

The Untold Story of the Little Aussie Battler & the Olympic Flame

Have you ever wondered how the Olympic Flame came safely from Athens to Australia for the 2000 Olympics, and again this year, when airlines for obvious reasons are not normally able to carry equipment with naked flames during takeoffs, landings or in flight? When the Olympic Flame, which in past Olympics had previously been carried by ship or train, was required to become the "Flying Flame" and be carefully carried from Olympia, without ever being extinguished, and then be carried around 27,000 kilometres of Australian towns by plane and road vehicle through towns and suburbs over a 124-day period. Again without the Flame ever being extinguished. And then again to be the ever-present source of ignition for propane-powered Olympic Torches carried by 10,000 Australian runners during the Torch Relay.

This problem was resolved in quick time with a good dose of Australian ingenuity and the adaptation of that famous symbol of the little Aussie battler, the miner's safety lamp. This humble piece of safety equipment is arguably one of the greatest of safety inventions, particularly for underground mining. It is designed to provide light in all manner of harsh environments and particularly where gases such as methane (firedamp) are present. This is a very prevalent feature of Australian underground mining. The Miner's Lamp's flame protection features are well proven even in situations where the surrounding ambient mixture is within flammable range and persists for long periods. It was these very characteristics that made it suitable for carrying the Olympic flame and a Protector GR6S Miners Lamp was chosen for modification.

For its part TestSafe Australia played a prominent role in testing and advising on the safety of the adapted design. It was commissioned by the former airline carrier, Ansett Australia, in January 2000, to test a means of carrying the Olympic Flame safely from Athens in one of its aircraft. The task had to be completed with a two-month turnaround time as the Torch Relay was due to commence on June 8, 2000. Ansett was appointed as the official carrier of the Flame and had to adhere to strict Olympic traditions imposed by the International Olympic Committee with its transport to Australia, via Singapore and South Pacific islands.



Photograph of the modified lamp (right) with similar unmodified lamp

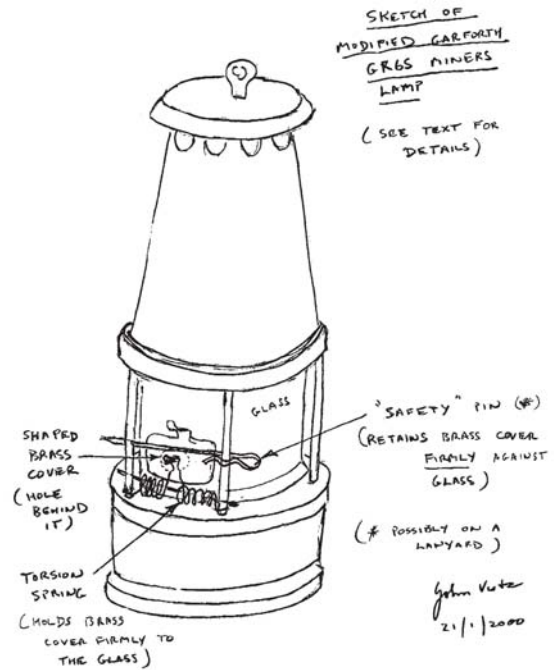
The Flame, symbolically lit from the sun's rays at Olympia, had to travel to its Games' destination in Sydney without ever being extinguished and with the added provision that the lamp could not be fuelled or re-lit whilst on the aircraft. Ansett engineers combined with TestSafe staff to test a number of alternative arrangements with the lamps that would enable them to be lit, and to light the runner's torches, without the lamp being physically dismantled on each occasion. Learning from the Atlanta experience, where the flame exchange for torchbearers had been cumbersome, a simple elegant strategy had to be devised. According to John Vietz, Ansett's Materials Engineering Manager, "the final design tested by TestSafe might look simple but it took a considerable time to conceive.

A number of alternatives were tested, but we were finally inspired by the mouse trap option which met the criteria of simplicity and optimum convenience" (see John's drawing on the next page).

The mouse-trap (so-called) involved boring a 10mm hole in the glass face of the lamp and then covering it with a spring-loaded metal flap. This would ensure that the hole would never be left open and that the flame-proofness of the safety lamp would be preserved. Eventually this hole was enlarged to 16mm to permit a taper to be inserted for ease of flame transfer. Previously at Atlanta a type of lamp had been used for this oft-repeated task where the flame was extracted by the removal of the lamp's top. This was considered unaesthetic with the flame prone to be blown or rained out.

TestSafe undertook a rigorous testing risk analysis to ensure that the ceremonial carriage of the flame on the aircraft could be undertaken safely in the circumstances envisaged. This included testing for scenarios such as if the aircraft suffered some mishap where the lamp might be surrounded by an explosive mixture of fuel and air. Once testing had been completed a written Statement of Opinion was provided to the airline, and this enabled The Civil Aviation Safety Authority to issue a "Permission" under its legislation to carry "lit" lamps on aircraft. Other airworthiness authorities in Greece, Singapore, USA and NZ followed suit.

At the same time the NSW Police Service was preparing for its role of accompanying and "tending" the Olympic flame through its journey from Athens through 12 countries and across Australia over the 124-day period of the Torch Relay.



John Vietz Drawing of Miner's Lamp with Modifications

A special flame security group under the leadership of Detective Inspector Chris Reeves undertook Dangerous Goods Training relating to air transport, and they were always present with a purpose-designed cradle for the Flame on the mode of transport as it was moved from place to place.



TestSafe's John Watt, Snr Electrical Technical Officer holding the modified lamp

Needless to add that the Flame was successfully transported from Athens to Sydney by airline, boat, road vehicle and even the Royal Flying Doctor Service, and the Torch Relay became an outstanding activity captivating all Australians during the lead-up to the Sydney Games from June to September 2000.

We are now witnessing the 2004 version of the Olympic Torch Relay with the Olympic Flame once more being transported from Athens to Australia and hence around 5 continents prior to its return flight to Athens.