

Installation and operating instructions

WALLAS 2000

1. TECHNICAL DATA

Voltage	12 V
Current Consumption	0.8–1.2 A
Current Consumption during Ignition	6 A
Heat Output	1000/2000 W 3500/7000 BTU/hr
Fuel Consumption	0.15–0.25 L/hr 25–15 hrs/gal
Fuel	Kerosene (Standard Oil Pearl Kerosene Esso Blue or equivalent)
Dimensions	133 x 290 x 288 mm 5 1/8" x 11 3/8" x 10 7/8"
Weight	5.8 kg (12.8 lbs)

2. CHECK BEFORE START

- The battery hook-up. Red to +, blue to –.
- The exhaust connections. All pipes and tubing must be tight.
- The fuel lines must be run correctly as shown in picture L, and the fuel tank located below the heater.
- Fuel quality. Should be kerosene (Pearl Kerosene).
- The chimney's cap removed and the flow deflection ring mounted correctly.

3. FUNCTION

Wallas 2000 is a compact ducted forced air heater, suited for heating of boats with several cabins. The hot air is distributed to the different compartments through ducting with dividers and registers.

The heater uses a vaporizing kerosene burner and a metering fuel pump. The heat output can be adjusted from full to half with the reostat on the control panel. The ignition uses an electronically controlled glow coil that runs automatically for 2 minutes when the switch is in High/Start position. The Wallas 2000 is designed for balanced draft which makes it insensitive to wind pressure changes. The combustion is completely sealed off from the cabin and, the combustion air is drawn from the outside. A thermal limit switch shuts off the fuel pump if overheating should occur. A separate thermostat will keep the blower running after the burner has been switched off until the heater has cooled off.

4. START

VENT. With only the blower in operation, it can provide good ventilation in the different compartments. The speed of the fan and consequently also the noise and the current draw, can be adjusted at the control panel.

HEAT. The blower and fuel pump and the electronic unit ignites the glow coil for 2 minutes. After about 5 minutes the red pilot light goes on indicating that the burner is working. The heater now puts out maximum heat. If the fuel tank has been emptied so that the pump has been sucking air, two start attempts might be needed. The heat output and speed of the blower is controlled by the reostat.

OFF. Do not switch off the heater within 15 minutes after start. That time is necessary in order to activate the after cooling-thermostat. The heater must not be turned off with the main switch in the boat until the heater has been turned off automatically.

5. MOUNTING (PICTURE A–E)

Choose a place for the heater, where it gets enough air for the combustion (min. vent 2 sq.dm), where a simple connection of the chimney can be arranged (preferably directly against the deck as to point 7 below) and so that shortest possible hoses can be used. With the air distributor 3085 (picture A) the warm air can be distributed by the air hose 3087 to different cabins in the boat. The adjustable air inlets 3086 can be mounted on bulkheads or at side of the berths, giving a good air circulation.

Some installation examples are shown in picture B–E.

6. INSTALLATION ON BULKHEAD (PICTURE L)

- Drill holes in the deck using the templet.
- Remove the upper part of the chimney 1432.
- Mount the bottom part of the chimney with the gasket 7423 in the deck using the 4 stainless bolts 0008 and silicone sealer.
- Mount the upper part of the chimney and make sure that the exhaust flow deflection ring is mounted with the edge up.
- The bracket 7429 is mounted on the bulkhead.
- The heater is fastened in the bracket with the bolts 0005, the nuts 0006, the washers 0007, and the space sleeves 7141. The space sleeves must be used when heater is mounted reversed (with the air intake against the bulkhead) to allow for sufficient space between the bulkhead and the air intake.
- Cut the exhaust tubing 1486 to suitable length. The inner tube must be in stainless steel and cut 4" (10 cm) longer than the outer aluminum hose, in order to reach over the exhaust pipe on the heater and the chimney.
- The outer aluminum hose is secured with hose clamps 0012 in both ends.

7. INSTALLATION, SUSPENDED FROM THE CHIMNEY (PICTURE F)

- Drill holes in the deck using the templet.
- Remove the upper part of the chimney.
- Mount the bottom part with the gasket 7423 above deck, and the bracket 7426 below using 4 stainless steel bolts 0008. Seal all holes through deck with silicone compound.
- Install the upper part of the chimney. Make sure that the exhaust flow deflection ring is mounted with the edge up.
- Slide the heater into the bracket so that the two pipes slip into the chimney all the way.
- Secure the heater on the mounting bracket with the bolts 0005, the nuts 0006 and the washers 0007. The cupped washers are mounted on the outside of the bracket. Tighten the bolts to prevent the heater to be moved by vibrations or high seas.

8. FUEL CONNECTION (PICTURE L, G, K)

The fuel tank can be a standard plastic can or the special model 1456. The tank must be located well below the heater even when the boat is heeling. Max. suction height 5 feet (1.5 m). The white fuel line 7123, should reach the bottom of the tank and the return hose 7124 ends at the tank cap (picture G). The filter 7577 is to be mounted on the white fuel line 7123 after having led the line through the tank adapter. Cut the line at an 45° angle and push the filter on the end of it. The rubber sleeves on the cap keep the hoses in place.

It is important that the black return hose is installed so that the excess fuel is gravity-fed back to the tank. The tank is vented by the clear PVC hose 7227 which should be drawn to the outside of the cabin well above the fuel level (even when the boat heels).

9. ELECTRICAL SUPPLY (PICTURE M)

The red cable should be connected directly to the positive pole of the battery over an 8 A inline fuse. The blue cable connects to the negative pole of the battery. The wiring diagram for the heater is shown in picture M. For extension of battery supply cables use minimum AWG 14 (1.5 sq mm). The following abbreviations are being used in the wiring diagram (picture M):

F Blower	S1 Ignition indication switch
P Fuel pump	S Fuse 8 A
RG Glow coil	T1 Aftercooling thermostat
T2 Overheating switch	E Electronic unit 7493

Cable marking colours:

1 Red/Brown	T1-P1 Violet
2 Yellow	F+-P1 Green
4 Grey	T2-P1 Orange
5 Orange	T2-P+ White
6 Red	
7 Brown	
8 Black	
9 Blue	
10 Blue	

10. CIRCUIT DIAGRAM (PICTURE P)

RE – Relay for glow coil

Timer – Electronic timer for ignition

tr – Transistors

K1 – Pump capacity control (Picture N)

Switch Regul – Controls fan and pump speed

Pot – For control of switch regulator

D1 – LED green

D2 – LED yellow

11. MAINTENANCE (PICTURE H, I, K, L)

If the heater does not work properly check the following:

- Sufficient electrical supply. To make sure start up the engine.
- Fuel supply. The fuel line must reach down in the tank.
- Combustion air supply. The protective cap on the chimney must be removed.
- Fuel quality. Pearl Kerosene or equivalent.
- The overheating switch. Push in the reset button.
- The glow coil. It might be burned out.

To clean the burner or to replace the wick or the glow coil follow these steps:

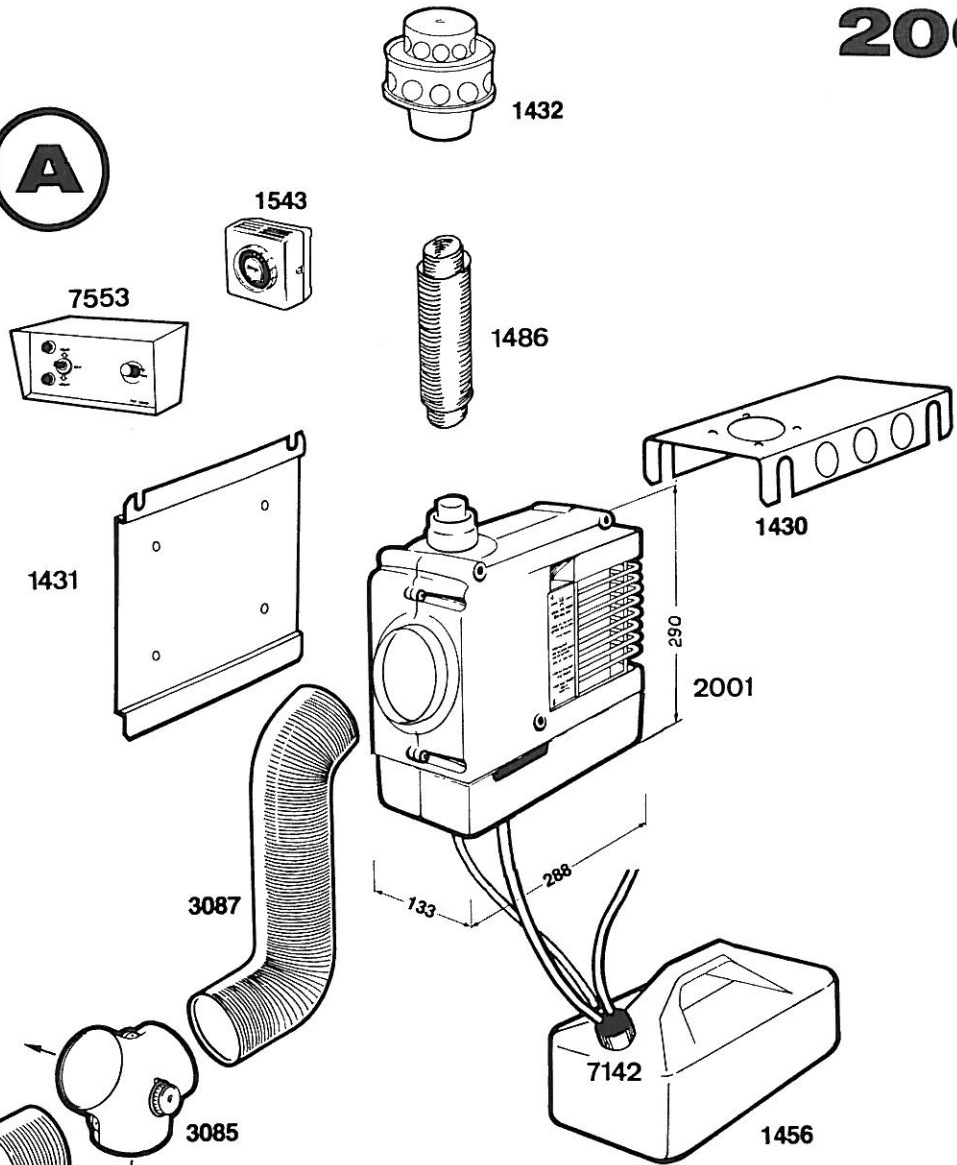
- Loosen the nut on the return fuel line 7116.
- Remove the bottom cover 7102 that is held by the large center nut 7106.
- Loosen the two nuts 7147 and remove the outer burner bottom 7106.
- Remove the wickpot 7107. When placing the wick start with the ring wick 7318. The put in the upper wick 7319 and locate it as shown in picture I.
- When changing the glow coil 7317 the two gaskets 7329 should also be replaced.
- To assemble, place the wickpot 7107 over the guide pins on the burner bottom. Make sure that the brackets on the burner bottom keep the wickpot in place during mounting.
- Mount the outer burner bottom 7106. Tighten the nuts 7147 enough to allow the spaces on the burner bottom to reach the outer burner cylinder 7109. Make sure that the fuel line and cables do not get squeezed and that they fit as tight as possible in the cut-out in the outer burner bottom 7106.
- Mount bottom cover 7102 and the return line connection nut 7228. Be sure the O-ring 0067 and the insert 7330 is in place. Connect the return fuel line 7124 using the O-ring 0067, the washer 0011 and the compression nut 7166. Use only finger force to tighten the nut.

Manufacturer

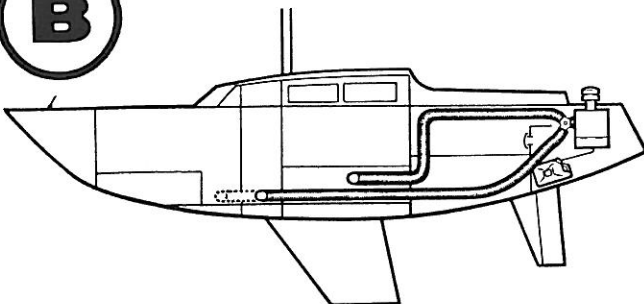
thermotron

AB THERMOTRON P.O. Box 4016, S-390 04 KALMAR, SWEDEN
Tel. int. 46480-154 70, Telex 43105 THEKAL S

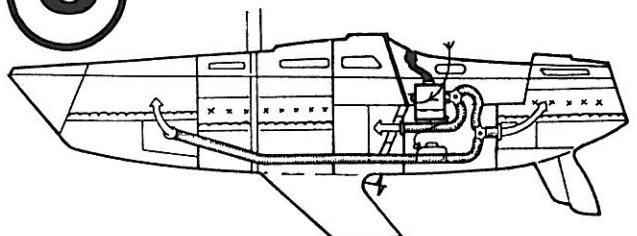
A



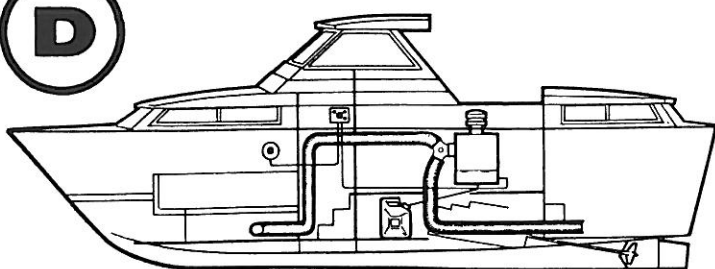
B



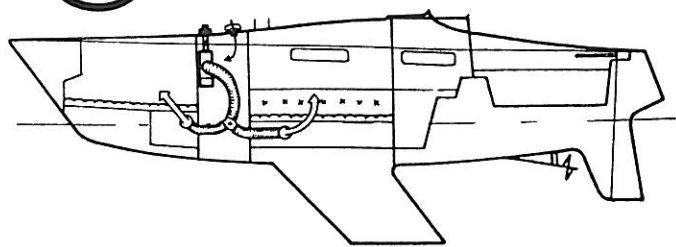
C

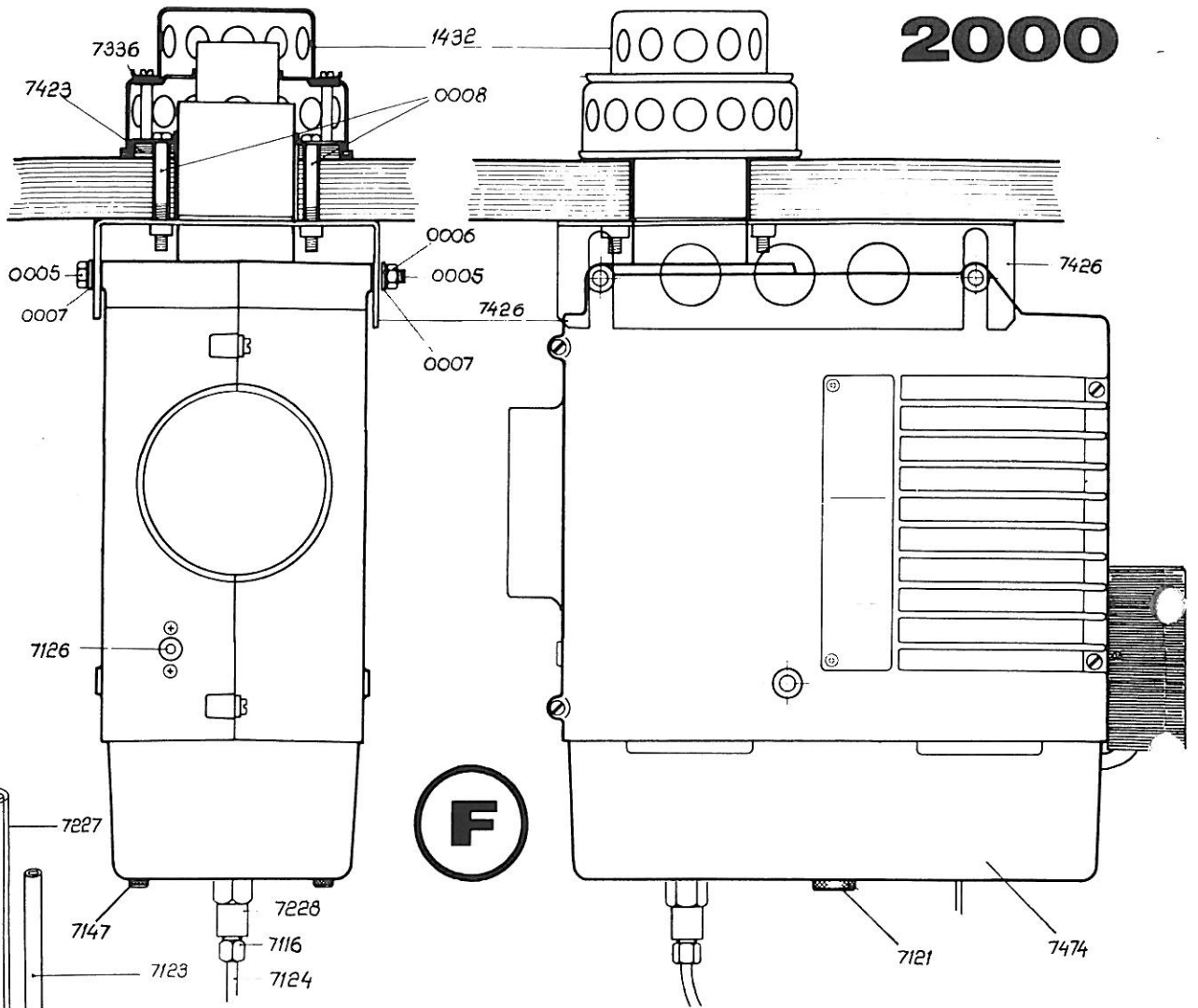


D

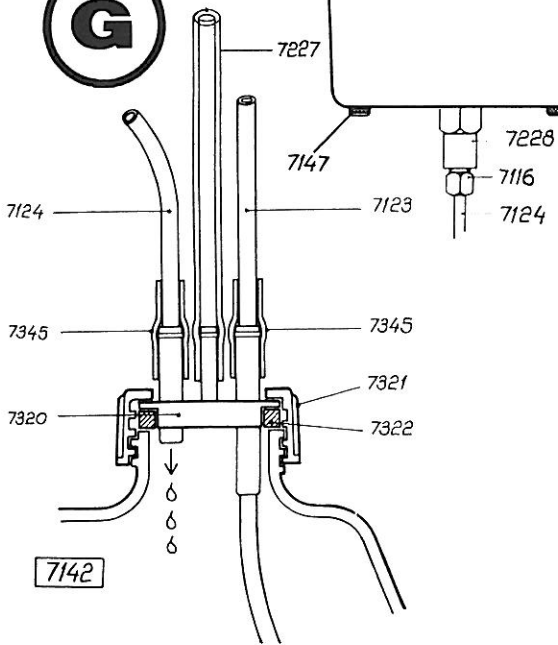


E

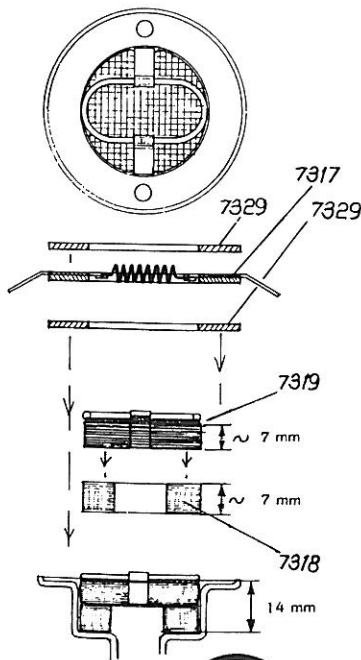




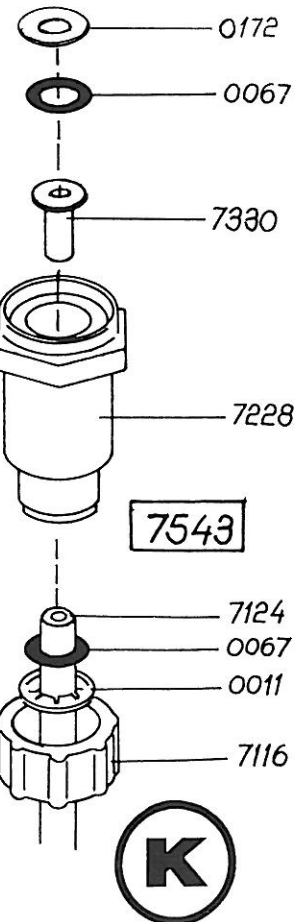
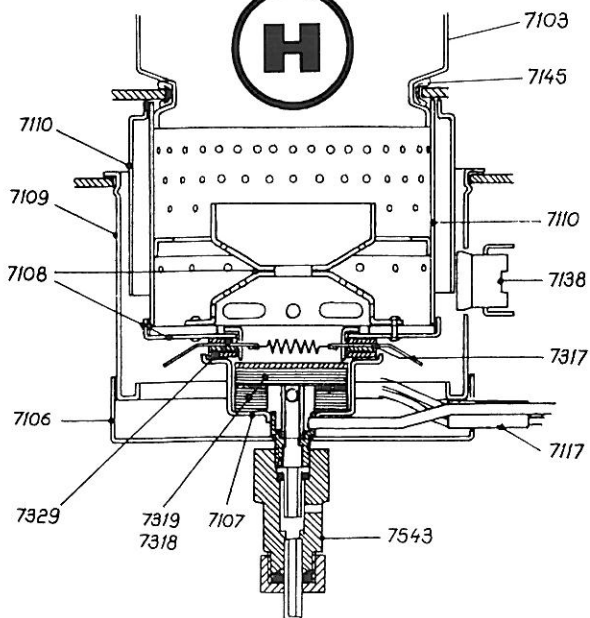
G



F



H



I

K

2000

