Installation instructions

Jetmaster Mark 2 Gas Coal / Pebble

with Millivolt Control

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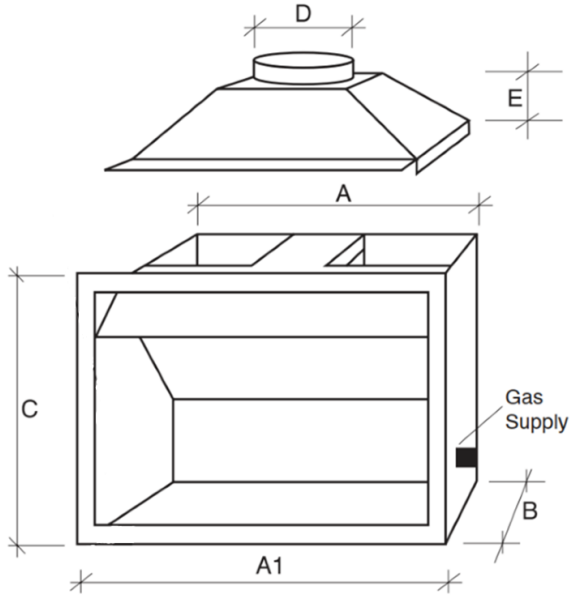
Installation instructions Jetmaster Mark 2 Gas Coal / Pebble

Jetmaster gas coal / pebble universal burners are fuel effect appliances intended for use in a fireplace suitable for the burning of wood. It is recommended that the Jetmaster gas burner be placed in a properly installed Jetmaster convector firebox in order to ensure an adequate draught and greater efficiency. The firebox sizes below are available for the Type 1 Burner to be inserted into. The firebox can be installed into an existing fireplace subject to the chimney being the appropriate size and in sound condition. The firebox can also be installed from new with a gather and a flue.

IMPORTANT: Installation of this appliance should only be carried out by an authorised person in accordance with the manufacturers instructions. All relevant codes and regulations laid down by the gas supply authorities , uniform building regulations and the requirements of local municipal authorities must be observed. The installation should comply with AS/NZS5601/AG601



Firebox	A	A1	B	C	D	E
700	770	800	400	700	225	200
850	920	950	450	750	250	220
1050	1120	1150	500	800	300	240

Model Type 1: Decorative Gas Coal / Pebble Fire

700/800/1000 Mark 2 Gas Coal/Pebbles burner

Refer to Data Plate for information regarding gas pressures, consumption and gas type, Natural or LPG. The data plate is attached to the burner using a steel cable.

Location Requirements

1. The fireplace construction must be non-combustible and in accordance with the current Building Regulations for chimney and fireplace intended for solid fuel use.
2. The flue and/or chimney should be tested and proven to have an adequate updraft which shall be to remove all waste products of combustion. A minimum cross-sectional area of 40,000 sq mm is required with a minimum chimney height of 3.6 meters. The installer must satisfy himself that the fireplace is functioning properly and a smoke test is recommended. When using a Jetmaster firebox the appropriate diameter for the firebox model should be used. (see table)
3. The appliance must comply with AS/NZS5601 Gas Installation Code.
4. In cases where a twin walled metal is used and provided such shall comply with the clearances in AS2918 or manufacturers instructions in respect of clearance to combustibles.
5. In cases where a metal is used, such shall comply with the standards relating to grade quality and thickness as are current.
6. An approved cowl with a minimum cross-sections of 40,000sq mm shall be affixed to the top of the flue or chimney.
7. The installer must remove or fix in an open position any damper which may be affixed to or contained in any fire place.
8. AS/NZS2286 (space heating appliances-secondary guards) requires a dress guard to be affixed to the appliance or fireplace.
9. Ventilation - an opening to outside with a minimum free ventilation area of 400sq cm shall be provided for each decorative gas fire.

NOTE: The chimney in which the appliance is installed is not to be considered as a ventilation opening.

10. The appliance shall be installed into a fireplace with a minimum opening of 600mm width and 217mm depth and shall be no greater than 1650mm width and 400mm depth.
11. Combustible materials must be no closer than 100mm either side of the fireplace opening and no closer than 150mm above the opening . The firebox should have a non combustible hearth in front of the firebox, see page 3.

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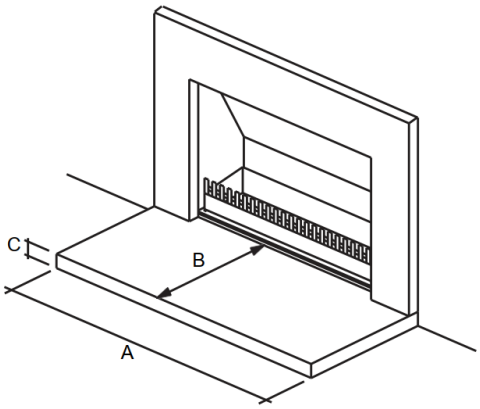
Minimum floor protector size - Hearth size



Model	A	B	C
700	1100	300	8
850	1250	300	8
1050	1450	300	8
All dimensions in millimeters			

Burner Construction - Specifications: Part 1 and 2

Certificate Number: 4958

Laboratory Report: 511285 Date: May 1994

The fire is a Type 1 decorative gas coal fire with imitation coals or pebbles (700Mk2P/C, 800Mk2P/C and 1000Mk2P/C) placed over a bed of vermiculite contained within a metal tray.

It is designed to fit into an existing masonry fireplace or equivalent open fireplace. The gas fire consists of an outer decorative burner housed in a mild steel burner tray. A tray front cover is provided to hide the controls.

Gas System

Gas Inlet Connection: Flared 1/2" inlet located on the right hand side of the burner.

Gas Control: S.I.T. 820 Nova millivolt multifunctional gas control valve

Pilot: S.I.T. Oxypilot assembly located on the rear of the burner to the right hand side.

Pressure test points: Located on the S.I.T. gas valve

Heating System

Vermiculite: Varied size grade 4 with average size of between 3 and 5mm in diameter

Coals/Pebbles: Ceramic fiber coated with a glaze of silicate.

700Mk2P/C	Coal/Pebble amount	22
800Mk2P/C	Coal/Pebble amount	22
1000Mk2P/C	Coal/Pebble amount	45

Note: layout shown on page 7

Model	Width	Height	Depth	Weight
700Mk2P/C	655	140	270	15Kg
800MK2P/C	860	150	280	18Kg
1000Mk2P/C	1040	150	280	35Kg

Markings

Data plate is affixed by steel cable to the bottom of the burner tray. Other details i.e. name plates, lighting instructions and temporary labels will be affixed to the inside of the front cover plate.

NZ Model	Gas Type	MJ/hr Min/Max	Injector	T.P.P. kPa	
				High	Low
700MK2P/C	NG	39/55	3.55	0.9	0.55
700MK2P/C	ULPG	39/55	2.0	2.7	2.0
800MK2P/C	NG	39/55	3.55	0.9	0.7
800MK2P/C	ULPG	39/55	2.0	2.7	2.4
1000MK2P/C	NG	43/65	2.0 x 3	0.9	0.7
1000MK2P/C	ULPG	45/68	1.35 x 3	2.7	2.4
Important - Minimum inlet pressure			NG 1.13 kPa	ULPG 2.75 kPa	

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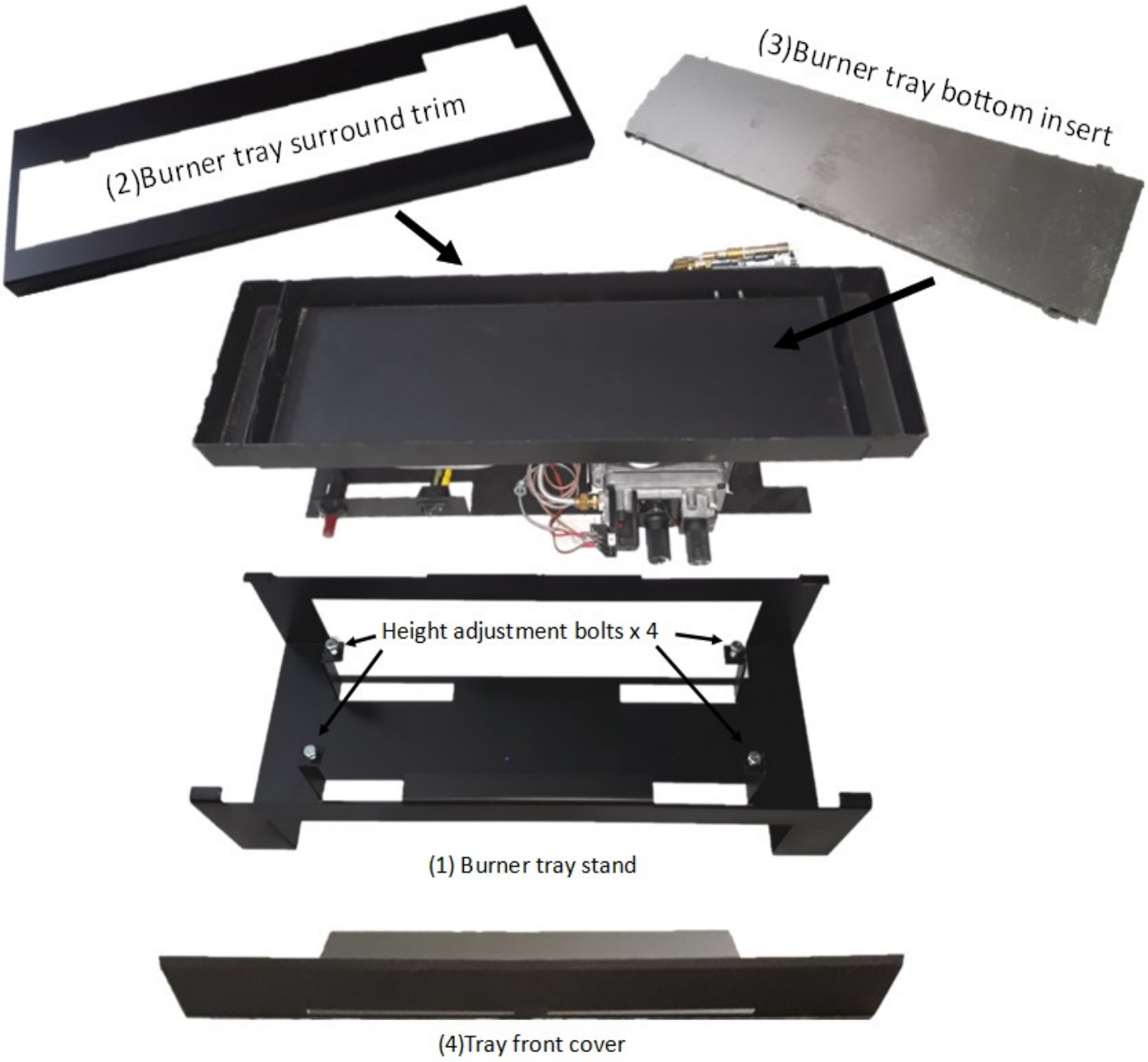
Gas Burner Assembly - 700 and 800 models only

The burner tray is supported within a stand (1) which has four levelling bolts for height adjustment and alignment.

The burner tray surround trim (2) can be placed into position without the need for any fixings.

The burner tray bottom insert (3) disperses gas evenly around the burner tray.

The tray front cover (4) lifts away to allow access to the gas controls under the burner.



Installation instructions Jetmaster Mark 2 Gas Coal / Pebble

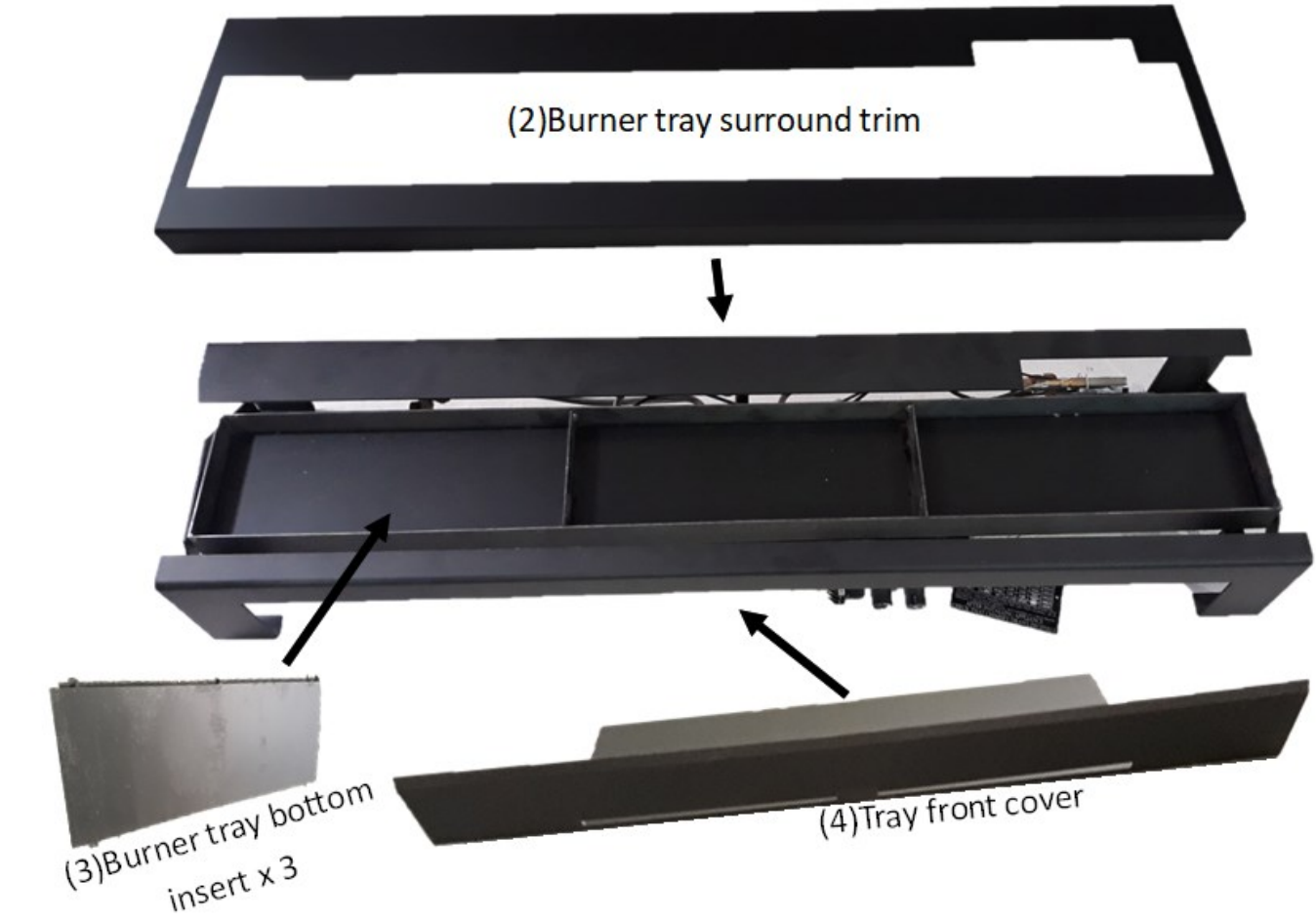
Gas Burner Assembly - 1000 models only

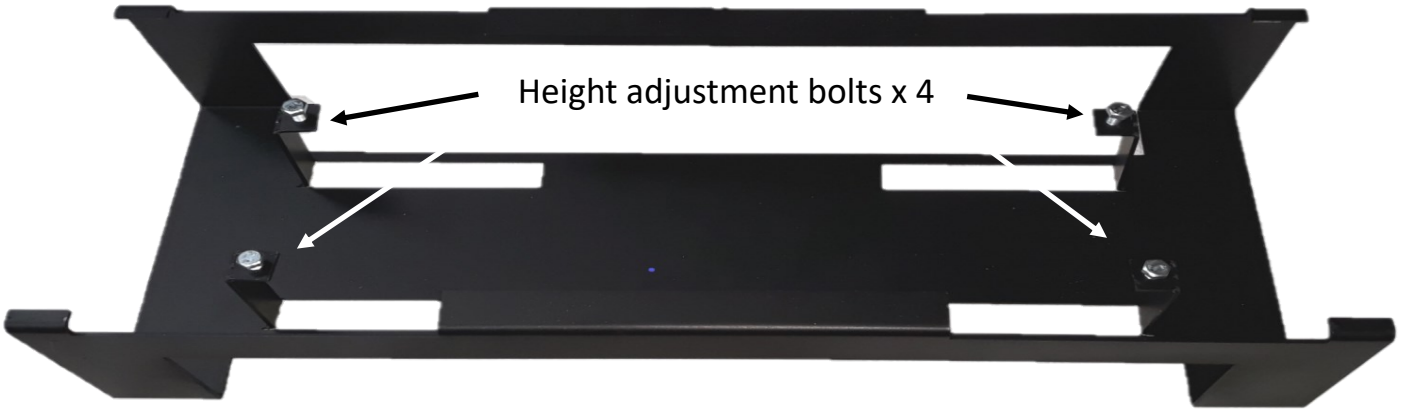
The burner tray is supported within a stand (1) which has four levelling bolts for height adjustment and alignment.

The burner tray surround trim (2) can be placed into position without the need for any fixings.

The burner tray bottom insert (3) disperses gas evenly around each section of the burner tray.

The tray front cover (4) lifts away to allow access to the gas controls under the burner.





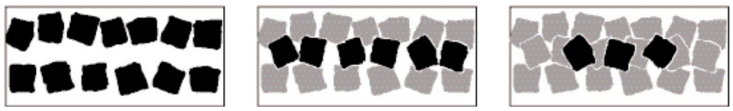
Installation instructions Jetmaster Mark 2 Gas Coal / Pebble

Fitting the Gas Burner

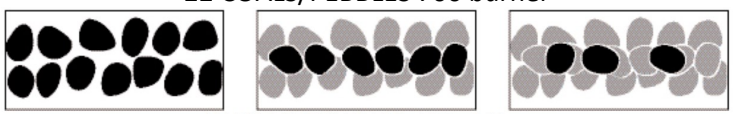
1. Check unit is suitable for intended gas supply. (NG or LPG)
2. The position of the gas control and inlet is on the right hand side and is 3/8" B.S.P. female connection for L.P.G. A 1/2" regulator is supplied when fitting to natural gas. Check that the chimney is clear prior to fitting.
3. In an existing fireplace or Jetmaster firebox (if being used) drill a 15mm hole through the right hand side of the fireplace (as you face it) at a point of 85mm from the base and 85mm from the rear wall (if providing stop cock in firebox).85mm from front wall (if stop cock is outside firebox).
4. Cut and debur both ends of pipe. Fit the end to the gas supply point and turn on for approximately 5 seconds to clear the pipe of any dirt or grit. Fit the other end to the gas unit.
5. The regulator is included on the S.I.T. control on the unit.
6. Turn on the gas and check all connections for leaks using soapy water or approved method. Fix any leaks.
7. Possible carbon deposition may occur on the appliance incorporating live fuel effect. Adjusting Pressure, Pilot and Low Fire

Laying The Fire

- Use the bag of Vermiculite to fill the burner tray, try to avoid using any fine dust from the bottom of the bag
- Unpack the coals/pebbles contained in a clear plastic bag and lay a row of coals/pebbles on the vermiculite along the back of the burner tray leaving approximately 12-15mm between them.
- Leave spaces at the edges to allow free flow of gas.
- Place a further row of coals/pebbles directly in front of the first row but staggard so that the second row are behind the gaps of the first row leaving approximately 12-15mm between the rows of each coal/pebble.
- Once the bottom layer is complete build up 2 to 3 tiers of coals/pebbles (depending on model) in a honeycomb pattern to from an elongated pyramid
- The aim is to build windows or openings into the fire through which the radiant effect may show but at the same time not leaving such large gaps between which will allow excessive air to enter and damp down the red glow.
- After the fire has been alight for 15 minutes you may want to adjust the layout for the best effect. Allow the coals/ pebbles to cool before attempting this.
- Please keep in mind it is important to maintain the general pattern described here and indicated in the diagrams but slight variations can be tried to achieve a pleasing appearance.

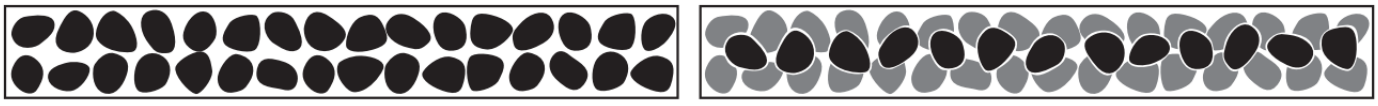


22 COALS/PEBBLES 700 burner



22 COALS/PEBBLES 800 burner

45 COALS /PEBBLES 1000 burner



Installation instructions Jetmaster Mark 2 Gas Coal / Pebble

Commissioning Procedure

Installed correctly the burner should not emit and any fumes into the room. The following procedure should be undertaken to test that the unit is operating correctly.

1. After the unit has been operating for a short period a smoke match, smoke tube, carbon dioxide analyser or similar should be directed at the top opening of the unit.
2. This procedure should be undertaken with the following conditions in the room:
    - All windows open
    - All windows closed
    - Extraction/exhaust fans, range hoods etc. operating
    - Other gas appliances operating
3. Should any spillage be detected the cause must be rectified before allowing commissioning of the unit.

Lighting Instructions

Pilot Flame Ignition

Locate control knob on right hand side of valve. Depress and turn control knob (FIG 1) to the ✷PILOT position (FIG 4). Depress the control button and ignite with piezo ignitor (FIG 2) whilst keeping control knob firmly depressed for 20 seconds. Check the pilot stays lit. If it goes out repeat ignition procedure.

Main Burner Ignition

Depress and turn control knob anti-clockwise from ✷PILOT position to the ≈ON position (Fig 5). The burner will not ignite if the rocker switch in the OFF position (Fig 3). To light main burner press the rocker switch to ON position (Fig 3).

Turn Main Burner Off with Pilot Remaining On

Depress the rocker switch to OFF position (Fig 3)

Main burner can also be turned off by the use of the control knob. This is done by turning control knob clockwise to the PILOT position (Fig 8). Control knob will need to be turned back to ≈ON position (Fig 5) to light main burner.

Turn Main Burner On or Off will Optional Wall Switch

Pilot must be running with control knob in the ≈ON position (Fig 5) Fire Rocker switch in the OFF position (Fig 3) Wall switch will now control the main burner.

Turn Pilot And Main Burner Off

Depress and turn control knob clockwise from ≈ON position (Fig 5) or ✷Pilot position (Fig 4) to the ●OFF position (Fig 6).

Turn Main Burner Higher Or Lower

Turn high / low flame knob to obtain high or low fire (Fig 7).

Fig 1

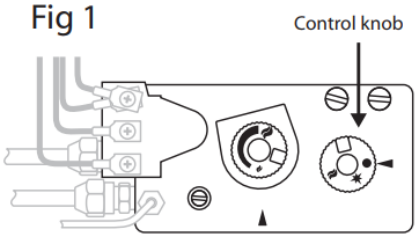


Fig 2

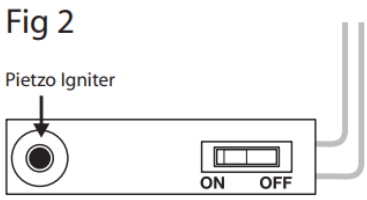


Fig 3

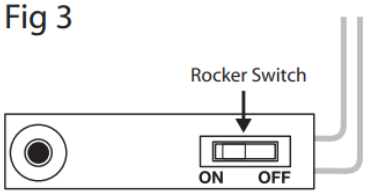


Fig 4

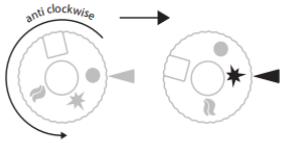


Fig 5

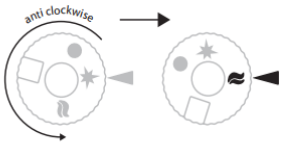


Fig 6

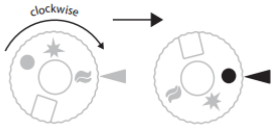


Fig 7

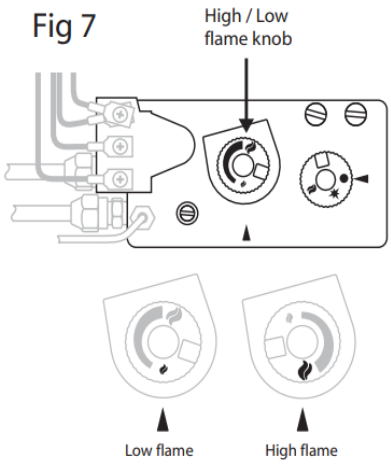
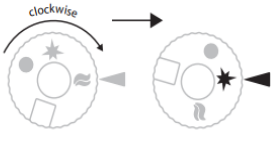


Fig 8



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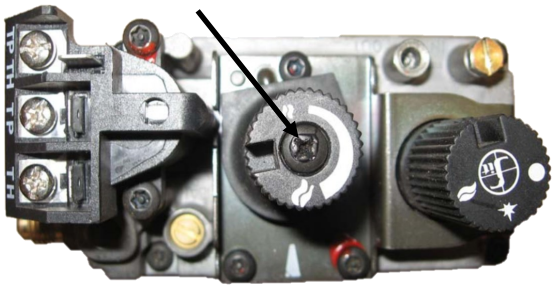
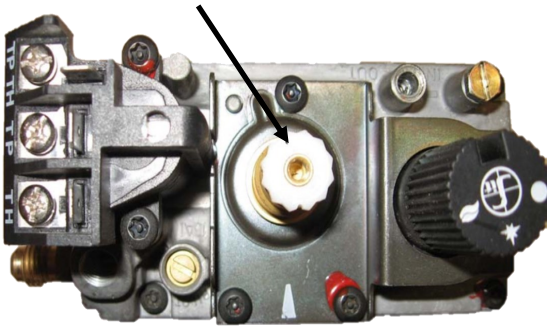
Adjusting Pressure, Pilot and Low Fire

1. All settings are set to operate at appropriate pressures (see data plate). Test point is located on gas valve.
2. Check low fire if adjusted correctly.
3. The pressure can be measured on the gas valve and the regulator adjusted to the appropriate pressure (see data plate.

Remove Phillips head screw from high/low knob to remove



Use white knob to adjust pressure



Optional Extras

Standard wall switch

(Part No J-WS)

The addition of a wall switch can turn the main burner on and off as required without having to bend down to the fire.

Hand-held remote system

(Part No J-584.021)

The remote control kit can turn the main burner on and off manually or can operate as a room thermostat. A room temperature is set to control the burner and comfort level in the room.

(Full details in the remote kit instructions)

User Information

1. Warning Note: Properly installed and operated this appliance will not leak gases. Persistent fume emission must not be tolerated. If fume emission does exist the following immediate action should be taken.
   A. Turn off the fire
   B. Open doors and windows to ventilate the room
   C. Check for flue blockage and clear if necessary
   D. Do not attempt to relight the burner until the cause of the emission has been identified and rectified. Should assistance or advise be required contact nearest agent or Jetmaster.
   E. The gas burner is recommended for use in a Jetmaster firebox which has been designed to ensure a proper draw and to eliminate emission spillage.
2. Initially the Jetmaster coal/pebble fire may burn with a slightly blue flame. After approximately 20 minutes the fire will settle down and burn with a yellow flame.
3. As with all gas appliances your gas coal/pebble fire should be regularly serviced. We recommend once each year. Contact your nearest Jetmaster authorised agent to provide service.

Please Note: Only coals/pebbles provided by Jetmaster should be used with this appliance.

5. DO NOT place articles on or against this appliance

   DO NOT use or store flammable materials near this appliance

   DO NOT spray aerosols in the vicinity of this appliance whilst in operation.

   Primarily a decorative appliance not certified as a space heater.

   DO NOT MODIFY THIS APPLIANCE

6. The appliance is a live fuel effect product designed to operate with luminous flames and may exhibit slight carbon deposition.

Installation instructions Jetmaster Mark 2 Gas Coal / Pebble

General guide to set-up and fault finding the Nova MV System

1. Bleed all air from the gas lines.
2. With the main burner operating, adjust the inlet pressure regulator to supply gas to the appliance within the design parameters of the appliance manufacturer.
3. Make certain that the thermocouple and thermo-generator (Thermophile) are fully inserted and tightened into their receptacles in the pilot burner head. The thermocouple should be threaded into the valve hand-tight plus 1/4 turn with a wrench.
4. Verify the system is wired properly and that all connections are clean and tight. Thermo-generator leads are connected to the TPTH and TP connections of the gas valve. Any thermostat or wall switch wires are connected to the TPTH and TH terminals of the gas valve.
5. Turn main gas control know to PILOT position and depress the knob and press the piezo ignitor button to light.
6. Continue to hold the control knob fully in until enough current is generated by the thermocouple to engage the safety magnet (20-30 seconds)
7. After the pilot burner has been operating for a period of up to 3 minutes the thermo-generator can be measured across TPTH and TP terminal to give 500mv to 750mv. The pilot can be adjusted to achieve a reading between these figures.
8. With the pilot correctly adjusted a jumper wire can be connected across TPTH and TH terminals. A closed cicuit reading can now be recorded which should remain above 300mv.
9. Remove the jumper wire from TPTH and TH connections and re-connect the thermostat or wall switch, if required, these same terminals. With either of these switches in circuit the reading should remain above 175mv.
10. Rotate the gas control knob to the ON position. The main burner will light
11. Verify the operation of any thermostat or wall switch by cycling each individually while observing the main burner operation.
12. Rotate the main gas control knob to the OFF position. Both the pilot and main burner will be extinguished.

Fault Identification and corrective action

The Fault finding tables are on pages 11, 12 and 13.

These tables should help identify the possible cause and suggest a solution for operational problems.

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Problem	Possible Cause	Solution
Pilot will not light	No gas	Bleed air form the gas line Check stop isolating valves are in the on position No Blockages in the line
	Wrong inlet pressure	Adjust inlet pressure with main burner running. (see diagram)
	Defective spark electrode.	Replace electrode if the insulator is cracked or the tip is corroded. Verify that the spark gap between the pilot and the electrode is correct.
	Defective piezo wire.	Replace piezo wire if insulation is damaged, or the wire is broken or corroded.
	Safety interlock function engaged.	Allow thermocouple to cool until the mV drops below the hold in requirements of the safety magnet, (30 seconds or less). Re-light pilot.
Pilot will not hold	Wrong inlet pressure.	Adjust inlet pressure with main burner running (see diagram).
	Pilot adjustment screw not properly adjusted.	Refer to item # 7 in the set-up guide. (also see diagram)
	Thermocouple or thermo-generator not properly inserted into the pilot housing.	Refer to item #3 in the set-up guide. (see diagram)
	Thermocouple or thermo-generator has film build-up on tip.	With the thermocouple and thermogenerator tips cool, clean the upper 3/8” with a very fine emery cloth.
	Electrical resistance too high.	Using a very fine emery cloth, clean thermo-generator and thermocouple connections at valve. Tighten thermocouple into valve hand tight, plus ¼ turn with a wrench.
	Defective Thermocouple (mV Plus systems)	Verify that thermocouple is not kinked or damaged. Check open circuit voltage of thermocouple. Voltage should be between 18mV and 28mV. If voltage is less than 14mV, replace thermocouple.
	Defective thermogenerator. (Millivolt system)	Refer to item # 7 in the set-up guide.

Problem	Possible Cause	Solution
Pilot will not hold	Defective safety magnet. (mV Plus systems)	Verify operation of safety magnet in the following manner. (A) Depress and hold pilot button. (B) Verify open-circuit thermocouple voltage as described in previous step. (C) Reconnect thermocouple to valve. (D) Measure the Millivoltage between the solder button on the base of the safety magnet, and the valve body. If the mV reading is above 6mV for vented appliances, and the safety magnet does not hold, replace the valve. (E) If closed circuit mV reading is the same as the open circuit reading, the coil is electrically open. Replace the valve.
	Defective Safety Magnet. (Millivolt system)	Verify operation of safety magnet in the following manner. Remove all wires from the terminals TPTP and TP. If the voltage is above 110mV and the safety magnet does not hold , replace the valve.
	Pilot injector blocked.	Replace injector with a new injector of the exact size and type.
Pilot drops out	Wrong pilot injector	Replace the injector with a new injector supplied specifically for the appliance and gas type in question.
	Oxypilot activated	Examine flue system. Repair as necessary.
No gas to main burner with pilot running.	Low gas pressure to appliance.	Adjust inlet pressure with the main burner running. (see diagram).
	Control knob not in ON position.	Rotate OFF/PILOT/ON control knob to the ON position. (See page 8)
	Rocker switch not in ON position	Turn switch to ON (See page 8)
Thermostat/wall switch will not cycle main burner.	Thermostat not in ON position.	Turn thermostat ON, and adjust temperature control to call for heat.
	Thermo-generator output voltage not within design parameters.	Refer to item #7 in the set-up guide. If unable to meet minimum requirements, replace thermo-generator.

Problem	Possible Cause	Solution
Thermostat/wall switch will not cycle main burner.	Defective thermostat or thermostat wiring.	With the pilot adjusted properly, (Set-up section, step#7), place a jumper wire between TPTH and TH. Take a mV reading across the TPTH and TP terminals on the valve. This closed circuit voltage should not fall below 300mV. Record reading. Remove jumper wire from the TPTH and TH connections, and reconnect the thermostat wires to the same terminals. Take the closed circuit voltage as described in the previous step. If the mV reading drops below 150mV, excessive resistance exists in the thermostat circuit, and must be isolated and eliminated.
	Defective wall switch	Repeat the above troubleshooting items covered under “Defective thermostat or thermostat wiring”, except substitute the words “wall switch” where the word “thermostat” appears in the instructions.
	Excessive wire resistance	Make certain that all mV connections are made using wire of the proper size.
	Valve wired wrong.	Thermo-generator leads must be connected to the TPTH and TP connections of the main operator. Thermostat wires must be connected to the TPTH, and TH terminals of the valve.
Main burner lights in the PILOT position	Main operator coil Defective	Verify electrical resistance of main operator coil in the following manner. (A) Remove all wires from operator head. (B) With an Ohm meter, measure electrical resistance between TP and TH terminals. If the resistance does not fall within specification, replace valve.
	Debris on seat of main valve.	Replace valve.
	Main seat blown out as a result of exposing LPG gas valve to unregulated line pressure in excess of 100kPa	Replace valve.

Distributed by

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