

Association of Professional Engineers

of the

Province of Manitoba

Certificate of Engineering Achievement

to

BRISTOL AEROSPACE LIMITED

The 1991 Certificate of Engineering Achievement is awarded to Bristol Aerospace Limited for its pioneering efforts in the development and application of the Black Brant sounding rocket.

Interactions of the earth and sun have always fascinated scientists and astronomers. One such interaction is the aurora. While auroras typically lie across inaccessible areas and are difficult to study, the aurora in Canada is located over Churchill, Manitoba, permitting a uniquely Canadian space science program.

In 1958, Bristol management identified the opportunity to use sounding rockets for auroral and associated studies. At the same time, the Canadian Armament Research and Development Establishment (now known as Defence Research Establishment Valcartier) - in search of a manufacturer of solid propellant fuel - required an organization with proven skills in the manufacture of welded, high-strength steel components. Bristol, a manufacturer of jet-engine welded assemblies, had that capability. Thus began a collaborative effort which led to the Black Brant rocket system (named after a species of goose indigenous to Western Canada). This effort was complemented by the National Research Council of Canada, which was developing the Churchill Rocket Range.

Today, the Black Brant is a solid propellant rocket system in single- and multi-stage configurations that can carry payloads of 70-850 kg to altitudes of 150-1500 km. It provides up to 18 minutes' time for micro-gravity experiments, auroral studies, deep space observations and, often, extra-terrestrial research.

A comprehensive range of vehicle/payload support systems and services, from custom payload design and fabrication through full launch support world-wide, is available. Since 1962, more than 800 Black Brants have been launched, with a combined vehicle/payload success rate of 98%.

In 1981, the National Aeronautics and Space Administration (NASA) honored Bristol Aerospace Limited with a Public Service Group Achievement Award for "their pioneering efforts in the development and application of solid propellant motors and Black Brant sounding rockets". Project Apollo, Skylab and the Space Transportation System (Shuttle) programs all benefitted from the application of the Black Brant by NASA. In addition to solar eclipses and the aurora, Comet Halley was observed by the Black Brant.

Acceptance of the Black Brants is literally world-wide. The rockets have been flown from Canada, Alaska, the USA, Brazil, Peru, the Hawaiian Islands, Greenland, Norway, Sweden, Spain, Australia and the San-Marco platform.

October 25, 1991