

Presentation: The Safe Use of Gas at Work

Andrew Williams, Managing Director and Nigel Williams, Development Engineer, Rainsford & Lynes.

Andrew Williams said that Rainsford and Lynes was, and still is, a family owned firm that had started business some 150 years ago, manufacturing brass fittings for a wide range of industries. In the 1950s, Andrew's great uncle, Bob Lynes, saw a blowtorch, powered by town gas, featured on the TV programme, Inventors' Corner. He quickly acquired the patent from Messrs. Ball and Finch and the new product became a top seller under the "Bullfinch" brand! They then tried out the newly introduced cylinders of LPG and discovered that a new range of designs would be needed.

The torches also needed regulators to control the lpg pressure and these were developed, together with other fittings and accessories. Heaters, furnaces for heating bitumen and tar and lpg gaslights also followed, in response to demand. The product range also included unusual items like CO₂ enrichment appliances for greenhouses, gas pokers for barbecues, an imported marquee heater, and utility points on caravans and motor homes. The latest novel appliance is a Jubilee Beacon, which was used in the celebration to Illuminate Hadrian's Wall last year. It will be used as a Church Tower Beacon for the Queen's Jubilee next year and Andrew displayed an example, although it couldn't be lit because we were afraid that the BMI would go up in smoke!

Obviously, Safety is an important issue in the design and use of Bullfinch products and Andrew mentioned the two pages dealing with this important subject in the company's catalogue and on their website. An extremely good leaflet is downloadable in two parts from the www.bullfinch-gas.co.uk link. It gives many crucial hints on product performance, selection and use, together with shut down procedures.

At this point, Nigel Williams took over and, with the aid of a transparent Butane container, demonstrated how the liquid gas boiled inside. He also showed the effect of freezing that occurred when the demand for gas was too high. He went on to point out the regulator that reduced the pressure of 3-4 Bar inside the cylinder to approximately 37mbar at the torch appliances. In order to match the gas supply to the demand, it is necessary to determine what the appliance operating pressure is and what rate of flow is needed.

Nigel continued by saying that, because the gas is odourless, a distinctive smell was added to aid detection. Another risk control measure is the Bullfinch Gas Test Kit,

which is essentially a soapy liquid that is intended to be brushed over the regulator and gas connection points, before use. Any leaks would be shown up by bubbles in the liquid. He also emphasised that the correct way to turn off the supply after use was to always close the Regulator Valve first, so that the contents of the hose were burnt up by the appliance. That prevented accidental seepage of gas from the system overnight, especially in enclosed spaces, and the creation of an explosive atmosphere at the start of a shift. Another tip was not to open the regulator valve too wide because it would take too long to close in an emergency! It was also essential, he added, to match the hose sizes to the tails on the brass connection fittings so that a reliable gas-tight connection could be made.

Nigel then discussed the use of lpg on fork lift trucks where the gas cylinders where a different design of internal dip tube was used to allow the container to be placed on its side. The conventional cylinder would not work for very long on its side and, fortunately, they had different markings to prevent incorrect selection.

Another recent addition to the product range is the Firepower, cylinder mounted torches with Piezo-electric ignition using MAP/Pro gases that burn with a higher intensity than Propane. These are much lighter than the hose fed systems and designed for flexible applications involving more high-tech work. They have built-in regulators with a double valve for inverted working.

Another popular item in their range is the Super Glow radiant heater, where the frame is designed deliberately to prevent the radiant surface from being used in a horizontal direction to heat liquids. It is also fitted with Oxygen-depletion devices to cut off the supply if Oxygen levels are too low!

Members' Questions

Warwick Adams of Interserve Construction Ltd. asked if it was possible to use multiple cylinders to increase the gas supply. Nigel referred him to Page 9 of the product brochure, which showed two connected by a 'Y' Manifold. The same fitting could be used to connect two regulators to one cylinder, he added.

In answer to a question about the risk of flashback, Andrew Williams said that could not occur because the appliances are 'air-aspirated'. Only where gases like Oxygen and Acetylene are mixed together could a flashback occur because O₂ causes an explosion.

Mike Morton of Dudley MBC asked if Bullfinch supplied integral guards. Andrew Williams replied that they did not because all their appliances were separate and not fixed units.

As there were no other questions, the meeting was closed and Tim Prestage thanked the speakers for a very informative and interesting presentation about a very important Midlands, family run business. The members joined in the thanks.