

# Propex Heating

## Vehicle and Marine Blown Air Heating

### Operating Instructions

#### Propex Compact 1600W \*1 and 2600W \*3

##### Technical Description

**Propex Heaters** are fueled by butane or propane gas and are warm air systems designed to supply one or more outlets through hot air ducting. Air for combustion is taken from outside the vehicle, mixed with gas and ignited. It is then passed through a two stage stainless steel combustion chamber and exhausted through flexible aluminium tube to the outside.

Fresh air is taken in through a separate inlet orifice and collects heat off the three surfaces of the heat exchanger before being passed through the ducting to the hot air outlet(s). Fresh air is usually taken from inside the cabin for maximum efficiency, although it may be taken from outside if preferred. The combustion side of the heater is totally sealed from the heating air side and at no time can the two mix.

##### Operation

- (1) Check that the gas supply is switched on.
- (2) Rotate the thermostat dial to zero and move the three position switch to the left. The red power light should illuminate.
- (3) Rotate the thermostat dial until the green light (bottom light on the thermostat) illuminates. The heater should now go through its ignition sequence. The higher the thermostat dial is set, the greater the temperature will be in the cabin when the thermostat switches the heater off.
- (4) When the ignition sequence commences the fan will operate on a six-second pre-purge cycle to clean out the burner.
- (5) After pre-purge the spark generator will automatically cut in and regular sparking will be heard for the next six seconds during which ignition will occur.

*NOTE:(5a)* If the heater switches off after the pre-purge cycle without the spark generator starting, this will indicate low voltage and the heater will be in the lock-out mode. The green light on the thermostat will have remained on and the fault will either be flat battery or faulty wiring. The unit can be reset by switching off and back on at the thermostat.

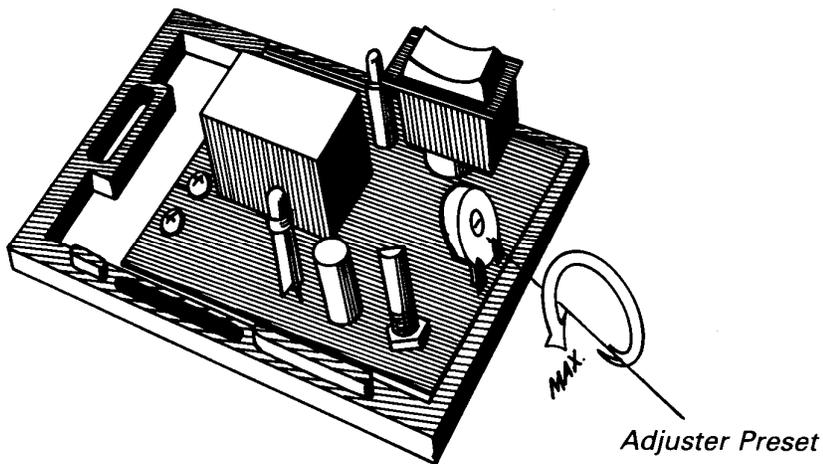
(5b) If the heater switches off after the six seconds of the spark generator running it usually indicates ignition failure. Check that gas is switched on and if so that there is gas in the bottle. In cold conditions ignition failure could be caused by frozen butane gas.

- (6) Ignition will usually occur shortly after the spark generator starts and a slight difference in tone will be apparent.
- (7) When the cabin temperature reaches the set level the unit will switch off; this will be indicated by the green light on the thermostat switching off but the red light (top light on the thermostat) will stay on.
- (8) **Propex Heaters** are fitted with a post-purge cycle for cooling the unit down after operation. This is controlled by a temperature sensor inside the heater which, when activated, will turn the red light green indicating that the heater will run on the "fan only" mode after it has been switched off. The post-purge sensor may also be triggered after the unit has switched off. This is caused by heat radiating off the heat exchanger.
- (9) If the thermostat switch is moved to the right, it will operate the fan on its own for blowing cool air. In this instance the red power light will turn green and the thermostat dial will be overridden.

##### Adjustment of Thermostat Sensitivity

The Adjuster preset is a hysteresis control which can alter the temperature differential from 4°C to 1/2°C. To adjust the thermostat, first pull the dial knob off and remove case by undoing the screw beneath the knob. The diagram overleaf shows the position of the adjuster. For maximum sensitivity turn the preset fully anticlockwise, and for minimum sensitivity turn it clockwise. The preset is designed to be adjusted using a small screwdriver. There is a small arrow in the centre to show which way it is adjusted.

The preset is not a linear control and most of the adjustment is toward the anticlockwise endstop.



### Maintenance

The heaters and their controls are designed to require no periodic servicing as such, however we do recommend that the safety checks listed below are carried out. At very least a preseason check should be carried out on the heater installation as well as **all** other gas appliances fitted. The heater should not be left for long periods without use. We recommend that the heater is periodically switched on for short periods throughout the summer.

### Safety

- (1) Use Butane (Calor) gas at 28mbar or Propane at 37mbar only. Other gases or pressures are **not** acceptable and may be hazardous. The use of adjustable type gas regulators is not permissible.
- (2) Especially where a heater is installed inside a vehicle, check flexible exhaust/combustion inlet pipes regularly for splits, crushing, corrosion or other damage.
- (3) The gas supply line should be checked for security and all joints leak tested whilst under pressure using soapy water or a proprietary leak detecting solution at regular intervals.
- (4) If exhaust fumes are detected inside the vehicle from heater turn off immediately. Do not use until cause has been determined.