Orenda

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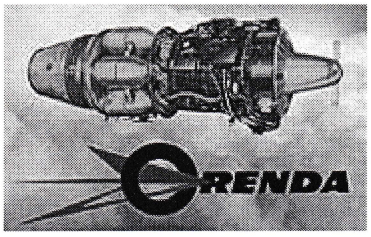

The heritage of the **Orenda** Engine dates back to the 1940's when Avro Canada, later to become Hawker Siddeley, was formed immediately after the Second World War, to design and build aircraft for the Royal Canadian Air Force (RCAF).

An RCAF requirement for a 6,500-thrust engine to power the Avro CF-100, then in design by the Aircraft Division of Avro Canada, led to the development of the 'Orenda' series of engines. Testing of these engines commenced in February 1949 with flight trials starting some 18 months later. Production of the 'Orenda' was undertaken for both the CF-100 and the Canadair manufactured F-86 Sabre jet.

The 'Orenda' saw service with both the RCAF and Belgium Air Force in CF-100's. It powered the F-86 Sabres of the RCAF, as well as those of the West German, South African, Colombian and Pakistani Air Forces. Almost 4,000 'Orenda' engines were built when the final unit was delivered to the RCAF in July 1958.

In 1953, the design of a much more advanced engine, proposed for the Avro Arrow (CF-105), was initiated. The engine, ultimately to be named the Iroquois, was rated at 19,250 lbs dry, 25,000 lbs afterburning. It was aerodynamically matched for peak performance at 50,000 feet altitude and Mach 2 forward speed. After some 7,000 hours of development testing, up to a simulated altitude of 70,000 feet and a forward speed of Mach 2.3, the program was cancelled, along with the Arrow in February 1959.

In late summer 1959, the RCAF selected the Lockheed F-104. Magellan (Orenda) was designated to build its powerplant, the General Electric (GE) J-79, under a license obtained by the Canadian Government. Manufacture and assembly of the first engine was completed in December 1960, just 14 months after the first drawings were received. Magellan (Orenda) built J-79 engines for the RCAF and for the U.S. Mutual Aid program. Some of the 478 engines delivered by Orenda are still in service with the Turkish and German Air Forces.

In early 1962, Magellan (Orenda) submitted a successful tender to the Canadian Government to manufacture and assemble the GE J-85-CAN-40 engine for the Canadair CL-41 trainer. The first engine was delivered in September 1963, the last in October 1965. Production of a derivative engine, the afterburning J-85-CAN-15, began in 1967 when Canadair was licensed to produce the Northrop F-5 aircraft for the RCAF. Between June 1967 and May 1974, 609 engines were produced for the Canadian, Dutch and Venezuelan Air Forces.

Throughout the 1960's, Magellan (Orenda) remained at the forefront of the gas turbine industry by manufacturing a number of different engine models, under license, for the Canadian Government. During that time, Magellan (Orenda) initiated the design and manufacture of industrial gas turbine packages. Some 150 units were sold for gas compression, oil pumping, electric generation and other applications with installations in Canada, United States, Venezuela, New Zealand, China, England and UAE. Most of these units are still operational, with many of the Heavy-duty units exceeding 150,000 operating hours.

In addition to producing complete gas turbine engines, the precision manufacture of critical rotating and stationary engine

components for leading OEMs, such as General Electric, Pratt & Whitney and Rolls-Royce, since the 1970's, significantly contributed to Magellan's (Orenda)'s leadership role in the industry.

Today, Magellan's (Orenda's) business is comprised of those same elements; repair and overhaul of industrial and aviation gas turbines, component manufacturing and research & development.

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