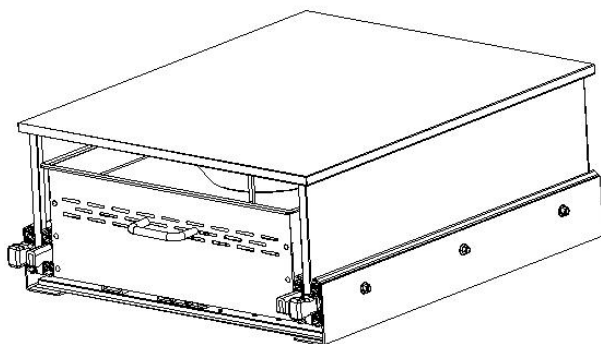


# Diesel Stove-Slide Type

Technical description, installation, operation and maintenance instructions



Product Type

Diesel DC12V

## Foreword

### Thank you for using this Diesel Stove-Slide Type

This manual describes the technical description, installation, operation and maintenance of the equipment. In order to ensure the correct use of the machine, please read this manual carefully before installation and use. After reading, please keep it properly for future reference.

**Note:**

- The contents of this manual may change without further notice, but it can be guaranteed that this manual is consistent with the purchased product.
- We will try our best to express clearly what users want to know through the manual. If you have any questions or find something inappropriate, please contact the company directly.
- When the user unpacks for the first time, please check the main unit and accessories against the packing list, if any problem is found, please contact the seller immediately.
- If there is any failure during use, please contact the marketing department of our company or the customer service station authorized by our company, we will serve you wholeheartedly.

**Note:**

**It must be installed and used in accordance with the requirements of this manual to ensure long-term stable and reliable operation of the product!**

1.Using

FJH-4.5/1C Fuel Stove——Pull Stove (hereinafter referred to as Stove) is a special fuel stove with cooking function for RV. The oil stove can also be used for outdoor cooking such as boats.

2.The main technical parameters

Rated voltage	DC12V
Short-term	8~10A
Average power	0.32~0.4A
Heating power	1~4.5 KW
Fuel type	Diesel
Fuel	100~450ml/h
Working	-40℃~+40℃
Working altitude	≤5000m
Stove weight	11.5kg
Dimensions(mm)	550×411×183

Table 1

3. Function

The fuel oil cooker is a diesel cooker that burns with an open flame. This fuel stove is not allowed to be used while driving.

Cook and heat various foods by adjusting the heating power through the control switch

4. Safety Instructions

Safe working environment

-- Hazard of toxic exhaust fumes. If the vehicle is parked in a closed room, in closed spaces (e.g. garages, repair workshops), the exhaust fumes from extractor stoves can be toxic. Therefore, in a closed space, the fuel supply of the pull-out stove should be turned off, and the pull-out stove should be turned

off by a control switch.

--Heat-sensitive objects (such as spray cans) or flammable materials/liquids should not be stored in the same compartment as the equipment, as in some cases the area may be subject to high temperatures.

--Keep the combustion air inlet free from contamination (slush, ice, leaves, etc.) at all times.

Operator/Owner Obligations

--The owner is responsible for operating the equipment correctly.

--The fuel system must comply with the national technical and administrative regulations. National legislation and regulations must be observed.

Safe Operation

--It is necessary to regularly check the installation firmness of the pull-out stove, whether the wires and oil pipes are in good condition, especially at the end of a long-distance trip.

--When cleaning the vehicle, do not spray water directly into the pull-out stove.

5. Pull-out stove installation

Installation diagram of the pull-out stove—Fig. 1.

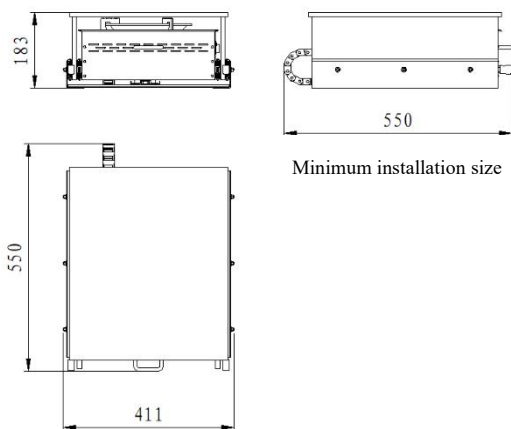
★ Installation and maintenance must be performed by professionals authorized by our company!

Once the following behaviors occur, the company shall not bear any responsibility:

- Modified pull-out stove and accessories
- Failure to follow operating and installation

instructions

--Do not use our company's special accessories

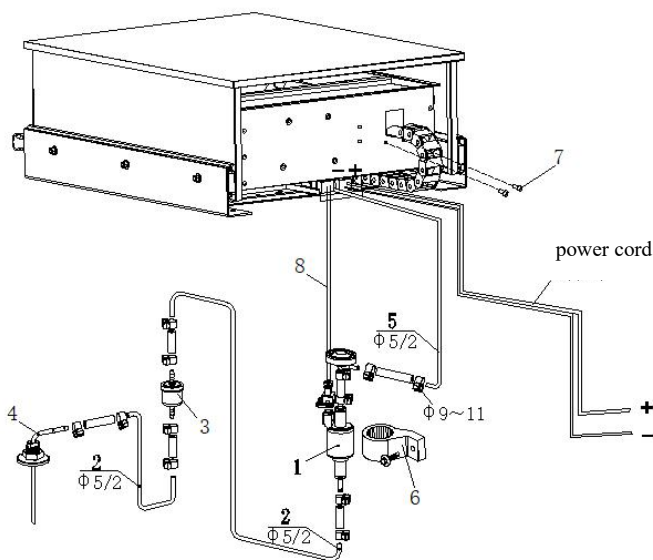


**Fig. 1**

Schematic diagram of pull-out stove installation. Figure 2.

The pull-out stove should be installed horizontally, and the inclination angle should not exceed  $5^\circ$  from the vertical level. If the oil stove is running at an excessive angle (up to several hours), the equipment may not be damaged, but it will affect the combustion effect and the burner will not achieve optimal efficiency.

Pull out the pull-out range to expose 12 screw fixing holes (Figure 3). All fixing bolts should be installed to ensure that the pull-out range bracket is firmly fixed to the car body.



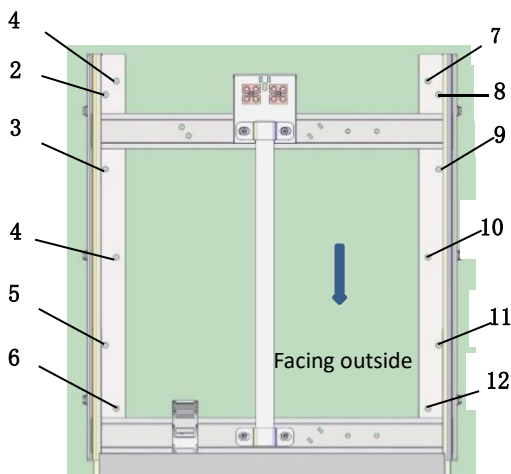
**Fig. 2**

1-Oil pump; 2-Nylon oil pipe (blue, oil tank to oil pump); 3-Filter;  
4-Oil suction pipe; 5-Nylon oil pipe (transparent, heater to oil pump);  
6-Oil pump fixing sleeve; 7-Screw M4×8 (2 pieces); 8-Oil pump lead

It should be ensured that there are no unreliable factors such as sundries that may cause the control switch to be touched by mistake and lead to heating when the machine is turned on.

**No covering can be added to the surface of the pull-out stove.**

**WARNING:** Violation of the above requirements may result in fire.



**Fig. 3**

### **Fuel System Connection**

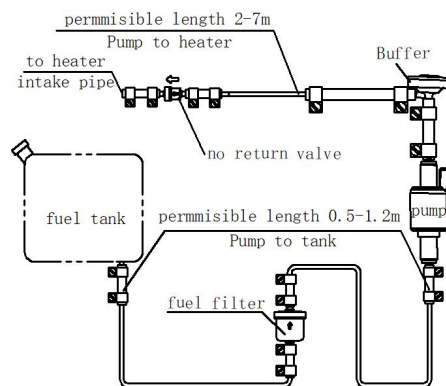
The fuel is extracted from the vehicle fuel tank, and the fuel delivery and fuel supply adjustment are carried out through a special oil pump (provided by the manufacturer). Fuel extraction from the return system of the vehicle's engine or downstream of the vehicle's internal transfer pump is not permitted. Use the fuel hoses and lines included in the scope of delivery for installation.

Fuel should meet national standards

GB19147-2013 Vehicle Diesel Standard

**The fuel oil in winter should use grades that meet the low temperature requirements, and the use of biofuels is not allowed.**

### **fuel line system**



**Fig. 4**

### **Oil pipeline installation**

The oil pipeline must use the accessories of this machine, that is, the nylon hose with good light resistance and thermal stability. Allowable fuel line length: The maximum fuel line length is 2 meters on the inlet side and 6 meters on the pressure side. Fig. 4.

### **Safety Regulations for Fuel Lines**

Be sure to cut fuel hoses and lines to length with a hose cutter or sharp knife. The area being cut cannot be compressed and must be free of burrs. Fuel lines must be securely connected to prevent damage and/or noise due to vibration

(It is recommended that the distance between the connection points is about 50 cm).Fuel

lines must be protected against mechanical damage. Laying fuel lines, no

It will adversely affect the stability of vehicle rotation and engine operation. Protect fuel-carrying components from possible impacts

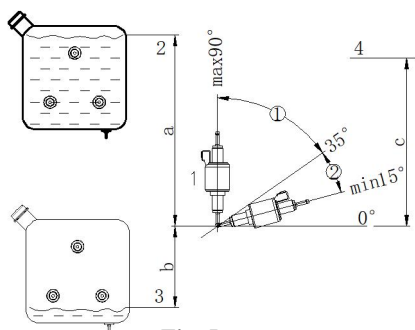
Influence of high temperature of operation (use suitable fiberglass lined aluminum thermal protection hose). Never run or secure fuel lines near a fuel stove or the exhaust pipe of a vehicle's engine. If lines cross, keep adequate distance from hot parts - provide thermal radiation shielding if necessary. The place where the oil pipe is installed should be able to prevent the impact of flying stones, and should be kept away from the heating parts of the vehicle, and a protective device should be installed if necessary.

### Oil pump installation

The oil pump should be fixed with the oil pump fixing ferrule (rubber). The oil outlet of the oil pump should be inclined upwards, and its installation angle should be selected within the range of  $15^{\circ} \sim 35^{\circ}$  (as shown in Fig. 5). When conditions permit, the oil pipe from the oil pump to the main engine of the heater should rise gradually. In order to prevent the oil pump from being overheated (the maximum working temperature is  $40^{\circ}\text{C}$ ), it should not be installed near the exhaust pipe.

The height difference between the fuel level and the oil pump and the height difference between the oil pump and the oil inlet of the

main engine will generate pressure (or suction) in the oil circuit, so these dimensions should meet the requirements of Figure 5 (in a closed fuel tank, Negative pressure will be generated. At this time, the minimum liquid level of the fuel tank is required to be no more than 0.4m).



**Fig. 5**

$a \leq 3\text{m}$   $b \leq 0.5\text{m}$  (Avoid of negative pressure may be produced in sealed fuel tank. In such case,  $b \leq 0.15\text{m}$ )  $c \leq 2\text{m}$ .

- 1-Fuel pump 2-Max.fuel level
- 3-Min.fuel level 4-Fuel inlet level
- ① Allowable installation angle
- ② Optimum installation angle

### Stove and Oil Pump Connections

The direction of the oil pipe from the oil pump to the extraction stove should be as upward as possible. Mark the appropriate location on the vehicle floor for passing through

Holes for fuel lines and fuel pump connection cables. Always take care to inspect hidden cables, fuel lines, frame sections, etc. underneath before drilling!

Then seal with the underbody protector

The edge of an opening in the vehicle floor.

In order to prevent the oil pipe and the cable

of the oil pump from being scratched, please add a guide bush or a section edge protection material.

The tubing should be bundled and fixed at a suitable place, and the bundling distance should not be greater than 50cm.

The connection between the oil pipe and the oil pump, pull-out stove, and oil tank (oil picker) should use the oil pipe joint provided by the machine, and be fastened with the oil pipe clamp. Prevent the formation of air bubbles at the connection (Figure 6).

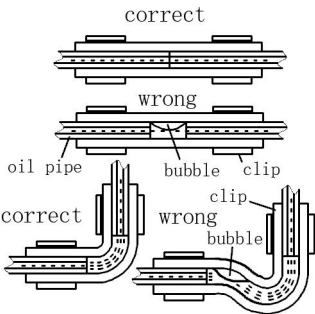


Fig. 6

**Installation of fuel suction pipe (Fig.7)**

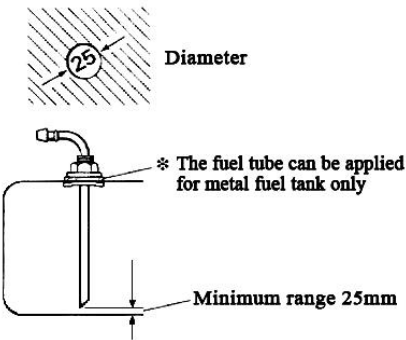


Fig. 7

When drawing fuel from the vehicle's fuel tank. It should be noted that the size of the

installation opening on the oil tank (or oil tank cover) is  $\varnothing 25 \pm 0.2$ , with neat edges and flat surroundings to ensure a good seal with the oil suction pipe seat. The distance between the lower opening of the oil suction pipe and the bottom of the fuel tank should be 30-40mm, which can not only ensure the full absorption of fuel, but also prevent the inhalation of impurities deposited at the bottom of the fuel tank.

**control switch**

The pull-out stove must be operated with a dedicated rotary switch.

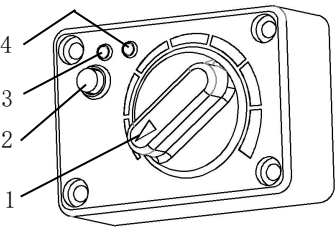


Fig 8

- 1- Control knob
- 2- Function button
- 3- Status indicator (red)
- 4- Power indicator (green)

After the control switch is powered on, the red light and green light are on at the same time and then go out. If the red and green lights do not respond when the power is turned on, the knob switch may not be connected properly or the main power may not be connected. If the red and green indicators light up for 10 seconds and then flash when the power is turned on, there is a problem with the communication between the host and the rotary switch.

Wiring diagram

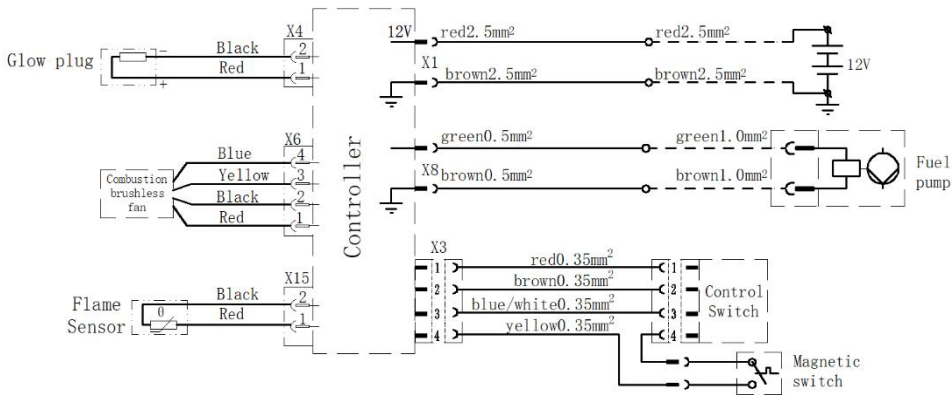


Fig. 9

electrical connection

Lay the wires to avoid chafing. Use lead bushings or edge protectors if there are sharp edges, such as metal panel wires. Connector cables must not attach to or touch metal surfaces, exhaust ducts, or hot air ducts.

DC12V power supply

The electrical wiring, switches and control equipment of the pull-out stove must be located where they will not interfere with normal operation. The pull-out stove circuit has reverse polarity protection. If the controller is connected with incorrect polarity, the LED indicator will not work.

The length and cross-sectional area of the power cord are required to ensure that the allowable voltage drop is not greater than

0.5V when the voltage is 12V. It is recommended to configure the power cord as

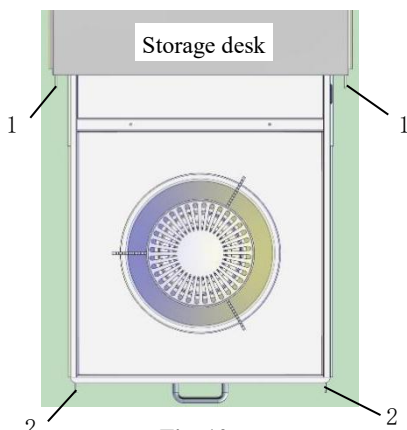
Plus cable + minus cable	cross section
<8m	2.5mm <sup>2</sup>
8~12m	4mm <sup>2</sup>
12~16m	6mm <sup>2</sup>

6. Operating Instructions

Press the two-stage pull-out handles (Fig. 10-1, 2) respectively to pull out and lock the pull-out range. When pressing the lock block of the slideway to pull out the pull-out range, stop pressing immediately after the lock block is opened to prevent the pull-out range from falling off the track. Be careful not to touch the switch when pushing and pulling the stove to prevent accidents when the equipment starts.



Do not place other items around the pull-out stove to prevent accidents when items touch the button switch.



**Fig. 10**

### **Start the oil stove**

Operate with a dedicated control switch. Press and hold the function button for more than 2 seconds, the red and green indicators light up at the same time, and the portable cooker starts. The power light is on, and at the same time, the status light is red. After the status indicator light turns yellow, adjust the control knob to steplessly adjust the power. The power range of the pull-out stove is between 1000w and 4500w. Set the power gears 1-7, and the knob gears increase in turn from left to right.

**Do not touch the surface when the pull-out stove is working to prevent burns!**

### **Close the pull-out hob**

When working, press and hold the function button for more than 2 seconds to turn off the pull-out stove. The status indicator light goes

out, and the stove stops supplying oil for heating.

All indicator lights go out, and the pull-out stove is shut down.

When the pull-out stove is retracted, push it slightly to ensure that the slideway lock block is locked tightly to prevent equipment damage during driving!

## **7. Malfunction**

### **Troubleshooting**

During the use of the pull-out stove, it may fail to start normally or turn off by itself after starting and be in a fault-locked state. At this time, you can press and hold the button to turn off the pull-out stove for more than 5 seconds and turn it on again.

Pull-out stoves may cause circuit failures due to the following reasons: corrosion of connectors, poor contact, wrong insertion, corrosion of wires or fuses, corrosion of battery pile heads, etc. Pay attention to inspection, maintenance and prevention of these phenomena during use.

When the following situations occur, users can handle and eliminate them by themselves.

- The pull-out stove does not start and the indicator light of the control switch does not light up after turning on the machine. The reason is that the fuse is open or the wiring is wrong. In addition, check whether the plug on the lead wire of the control switch is connected to the host correctly.。

### **Fault lock state**

Troubleshooting method for locked state			
number of flashes	error code	fault name	Troubleshooting
1	16	ignition failure	a Check the fuel supply system b Check if the air inlet is blocked c Check the glow plug, flame sensor
2	32	Combustion failure	a Check the fuel supply system b Check if the air inlet is blocked c Check the flame sensor
3	48	over voltage fault	A. Check the power supply system
	49	low voltage fault	
4	65	Furnace chamber temperature is too high during self-inspection	A. Check if the air inlet is blocked
5	80	Open flame sensor	A. Check the flame sensor lead
	81	Flame sensor short circuit	B. Check the flame sensor
7	112	oil pump break	A. Check whether the lead wire of the oil pump is damaged B. Check whether the lead wire connection of the oil pump is reliable
	113	Oil pump short circuit	C. repair oil pump D. Replace the motherboard
8	133	Combustion fan failed to start	A. Check the lead wire connection of the combustion air blower B. Check the combustion fan
	130	Combustion fan speed is too low	
	131	Combustion fan speed too high	

The faults generated by the pull-out stove are displayed by the corresponding cycle flashing on the control switch. Each cycle consists of 3s long off and several flashes at intervals of 0.5s. The number of flashes that occur between two long off intervals

indicates the type of fault.

Short press the button to exit the fault lock state.

Troubleshooting can be performed according to the methods listed in Table 2.

oil pump starts pumping oil rapidly. Fast oil pumping time 90s. If the function button is pressed during will stop, and the red and

Troubleshooting method for locked state			
number of flashes	error code	fault name	Troubleshooting
9	144	Glow plug break	A. Check the power supply voltage B. Check the resistance value of the glow plug at room temperature (0.2Ω/12V) C. Clean the carbon deposit on the glow plug D. Replace the motherboard
10	169	Abnormal power failure	After the heater has completely stopped, turn off the power
14	225	Glow plug without drive	A. Replace the motherboard
	224	No start signal	

Table 2 continued

8. Precautions

● Installation for the first time

– It is the first installation of the pull-out stove. In order to completely remove the air in the fuel supply system and fill the fuel pipeline with fuel, a separate oil pump function is ad hoc. When the knob switch is at the minimum position, press the function button for a short time, then turn the knob right to the maximum position, then turn the knob left to the minimum position, then the red light is on, and then turn the knob to the middle position, at this time the red light and green light are at the same time Flashing, the

green lights will go out at the same time.

– A test run is required before using the pull-out hob. During the trial run, carefully check all connections for leaks and safety conditions. If there is dense smoke emission, abnormal combustion noise or fuel smell, the pull-out stove should be turned off, and the fuse should be unplugged to make it unable to operate. It can only be used after being overhauled by professionals.

– There may be an odor for a short time when the pull-out hob is used for the first time. This is normal for the first few minutes of operation and does not indicate a

malfunction of the burner.

### ● Maintenance

– During maintenance, a professional inspection must be carried out, and the following maintenance work should be carried out:

Check the hob for contamination and foreign objects.

Clean the outside of the pull-out stove.

Check the circuit connectors for corrosion and looseness.

Check the fuel lines for leaks.

### ● Long-term downtime

– When the pull-out stove is not in use for a long time, it should be run every 4 weeks for about 10 minutes each time to prevent mechanical components such as combustion-supporting fans from malfunctioning (deadly).

– When replacing low-temperature fuel, the pull stove should be operated for at least 15 minutes to fill the fuel system with new oil.

### ● The service life of pull-out stove

– Pull-out stoves must not be used for more than 10 years. After the expiration date, it must be replaced with a genuine product, which must be replaced by the pull-out stove manufacturer or its authorized agent.

### ● Other precautions

– During the transportation and storage of the pull-out range, the ambient temperature should not exceed the range of -40°C to 85°C to prevent damage to electronic components.

– Only authorized customer service stations are allowed to carry out the installation and repair of the pull-out stove, and the use of non-original parts is prohibited to avoid danger.

– The manufacturer is not responsible for the warranty if the pull-out stove is damaged due to failure to install and operate according to regulations.

– The extractor stove must be switched off before refueling.

– When performing electric welding on the car, first remove the positive wire of the pull-out stove from the battery and ground it to prevent damage to the controller.

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