



General
COMPONENTS



THE
WHALE
SERIES

Cooktop & Heater

MANUAL
model 2200A

Introducing The Whale Series.

Ceramic diesel-fired 2-in-1 cooktop
and air heater for indoor use.

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2.2kW



12V

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PREFACE

Thank you for purchasing Whale series cooktop with integrated air heater. This service manual describes installation and operation procedures, maintenance recommendations and troubleshooting tips. Please read carefully before using the product to enjoy your comfort in a safe and efficient manner.

This product is subject to two-year factory limited warranty. For terms and conditions of the warranty please contact your local dealer.

1. PRODUCT INFORMATION

1.1 Ordering Information

SKU #	DESCRIPTION
GC6003	12VDC diesel cooktop with integrated air heater

1.2 Areas of Application

Whale series 2200A cooktop with integrated air heater is designed for use in boats, motor homes and recreational vehicles (RV).

1.3 Technical Specifications

	Diesel
Rated DC Voltage	DC12V
Operating Voltage Range	DC10.5V~16V
Short-term Maximum Power	8-10A
Average Operating Current Draw	0.55-0.85A
Fuel Heat Power (W)	900-2200
Fuel Consumption (ml/h)	110-264
Propane Max Pressure	-
Quiescent current	1mA
Supply Air Volume m3/h	287max
Operating Temperature	-25°C~+40°C
Operating Altitude	≤5000m
Weight (Kg)	11.8Kg
Dimensions (mm)	492x359x200

1.4 Safety Precautions



Combustion exhaust fumes may be toxic. Do not install exhaust outlet near doors or windows. Do not operate the heater if exhaust/intake lines are damaged. Do not repair damaged lines - replace with new ones;

- ⚠ Do not place heat-sensitive objects in close proximity to the heater, as the heater warms up during operation;
- ⚠ Do not run the unit if the vehicle is parked indoors;
- ⚠ Stop using the device immediately if you smell gas, fuel or see smoke. Do not attempt repairs yourself. Always seek professional help.

2. INSTALLATION

Typical installation of the heater is shown in Figure 1:



Figure 1: Typical installation of the heater.

2.1 Cooktop Placement

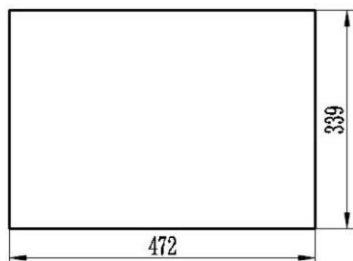


Figure 2: Cutout.

Counter cutout dimensions are 472mm * 339mm.

Allow at least 2" of space all around the unit, and at least 7" of open unobstructed space beneath the counter.

2.2 Kit contents

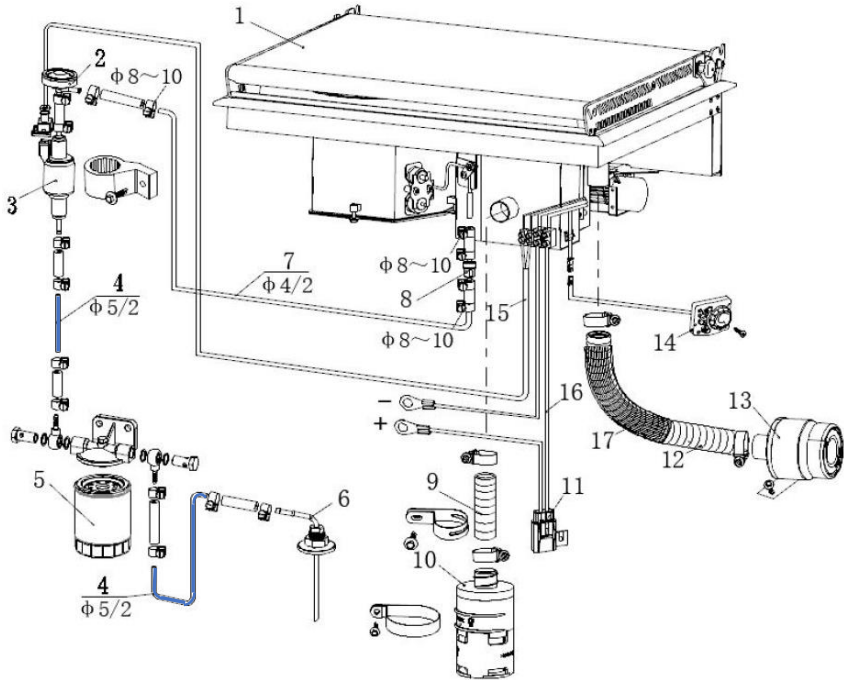


Figure 3: Kit contents

- 1) Cooktop; 2) Fuel damper; 3) Fuel pump; 4)-Nylon fuel line; 5) Fuel filter; 6) Fuel pickup; 7) Nylon tubing (transparent, main engine to fuel pump); 8) Check valve (gas model only); 9) Air intake line 26mm; 10) Intake silencer; 11) Fuse holder; 12) Exhaust pipe; 13) Flame arrester; 14) Controller; 15) Fuel pump cable; 16) Power line; 17) Fiberglass sleeve;

Please note: kit contents may differ between models and suppliers.

2.3 Exhaust and Intake Air Line Installation

Intake and exhaust air lines should be installed without sharp bends, kinks or goose necks. Installer to make sure the line goes down gradually and no water can be trapped inside.

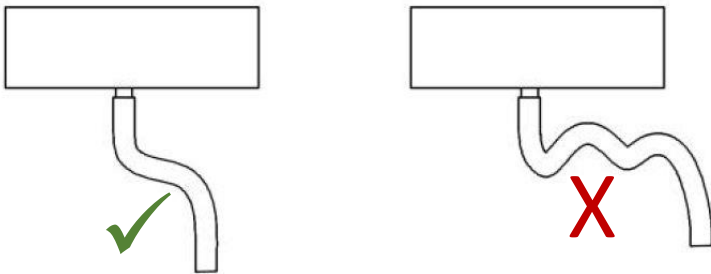


Figure 4: Exhaust and intake line routing

2.4 Fuel Line Installation (Diesel Models)

Diesel-fired heaters could be connected to the fuel tank of the vehicle, or to the auxiliary 10L fuel tank.

Do not tap into pressurized fuel lines of the vehicle when connecting to the main fuel tank.

Only parts provided with the heater should be used in installation. Do not extend fuel lines or use different fuel pump.

Maximum length of fuel line between the tank and the pump should not exceed 1.2 meters (4 feet).

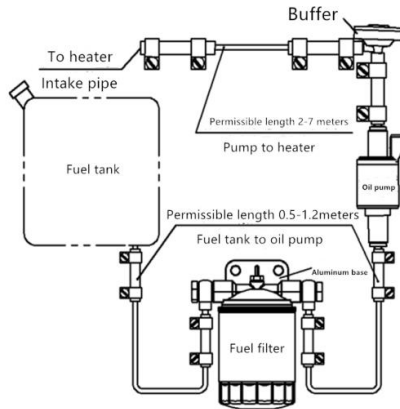


Figure 5: Fuel System Setup

Maximum length of fuel line between the pump and the heater should not exceed 6 meters (18 feet).

Observe elevation requirements displayed on Fig.6.

Fuel pump should be installed at an angle to the ground. It is not recommended to secure the pump parallel to the ground.

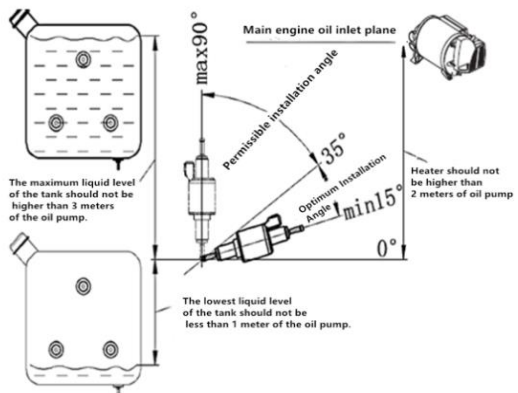


Figure 6: Fuel Pump Placement

2.5 Room Temperature Sensor Installation

Room temperature sensor is installed on the wall, away from sources of heat and direct sunlight, at a height of about 4-5 feet from the floor. This will ensure the best temperature reading.

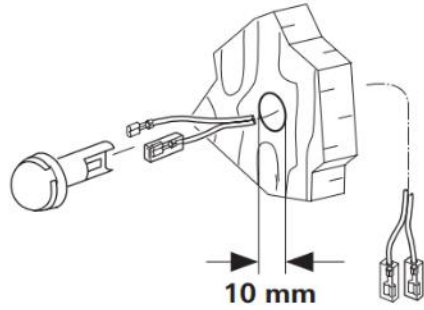


Figure7: Room Sensor

Avoid installing the sensor on perimeter walls of the vehicle.

Drill a 10mm (3/8") hole to install the sensor.

When in air heater mode, the dial controls the temperature setpoint in range of +5C~35C.

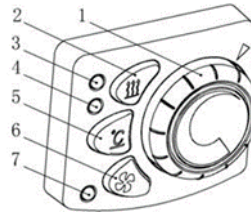
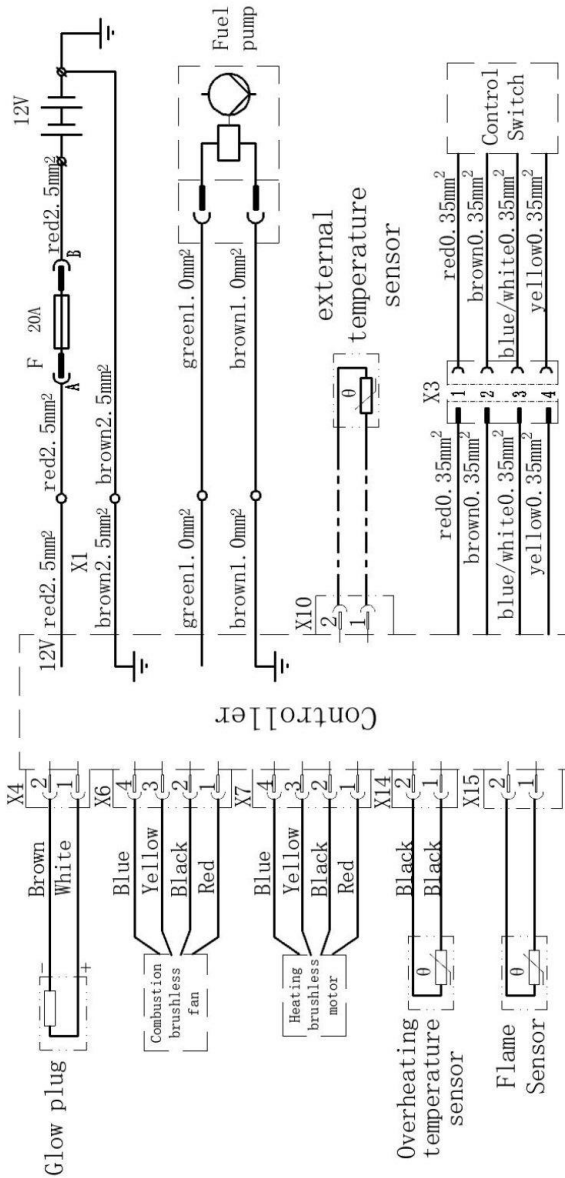


Figure8: Unit controller

- 1) Control knob; 2) Cooking mode button;
- 3) Cooking indicator (red);
- 4) Air heater indicator (yellow);
- 5) Air heating mode button;
- 6) Ventilation mode;

3. ELECTRICAL DIAGRAM



4. HEATER FAULT CODES

Flashes ##	Fault code	Description	Troubleshooting
1	31	Start failure	Check the fuel supply Check combustion lines for obstructions
2	32	Burner failure	Check the electrical connections and flame sensor
3	10	Over voltage fault	Check power supply
	11	Low voltage fault	
4	33	Flame sensor failure	Check the flame sensor
5	51	Communication failure	Check the connection
6	25	Room sensor open circuit	Check sensor
	26	Room sensor short circuit	Check sensor
7	61	Fuel pump broken circuit	Check fuel pump wiring, fuel pump continuity. Replace fuel pump
	62	Fuel pump short circuit	Check fuel pump wiring, replace fuel pump
8	81	Combustion fan open	Check combustion fan
	82	Combustion fan locked	
	83	Combustion fan speed too low	
9	63	Glow pin open	Replace glow pin
	65	Glow pin driver fault	Replace ECU
10	84	Convection fan open	Check fan and wiring, replace ECU
	85	Convection fan locked	
	86	Convection fan speed too low	
11		Heater cover overheat	Check sensor
12		Heater cover sensor short	
		Heater cover sensor open	
13		Heater cover overheat	Change control mode
14		Barometer failure	Replace controller



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