April 2007

Installation and Maintenance of Flame Effect Gas Heaters

Gas can be used as a safe, reliable convenient fuel and there is legislation that ensures the safe supply and use of gas and gas appliances.

The term flame effect heater is used to include those gas heaters and fires that rely on a more ‘traditional’ flame for their appeal

In general the design, construction and installation of flame effect heaters ensures their safe and reliable operation. Unfortunately, however, the desire to have a ‘flame’ effect can make these heaters sensitive to design and assembly, as well as how they are installed and set up.

Certain fully-enclosed heaters with glass fronts and, in particular, those that are direct-vented have given most cause for concern. There have been a number of incidents with these appliances where delayed ignition has occurred resulting in shattering of glass.

Although some designs of heater have a better safety record than others the way they are installed and the level of maintenance appear to have been factors in most cases.

Installation

When installing or commissioning a flame effect heater it is important that they are set up in accordance with manufacturer’s specifications. As well, installation and certification has to meet the requirements of the Gas Regulations and the installation standard, NZS 5261. Particular attention should be given to ensure:

- work done by trades other than gasfitters is completed correctly for safe operation of the appliance,
- correct location and orientation of components including pilots and artificial logsets or decorative beds,
- scrupulous leak testing of both installation and appliance pipework to ensure gas tightness,
- setting and testing of installation pressures and, where specified by the supplier, appliance pressures,
- the effect of the operation of any high-draw appliances on installation pressure is minimal and does not interfere with the safe operation of other appliances, including flame effect heaters,

- satisfactory appliance performance, rapid and complete flame initiation and maintenance of combustion, including flame picture and combustion tests as appropriate,

- satisfactory flue performance, including spillage tests as appropriate, and

- operation of safety devices is not compromised, bearing in mind that it may not be practicable to test the operation of some types of safety device.

Adjustment of factory settings should be undertaken only where manufacturer's instructions provide for that, or where such adjustments are made with the express agreement of the manufacturer.

The use of electronic leak detectors, commercial leak detection fluid, or a solution based on traditional hard soaps for leak detection is recommended. Solutions based on liquid detergents or solvents should be avoided as they may contain corrosive compounds.

Servicing and Maintenance

In addition to the points above, when servicing or maintaining such heaters ensure:

- components, burners in particular, are free from corrosion or blockages due to accumulation of other materials, and

- the source of any sooting or other indicator of spillage or poor combustion is identified and addressed.

Evidence of unsatisfactory operation should be investigated, in consultation with the appliance supplier or manufacturer if possible.

Consumer advice

Generally, flame effect heaters should be maintained by a gasfitter or a qualified service technician at least on an annual basis.

If any of the following warning signs are observed, the heater or installation should be serviced urgently:

- a smell of gas in the building generally, or from the appliance,

- difficulty in establishing a flame or unusual delays in flame ignition,

- an unusual flame pattern or if the flame has not fully established over whole extent of the burner,

- blockage of burner ports or evidence of corrosion around burner ports, or

- Any alteration in the position of the artificial logs or burner bed.