

**TOPLICHT**

Notkestraße 97 · 22607 Hamburg



**TAYLOR'S 079K**

Owners Handbook

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# BLAKES LAVAC TAYLORS

## Owners Handbook

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**Blakes Lavac Taylors Ltd.**

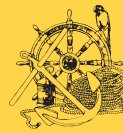
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**079K: TAYLORS PARAFFIN CABIN HEATER  
(KEROSENE)**



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**079K: TAYLORS PARAFIN CABIN HEATER  
(KEROSENE)**



# 1. INTRODUCTION

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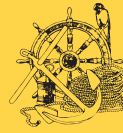
**Congratulations on your purchase of a Taylor's Cabin Heater.**

**Taylor's Cabin Heaters are a firm favourite with sailors throughout the world, providing their owner with a long and trouble free working life.**

**The Taylor's Paraffin (kerosene) Cabin Heater is simple to operate. After pre-heating, fuel is fed into the heater from a pressure tank. The amount of fuel fed into the burner determines the heat output. Within this handbook you will find information and practical help on installing, running and maintaining your cabin heater.**

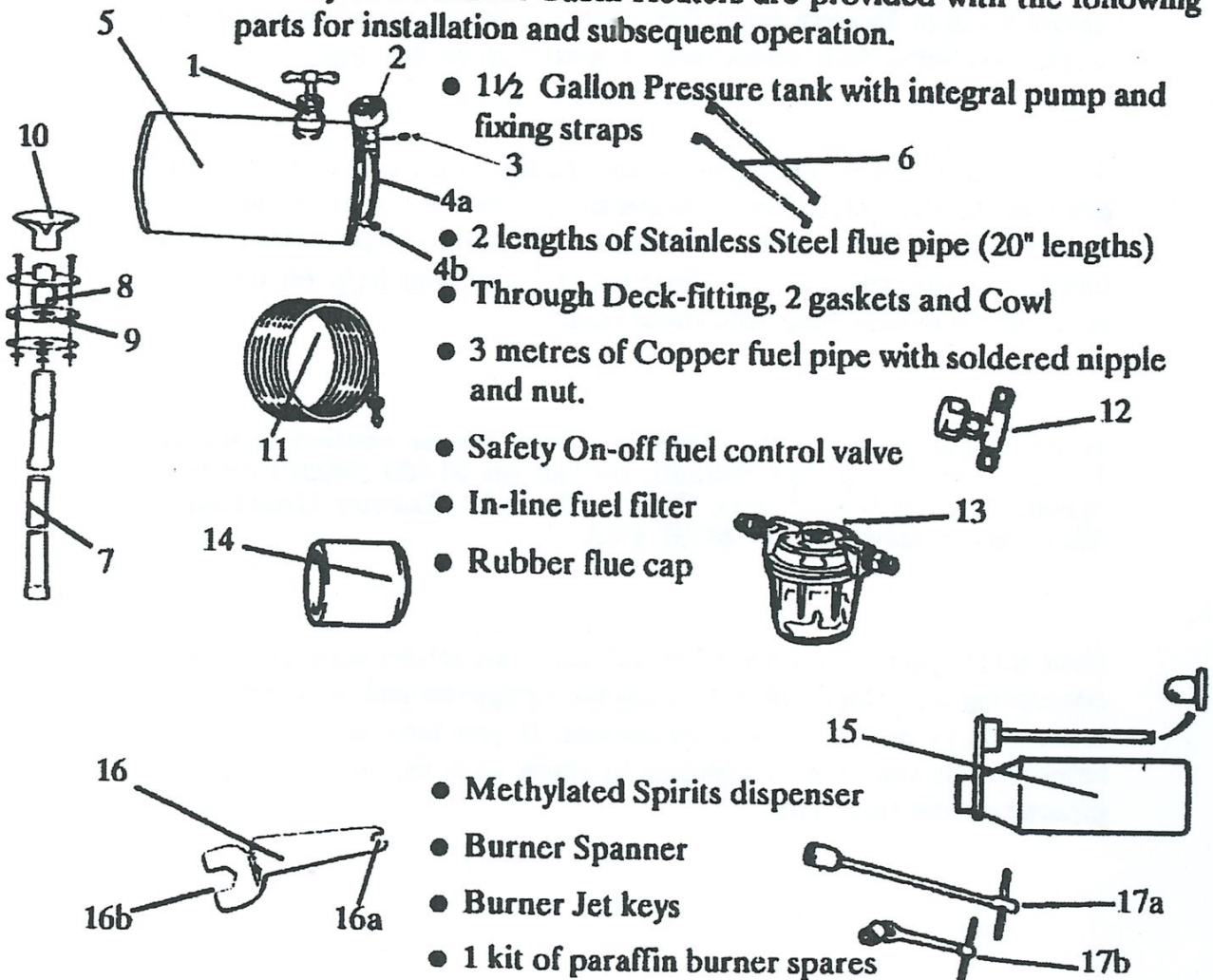
**If you require any further help or advice, please contact us either by telephone on 01489 580580, by fax on 01489 580581 or by writing to: Blakes Lavac Taylors Ltd. 13 Harvey Crescent, Warsash, Southampton SO31 9TA**

**Over many years, we have taken advice from sailors around the world concerning their requirements for marine equipment and our current range is a result of this ongoing commitment. If you have any comments or helpful hints that you would like to share with us, we would be very pleased to hear from you.**



## 2. INSTALLATION KIT PROVIDED WITH YOUR HEATER

All Taylor's Paraffin Cabin Heaters are provided with the following parts for installation and subsequent operation.

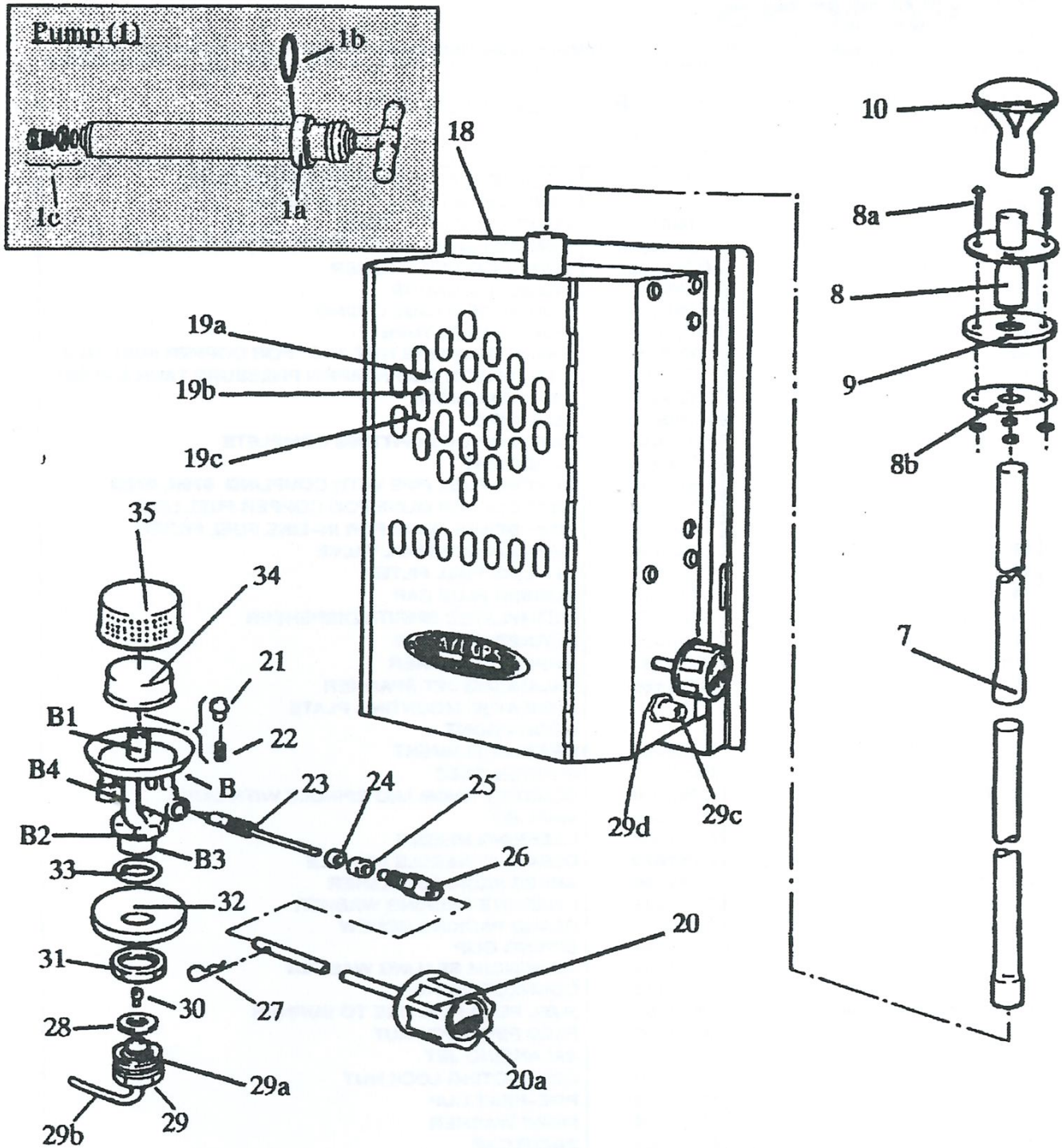


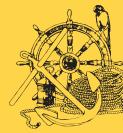
Because the nature of an installation varies from owner to owner, certain components are easier to source locally. We therefore feel it is best for you to purchase the following separately, depending on your requirements.

- Mill board with a Stainless Steel cladding or ceramic tiles for extra insulation when mounting the heater on the bulkhead.
- 4 x 6mm (¼") Stainless Steel securing bolts or screws for the tank straps.



### 3. EXPLODED DIAGRAM





# 4. SPARE PARTS REFERENCE NUMBERS

HANDBOOK CODE	SPARES CODE	DESCRIPTION
1	CTK3590	COMPLETE PUMP FOR PRESSURE TANK
1a	SEE 1	TANK CAP INTEGRAL WITH PUMP
1b	ETD3515	PUMP FILL CAP 'O' RING
1c	*CTK3590	NON-RETURN VALVE NEW TYPE (COMPLETE)
2	CTK3592	PUMP LEATHER WASHER
3	CTK3580	PRESSURE GAUGE
4a	CTK3585	PRESSURE GAUGE O RING
4b	ETD3550	SIGHT GAUGE TUBE
5	CTK2855	BRASS COUPLING NUT 3/16" FOR COPPER FUEL LINE
6	*CTK0351	1 1/2 GALLON 8/8 PARAFFIN PRESSURE TANK & PUMP
7	CTK3580	TANK BRACKETS
8, 8a, 8b, 9	HTK5600	FLUE PIPE
10	*HTK5581	THROUGH DECK FITTING COMPLETE
11	HTK5608	FLUE COWL
12	*HTD5171	COPPER FUEL PIPE WITH COUPLING 079K, 079D
13	CTK1150	3/16" COPPER OLIVE FOR COPPER FUEL LINE
14	HTD5240	3/16" BRASS OLIVE FOR IN-LINE FUEL FILTER
15	CTK1155	OFF - ON CONTROL VALVE
16	CTK1185	IN - LINE FUEL FILTER
17a	HTK5515	RUBBER FLUE CAP
17b	CTK1175	METHYLATED SPIRITS DISPENSER
18	HTK5900	BURNER SPANNER
19a	CTK1135	MAIN JET SPANNER
19b	CTK1136	BALANCING JET SPANNER
19c		INSULATED MOUNTING PLATE
20, 20a	HTK5590	DOOR FRONT
21	HTK5581	HEATING ELEMENT
22	CTK1090	BURNER CASE
23	CTK1055	CONTROL KNOB AND SPINDLE WITH LABEL
24	CTK1065	MAIN JET
25	CTK1070	CLEANING NEEDLE
26	CTK1080	CLEANING NEEDLE SPINDLE
27	CTK1075	BRASS PACKING WASHER
28	CTK1085	GRAPHITE PACKING WASHER
29	CTK1095	GLAND PACKING SCREW
29, 29a, 29b, 29c, 29d, 30, 31	CTK1125	SPRING CLIP
29d	CTK1115	ALUMINIUM SEALING WASHER
30	*HTK5505	CONNECTING NUT
31	CTK1030	FUEL FEED PIPE LINE TO BURNER
32	CTK1060	FEED PIPE LOCK NUT
33	CTK1120	BALANCING JET
34	CTK1100	CONNECTING LOCK NUT
35	CTK1105	PRE-HEAT CUP
36	CTK1105	FIBRE WASHER
2 x (21, 22, 23, 24, 25, 26, 27, 28, 30, 33)	CTK1045	INNER CAP
ITEMS 21-28, B, 33-35	CTK1040	OUTER CAP
	*HTK5610	45 DEGREE FLUE BEND
	*CTK1062	BURNER SPARES PACK (FOR TWO BURNERS)
	CTK1035	TESTED BURNER COMPLETE



## 5. ON-BOARD SPARES KITS AND ACCESSORIES

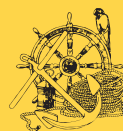
A complete range of spare parts and on-board spares kits for Taylor's Paraffin (kerosene) Cabin Heaters are available. Reference numbers for the item numbers on the diagrams are detailed in section 4.

Chillington Marine Limited, the manufacturer of Taylor's Cabin Heaters, supply spare parts and kits direct and through the marine trade (chandlers and boat builders). Overseas, spare parts and kits are supplied through appointed agents. If you require spare parts, on-board spares kits or help in locating a local chandler or agent, wherever you are in the world, please contact us direct. Our address and telephone number can be found on the front of this leaflet.

The on-board spares kits for Taylor's Cabin Heaters provide the ideal combination of spare parts to help you maintain your Cabin Heater whether ashore or cruising at sea.

NORMAL AND EXTENDED CRUISING ON-BOARD SPARES KIT			
SPARE PARTS		NORMAL CRUISING	EXTENDED CRUISING
DESCRIPTION	REFERENCE NUMBERS	BS'HTKNORM	BS'HTKEXTD
• Paraffin burner	CT1035	1	1
• Paraffin burner spares kit (see section 5 for contents)	CT1062	1	1
• Pump leather washer	CT3592	1	2
• Non-return valve (new) (1c)	CTK 3596		1
• Pump fill cap "O" ring (1b)	ETD3515		1
• Rubber flue cap (14)	HTK5515	1	2
• Wick for spirit cup	CTK1036	1	1

OPTIONAL EXTRAS	
DESCRIPTION	REFERENCE NUMBERS
• 135 Flue bend (36)	*HTK 5610
• Water Heating Coil (Header Tank)	*HTD5041



## 6. INSTALLING YOUR HEATER

### 6.1. CHOOSING THE POSITION

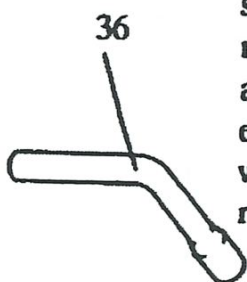
The heater has been designed to be mounted on a vertical bulkhead and it is recommended that it is situated with the base at a height **NO LOWER THAN 225mm (9")** from the cabin floor.

Although the heater mounting plate (18) is insulated, it is suggested that the heater is set on a reflective or insulated surface. The surface should have a margin of at least 150mm (6") around all four sides of the heater mounting plate. Suitable materials would be 1/8" mill board insulation with a stainless steel cladding (22SWG) or ceramic tiles.

- **DO NOT** mount the heater over a combustible surface as spillage would be damaging and could present a fire hazard.

### 6.2. CONSTRUCTING THE FLUE

The heater flue should be at least 976mm (38") in length and 2 flue sections (7) each of 508mm (20") are supplied with the heater. It is highly desirable for the flue to be vertical and straight to ensure a sufficient draught for clean and efficient combustion. If absolutely necessary the flue can be set from the vertical and 45° bends (36) are available. Note: the flue should always be run as straight as possible to ensure sufficient draught to exhaust all combustion products. If you wish to bring the flue back into parallel 2 flue bends (36) will be required.



A 32mm (1 1/4") diameter hole is required through the deck to receive the deck fitting (8). The fitting is supplied with four bolts (8a). The bolts should be equally spaced on a 58mm (2 1/4") diameter pitch circle.

The two insulating gaskets (9) provided are adequate for the flue temperature if the full 2 section 976mm (38") length is fitted between





the heater and the deck fitting. A shorter length of internal flue will require additional insulation between the deck fitting (8) and the deck and possibly the deckhead itself above the heater.

Deck camber can be accommodated by fitting timber pads or using a low density epoxide resin filler to give a flat area on which to position the deck fitting (8). To ensure a watertight joint, a bead of silicone sealer should be put around the outer edge of the deck fitting and also around the fastenings.

### **6.3. SITING THE FUEL TANK**

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The pressure tank (5) may be mounted at a convenient position up to 5m (16') from the heater. Note: we only supply a 3m length of copper fuel line. The tank height is not critical because the fuel is pressure fed from the tank.

It is strongly recommended that the in line fuel filter (13) is fitted. The tank must be rigidly mounted and is supplied with straps (6) for mounting the tank on a bulkhead or locker floor.

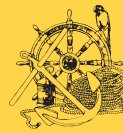
### **6.4. ASSEMBLING THE FUEL SUPPLY PIPE**

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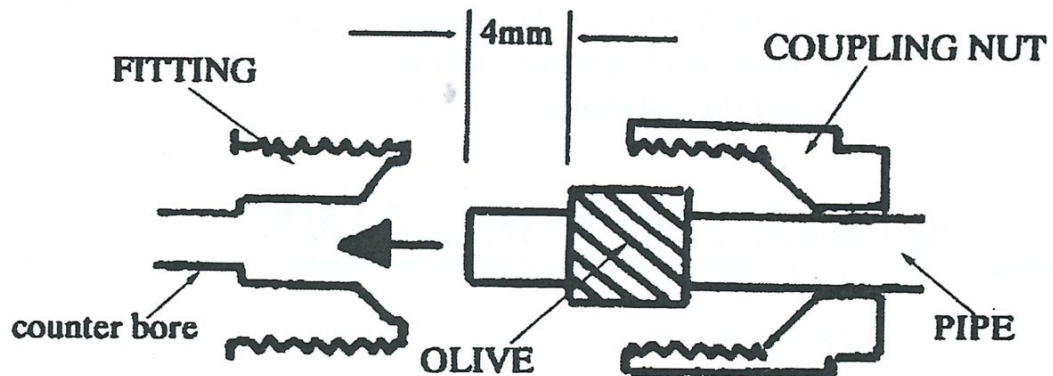
The 3/16" copper fuel pipe (11) is supplied with compression fittings in the safety shut off valve (12), tank T- connection (4b) and in-line fuel filter (13). The safety shut off valve (12) should be inserted in the copper fuel pipe (11) in a readily accessible position, ideally within 1m (3') of the heater.

The fuel pipe (11) has a soldered nipple at one end with a coupling nut which fits onto the fuel line (29b) at the fitting (29c). All other joints including the one at the tank use compression fittings.

When assembling the compression fitting (see diagram overleaf), ensure that the copper pipe is cut at right angles and that all swarf and burrs are removed. Slide on the coupling nut and then the olive so that



the pipe protrudes 4mm ( $\frac{1}{8}$ " ) from the olive. Push the pipe into the fitting until the end touches the counter bore in the fitting. Tighten the coupling nut gently and then undo to check that the olive has formed evenly around the pipe. Finally reassemble and tighten the coupling nut just enough to prevent leakage. Over tightening the coupling nut will deform the olive and the compression fitting will not seal.



## 6.5. FITTING THE FUEL PIPE

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Care must be taken to prevent the fuel pipe (11) vibrating as vibration will cause the pipe to fatigue and eventually fracture. The pipe should be clipped into position at frequent intervals and protected from mechanical damage. One way to protect against damage and vibration is to run the fuel pipe in clear PVC hose and fasten with bulkhead clips or cable ties to the hull structure.



# 7. COMMISSIONING YOUR CABIN HEATER

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## 7.1. PRELIMINARIES

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Remove the rubber flue cap (14) from the deck fitting (8) and ensure that the cowl (10) is in place.

Close the safety valve (12) and the burner (turn the control knob (20) fully clockwise).

## 7.2. FILLING THE FUEL TANK

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Fill the tank (5) two thirds full with clean paraffin (kerosene). Tighten the tank cap (1a) down fully to seal the tank. Operate the pump (1) and pressurise the tank to 25psi (1.6 BAR) - INDICATED ON PRESSURE GAUGE (2).

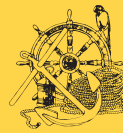
Check all pipe joints up to the safety valve (12) for leakage. Tighten the joints or IF STILL LEAKING depressurise the tank (5) and remake the joints as necessary.

Next, open the safety valve (12) and check the pipe work up to and including the burner for leakage.

## 7.3. LIGHTING THE BURNER

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Use the dispenser (15) provided to fill the preheat cup (32) situated at the burner base with methylated spirits. The preheat cup (32) must be filled as full as possible. Light the methylated spirits and allow the contents of the preheat cup to burn.



When the methylated spirit is almost burnt open the burner control knob (20) in an anticlockwise direction, about a  $\frac{1}{4}$  of a turn ( $90^\circ$ ).

The burner should operate with a blue flame once all the methylated spirits has gone.

- **WE ADVISE THAT YOU HAVE A LIGHTED MATCH AVAILABLE.** If the methylated spirits has finished burning before the burner control (20) is opened, the burner may be lit by inserting a lighted match into the space between the burner and the burner case and opening the burner control (20) a  $\frac{1}{4}$  of turn ( $90^\circ$ ) anti-clockwise.

If the burner does lights with a billowing yellow flame the burner has not been sufficiently pre-heated. Close the burner control (20) (by turning fully clockwise) and **ALLOW THE BURNER TO COOL BEFORE ATTEMPTING TO PRE-HEAT AGAIN WITH METHYLATED SPIRITS.**

### **ALTERNATIVE METHOD OF PREHEATING:**

As an alternative to preheating with methylated spirits, we are suggesting the use of what can be best described as the "do-it-yourself" blow torch. This is a small blow torch fueled by a small can of gas fuel, obtainable from most hardware stores. The flame should be played over the sides of the burner for about 90 seconds before lighting the burner. If that time is too short you do not have to wait for the burner to cool but can simply close the burner and continue to preheat for a short period with the blow torch. This method also avoids the risk of a methylated spirits spillage at sea. The cost is less than methylated spirits and is now the method we use to light burners for testing.

## **7.4. ADJUSTING BURNER OUTPUT**

Turn the burner control (20) slowly anti-clockwise until maximum output is achieved. Run the heater at this setting for 5 minutes and then adjust the burner control (20) to give the heat output required.

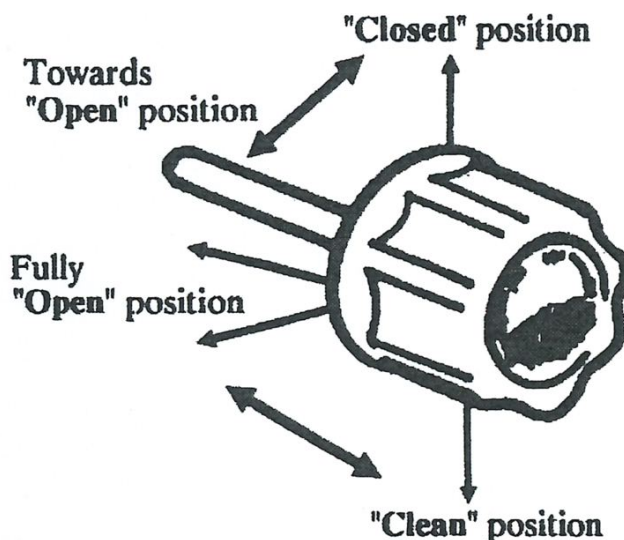


The flame from the burner should always be coloured blue. White tips to the flame normally indicate that the burner control is set too low or that the main jet (21) requires cleaning.

## **7.5. USE OF THE CLEANING NEEDLE**

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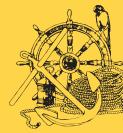
The main jet (21) is cleaned simply by opening the burner control (20) fully anti-clockwise to the "clean" position. Underneath the main jet (21) is a cleaning needle (22). The bottom part of the cleaning needle (22) is a rack that is driven by spur gears on the needle spindle (23). As the burner control (20) is turned fully anti-clockwise to the "clean" position, the cleaning needle (22) will rise through the main jet (21) and remove carbon deposits lodged in the jet orifice. When this happens the flame intensity will decrease but the flame should not extinguish. Do not force the burner control (20) against the stop at the "clean" position as damage may be caused to the spur gears on the control spindle (23). The burner control (20) may now be turned partly clockwise back to its normal "open" position.



## **7.6. EXTINGUISHING THE BURNER**

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To extinguish the burner, turn the burner control (20) fully clockwise until it comes to a stop ("closed" position). Do not force the burner



control (20) beyond the "closed" position because damage to the needle spindle (23) seating may result and the burner will leak.

## **7.7. GENERAL RUNNING**

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It will be necessary to periodically repressurise the fuel tank (5) whilst the burner is running. This should be done when the flame intensity decreases - it should not be allowed to drop below 16 psi.. It is normal to leave the fuel tank (5) pressurised whilst the heater is in daily use. If left unattended for any lengthy period the pressure should be released by un-screwing the tank cap (1a).

- Always ensure that the on-off safety valve (12) is opened before the burner is preheated. Failure to open the safety valve (12) could cause a fracture of the burner gallery (B4).

The packing screw (26) will need periodic tightening as described at the end of sections 10.1 and 10.3 - USE end 16a of spanner 16.



## **8. SAFETY PROCEDURES**

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### **IMPORTANT:**

Simple cabin heaters of the "open flame" type, like this Taylor's model, have been in safe use for many years. Their very simplicity, however, dictates that they must not be confused with the more sophisticated and expensive automated heating systems now available.

- **THEY SHOULD NEVER BE LEFT TO RUN COMPLETELY UNATTENDED.**

### **EMERGENCY FIRE PROCEDURE**

If you are unable to turn the burner off, release the air pressure in the fuel tank by first, closing the safety control valve (12) and then unscrewing the tank cap (1a). In the event of paraffin (kerosene) flowing over the burner and the likelihood of a fire, control the flames by smothering them with a fire blanket or use an approved fire extinguisher which should be installed and readily available as part of the boats standard safety equipment.

- **NOTE: DO NOT** attempt to control the fire by throwing water over the appliance, only smother the flames to extinguish the fire. Also remember that when paraffin (kerosene) is allowed to burn with a yellow flame, it creates considerable smoke and may exaggerate size or the seriousness of the fault which could in turn cause action to be taken that may not be necessary.



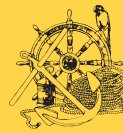
# 9. CHECK POINTS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Burner flares up when first lit after pre heat	Insufficient preheating (see section 7.3)	To burn paraffin (kerosene) cleanly, it is necessary to vapourise it with high initial heat. Until you get to know how much methylated spirits is required for adequate preheating it is better to use too much than too little. It is important to let the burner cool if you need to go through the preheat process again. NEVER pour methylated spirits over a hot burner. We suggest that you seriously consider using a small gas blow torch for preheating, as described in section 7.3)
Burner flame slowly reduces	Tank (5) too full or balance of fuel to air too great	If the tank is filled more than about two thirds full, the pressure will drop quite quickly due to lack of air space. During continued use, fuel in the tank will decrease and pressure will drop. The solution is to repressurise to 25psi (1.6 BAR)
	Carbon build up in burner	Carbon will build in the burner and this can occur quite quickly if inferior quality fuel is used OR A LOW BURNER SETTING IS USED. Always use the best fuel available. It is a good idea to get into the habit of tapping the base of the burner, while alight, with the handle end of a knife. This will help dislodge carbon which you will see being burnt off in sparks. It is advisable to do this just before shutting the burner off to minimise the risk of carbon solidifying. Carbon can also be removed by removing the burner and soaking in ammonia (see section 10.1). If the burner is totally blocked it should be replaced.
	Balancing jet blocked Applies to older models before July 98	Remove the burner and clean balancing jet (30). Suspect dirty fuel ensure the in-line fuel filter (13) is fitted.





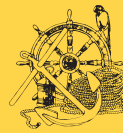
PROBLEM	POSSIBLE CAUSE	SOLOUTION
Burner smells	Paraffin spillage in the preheating cup (32).	Clean outside of burner and check for leaks.
	Fuel leaks at the gland packing screw (26)	You may find that, due to expansion, when the burner is hot a leak will occur at the gland packing screw (26). This leak will show a vapour or maybe a small flame. This happens particularly when the burner is new as the graphite packing washer (25) not settled in OR conversely when it is worn. Tighten the 26 just enough to stop it (use end 16a of spanner 16). If necessary replace the packing washers (24 & 25).
Irregular burning (burner burns blue one side and yellow the other)	Carbon build-up on the main jet (21). (see section 7.5)	Turn the burner control knob (20) fully anti-clockwise to the "clean" position to operate the cleaning needle (22). Repeat a few times. If this keeps happening, suspect dirty fuel. Strain the fuel and ensure an in-line fuel filter (13) is fitted.
	Burner caps, outer (35) and/or inner (34) not seated correctly	Check that both caps are sitting correctly square with the burner top and not tilted. Clean any carbon deposit on the caps that may have built up.
	Main jet (21) worn or faulty	Replace main jet (21). (see section 10.1)
Burner flame to small	Tank (5) pressure too low	Normal working tank pressure is 25psi (1.6 BAR) psi but pressure should not be allowed to drop below 16psi (1.1 BAR)
	Faulty pressure gauge (2)	If the flame is consistently too low, test the pressure gauge (2) against a tyre gauge as it may be overreading thus making the tank pressure too low.
	Carbon build-up in burner	See earlier note in "Burner flame slowly reduces" section.



PROBLEM	POSSIBLE CAUSE	SOLOUTION
Burner ruptures	Excessive pressure in fuel line	Replace burner. Note: with a safety control valve fitted in the fuel line, so that the appliance can be separated from its fuel supply, it is very important that this valve is OPEN before preheating starts. If it is left closed the fuel/air between the safety control valve and the burner control valve will expand, possibly to the point of rupturing the burner gallery. The burner will have to be replaced.
	Burner strained through incorrect removal	Replace burner. Note: to remove the burner from a heater, it is necessary to use 2 spanners, one on the connecting nut (29) – having undone the the lock nut (31) – and the other on the burner base B2 (use end 16b of spanner 16). Tempting though it may be, NEVER hold the burner around the body B with your hands while using a spanner on 29 or 31. <b>WORSE STILL – NEVER PASS A SCREW-DRIVER OR SIMILAR TOOL BETWEEN THE FEED PIPES B4 AS THIS WILL FRACTURE THE BURNER BODY AND CAUSE LEAKAGE.</b>
No fuel to burner	Not enough fuel/pressure in the tank (5).	Check the fuel & pressure levels, particularly if the boat is occasionally heeling away from the tank exit point (4b).
	Cleaning needle (22) blocking main jet (21)	Check that when you turn the burner control knob (20) anti-clockwise to the "clean" position that the needle can be seen working. If it cannot be seen, remove the main jet and inspect. Replace the cleaning needle (22) if necessary (see section 10.2).
	Balancing jet (30) blocked	Remove burner and check the balancing jet (30) – use jet key 17b.
	Dirt in fuel	Check tank and fuel supply line for blockage. Ensure you have fitted an in-line fuel filter (13) in the fuel line (11) from the tank (5).



<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
<b>Burner flame surges</b>	<b>Balancing jet (30) not in place or worn oversize</b>	<p>Check that the balancing jet (30) is in place, as without it the burner flame can surge to the point at which it goes out. If the jet is missing, replace. If the jet is worn from repeated cleaning, replace. In an appliance using a single burner, such as a heater, it is sometimes possible to substitute the balancing jet (30) by throttling the fuel flow with the safety control valve (12), keeping it just cracked open. This will not work where more than one burner is involved.</p> <p>The flame surges if the burner is more than about 2' from the tank (5). The burner creates more pressure than it can use and vapourised fuel forces liquid fuel back against tank pressure. As the burner demands more fuel, liquid surges back to the burner making the flame surge. Hence the need to make some restriction in the fuel line close to the burner i.e. the balancing jet (30).</p> <p>If you have 1/4" fuel pipe and no lock nut (31) on the bottom of the burner you will have an old specification burner and will need to replace the pipework to put in a new burner with the balancing jet (contact Blakes Lavac Taylors Ltd. for details)</p>



# 10. MAINTAINING YOUR HEATER

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## 10.1. DISMANTLING THE BURNER FOR CLEANING

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Remove the outer burner cap (35).

Use the main jet key (17a) to remove the main jet (21). It is advisable to put grease in the socket of the key (17a) so that the main jet (21) sticks in and can be removed and replaced more easily through the aperture B1.

Turn the control knob (20) fully anti-clockwise to the "clean" position (see section 7.5) thus raising the cleaning needle (22). Remove the cleaning needle (22) using a pair of tweezers or fine pliers.

With the control knob (20) still turned fully anti-clockwise, unscrew (you can use end 16a of the burner spanner 16) the gland packing screw (26). When 26 is fully unscrewed continue to unscrew the control knob (20) anti-clockwise, this action unscrews the cleaning needle spindle (23) from the burner body (B). You should then be able to withdraw the complete assembly. There may be some resistance to the removal of the spindle (23) due to the packing washer (25) having seated in; but having ensured that 23 is fully unscrewed the complete assembly may be withdrawn.

For final dismantling remove the spring clip (27) and the needle spindle (23) will pull out and the remaining components (24, 25 & 26) come apart. These can be inspected, cleaned and where necessary replaced. The burner body B should then be cleaned thoroughly by brushing, where possible, to remove the carbon deposits. Soaking overnight in a solution of household ammonia will also help.

**Reassemble in reverse order:**

- Insert and screw in the needle spindle (23).
- Put the packing washers over the spindle, the brass one (24) first and then the graphite one (25), using grease to assist bedding them in when tightening up.
- Replace the packing screw (26) and tighten. **DO NOT OVER TIGHTEN.**
- Replace the control knob (20) with the spring clip (27).

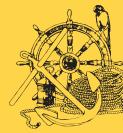
**Replace and test the cleaning needle (22) and main jet (21) as described in the next section 10.2.**

- **NOTE:** When the burner is used after servicing you may find a small flame will appear from the packing screw (26) area. If this happens, tighten the packing screw (26) just enough to extinguish the flame. This procedure may have to be repeated once or twice until the packing washers (24 & 25) are bedded in.

**PLEASE DO NOT** be tempted to overtighten the packing screw (26), but just tighten enough to extinguish the flame each time (use end 16a of the burner spanner 16).

## **10.2. CHANGING THE CLEANING NEEDLE**

Remove the outer top cap of the burner (35), main jet (21) and cleaning needle (22) as detailed at the beginning of section 10.1 above. With the cleaning needle removed there will be no clear stops when turning the control knob anti-clockwise. So, first, turn the control knob (20) fully clockwise to the "closed" position. Then turn the control knob (20) 180° anti-clockwise (this is the "clean" position). To insert the new cleaning needle (22). First, insert the needle end of the new cleaning needle (22) into the end of a matchstick, being careful not to bend the needle (approximately one third of the needle needs to go into the matchstick end). You will notice that the bottom part of the cleaning needle (22) resembles a rack. Using the matchstick to hold the new cleaning needle (22), relocate this rack in the aperture B1 - the serrated edge of the



**rack should face to your left as you face the burner. Note: the burner should be oriented with its control knob (20) facing you.**

Lower the rack of the new cleaning needle (22) into the aperture B1, take care to turn the control knob slightly backwards and forwards until the rack is taken up by the needle spindle (23). Turn the control knob (20) fully clockwise to the "close" position. This will lower the new cleaning needle (22) into the aperture B1. You are now free to remove the matchstick.

### **CHECK 1:**

First ensure the control knob (20) is full turned clockwise to the "close" position. Re-pressurise the tank (5) and/or TURN ON the safety valve (12) to allow paraffin (kerosene) to reach the burner under pressure. No fuel should leak through past the new cleaning needle (22).

**IF THE FUEL LEAKS PAST THE CLEANING NEEDLE 22 then it will be due to the rack of the cleaning needle (22) not having been located at the correct position on the spur of the needle spindle (23), thus preventing the needle spindle (23) fully closing in its seating in the burner body (B). Repeat the process described in this section to locate the rack of the new cleaning needle (22) correctly.**

**IF FUEL DOES NOT LEAK PAST THE CLEANING NEEDLE (22), replace the main jet (21) and firmly tighten this with the main jet key (17a).**

### **CHECK 2:**

With the fuel supply turned off at the safety valve (12), turn the control knob (20) fully anti-clockwise to the "clean" position. YOU SHOULD SEE the cleaning needle (22) project through the main jet (21). **IF THE CLEANING NEEDLE (22) DOES NOT PROJECT THROUGH, OR CATCHES AND BREAKS ON, THE NIPPLE JET (21) THEN REPEAT THE PROCESS DESCRIBED IN THIS SECTION. REPLACE BOTH THE CLEANING NEEDLE (22) AND THE NEEDLE JET (21) AS THESE WILL BE DAMAGED.**



## **10.3. REPLACING THE BURNER**

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Place a new fibre washer (33) over the threaded part of the burner body (B3). With the fibre washer (33) in position push the threaded part (B3) of the burner body first through the pre-heat cup (32) and then through the locating hole in the burner support (fixed to 18). Note: the objective of this operation is to screw the burner connecting nut (29) over B3, sealing the burner to the fuel pipe (29b) as well as fixing the burner to the burner support. To be successful in this operation start with the lock-nut (31) screwed halfway down the outside thread portion of the connecting nut (29).

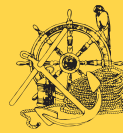
Place a NEW jointing washer (28) over the nipple of the fuel line (29a). **IT IS ADVISABLE TO CHECK BEFORE DOING THIS THAT THE BALANCE JET (30) IS FULLY SECURED HOME IN THE NIPPLE (29a) - USE THE BALANCE JET KEY (17b).**

With your fingers - to prevent the possibility of cross-threading - screw the connecting nut (29) onto the threaded part (B3) of the burner body. Before tightening 29 onto B3, ensure that the burner is correctly oriented with the control knob (20) in the correct position. To hold the burner body in the correct position locate the burner spanner (16) (use end 16b) on the hexagonal part (B2) of the burner body.

- When removing or replacing a burner, please avoid inserting a screwdriver or similar tool between the upright pillars (B4) of the burner body (B) as a means of loosening or tightening the burner into position. The force exerted in doing this is liable to weaken the brazing where the pillars (B4) are joined to the upper gallery of the burner body (B) **AND CAUSE LEAKAGE WHEN OPERATING WITH FUEL UNDER PRESSURE.**

Holding B2 with 16b tighten the connecting nut (29) with a spanner (7/8") - **DO NOT OVERTIGHTEN AS THIS WILL CUT THROUGH THE JOINTING WASHER (28) AND CAUSE LEAKAGE.**

Now tighten the lock-nut (31) up against the pre-heat cup (32) to seal the fibre washer (33) against the burner body (B). This will prevent leakage of methylated spirits when pre-heating the burner.



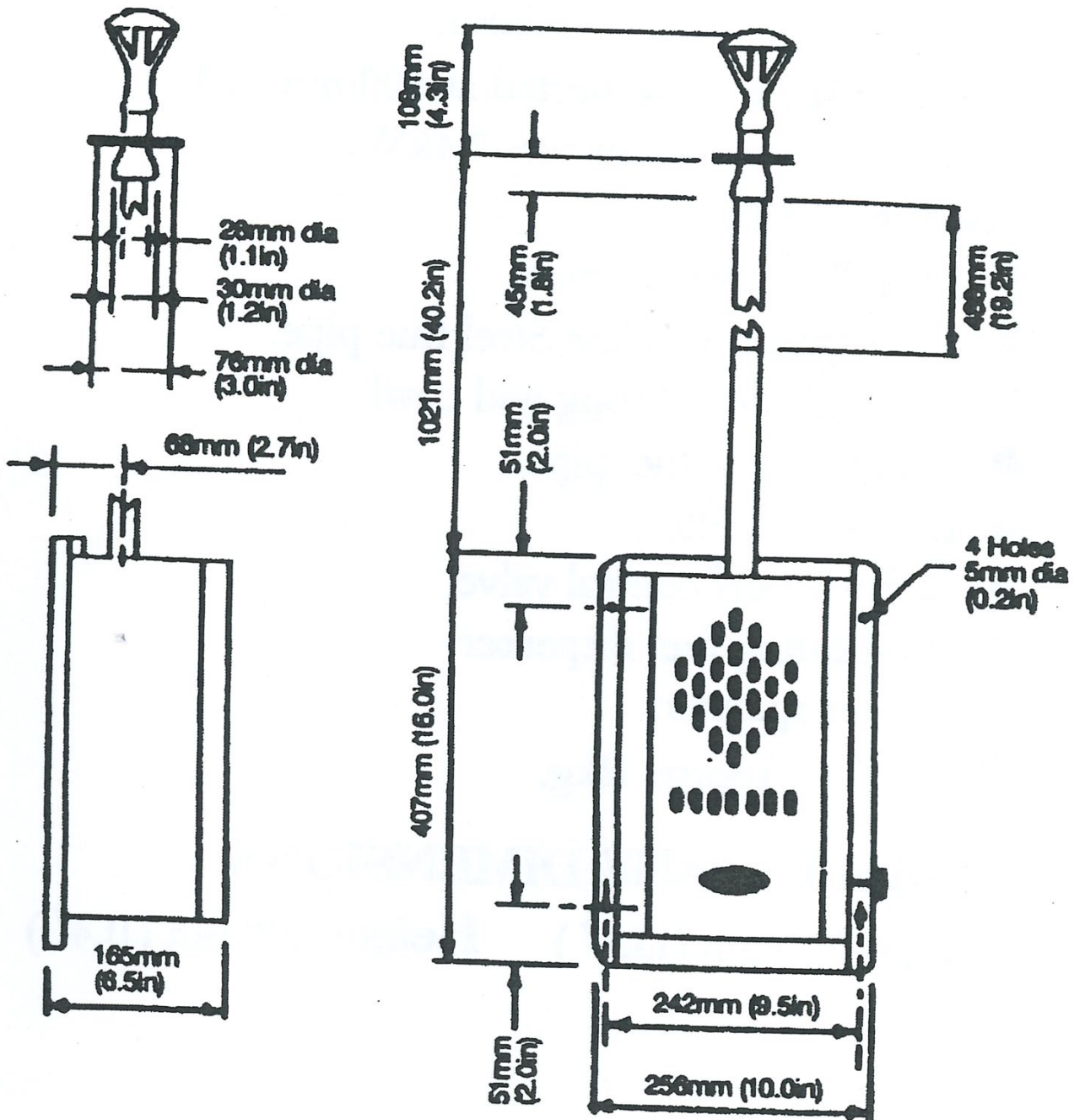
- **NOTE:** When the burner is used after servicing you may find a small flame will appear from the packing screw (26) area. If this happens, tighten the packing screw (26) just enough to extinguish the flame. This procedure may have to be repeated once or twice until the packing washer (25) is properly bedded in.

**PLEASE DO NOT** be tempted to overtighten the packing screw (26), but just tighten enough to extinguish the flame each time (use end 16a of the burner spanner 16).





# 11. DIMENSIONS AND SPECIFICATIONS





**Pre-Heating Fuel — Methylated Spirits (alcohol)**

**Fuel — Paraffin (kerosene).**

**Fuel Consumption — 0.2 litres at full heat per hour.**

**Heat Output — Reflected at 600mm (2') distance: 2.4kWh.**

**Installation Kit —**

- ✱ 1½ gallon pressure tank.
- ✱ 2 lengths of Stainless Steel flue pipe.
- ✱ Through-deck fitting and cowl.
- ✱ 3m of copper fuel pipe.
- ✱ In-line fuel filter.
- ✱ Safety on-off control valve.
- ✱ Pre-heating fuel dispenser.
- ✱ Burner spanner.

**Weight — Approx 11kg.**

## **PARAFFIN TANK DIMENSIONS**

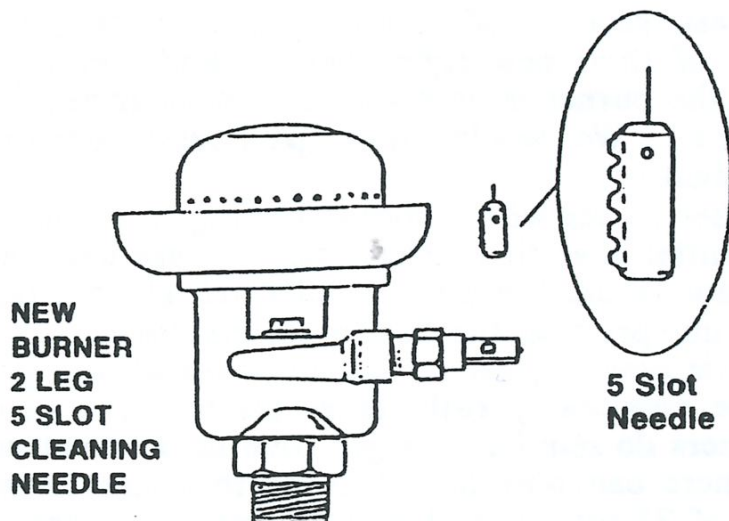
**Length 340mm (13.4" )      Height 290mm (11.4" )**



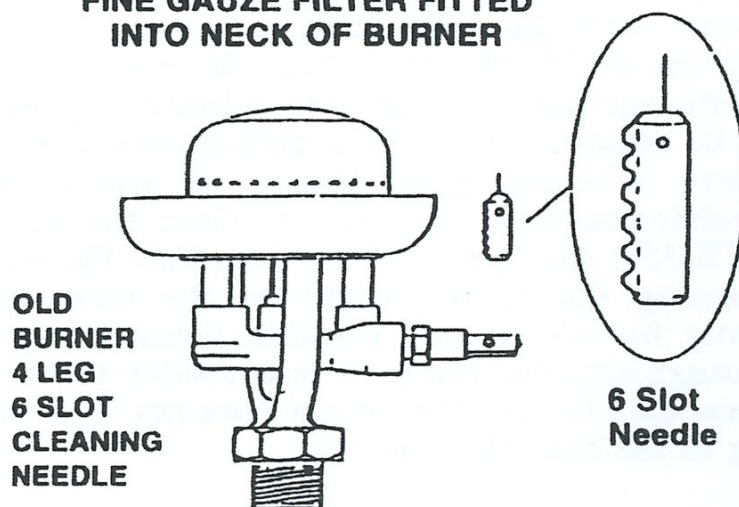
## **PARAFFIN (KEROSENE) BURNERS**

Over the past year or so Optimus have continued with the development of their new style burners, and you will note that the body of the burner is now a solid casting instead of the four upright tubes. We would draw particular attention to the following points:-

1. The Burner comes with a rockwool ring to act as a wick, and it is essential that this fitted into the pre-heat cup. If the wick is not fitted, the methylated spirit/alcohol tends to boil and will not pre-heat the burner efficiently.
2. As there is now a greater mass to pre-heat, the pre-heat cup should be completely full before starting the process. The new burners do require a longer time to pre-heat properly.
3. The burners can now be taken up to a maximum working pressure of 25 psi (1.6 bar), and the minimum pressure should be no lower than 16 psi (1.1 bar).
4. Optimus now fit a fine gauze attachment into the bottom of the burners, and this eliminates the need for a separate balancing jet (CTK1060 or CP11). If you are fitting new burners into equipment fitted with a balancing jet, then this jet must be removed first. New cookers and heaters will no longer have a balancing jet fitted. If you do notice the burner pulsing/surging, then slowly close the in line on/of valve (CTK1155) until you have an even blue flame.
5. When turning the control knob to the clean position, it should only be left in that position momentarily. As this action extinguishes the flame, it is advisable to have matches readily available in case the burner does not light itself when returning to the operating position.



FINE GAUZE FILTER FITTED  
INTO NECK OF BURNER



TAYLOR'S BURNER CLEANING NEEDLE  
NEW OR OLD SELECTION



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### *The Lavac Toilets*

#### ZENITH & POPULAR

- T/A Model - top action hand pump
- U/D Model - behind bulkhead HP
- 12V Model - electric pump
- 24V Model - electric pump

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### *The Blakes Toilets*

- The BABY
- The MINOR
- The VICTORY

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### *Taylor's Gas (L.P.G.) Cookers*

- The 041 Model
- The 043 Model

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### *Taylor's Paraffin (kerosene) Cookers*

- The 028 Model
- The 029 Model
- The 030 Model
- The 030L Model

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### *Taylor's Cabin Heaters*

- The 079K Model - kerosene
- The 079D Model - diesel
- The 089D Model - diesel

**TAYLOR'S 079K**

Owners Handbook



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