



Installation & Service Instructions

For **Super Star' SS and HB series (non-condensing)**
High Efficiency Gas Ducted Heaters
(For internal & external installations)
(4.5 star to 4.8-star energy rated)

DO NOT MODIFY THIS APPLIANCE



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Eco Pacific 'Super Star' series Gas Ducted Heaters

(Installation and service Instructions)

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Important Notice to Agents, Installers, and Purchasers

DO NOT MODIFY THIS APPLIANCE

This appliance has to be installed and serviced only by a Gas certified appropriately qualified person according to AS5601 installation standard and also according to the instructions and guidelines provided by Eco Pacific. Failure to do so Eco Pacific will not accept responsibility for any problems, which occur as a result of faulty installation and or service.

Due to ongoing R&D the product's technical specifications can change any time without notice. For updates please contact Eco Pacific on 1300ecopac or 03-9706 6228

Abbreviations

Abbreviation	Quantity	Units
A	Amperage	Amperes
Ph	Phases	
V	Voltage	Volts
kW	Heating Capacity	Kilo Watts
MJ	Energy	Mega Joules
h	Time	Hours
Hz	Frequency	Hertz

A) Installation Instructions-

Description

The 'Super Star' series is designed as a single stage high efficiency non-condensing central gas ducted heating units. Throughout these installation-instructions reference is made to the general aspect of the units with dimensions shown through Figures 1&2 and Table 2.

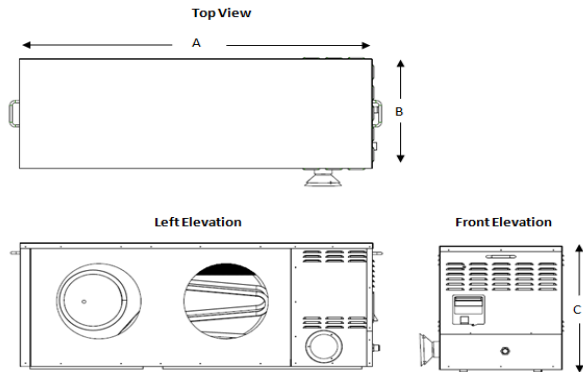


Figure 1 and 2: General aspects, please refer Table 2 for dimensions.

As shown in figure 1&2 the access service panel, where the gas power and thermostat are connected, is the front of the unit. With respect to the front access the rear side contains the fan box where the motor and the wheel are fitted for return air inlet. The burner heat exchanger box with service access panel is the front section of the heater where the supply air is taken from, while the flue is discharged through the side panels of the front section. The front section behind the service panel contains access to the Printed Circuit Board (PCB) controls, the gas burner, combustion fan, and the gas valve. The gas inlet connection is given at the front lower section. Access to the fan wheel and motor is achieved on the far-right hand side.

Models

These installation instructions cover the Eco Pacific '**Super Star**' range of internal and external heaters of 12.5, 16.5, 19.5, 26.5 and 31.5 kw heat output class. The SS and HB range of heaters are intended for use with natural gas as specified on the data plate.

Specifications

The technical information and overall dimensions of each model are given in Table 1 and Table 2 respectively. The appliance data plate found on the front panel of each heater unit complements this in General Requirements.

The installation of this appliance must conform to the following requirements:

1. These installation instructions.
2. The Australian Gas Association Code, AS5601 (old AG601) for installation
3. Local gas fitting regulations.
4. Local building regulations.
5. Local electrical supply authority regulations.
6. Fit dedicated circuit breakers in the power line of the heater in the meter box.

Table 1: Specifications- all in single gas rate Super Star high efficiency models

Specification	Models SS and HB series				
	SS512/ HB412	SS516/ HB416	SS520/ HB420	SS525/ HB425	SS530/ HB430
Heat Input (MJ/h)	48	64	80	102	120
Heat Output (kW)	12.5	16.5	19.5	26.5	31.5
Air Flow (L/s at 75 Pa ESP)	440	470	630	770	940
Weight (kg)	46	51	58	68	70
Electrical Power(V/Ph/Hz)	240/1/50	240/1/50	240/1/50	240/1/50	240/1/50
Thermostat Control (V)	24	24	24	24	24
Total Current (A)	2.5	2.5	3.5	5	5.5
Maximum Add-On Cooling recommended, kW	NA	10	12	16	18-20
Energy Star Rating	4.5	4.7	4.5	4.7	4.8

Table 2: Dimensions (mm), refer Figure 1, 2 and 6

Dimensions /Model → ↓	SS512/ HB412	SS516/ HB416	SS520/ HB420	SS525/ HB425	SS530/ HB430
A- Width	360	360	450	585	585
B- Depth/Length	1160	1160	1200	1200	1200
C- Height	450	450	450	450	450
D- Flue Collar	100	100	100	100	100
E- Duct Connections Return/Supply	300x300	300x300	300x300	350x350	350x350
Extra Air panel collars	NA	NA	350x350	400x400	400x400

Important Notes

Only licensed/AUTHORIZED PERSONNEL must install this appliance and must carry out likewise servicing of this unit.

Please note that the manufacturers reserve the right to refuse to attend the warranty service to the unit if the unit is not installed according to the above requirements and if adequate safety and accessibility to the unit is not provided on site with stipulated clearances.

Inspection

As soon as a unit is received it should be inspected for any damage that may have occurred during transit. If any damage is evident, it should be noted on the carrier's freight bill with evidence.

Location

Eco Pacific Super Star gas ducted heaters are supplied separately for internal and external for installation in either a roof space, or in the space underneath a floor, or external to the house- if it is an external unit in colour bond metal casing with duct collars to connect to a warm air heating insulated duct-system. Refer to Table 2 for general dimensions. Although the location is usually predetermined, please check with the owner's or dealer's installation plans. If a location has not been decided, consideration must be given to the following-

1. The location must provide adequate structural support; space for service access as specified with clearances for return and supply air duct connections.
2. Care should be taken to locate the unit and ductwork so that the supply air does not short circuit to the return air.
3. Proper electrical supply must be available with a service light near the service panel of the Super Star heating unit.
4. Proper gas supply must be available with adequate gas pressure.
5. Service clearances, as outlined in the next sub-section, must be provided.
6. Enough partition with insulation and cushioning for noise and vibration dampening between the heater and the living space.

Clearances

For installation, a minimum clearance of 600 mm must be provided on all other sides of the appliance, with 600 mm required at the front access panel and right side fitted motor of the unit for servicing the unit. A minimum 600 mm wide walkway must be provided for servicing from the manhole/access from the house, in accordance with AS5601, Gas Installation Code. A minimum 100 mm clearance is required above the lid of the unit. Please refer figure 3 for clearances.

NOTE: Ducting must not intrude on these clearances for servicing, except for connections.

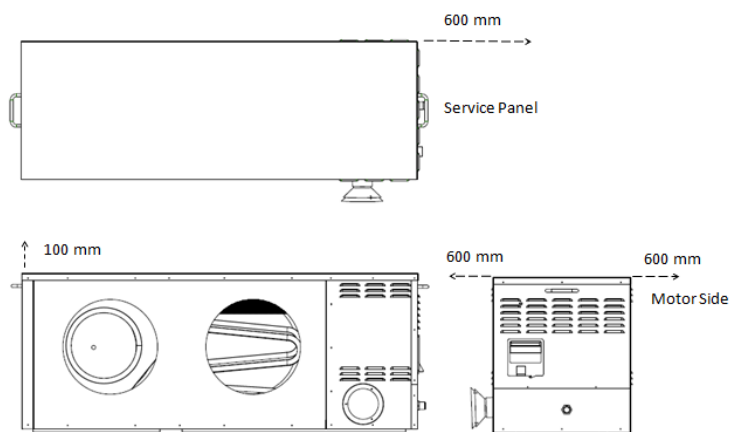


Figure 3: Minimum installation clearances

Installation

Procedure- General

The following sequence of installation steps is suggested. Reference is also made to the Final Checklist.

1. Inspect the site for area and space with a solid plate form minimum 2.0-meter-long x 1.8 meter wide required to put the unit and set in flat and stable position. On ground installation an appropriate concrete slab of the same size is recommended to be used under the heater.
2. Make electrical power connections with a light above available within 1 meter of the front access panel of the unit with switch next to it.
3. Route ¾ inch natural gas piping with isolating gas cock connected next to the unit.
4. Connect all ductwork after 1.5-meter straight ducts length for return and supply from the heater.

5. Connect the flue- 100 mm/ 4 inch metallic for internal installation.
6. External units come with factory fitted flue terminal with no work required.
7. Connect a thermostat using 24V appropriate gauge wiring connections.
8. Power up the heating unit.
9. Start and check the system for the given nominal gas pressure at the gas valve outlet for operation.
10. Balance the air pressure in all the vents and run the owner/user through the thermostat operation and advise on any servicing and maintenance aspects of the heaters and the filter on the return air grill, if fitted. Instructions about three typical installations are given below-

a) Roof Space Installation

1. The area in the roof space must be capable of supporting the additional load of the appliance and the installers. The heater base rails must be placed flat stable on a solid board with specified clearances all around for servicing. If uneven the base board must be made flat and vibration free prior to heater installation.
2. Access must be available to the appliance, by means of fixed access via a manhole capable of supporting a person, using a normal ladder or steps.
3. A walkway must be provided between the access point to the roof space and the appliance. This walkway must be permanently fixed, capable of carrying the weight of a person, and extend all the way around the appliance.
4. Permanent lighting must be provided at the appliance, with the switch located at the point of entry to the roof space.
5. The unit must be installed on a solid base (fire retardant board exempt), extending 600 mm in front of the unit. A minimum clearance of 100 mm between the top of the appliance and any combustible material must be maintained.
6. Ensure that any ceiling insulation material is kept clear of the appliance by a minimum of 100 mm.
7. This is a non-condensing furnace in which there is no condensate discharge to be terminated.

b) Under Floor Installation

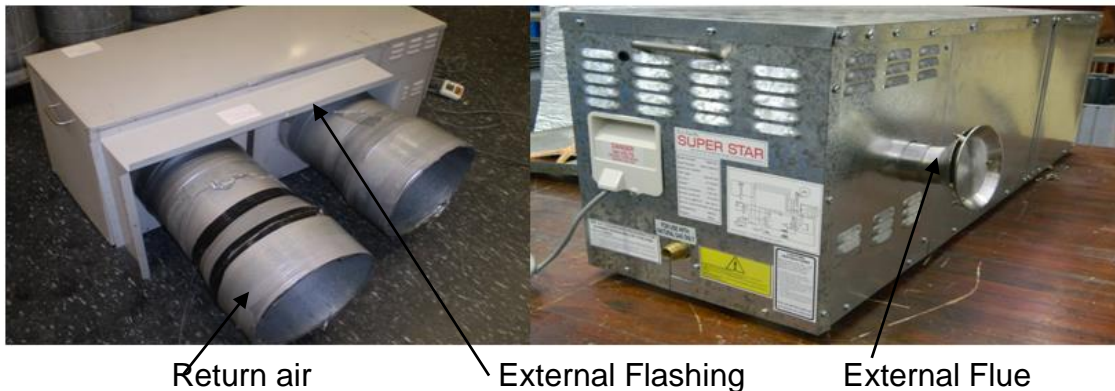
The Super Star heater may be installed under the floor, provided that:

1. A minimum clearance of 600 mm should exist between the underside of the floor joists and the ground. The ground where the heater must be installed should be with 2-meter x 2-meter flat area. The 600 mm clearance is to extend from the access opening to the appliance, and around the appliance.
2. Where minimum clearances exist as above, the appliance shall be located within 2 m of the access opening.
3. Where greater clearances than above exist, the appliance may be installed at any distance from the access opening considering the flue discharge.
4. A minimum clearance of 100 mm between the top of the appliance and the lowest part of the floor structure must be maintained.
5. The appliance is to stand on a level concrete base of at least 50 mm thickness, and provision must be made to drain away any seepage or ground water so that water cannot meet the appliance.
6. Fixed electrical lighting must be provided at the appliance, with the switch located adjacent to the access opening.

c) External along the wall-

Every Super Star model comes in external version in anti-rusting Colourbond metal cabinet fitted with external flue, and the wall flashings are provided separately. Before installing the heater use a concrete slab to put the heater on, high enough from the ground level so that rain and storm water do not enter the cabinet. The heater can be installed with flue facing the wall, or opposite to

the ducts, and once the ducting and collars are fastened the U shape flashing must be fastened onto the heater mounted over the ducting and fastened on to the wall to prevent rainwater from going into the ducting of the heater. The following picture can give some idea how it should be installed facing the outside wall. Flue terminal is provided with the unit which should remain fastened on to the flue pipe.



Fluing

The appliance must be flued to the outside environment, in accordance with the Gas Installation Code, AS5601. The size of the circular flue required for each Super Star model is given in Table 2. Lateral flue runs shall not exceed half the total flue run with a certified Flue Cowl fitted at the discharge end. If the location does not permit this, provision shall be made for a duct to carry the flue vertically upward the appliance through the building to terminate it into the atmosphere. If the bare flue length is more than 3 meters the flue may condense and in that situation the condensate should be discharged at the horizontal flue pass to the nearest drainage point using a silicone or a non-corrosive tube, refer the installation code guidelines. The total length of the flue should not be more than 10 meters, if it is then it should be either double skin or insulated.

Gas Piping

A licensed gas fitter must install the gas piping. The connection at the appliance is to a 3/4" BSP male thread, located at the inlet of the gas control (found at the lower front of the unit). A single female 3/4" BSP flare nut is supplied with the unit for connection to the required gas piping. An AGA approved appliance isolating cock must be installed close to the unit. Gas piping material and size must be in accordance with the Gas Installation Code, AS5601. The gas connection must be tested for any leakage. **Do not use an open flame or other source of ignition for leak testing.** The following diagram illustrates a typical gas valve showing the location of the gas inlet and outlet and the pressure testing point.

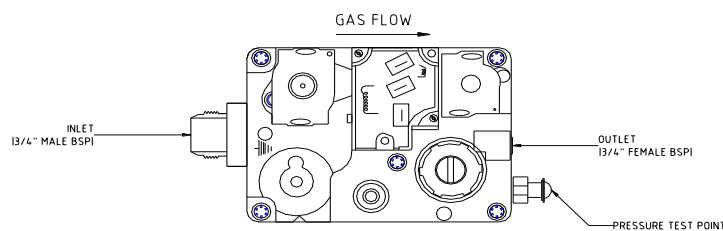


Figure 4: Gas valve connections (Note: the valve used may differ from that shown)

Electrical Requirements

Power Connections

Check that the electrical supply meets the values specified on the name plate and wiring diagram of the unit. The wiring diagram should be found on the front panel of the heater. A 10-ampere general-purpose outlet is required to be positioned within 1.5 m of the appliance. **Wiring shall be in accordance with the local supply authority regulations.** Ensure that the polarity of the power outlet is correct, as shown in Figure 5.

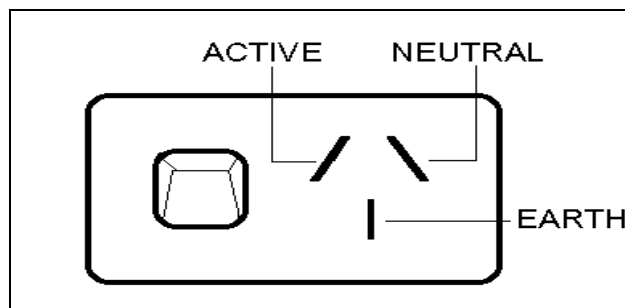


Figure 5: Power point connection polarity

A suitable electrical light is to be provided near the appliance to assist with servicing and the switch placed adjacent to the access opening.

Room Thermostat

The appliance is run with either a manual or a programmable 24V room electronic thermostat. The thermostat should be installed on an internal wall, approximately 1.5 m above the floor where it will be exposed to open flow living room air circulation, normally near the return air intake. It should not be installed on an outside wall or where it is exposed to direct sunlight, heat sources, draughts, or other conditions, which could adversely affect its operation. Generally, the hallways/walkways, living or dining room is a suitable location, provided there are no cooking facilities or refrigeration appliances on the opposite wall facing the thermostat. Mount the thermostat and route the 24-volt control wiring from the thermostat to the heater unit. Connect the terminals labelled "R" and "W" on the thermostat to the screw type terminals labelled "R" and "W", respectively, on the PCB connection strip. Ensure that the hole through the wall cavity for wiring to the thermostat is sealed to prevent cold draughts from affecting the thermostat. The control wiring that passes into the heater should use a cable gland for safe harnessing the wiring on to the PCB. This gland should be fixed in the hole located at the lower left-hand side of the upper access door. For further information concerning the thermostat please refer to the separate thermostat instructions used with the unit.

Duct Connections

All return air and the supply air duct connecting collars are circular. Refer to Table 2 for dimensions. Two starting collars are provided with each unit. **It is especially important to the satisfactory functioning of the installation that the duct system be properly sized, installed, and pressure balanced.**

Warm Air Ducting

From the outlet/supply air duct connection of the unit, install adequately sized ductwork to the outlet/supply air registers. Flexible ducting should be used where noise transfer may be a problem particularly at the duct connection points. All ductwork, fittings and registers shall be sized to comply with AS5706- Design Manual for Indirect Gas Fired Ducted Warm Air Central Heating Systems or the relevant one. It is highly recommended that the ductwork be insulated,

especially where it runs through an unheated space. The supply air connection should be transitioned to the proper duct size. All ducts should be suspended using flexible hangers. Ductwork should not be fastened directly to the structure. Care should be taken to ensure that all ducting is free from internal obstructions, free of leaks and adequately supported. Likewise ducting should not be caved in, crushed, or slack in any manner.

Return Air Ducting

A return air duct must be provided and should draw air from a central location within the house. The maximum recommended duct length is 6 meters. This ducting may be installed to either or both return air connections found on the left, and right-hand rear sides of the unit. In instances where the unit is drawing air from a building cavity make certain that it is fully sealed. This ensures that outside air is not drawn into the system, which will affect performance of the heater. A filter is recommended to be used only in the return air grill for dust free air circulation into the heater.

Outlet Registers

Suitable outlet registers/diffusers must be provided in all areas being heated.

Filters

The use of filters is recommended to keep the duct system clean and to collect dust, lint and other debris from entering the heating unit. A filter is installed in the return air duct. It should be in a position where it is accessible for ease of cleaning. Where a filter is fitted, the return air grille dimensions should be increased by at least 30%.

Note: Filters are not allowed to be put on the supply air vents under any conditions.

Add-On Cooling

Where, either presently or in future, with any Super Star model a suitable add-on cooling can be installed with the proper indoor refrigerated coil section. It should be installed at least 1.5 meter downstream of the supply air duct connection.

System Balancing

Provision for system balancing by using dampers or other suitable means for adjusting airflows must be provided in the duct layout.

Fan Adjustment

The fan is preset at the factory to operate at a designed speed. The Fan speed should not be changed without the expressed authorisation of the manufacturers.

Notes:

1. A 20-second delay is given to run the fan from the ignition taking place.
2. The fan speed is factory-set so that discharge design air temperature does not exceed 60 °C.
3. No modification inside the heater is allowed by any body at the installation site. If the heater is found modified on site Eco Pacific will not honour the warranty conditions and will not be responsible for the consequences whatsoever if occurs from the modification in gas or air flow change or parts and components change without written consent of the manufacturer.

Pre-commissioning Check List

- Have all the gas lines been checked for leaks?
- Is the fan motor correctly wired?

- Thermostat correctly wired with correct polarity for W*G*R, and wiring harnessed?
- Filters are clean and in place with correct size of the return air grille?
- Outlet registers/diffusers and return air grille are open?
- Ductwork sized adequately and correctly installed for smooth air flow without sharp bends ?
- Make sure gas is open, power is on, and thermostat is on with pre-set temperature higher than the room temperature.

Operating Instructions

The 'Super Star' heater does not have a standing pilot rather is equipped with an energy saving electronic ignition device, which automatically lights the burner when the thermostat calls for heat. Thermostat calls for heat when the pre-set temperature is set higher than the room temperature. Do not try manually lighting burners with a spark, match, or other flame source as it could be dangerous.

Preliminary

Set the wall thermostat to the "OFF" position.

Open duct vents in rooms.

Check gas supply is turned on at gas-cock.

Lighting Instructions

Step 1. Check that the thermostat is set to "OFF".

Step 2. Turn 240 VAC power "ON" at unit.

Step 3. Turn the thermostat to "ON" and to a temperature above ambient room temperature. Unit should ignite in approximately 30 seconds.

Step 4. For natural gas, the heater will attempt ignition three times and should ignite. However, it attempts ignition again if the flame is lost due to some reason. The PCB on the heater rechecks ignition every hour then after.

Step 5. Turn the thermostat to "OFF" for 3 seconds, then back on again.

Step 6. Turn the thermostat to "ON". Unit should ignite in approximately 20 seconds. Check the battery condition, if fitted.

If the unit does not ignite-

Often in new installations there is a period required to purge the gas line off any air, which may be present. If having proceeded through steps 1-6 it is determined that the gas line has been purged of gas and the system still fails to ignite/operate correctly, refer to the Service Instructions and wiring diagram given in the end, or contact the **Service Division** of Eco Pacific on-

Tel (03) 9706 6228, or email: sales@ecopacific.com.au

Normal Sequence of Events for operation

- a. When the thermostat is turned on it calls for heat.
- b. The appliance control enters a pre purge period of about 15 seconds to run the combustion fan.
- c. A direct spark ignitor will be energised to ignite the gas after the pre-purge period.
- d. Simultaneously the main gas valve opens.
- e. The burner will light, and the flame sensor will detect the presence of the flame. The ignitor will de-energise after the flame is sensed. If the flame sensor does not detect the presence of the burner flame, the gas valve will close.
- f. The room fan will come on 20 seconds after the flame is established.
- g. The heater will remain in operation until the thermostat is reached pre-set temperature.
- h. Once the thermostat is satisfied, the gas valve will close, and approximately 60 seconds after cooling off the heat exchanger, the supply air fan will turn off.

Diagnostics-

Consideration should be given to other possible causes for the equipment causing to fail. The PCB LED flashing at varying rates as listed below indicates some of these other problems:

2 flash = system lock out- failed to detect or sustain flame. Check that the flame sensor is connected on to the board and positioned properly above the burner port.

4 flash = High limit or manual overhear switch opened, wait until the auto switch closes, or if manual cut off- see if there is obstruction in the duct, open more registers, manually reset the manual switch by pressing the black knob in and try the ignition from the thermostat again.

5 flash = Flame sensed, and Gas valve not energised, check the gas valve and its connections.

Steady light on = internal failure (microcontroller failure and power on self-check)

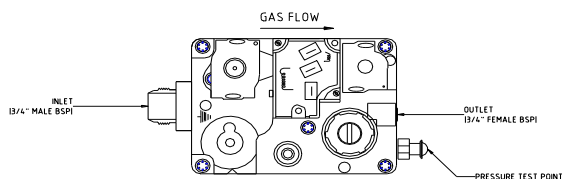
No flash- cheque the fuse, find the reason of the short circuit, rectify, and replace the 3 Amp fuse.

If the system still fails to operate, please contact Eco Pacific on (03) 9706 6228.

Once the unit is operating, set the thermostat to the temperature which satisfies your comfort requirements.

Commissioning Procedure

1. Check the burner pressure setting. The pressure test point is as shown in



2. Figure 4 and is a 3/8" gland type fitting. The correct pressure for Natural Gas is 0.87 kPa for all the Super Star models in SS and HB series.

3. Have the appliance ignite by setting the room thermostat to call for heat by raising the set point above the current room temperature.
4. Having successfully achieved ignition, after a period of 5 minutes, check the airflow at all the registers and adjust the dampers to achieve design air quantities. Maximum air delivery temperature at the outlets should not exceed an average of 50 °C. Maximum air delivery temperature at the supply air connection should not exceed 60 °C, or 55 °C for Extra Air models. If this requirement is not met the duct pressure balancing must be performed.
5. Check the operation of the over temperature switch by restricting the airflow (the over temperature switch will automatically reset on cooling down). Restricting the airflow can be achieved by blocking the area of the return air grille.
6. Turn the room thermostat to “OFF”. The room air fan should stop after a period of approximately 50 seconds.
7. Check the flue for leaks and spillage. Spillage may occur if the flue installation is faulty and is not properly sealed. If so, this condition must be corrected.

The user must be instructed on how to correctly operate the system.

All units are fitted with automatically resetting high temperature limit switches. It is important to leave a minimum number of registers open otherwise the unit will cut out on the high temperature limit.

Minimum number of Vents openings-

The following minimum number or more vents should always remain open-

SS512/HB412-	2
SS516/HB416-	3
SS520/HB420-	4
SS525/HB425-	5
SS530/Hb430-	6

In case of less than above number of vents are open, or there is a power failure, the unit may overheat and short-cycle, or go to lockout mode and the high temperature manual overheat limit switch may activate and may require human intervention to reset. When more vents are opened and or power is restored the overheat auto-reset high temperature limit will automatically reset but the thermostat may have to be turned down and up again to re-set and re-start the system.

Abnormal Operation

Should any of the following characteristics occur, advise the user to contact their local Eco Pacific service agent or the local gas authority immediately:

- Smell of gas.
- Unusual odours from supply air outlet registers/vents.
- Smoke or fumes from supply air outlet registers.
- Excessive or unusual noise emanating from the appliance.

Warnings

Advise the user of the following issues:

- Do not place articles on or against the heater.
- Do not use or store flammable materials near the heater.
- Do not spray aerosols in the vicinity of the heater while it is in operation.
- The front access panels of the heater must remain fitted while the unit is in operation.
- Do not put filters in the supply air vents/registers.

Maintenance

Advise the owner/operator of the need to clean any filters if fitted in the return air grill. Never turn a dirty filter around to allow air to flow in the opposite direction. Cleaning or replacing filters regularly keeps the system operating at peak efficiency levels. The frequency at which cleaning, or replacement occurs depends upon the hours of operation and the local environment.

Final Checks

- Have all the parts of the heater been inspected for any damage due to transport?
- Has a suitable location been selected?
- Have electrical power connections been made **according to all relevant standards**?
- Has the gas piping been connected **according to the relevant standards**?
- Has the electrical control wiring been connected to the unit in accordance with the instructions given in this manual?
- Has the inlet gas pressure to the heater been set correctly?
- Have all the required ductworks been installed properly with air balancing?
- Has the correct operation of the unit been tested?
- Have all the relevant regulatory bodies been advised of the installation?
- Has the warranty card been completed and returned to Eco Pacific?
- Has the Installer's Declaration been signed off in the Operating Instructions provided with the heater?
- Has the owner/user been given a copy of the 'Operating Instructions' and instructed on how the system operates with the connected thermostat?
- Has the owner/user been advised of the system's servicing requirements?

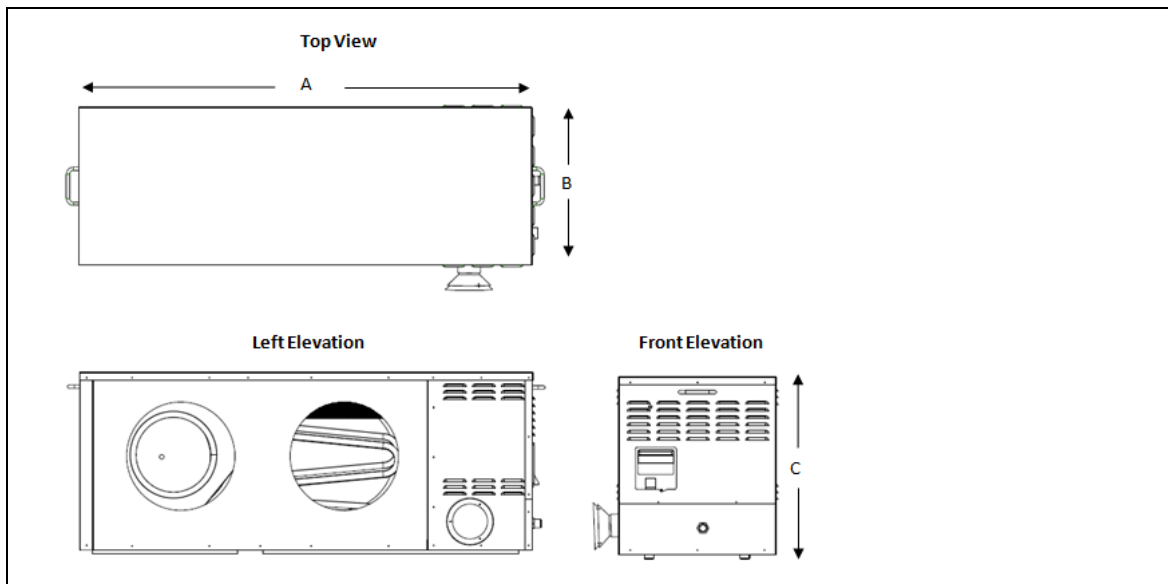


Figure 6: Dimensions (ref. Table 2)

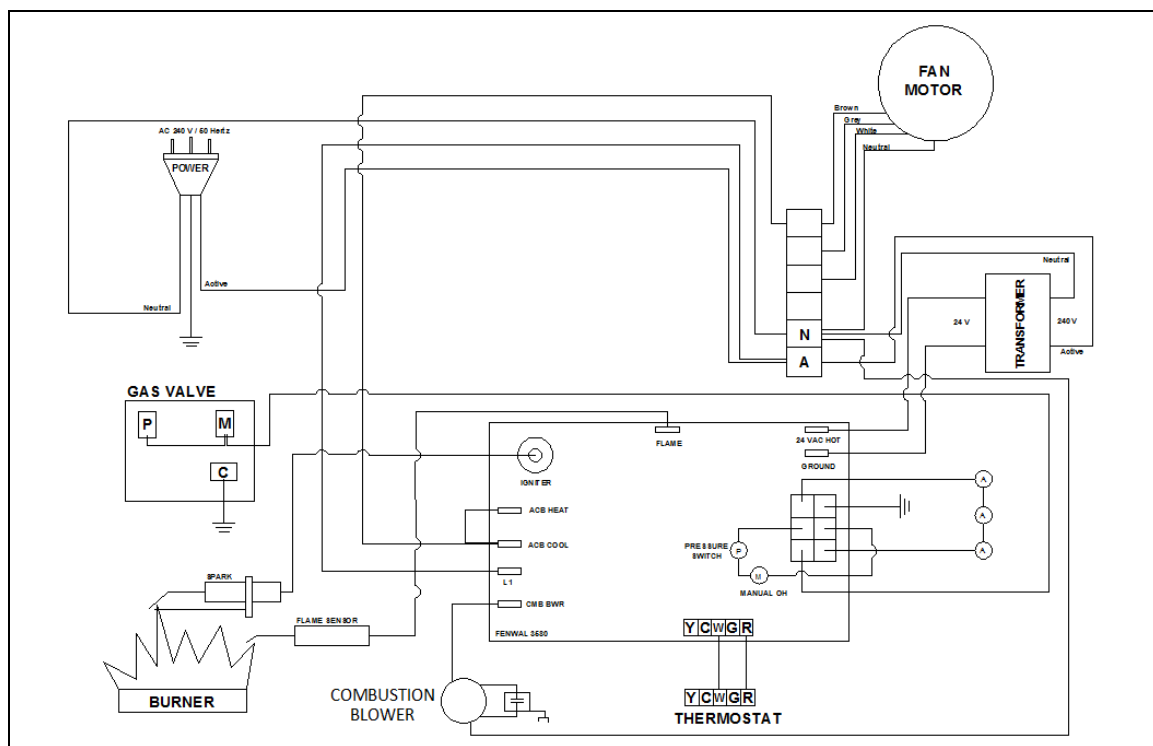
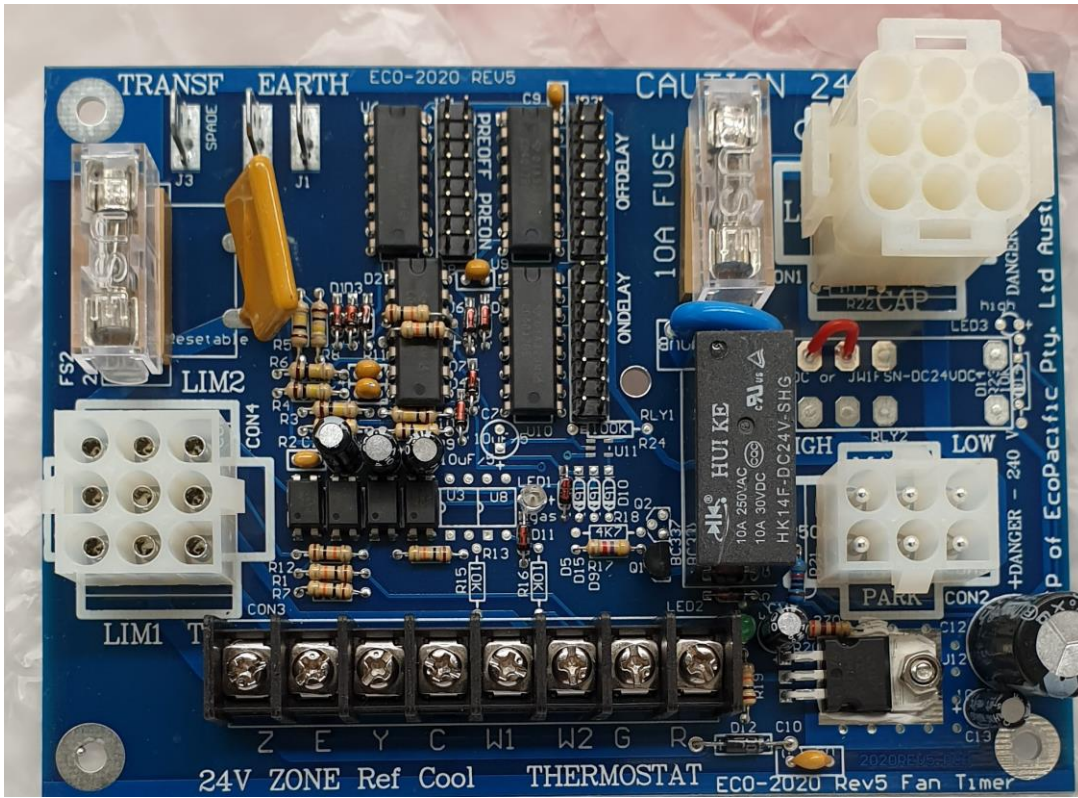


Figure 7a: Super Star Wiring Diagram with Fenwal 3580 ignition module including ventilation fan timer.



Single stage fan timer Eco2020R5 board (above) for SS and HB series

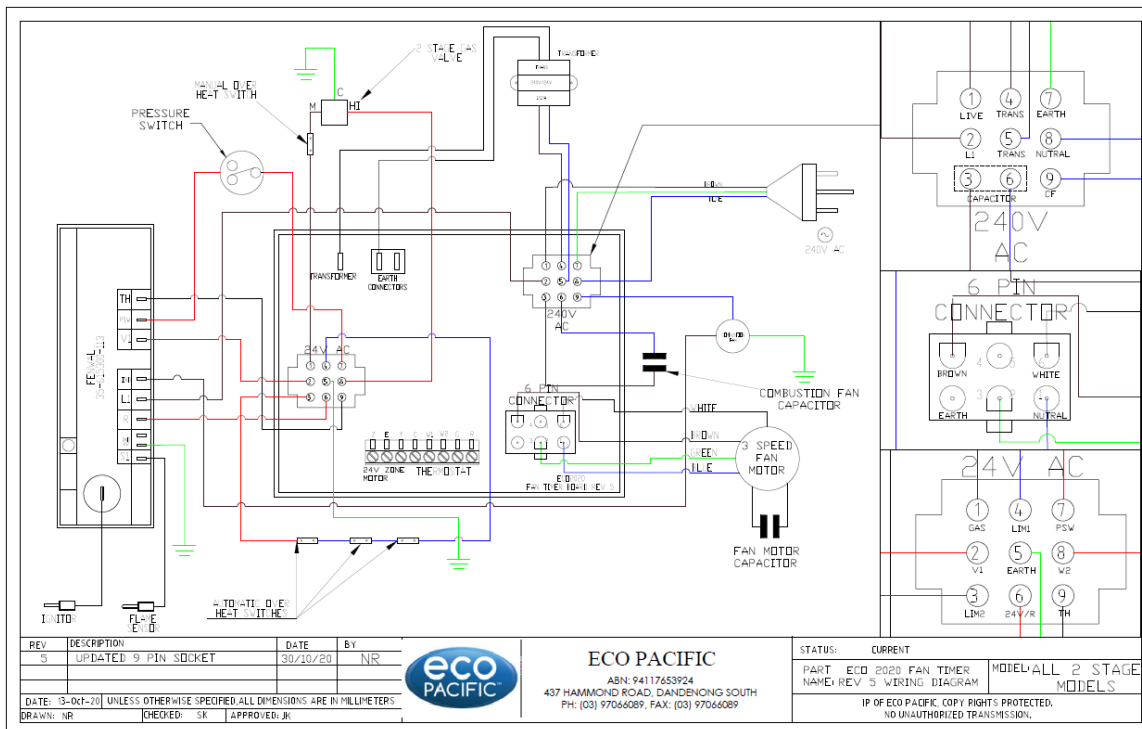


Figure 7b: Super Star Wiring Diagram for Fenwal 3561 ignition module with Eco2020 fan timer board shown above.

B) Service Instructions-

DO NOT MODIFY THIS APPLIANCE

Warning: Servicing shall be carried out only by authorised personnel.

Note: Please switch off the power and shut the gas-cock before touching the appliance for service. Open the service panel as per instructions given in this manual to service or replace any part or component of the Super Star heaters. If a part is found faulty please call Eco Pacific on 03-9706 6228 or email at sales@ecopacific.com.au

A) Removal of covers-

All the Super Star units can be serviced from the front panel without needing to remove the lid or rear section panels. Still all the side panels can be removed by undoing the outer screws on the panels.

1) **Ignitor** can be accessed from left bottom side of the burner. Undo the two screws on it using a star screwdriver and ignitor can be pulled down for replacement.

2) **Flame Sensor** can be removed from the front right corner of the burner upper panel by undoing two screws.

3) **Burner** can be removed by opening the front upper access panel. To take the injector manifold out remove both end brackets on the manifold fastened on the burner front, and a bracket on the base of the heater. This will allow to change the burners, injectors, and gas valve.

4) **Gas valve** can be accessed by opening the front lower panel. Remove the manifold side brackets and take out the injector manifold undo the gas valve and replace if needed.

Gas pressure should be fixed at 0.87 Kpa or as specified in the appliance specs data sheet.

Diagnostics-

Consideration should be given to the other possible causes for the equipment to fail to operate. The PCB LED flashing at varying rates as listed below indicates some of these other problems:

2 flashes = system lock out- failed to detect or sustain flame. Check that the flame sensor is connected on to the board and positioned properly above the burner port.

4 flashes = High limit or manual overheat switch opened, wait until the auto switch closes, or if manual cut off- see if there is obstruction in the duct, open more registers, manually reset the manual switch by pressing the black knob in and try the ignition from the thermostat again.

5 flashes = Flame sensed, and Gas valve not energised, check the gas valve and its connections.

Steady light on = internal failure (microcontroller failure and power on self-check)

No flash- cheque the fuse, find the reason of the short circuit, rectify, and replace the 3 Amp fuse.

If the system still fails to operate, please contact Eco Pacific on (03) 9706 6228.

Once the unit is operating, set the thermostat to the temperature which satisfies your comfort requirements.

Eco Pacific endeavours to produce world class eco friendly high efficiency gas ducted heaters as per Australian Standards. The company takes utmost care and follows documented systematic procedures through approved process control plans to produce, test, and pack the Super Star heaters. Nevertheless, problems may occur if the appliance is not properly transported, mishandled, not installed properly as per the installation instructions, misused, or failed due to any abnormal conditions, or due to component failures after a period of normal operations. In these circumstances, the heater may need service.

Note: If the service call is booked and it is found that the heater was not connected and not provided with power, gas, and or the thermostat not connected correctly then the call out charges and ½ hr minimum charges with standard rate will be applied to the caller.

If a warranty service is called and the unit is found incorrectly installed the cost of the service including call out charges at a standard rate with half an hour minimum charge will be applicable to the installer.

Whilst a service is called it is the responsibility of the owner to provide safe access to the heater. In absence of this, service call may not be attended and the call out charges will be passed on to the caller.

In normal circumstances, the heater parts will be serviced as follows-

1) Overheat switches-

The appliance is fitted with 2 auto-resettable overheat safety switches –one each side in the fan with access from the return air spigot. The appliance is fitted with one more auto resettable switch in the middle of the heat exchanger panel below the burner just above a manually resettable over- temperature switch with a push back black knob. Thus, there are 3 overheat auto resettable switches and one manual resettable over temperature switch fitted in every Super Star heater to protect the heater from overheat and to provide safe operation of the appliance. The location of the switches is given in the following picture 1 and 2, and their temperature ratings are given below in table 3.



Photograph 1- Location of the fan side auto resettable A60 over temperature switch, one each side

Table3- Rating of the overheat switches.

Temp/model	SS512ei/ HB512ei	SS516ei/ HB416ei	SS520ei/ HB420ei	SS525ei/ HB425ei	SS530ei HB430ei
Auto	3xA60 °C	3xA60 °C	3xA80 °C	3x80 °C	3x80 °C
Manual	1xM80 °C	1xM80 °C	1xM90 °C	1x90 °C	1x90 °C

2. Replacement of the flame sensor and or ignitor -

Open the two screws of the flame sensor shown through photograph 3, and replace or service the flame sensor fitted on the front face of the burner top panel. The ignitor is located below the burner bottom as shown in photograph 4. Just open the two screws and pull down the ignitor for replacement. Make sure the ignitor lead of the replacement part is sleeved with a high voltage suppression lead. Use genuine part of the appliance to avoid malfunction. Make sure the gap between the electrodes tips is not tempered with.

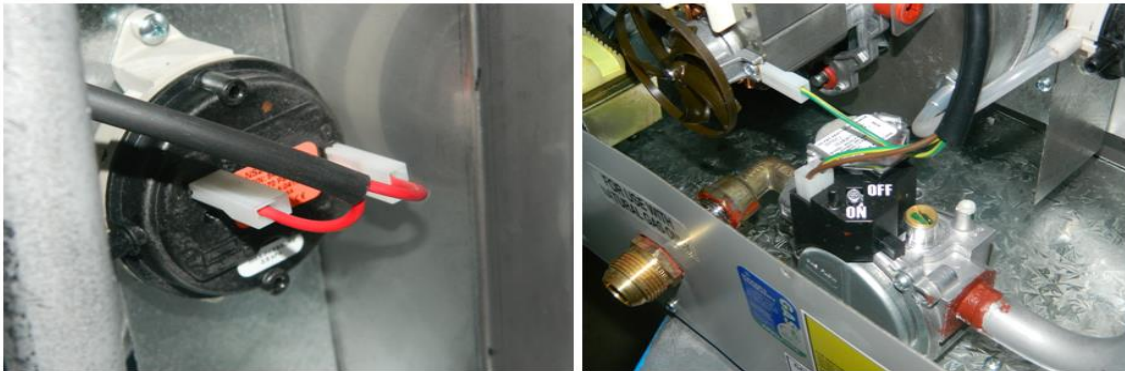


Photograph 3- Location of the flame sensor

Photograph 4- Location of the ignitor- top right end

3. Pressure switch-

The heater will not work if the pressure switch is not operating properly. Please see that the flue is not blocked in any way. Make sure the air pressure tube is connected at both ends and with grey inlet of the switch and the spade connections are tight fit and made proper contacts. The replacement pressure switch should be of the same rating and part number as specified in the appliance. The switch can malfunction if it is not mounted fully harnessed properly on the specified location. The location of the pressure switch is given next to the combustion fan and is shown through the photograph 5 and 6.

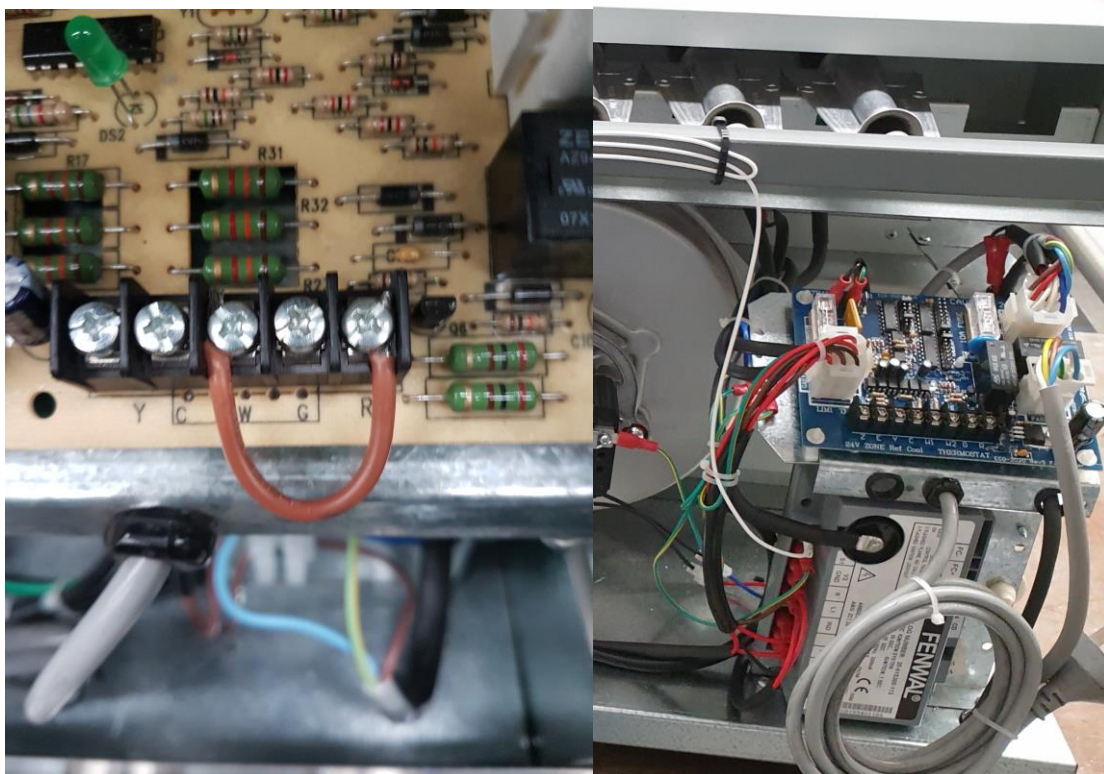


Photograph 5 & 6- Location of the pressure switch.

To remove the pressure switch disconnect the air pressure tube, gently remove the two wiring connections, and remove the screws on the top and bottom, replace it with the same part number. Position and harness it the way it was and connect the air pressure tube back to the Grey inlet with two wire spades reconnected.

4. Electronic control board (PCB)

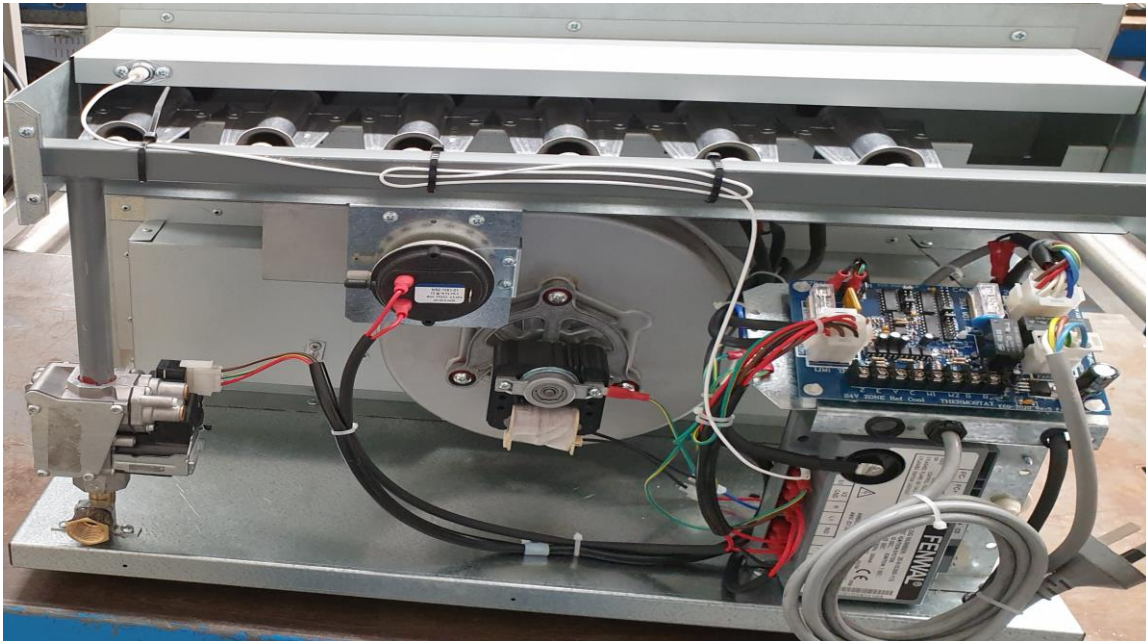
The control board is protected by a 3 Amp purple fuse locating right next to the transformer outlet with 24 V connections. Normally this fuse protects the PCB from many abuses. Please check the fuse is Ok, if not, replace it by gently pulling it out using a nose pliers. If still the PCB is not showing power through a Green LED flashing in the middle, check that the power is connected. If not, the PCB may require to be changed. Use the same PCB part number and using the back spacers position it correctly on the base and reconnect all the wiring as per wiring diagram. The location of the PCB is shown through the following photograph 7, and 8.



Photograph 7 and 8- Location of the PCB and thermostat terminal for W & R connections

5. Gas valve-

Normally the gas valve does not fail, but if it did, it must be replaced with the same gas valve. To replace the gas valve shut the isolating gas cock and remove the access panel. Remove the gas manifold by undoing the side brackets on the burner and the base. Pull out gently the gas manifold with the gas valve. Using two spanners at a time undo the gas valve and replace it with the new one using the gas sealant on the threaded inlet outlet connections. Reposition the gas valve with manifold on the burner inlets one by one. Fasten the two side brackets and then the bracket on the base. Open the gas cock, make sure ignitor, flame sensor, and gas valves connections are made as per wiring diagram. Start the heater; make sure there is no gas leak. If all Ok, put the access panel back, harness it properly with all screws on. The location of the gas valve is shown through the following photographs 9 & 10.



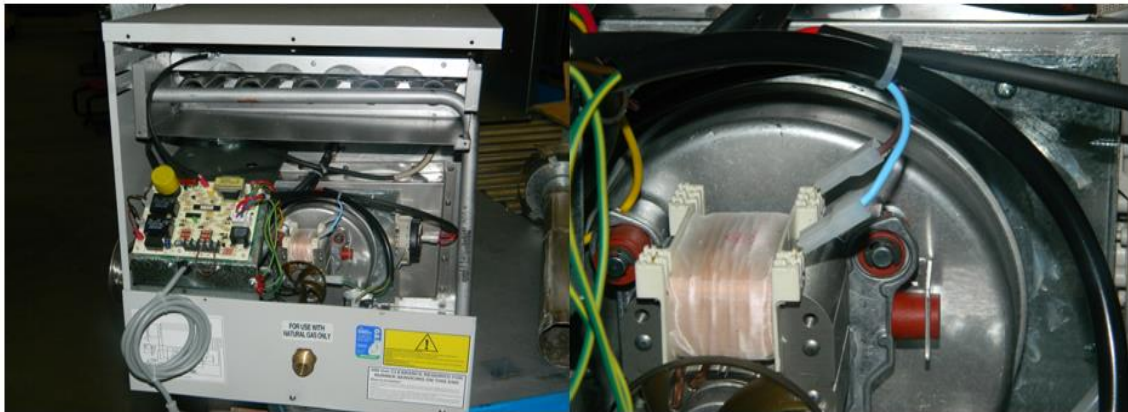
Photograph 9 & 10 – Location of the gas valve and Gas manifold

6. Combustion Fan-

The Super Star is fitted with a combustion inducer fan that normally does not fail, but in the event when it failed it can be replaced as follows-

The fan is mounted on the flue box with a mounting plate sealed off with the fan and the box. Remove the four screws around the mounting plate on the flue box, and knife off the sealant around it onto the box and remove it. Remove the mounting plate, get the new combustion fan and refasten the mounting plate on it with four screws and then seal off with high temperature silicon sealant. Fasten the fan with mounting plate onto the flue box using the 4 screws sealing off with high temperature silicon sealant for any leakage.

The location of the combustion fan is given in photograph 11 and 12.



Photograph 11 and 12- Location of the combustion inducer fan in the front of the heater

7- Supply Air/Ventilation Motor Fan

The supply air fan motor is mounted with a centrifugal forward curved wheel attached to it. The access to the motor is on the far-right hand side, if you face the front access panel shown in photograph 13. Make sure the power is switched off from the GPO before you access the motor. Remove the panel and access the motor. The motor is mounted with three nuts and bolts on a bracket fastened on the ring of the inner side panel of the housing. Remove these three bolts and the ring around it. Remove the opposite side panel to access the wheel attached to the shaft and undo the grub screw to remove the wheel. If the wheel is fine just replacing the new motor using the same wheel otherwise you can decide to change the wheel also of the same size and part number, if needed. The access to the motor and wheel is shown through the following photograph 13 and 14. Once you have replaced the motor make sure the wiring is connected as per the wiring diagram and that the connection to the safety switches in the fan box are not disturbed or correctly repositioned, and the fan bracket is tightly fastened on the ring and the ring on the panel.



Photograph 13 and 14- Location of the fan motor

8. Heat Exchanger

Make sure the heat exchanger is not cracked or blackened, if any abnormality is found on the tubes of the heat exchanger, please ring Eco Pacific on 1300ecopac or 9706 6228. The heat exchanger is proprietary part that does not normally fail, and if failed, can only be replaced by Eco Pacific authorised personnel only. This is a major item and is warranted for 10 years, and only qualified and approved personnel can replace it.

The heat exchanger sits in the middle of the heater and is integrated to the burner facing panel from the top end to the bottom end and is harnessed onto the base of the heater. This is a separate assembly and can be procured only from the Eco Pacific factory. If it is found faulty, it can be removed by undoing the screws on the base, outer lid, inner lid, and burner box. Finally undo the screws on the base and remove its sealing and take the heat exchanger out. Put the new heat exchanger of the same model, seal it off on the base and then fasten it with the same size screws. Fasten with bracket in the middle of the tubes on the base, fasten and seal off the flue box on to it, and then combustion fan on the flue box. Fasten and seal off the burner box with gas manifold on the upper section of the heat exchanger, and finally connecting all the other components and wiring as per instructions, put all the panels back on.

For any parts and their specs please ring Eco Pacific factory on 03-9706 6228 or email at sales@ecopacific.com.au. For details pl visit us on www.ecopacific.com.au
