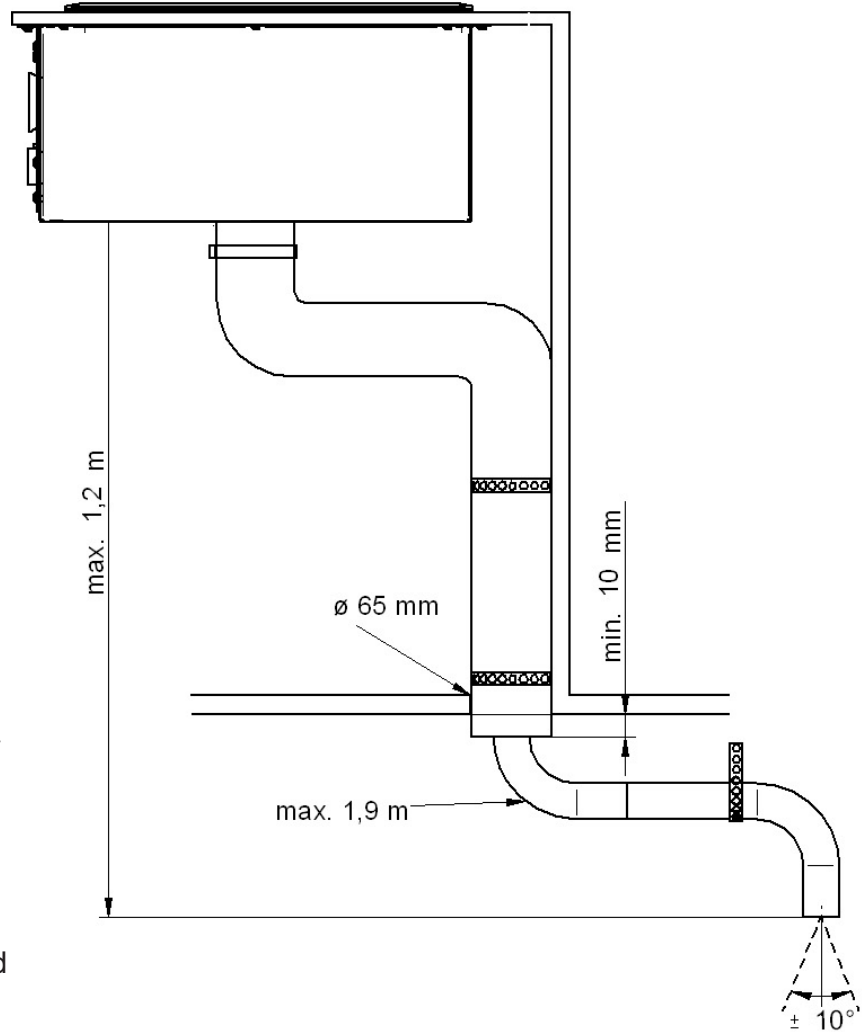
6.1 Exhaust outlet

Air must always be able to flow free past the exhaust gas outlet. Try to install the outlet in such a way that wind can blow past it. The outlet must not be placed in a corner or a confined area when wind pressure may disturb the operation of the device.

6.2 Exhaust installation

Make a $\varnothing 65$ mm lead-through to the floor for exhaust gas and cooling air tubes. Lead both tubes through the hole. Let the cooling air tube stick out min. 10 mm below the vehicles floor. Seal the floor lead-through and cooling air tube with heat resistance silicone. Fasten the exhaust gas tube under the vehicle. Also fix the coaxial hose to the furniture and the floor of the vehicle. Exhaust gas and cooling air tubes must always run downwards to avoid water traps. The minimum bending radius for the exhaust tube is 50 mm.

Figure 21:



Exhaust gas is hot. Always make sure that there is no inflammable material within 200 mm after the exhaust outlet.

Coaxial tube radiates heat. Beware of the hot surface of the tube during use.

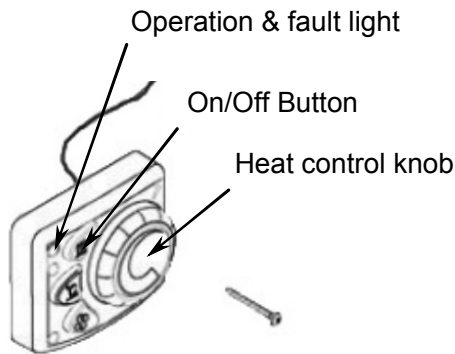


The end of the exhaust gas tube shall point downwards with a tolerance of $\pm 10^\circ$. Make sure that the exhaust outlet ends at the side of the vehicle opposite from the passanger entry door. Also ensure that exhaust gas is blown away from underneath the vehicle.

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Installation & use of control switch

Remove the adjustment heat control knob to expose the screw mounting hole.



.To start the Shillas diesel heater simply turn the heat control knob to the desired temperature & push the start button.
If the diesel cooktop should have any fault occur then the red led light will start flashing indicating a problem with the cooktop
The amount of flashes given by the led indicate the problem as listed below in the fault table-

Table 6

Times of flashes of LED	Troubleshooting methods
1	a Check whether the fuel pipe is blocked or whether the fuel in the tank is sufficient. b Check whether the exhaust pipe is blocked. c Check whether fuel mass is appropriate.
2	a Ditto b Ditto c Ditto d Replace the fuel pump
3	a Abnormal voltage,if the voltage is very low, then battery should be charged.
4	a Use ventilation mode cooling if temperature overhigh. b Or replace controller.
6	a Replace controller
7	a Check whether fuel pump lead connection is reliable. b Replace fuel pump.c Replace controller.
8	a Check whether the fan wheel have any scrape. b Replace fan motor assembly.c Replace controller.
9	a Clean the carbon deposition of glow plug. b Replace glow plug.c Replace controller.
10	a Whether air inlet and outlet are blocked. b Whether junction box cover tightly. c Whether inlet air and exhaust air short circuit.
11	a Check overheat sensor (normal temperature resistance is about 1k Ω). b Replace overheat sensor.
12	a Check control switch connection. b Replace control switch.
13	a Need to clean up the carbon deposition and maintenance work.



Please note after 3 failed attempts to start eg no fuel etc the cooktop will go into fault code 1 indication no fuel etc

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8 Technical details

Table 2: Technical details of Shillas Diesel Cooker

Fuel	<i>Diesel oil</i>
Operating voltage	<i>12 V DC</i>
Fuel consumption	<i>0.09 - 0.19 l/h (0.074 - 0.156 kg/h)</i>
Heating capacity	<i>0.9 - 2.2 kW</i>
Power consumption	<i>0.3 A, at ignition 8 A.</i>
Dimensions	<i>W 465 x D 315 x H 195 mm Height depends on tabletop thickness</i>
Weight	<i>Approx. 8 kg</i>
Minimum area of the cooling air inlet	<i>200 cm²</i>
Maximum permitted length of the exhaust hose	<i>1.9 m, straight downwards 1.2 m (\varnothing 28 mm and \varnothing 60 mm)</i>
Maximum permitted length of the fuel hose	<i>8 m (\varnothing 5/2 mm)</i>

Circuit diagram

