INSTALLATION
AND
OPERATING INSTRUCTION MANUAL

JETMASTER
DE LUXE GAS GRATES AND
DE LUXE CONVECTOR GAS GRATES

MODELS: DE LUXE 600, 700, 850, 1050 GAS GRATE

MODELS: DE LUXE 550, 700, 850 CONVECTOR GAS GRATE

Technical Data

JETMASTER DE LUXE GAS GRATES

MODEL: Marked by "X"	
SERIAL NO:	
DATE OF MANUFACTURE:	

	Gas Type	Model Description	Gas Consumption g / hr	Nominal Pressure kPa	Injector Qty / Size mm
	LPG	600 De Luxe Gas Grate	816	2,75	2 x 1,15
	LPG	700 De Luxe Gas Grate	836	2,75	2 x 1,30
	LPG	850 De Luxe Gas Grate	1428	2,75	2 x 1,30
	LPG	1050 De Luxe Gas Grate	1448	2,75	2 x 1,70
	LPG	550 De Luxe Convector Gas Grate	836	2,75	2 x 1,30
	LPG	700 De Luxe Convector Gas Grate	1428	2,75	2 x 1,30
	LPG	850 De Luxe Convector Gas Grate	1448	2,75	2 x 1,70
	Gas Type	**Model**	**Gas Consumption MJ / hr**	**Nominal Pressure kPa**	**Injector Qty/Size mm**
	NG	600 De Luxe Gas Grate	55	2,0	2 x 2,35
	NG	700 De Luxe Gas Grate	55	2,0	2 x 2,35
	NG	850 De Luxe Gas Grate	75	2,0	2 x 3,10
	NG	1050 De Luxe Gas Grate	75	2,0	2 x 3,10
	NG	550 De Luxe Convector Gas Grate	55	2,0	2 x 2,35
	NG	700 De Luxe Convector Gas Grate	75	2,0	2 x 3,10
	NG	850 De Luxe Convector Gas Grate	75	2,0	2 x 3,10

Jetmaster (Pty.) Ltd.
7 Borax Street
Alrode / Johannesburg
South Africa

INDEX TO CONTENT

IMPORTANT

The installation must only be carried out by a Registered Gas Installation Engineer.

Keep these instructions for future reference.

1. General

For best performance, Jetmaster De Luxe Gas Grates are designed to be installed within the appropriately sized Jetmaster Universal or IGC built-in, or Jetmaster Hex, Mynx, Lynx free-standing fireplaces.

This type of gas grate can also be installed in a custom-build fireplace enclosure, providing proper provision is made for exhausting all gas fumes and potentially a lower efficiency heat output is accepted.

In all cases, the provisions of these instructions must be fully complied with.

2. Gas Specification

The gas grate must be used in conjunction with the appropriate gas type for which it was manufactured, only. LPG and NG gas grates are prepared either for use on the Highveld or in coastal regions. Check the markings on the outside of the box in which the grate is delivered to make sure you have the correct burner for your location. Do not take the Highveld burner to the coast or vice versa. Do not burn LP Gas on a Natural Gas burner or vice versa.

Confirm that the gas supply and the gas grate are compatible.

3. Regulations

The installation of the Gas Grate must be carried out fully in accordance with these installation instructions, which comply with current Liquid Petroleum Gas Association of Southern Africa (LPGAS Association) regulations. The gas fitting, connection and testing part of the installation must be carried out by a gas practitioner registered with LPGAS Association. The following documents have references which apply to the installation of the gas fireplace and the relevant clauses must be applied:

SANS 1539:1991: Appliance operating on LP Gas portable and mobile appliances: Safety Aspects.

SANS 1539:1991: Consumer LP Gas portable and mobile appliances: Safety Aspects.

SANS 087 part 1:1975: Consumer LP Gas cylinder installation;

SANS 087 part 2:1975: Installation in mobile units and small non-permanent dwellings;

SANS 087 part V11: 1972: Retail outlets and similar gas filling sites for small cylinders;

SANS 0400: Building regulations;

SANS 1237: 2012: Single stage low pressure regulators for LP Gas;

Fire Department: Safety Guidelines;

Building Inspector for the planning of the installation;

Occupational Health and Safety Act 1993;

SANS 827: 2011 Installation of pipes and appliances for use with Natural Gas.

4. Deviation from Instructions

Consult Jetmaster prior to commencing installation, if any deviation from these guidelines is being considered. Failure to do so may result in an illegal, dangerous and uninsured installation and will invalidate your Jetmaster Warranty.

5. Ventilation

Two ventilation openings to the outside must be provided, one at just below ceiling level and one at floor level. An existing regulation 150cm^2 ventilation opening at ceiling height is satisfactory, if checked clear. The lower vent can be made quickly and cleanly using a core drill and fitting a sleeve and air vent at each end. The lower level opening is best placed on the same wall as the fireplace and as close as possible to the fire. Larger vents are required when venting to adjacent rooms (300cm^2).

6. Flue System

The fireplace within which the gas grate is to be placed, must be flued with the model appropriate diameter flue to the outside, of ideally not less than 3.6 metres height and fitted with a suitable cowl. The flue system must be swept with a brush before installation and annually thereafter. Do not install the gas fire and operate in conjunction with a flue pipe of a lesser diameter than specified for the respective firebox.

7. Preparatory building work for installation in a Jetmaster Universal / IGC built-in or Jetmaster freestanding fireplace

The normal Jetmaster Universal built-in firebox and / or freestanding fireplace installation instructions must be carefully followed. On no account should the flue dimensions be reduced below the recommended minimum.

8. Preparatory building work if installing the gas grate without the use of a Jetmaster Universal / IGC built-in or Jetmaster freestanding fireplace

The sides, back and base of fireplace recess within which the gas grate is to be placed must be constructed of non-combustible materials not less than 200mm thick. No combustible material must be placed within 200mm of the recess.

The recess must be flued with a flu pipe whose internal dimensions and height are not less than those required by the size of the Jetmaster Universal / IGC build-in body that the gas grate would have been placed within, e.g. a Gas Grate 850 requires a flue suitable for a Universal

The recess must be connected to the flue with a tapered collector whose effect is to channel the gases smoothly into the flue system without impairing the airflow. Angles of less than 45 degrees to the horizontal must be avoided. The surfaces must be smoothed with mortar.

9. Gas Cylinders, Pipe-runs and Sizes

(This work can only be carried out by a person who is registered with SAQCC)

Jetmaster LP Gas Grates should be operated off 48kg (or larger) cylinders. The cylinder must be positioned outside, as close as possible to the appliance and in any case not further away than 30 metres and must be away from heat sources, electrical devices, drains, windows and combustible materials, in accordance with SANS 087 Part 1: 1975. Cylinders must always stand in the vertical position. For best performance, avoid cold areas and shade. Where the regulator or outside piping is unavoidably in a position liable to be very cold in winter, it is advisable to lag these.

Check the Jetmaster Pipe Sizing Chart below to choose the correct size of pipe for the gas grate size and the length of pipe run. Although Jetmaster supplies 1.5 metres of dia. 8 mm copper tubing with LP Gas Convectors, it is not necessarily of sufficient size if a larger fire or longer than 4 metre run is to be fitted. Therefore, be sure to fit not less than the minimum size below and follow the shortest possible route to the gas fire before reducing for entry to the valve. Do not run more than one gas fire off each supply, without first checking the fitter's supply chart and installing secondary step-down regulators in cases where the gas supply line is longer than 9 meters and a high pressure regulator is fitted at the gas cylinder.

LP pipe size:

From cylinder and low pressure regulator (28 Mbar) to gas appliance;

Copper tubing (o/d)	**8mm**	**10mm**	**15mm**
Model 700 DS	up to 4m	4 to 15m	4 to 30m
Model 1050	up to 4m	4 to 15m	4 to 30m
Model 1200	up to 4m	4 to 15m	4 to 30m
Model 1500	up to 4m	4 to 15m	4 to 30m

It is a requirement that for any gas supply pipe run greater than 9 metres the system is supplied and installed with a high pressure regulator at the cylinder / tank and a low pressure secondary regulator must be fitted, as close to the gas fire as possible.

Please Note:

The single stage low pressure LPG regulator supplied with all LP Gas appliances and certified in accordance with SANS 1237:2012 has to be fitted in line.

Having positioned the gas cylinder, connect the regulator supplied to the flexible hose and the male hose connector to the end of the copper tubing using the compression fitting. These fittings are supplied and should be used, unless a larger diameter pipe is required in which case correct larger fittings, regulator and pigtail must be used.

Tighten the hose clamps and connect the regulator to the cylinder. The regulator should be protected from rain and orientated so that liquids cannot collect on the top causing rusting of internal components and subsequent malfunctioning, i.e. the plastic cap should not face upwards and the air vent in the low pressure regulator is pointing downwards.

Cover the end of the gas pipe to prevent dirt getting into it and potentially damaging the valve later on, which would invalidate the Warranty.

If the pipe is to be laid in concrete, lay a sleeve of a larger dimension and run the gas pipe within

Run the gas pipe from the cylinder to the location of the fireplace, allowing an extra meter of free pipe at the fireplace end. The pipe may be brought into the firebox through either side or the rear of the firebox.

All gas line bends should be made with a pipe bender, to prevent a restrictive kink forming.

10. Fitting the Gas Grate to a Universal / IGC Built-in or Jetmaster Freestanding Fireplace

This work can only be carried out by a person who is registered with SAQCC. To ensure that the burner and coals are not damaged, this work must be done once all building work has been completed.

Drill the side or the back of the Jetmaster firebox body with a 10 or 12mm drill for the gas pipe entry point. Sleeve the gas pipe with metal tubing where it is to pass through the wall of the fireplace to protect it.

If the pipe run from the gas cylinder has been made with a larger than 8mm pipe, reduce it here by using a reduction fitting.

Purge the pipe for dust and debris by running the gas for a few moments. Failure to clear the dust or debris from the pipe will invalidate the Warranty.

Remove the gas grate from its packing and examine the connections, checking that none are loose.

Assembly Sequence De Luxe Gas and Convector Gas Grates:

Frame for the DLX Gas Grate

Frame for the DLX Convector Gas Grate

Gas Grate inside the DLX Frame

Gas Grate inside the DLX Convector Frame

Fence clipped in place on the DLX Frame

Fence clipped in place on the DLX Convector Frame

Dummy ash-pan in place DLX Frame

Dummy ash-pan in place DLX Convector Frame

Place the gas grate on its back edge within the firebox body opening to expose the underside. Remove the plastic valve cover by sliding it forward and run the gas pipe to the gas inlet port, which for the gas burner is positioned on the right side of the control valve, when viewed from the front. Connect the pipe with the 8mm compression nut / olive, making sure the connection is tight, using a 16mm spanner. Do not strip it. Use of PTFE will invalidate the Warranty, as small pieces can enter the pipe and damage the valve.

Illustration showing the underside of the gas grate:

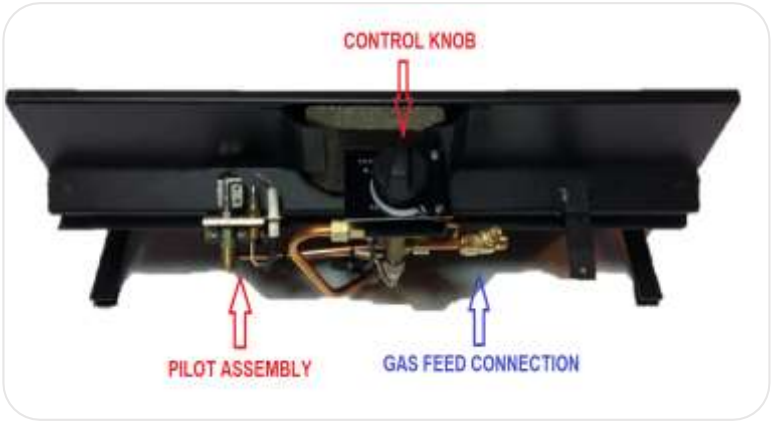


Illustration showing the opening for the pilot flame as well as the slot where flames will rise from the burner during grate activation.

Pressurise the gas supply line and test for leaks up to the valve, attaching a manometer or U-gauge. The pressure should be 2.75 kPa in the case of an LPG installation and 2.0 kPa in the case of an NG installation. Allow to stand for a minimum of 5 minutes. If the pressure drops, then test joints for leaks with soapy water or electronic gas leak detector until the leak is found. Rectify and then pressure test again.

Turn the gas grate back onto its base.

Fit the gas front and dummy ash-pan.

If installed in a Jetmaster Universal firebox, fit the gag, which is supplied with the gas grate, to the Jetmaster damper friction bar, to prevent the damper from closing more than halfway.

11. Commissioning the Gas Grate

(This work can only be carried out by a person who is registered with SAQCC).

When the Gas Grate is being lit for the first time, a gas leak test and a fume clearance test must now be carried out.

Gas leak test: Check each gas joint beneath the burner tray with an electronic gas leak detector or leak detection fluid (soapy water). If there is a leak it must be rectified before proceeding further.

Fume clearance check: Light and pass a burning match or use an electronic gas leak detector in front of the fire opening, after the fire has burnt for about 10 minutes and check that in all positions all the fumes are drawn up into the flue system.

Turn the gas grate off and allow it to cool and then touch up the Gas Grate with Jetmaster heat resistance paint, if necessary.

12. Important

An open fire presents danger to young children, the elderly or infirm and we recommend that a fire screen be used for their protection.

Any form of rubbish, cigarette butts, etc. should never be thrown onto the fire, nor should the coals be poked or the coal lay-out be changed, as this will compromise the gas grate's performance.

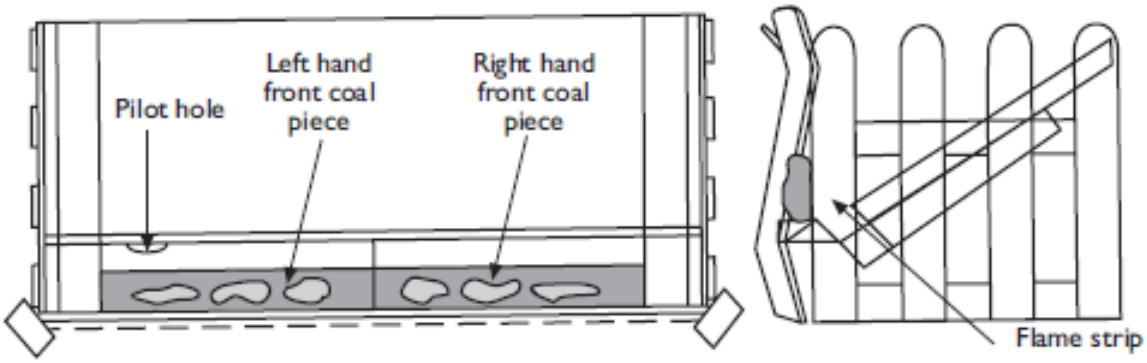
Due to the fact that there might be a paint curing phase of the coals and painted steel surfaces a slight smell might be noticed for a short period of time after commissioning of the fire. This is quite normal and any odours should disperse after a short period of usage.

14. Positioning of the Coals

- **550 and 700 and 850 Gas Convector:**
- **600, 700, 850, 1050 Gas Grates**
-

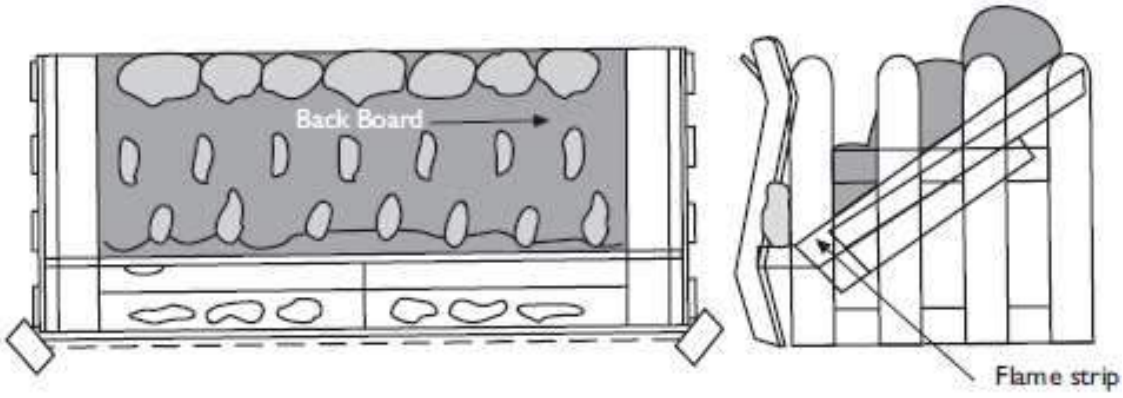
The gas grate must only be fitted with the ceramic coal set as supplied. Do not add extra coals or imitation logs.

Step 1:



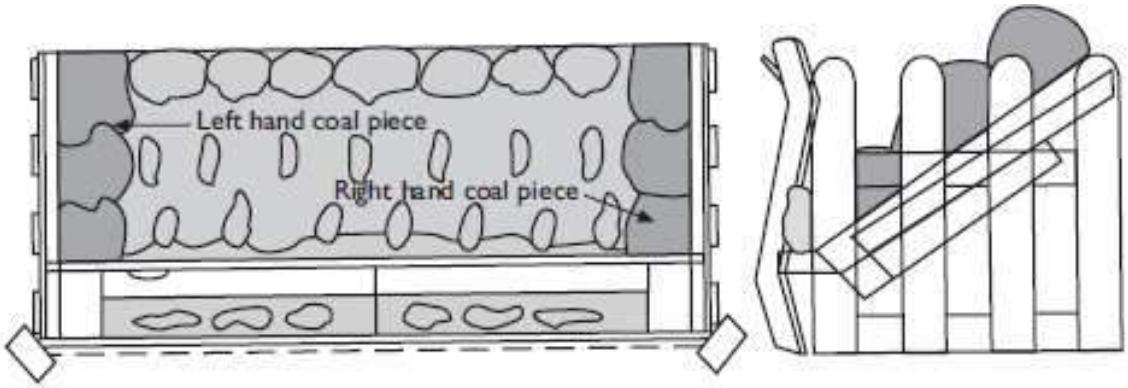
Position the front coal segments as shown above. The left hand side front coal piece has an indentation on its rear edge to clear the pilot hole. Ensure that the pilot hole and flame strip are not obstructed.

Step 2:



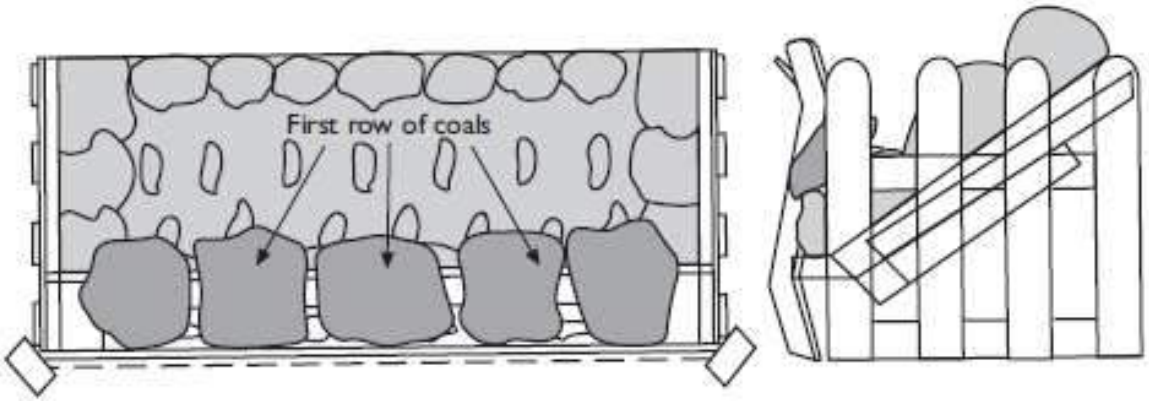
Position the large, rear centre coal segment / backing board onto the slightly upwards angled back panel of the grate, ensuring that it is properly seated and does not obstruct the flame strip at its base.

Step 3:



Fit the left and right hand pre-formed coal segments on the respective sides of the centre back board. The side pieces should be inserted into the tray in such a way that their bottom ends make contact with the rear edge of the front segments.

Step 4:

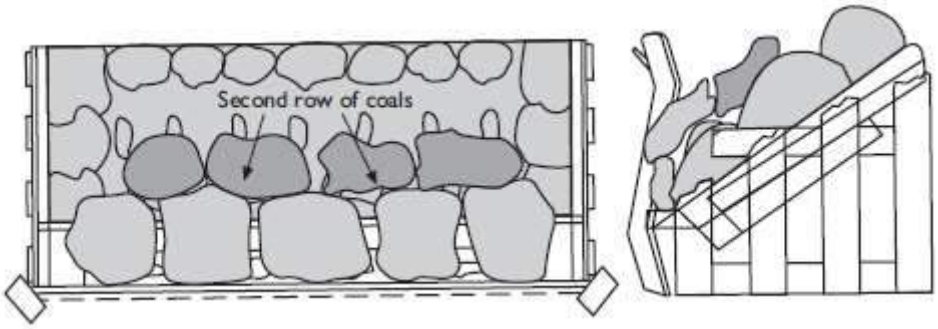


Select the larger kind of the oval shaped coals and place these cross-wise in such a way that they form a bridge over the gap between the front coal pieces and the centre rear board. Leave a gap of approximately 5 to 10mm between each coal. Do not force the coals down into the gap, but rather loosely place over the gap between the front coal segments and the rear pre-formed coal board.

Quantity of oval coals, first row for a 550 De Luxe Gas Convector: … 4
Quantity of oval coals, first row for a 700 De Luxe Gas Convector: … 6
Quantity of oval coals, first row for an 850 De Luxe Gas Convector: .. 9

Quantity of oval coals, first row for a 600 De Luxe Gas Grate: ……..… 5
Quantity of oval coals, first row for a 700 De Luxe Gas Grate: ……..… 6
Quantity of oval coals, first row for an 850 De Luxe Gas Grate: ……. 9
Quantity of oval coals, first row for an 850 De Luxe Gas Grate: ……. 10

Step 5:



Place a second row of coals, using the smaller, oval shaped type, in a rearward pointing, near vertical way so that the bottom of these coals touch the coals in the first row and they are resting in the valleys created by the protrusions of the centre back coal panel.

There should be a gap of between 5 to 10 mm between these coals.

Quantity of oval coals, second row for a 550 De Luxe Gas Convector: …. 4

Quantity of oval coals, second row for a 700 De Luxe Gas Convector: …. 5

Quantity of oval coals, second row for a 850 De Luxe Gas Convector: …. 7

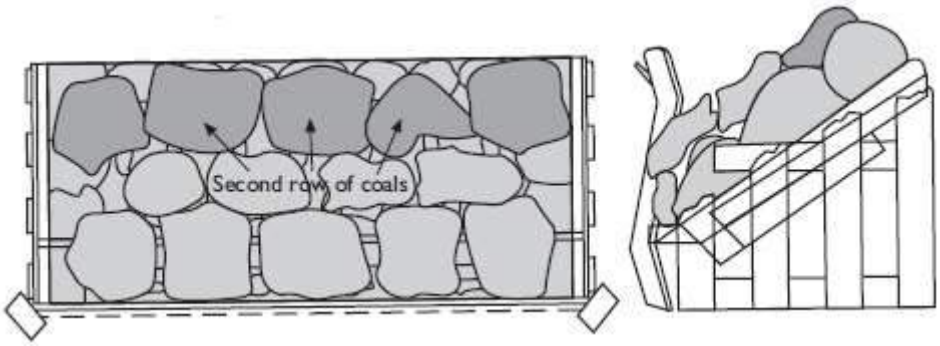
Quantity of oval coals, second row for a 600 De Luxe Gas Grate: ……. 4

Quantity of oval coals, second row for a 700 De Luxe Gas Grate: ……. 5

Quantity of oval coals, second row for an 850 De Luxe Gas Grate: …….. 7

Quantity of oval coals, second row for an 850 De Luxe Gas Grate: …….. 9

Step 6:



Position a third row of coals above the second row , with these coals also being supported by the second row coals and resting in the indentations of the centre rear board.

Quantity of oval coals, third row for a 550 De Luxe Gas Convector: …….. 5

Quantity of oval coals, third row for a 700 De Luxe Gas Convector: …..... 6

Quantity of oval coals, third row for a 850 De Luxe Gas Convector: ……. 8

Quantity of oval coals, third row for a 600 De Luxe Gas Grate: ……. 5

Quantity of oval coals, third row for a 700 De Luxe Gas Grate: ……. 6

Quantity of oval coals, third row for an 850 De Luxe Gas Grate: ……... 8

Quantity of oval coals, third row for an 850 De Luxe Gas Grate: ……. 10

Please Note:

Care should be taken when handling the ceramic coal pieces. When arranging the ceramics on the De Luxe grate, it is important to make sure that all pieces are aligned properly in accordance with the above.

The two front segments (Step1) should be placed behind the stop lugs, not on top or forced down onto the lugs.

If due to manufacturing variances a coal segment does not fit properly then a fine file should be used across the whole of the front edge of the ceramic piece until enough has been filed away so that the coal can lie flat on the base of the support tray and behind the support lugs. The same procedure should be used if the two side segments do not fit perfectly.

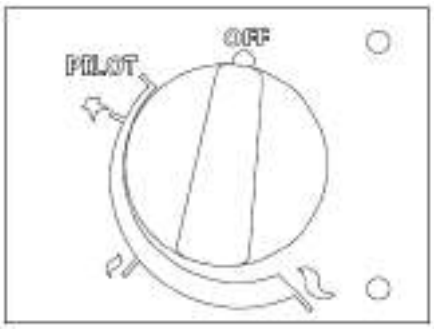
15. Lighting the Gas Grate

IMPORTANT

DO NOT TAMPER WITH OR MODIFY THIS APPLIANCE IN ANY FORM OR WAY!

The operating stage symbols are shown on the backing panel fitted behind the control knob.

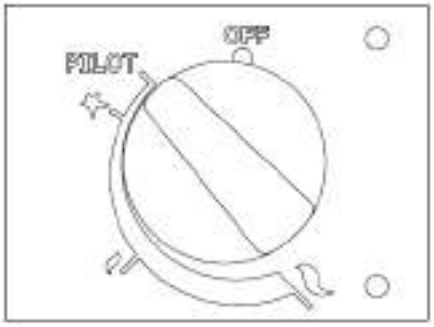
The “Off” position prevents any gas from passing through the control valve to either the pilot or the main burner.



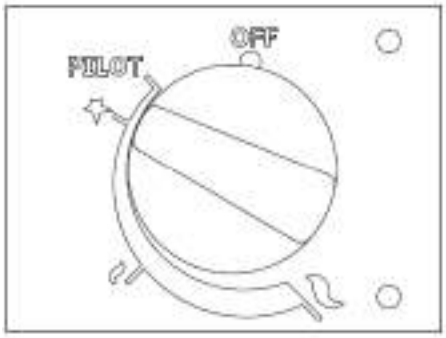
Starting position with the control knob pointing to the “Off” setting.

The correct procedure for lighting the gas grate is as follows:

Press the knob backwards and keeping it pressed in, turn it slowly anti-clockwise until a “click” noise is heard. This is the Piezo ignitor sparking and lighting the pilot flame. If the pilot flame is not lit, repeat the process until it does light. If the gas grate has not been used for an extensive period of time, for instance since the last winter season, it will be necessary to repeat the Piezo lighting process several times, or to hold the knob pressed in for 10-15 seconds, before attempting the relighting again. This is to purge air from the gas supply line and to allow for the gas to reach the pilot assembly.



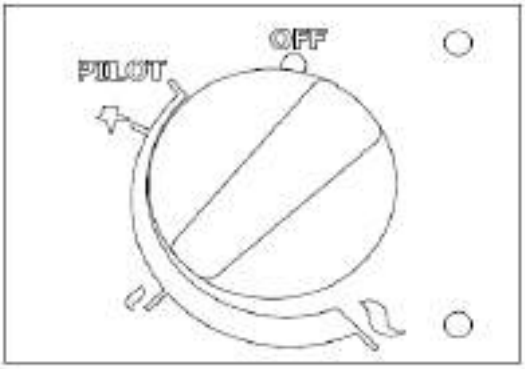
When the pilot flame emerges, keep the knob pressed in for a further 8 to 10 seconds to allow the flame to heat the thermocouple sufficiently which in turn will allow the gas valve to open and gas to flow to the grate. Release the knob.

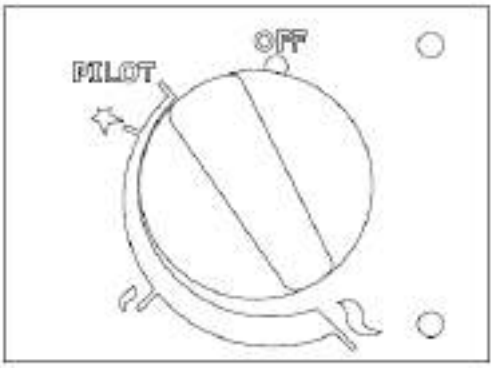


In order to light the grate itself, the knob can now be turned in an anti-clockwise direction. The further the knob is turned, the more gas will flow into the grate.

On no account should the knob be turned to maximum immediately.

Once grate ignition has taken place, the flames may then be adjusted to any level from high / maximum to low / minimum, by turning the knob clock-wise or anti-clockwise for the desired result.



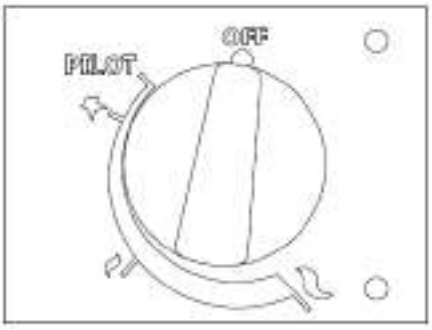


Low / minimum flame height with the knob pointing to the small flame icon, on the left hand side illustration.

High / maximum flame height with the knob pointing to the large flame icon, on the right hand side illustration.

Shutting the fire down procedure:

Turn the control knob clock-wise to the “low” flame position.



Now press the knob backwards and then turn clock-wise to the “Off” position.

This will stop the flow of gas to the pilot and burner, resulting in the extinguishing of the flames.

Please note that due to residual gas in the grate, it might take a few seconds for a complete fire shut-down.

IMPORTANT

- **DO NOT PLACE ARTICLES NEAR, ON OR AGAINST THIS GAS FIREPLACE.**
- **DO NOT USE OR STORE FLAMMABLE MATERIALS NEAR THIS FIREPLACE.**
- **DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS OPERATIONAL.**
- **THIS IS PRIMARILY A DECORATIVE GAS FIRE APPLIANCE. IT IS NOT CERTIFIED AS A SPACE HEATER.**
- **THIS UNIT INCORPORATES A LIVE FUEL EFFECT AND IS DESIGNED TO BURN WITH LUMINOUS FLAMES AND SUCH MAY EXHIBIT SLIGHT CARBON DEPOSITS (SOOT).**
- **DO NOT MODIFY THIS APPLIANCE IN ANY WAY.**
- **EACH UNIT IS DESIGNED FOR USE ONLY WITH THE TYPE OF GAS FOR WHICH IT IS INTENDED.**
- **SERVICING IS TO BE CONDUCTED BY AUTHORISED AND QUALIFIED PERSONNEL ONLY.**

20. Gas Fumes

Occasional fumes from cross-draughts may occur, but persistent fume emission must not be tolerated. If this occurs, or if you smell gas, or if you feel drowsy or have a headache when the gas grate is in use, the following immediate actions should be taken:

- Turn off the Gas Grate and extinguish all naked flames.
- Open doors and windows to ventilate room.
- Turn the gas supply off at the gas cylinder.

WARNING

IF A GAS SMELL IS DETECTED, IRRESPECTIVE IF THE APPLIANCE IS IN USE OR SHUT DOWN, ACTION MUST BE TAKEN IMMEDIATELY!

SHUT DOWN THE APPLIANCE AT ONCE.

SHUT-OFF THE GAS SUPPLY TO THE GAS GRATE AT THE VALVE.

CONSULT A CERTIFIED GAS FITTER

Check the flue and possible ventilator blockages and clean if required.

Do not attempt to re-light the gas grate until the cause of the fume emission has been identified and rectified. S

Seek professional advice from Jetmaster (Pty) Ltd, Tel: 011 764 4632, or a registered LPGSA Association installer.

21. Servicing Procedure

ANY SERVICING OR REPAIR WORK TO THIS GAS FIREPLACE

MUST BE CARRIED OUT BY A QUALIFIED AND ACCREDITED GAS PRACTITIONER.

Maintenance Procedure:

- Shut down the fire and allow the grate to cool.
- Turn the gas supply off at the gas cylinder or isolation valve.
- Carefully remove all the ceramic coals, one at a time and clean off any soot deposits by hand, using a soft brush.

  Due to the intense operating heat some surface cracks may appear on the ceramic coal pieces. This is quite normal and will not affect the safe operation of the appliance.
- Disconnect the gas pipe from the valve and lift the gas grate out of the firebox.
- Remove the injectors, then visually inspect for signs of damage and clean before refitting.
- Clean the burner tray and flame strip.
- Inspect the gas grate for any defects before reinserting it into the firebox.
- Reassemble in reverse order, reconnect the gas supply pipe and check for soundness.
- Check for any gas leaks by spraying on a soapy solution.
- Check the static and dynamic gas pressures and verify that these are within the correct parameters;
- Replace all the ceramic coal segments as outlined in the paragraph dealing with the “Positioning of the Coals”.
- Check that any purpose provided ventilation is free from obstructions.
- Recommission the fireplace as described in “Lighting the Gas Grate.”

Service Intervals:

Regular inspection and servicing of the appliance is essential.

It is a recommended that this work be carried out by a qualified gas practitioner, annually.

Ideally, this should take place before the start of the winter season, as the lower temperatures will likely result in a more frequent use of the gas fire appliance.

- It is recommended that the gas fireplace be inspected annually and that the above itemised work is carried out periodically in order to ensure the satisfactory and safe functioning of the appliance.

22. Fault Identification / Corrective Action

The following table lists typical symptoms and provides information in regard to remedial actions to be taken. Should these actions not resolve the problem then a qualified service technician must be consulted.

Symptoms	Corrective Action
Gas Smell	**Immediately shut-off the gas supply to the fire at the valve.** **Contact a qualified service technician.**
Fire does not ignite after several attempts	**Check that the gas supply valve is in the open position.** **Ensure that the gas supply line has been purged to flush out any air.** **Confirm the presence of spark at the electrode during the start-up procedure.** **Verify that there is an incoming gas supply from the gas cylinder.** **Verify that the LPG bottle is not empty or the Towns Gas line valve shut-off.** **Contact a qualified service technician.**
Excessively high flames	**This could be due to a malfunctioning gas pressure regulator allowing a higher than permitted gas supply pressure to the gas valve.** **Contact a qualified service technician.**
Excess soot build-up on coals	**Ensure that none of the ceramic coal pieces are obstructing the flame channel.**
Back-burning / back-lighting	**Back-burning can be indicated by a roaring sound coming from the back of the fire when it is first ignited by the pilot on start-up.** **There may also be evidence of flames occurring on the underside of the burner tray, at its rear.** **If you experience this during start-up, immediately shut the appliance down and contact a qualified service technician.**

WARRANTY
Jetmaster (Pty) Limited

We would like to thank you for purchasing one of our gas fireplaces.

Jetmaster warrants that the burner and controls of the gas grate will be free from defects in workmanship or materials under normal use and service for a period of one year from the invoice date of purchase.

Jetmaster warrants the Jetmaster firebox will be free from defects in workmanship or materials under normal use and service for a period of 5 years from the invoiced date of purchase.

This warranty is only effective if:

At the time of the claim the owner of the gas grate and Jetmaster firebox produces documentary evidence to prove the date of purchase, e.g. the original or true copy of the invoice.

The Gas Grate and firebox was installed by a registered LPGSASA Association fitter;

The installation, operation and maintenance of the gas grate and firebox was, in the opinion of Jetmaster carried out in accordance with the Installation and Operating Instructions current at the time of purchase.

When a valid claim arises under this Warranty, Jetmaster will, at its sole option, either repair or replace the Gas Grate and / or firebox.

Under no circumstances will Jetmaster be liable for any consequential loss or damage or injury arising out of, or in connection with the use or operation of the Gas Grate and/or firebox resulting from the failure to follow the Installation and Operating Instructions, or from a breach of the Warranty conditions.

PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE