

Obituaries

ED BRIDGLAND, 90 » AIR FORCE OFFICER

Aeronautical engineer's jet motors powered the RCAF through Cold War

Although colour blind, he was accepted by the air force for his technical brilliance and rose to become a brigadier-general, all the while steering development of such aircraft as the Avro Arrow

BY BUZZ BOURDON OTTAWA

Working quietly behind the scenes, Ed Bridgland spent almost three decades playing a major part in developing many of the famous aircraft flown by the Royal Canadian Air Force after the Second World War. One of the RCAF's top aeronautical engineers of the post-war period, he was involved with the legendary Avro Arrow jet fighter, as well as the supersonic Starfighter, the Argus submarine hunter, the Lockheed Hercules and the Canadair Yukon.

He started working on aircraft in 1944 during the war when he was seconded to Britain's Ministry of Aircraft Production. After being loaned to Power Jets Ltd., the firm that pioneered gas turbines, he later spent time as a project engineer at the Royal Aircraft Establishment, working on performance testing and high-speed flight development.

From August of 1946 to June of 1949, he worked as the chief engineer of the RCAF's Winter Experimental Establishment. Supervising a staff of 15 officers and 250 airmen, he oversaw the testing of new aircraft intended for Arctic conditions. During the Cold War, the air force had to operate in the Far North on a regular basis, and it was vital that its aircraft could do so safely and efficiently.

It was his first important post, but it wasn't to be the last. Promotion and responsibility came his way during the RCAF's golden age, from 1950 to 1965. Five years after the war ended, Canada's defence requirements were suddenly back on the front burner: The Cold War turned hot after NATO was formed in 1949 to counter the Soviet bloc. A year later, the Korean War ignited.

The pace was frantic. The RCAF needed thousands of aircrew and technicians to fly and maintain hundreds of new aircraft rolling off the production lines in Montreal and Toronto. Wartime bases were reactivated and modernized, while many veterans — fondly dubbed retradees and sporting hard-earned ribbons on their chests — decided to get back in uniform, providing much needed experience and esprit de corps. By 1952, more than 40 per cent of the government's budget was allocated to the Department of



In 1961, Ed Bridgland guided the CF-104 Starfighter into service. The first aircraft was rolled out at the Canadair plant in Montreal where it was inspected by senior government and military officials. In this uncredited photograph he is thought to be the uniformed officer leaning into the cockpit. By 1969, below, he served as director general of Aerospace Systems, Canadian Armed Forces. Early in his career he undertook post-graduate studies at the California Institute of Technology, bottom.



BRIDGLAND FAMILY PHOTO



BRIDGLAND FAMILY PHOTO

National Defence, with the RCAF getting the lion's share.

Ed Bridgland's interest in aircraft and engineering started when he was growing up

in Calgary. He played football and hockey — skating for three teams at the same time — but truly loved his Meccano toy set. Designing and building Meccano aircraft at the tender age of 13, he was good enough to win two prizes from the British company. He never looked back. A few years later, he was working on the real thing after graduating in engineering physics from the University of Toronto in 1940.

Rejected for pilot training because he was colour blind — he could not see green or red — Mr. Bridgland was determined to help the war effort by qualifying as an RCAF aeronautical engineer. For once, the brass decided to put a round peg in a round hole and sent him to take post-graduate training at the California Institute of Technology.

By 1949, Mr. Bridgland was in Ottawa at air force headquarters as the officer in charge of engine development, an area that included engine installations, propellers, fuel and lubricants. Earmarked by his superiors for higher command and responsibility, he was sent to the Royal Air Force staff college in Britain. Only the best and the brightest were selected for this extremely demanding course, which he attended in 1954 and 1955.

In June of 1956, he was sent

to the Avro Canada plant in Malton, Ont., to oversee quality control on the famous Iroquois engine, an advanced gas turbine manufactured by Orenda Aerospace for the CF-105 Arrow. It was an exciting 16 months for him, as he monitored the engine's progress and reported back to RCAF brass on its feasibility. He was convinced that the Iroquois had great capability; unfortunately, the Arrow was cancelled by John Diefenbaker on Feb. 20, 1959.

By that time, Mr. Bridgland was back in Ottawa as director of aircraft engineering, where he was responsible for aircraft design requirements, specifications, airworthiness and production programs. It was a vital job, since the RCAF deployed more than 20 types of aircraft, from fighters to trainers to transport aircraft to helicopters.

In 1962, Mr. Bridgland was posted to the RCAF's No. 1 Air Division in Europe as senior technical staff officer. It was a demanding job that included supervising a staff of 95 officers and airmen, along with responsibility for such technical functions as aeronautical, armament, supply, mobile and construction engineering.

The air division, which had phased out its Korean War-era Sabre jets and its CF-100s, was by then equipped with the new Canadair Starfighter in a nuclear strike-reconnaissance role. After years of dithering by Mr. Diefenbaker, a government led by Lester Pearson had agreed that the supersonic Starfighters would be armed with U.S. nuclear weapons in the event of war.

Working out of the air division's headquarters in Metz, France, Mr. Bridgland had to cope with the unrelenting threat of nuclear war. It was the height of the Cold War — the Berlin Wall and the Cuban missile crisis had made things much worse — and the air division's nine Starfighter squadrons stood in constant readiness.

Mr. Bridgland's son, James, said he could not recall worrying about a war. At the time, he was only 10 and did the things kids his age did: went to school, made a stab at his homework and played with his friends.

"I don't think any of the kids in Air Division knew that our airplanes were flying with nuclear weapons. I never found that out until the late

1980s," he said. "My general understanding at the time was that [our] role in NATO was purely reconnaissance. My guess is that [we] suffered from misinformation. That amounts to a rather large cover-up, that parents of several thousand families shielded their children from the reality of why they were really there. In retrospect, I think we are all grateful for it."

He remembers his father as a man who led by example, and who loved a good debate. He was pretty good at teaching his children about all sorts of things, too. "I remember a morning in Ottawa when the family was around the breakfast table. Dad dressed for work in a suit and tie, reading The Globe and Mail and drinking coffee. I must have been 10. I can't imagine what possessed me to ask how airplanes navigate in crosswinds, but I did."

On a paper napkin, Mr. Bridgland quickly drew a triangle of arrows. "The first arrow was the airplane's heading — its speed indicated by the length of the arrow," his son said. "From the head of that, he drew a second arrow showing the wind direction and speed. He then drew an arrow from the base of the first to the head of the second. Pointing to the last he said, 'That is the actual path of the airplane.' It was as concise and clear a lesson in vector physics as you could possibly wish for. ... He must have been a great instructor at the U of T wind-tunnel lab."

Before retiring in 1971 as a brigadier-general, Mr. Bridgland spent his last four years in uniform in Ottawa as director-general, aerospace systems, responsible for engineering and maintenance. Afterward, he worked for the Department of Transport before retiring for good in 1980. His final years were devoted to golfing, skiing, travelling and spending time with his family.

ED BRIDGLAND

Edgar Parsons Bridgland was born on Aug. 5, 1917, in Calgary. He died of a stroke in Ottawa on Oct. 18, 2007. He was 90. He leaves his son James, daughters Peggy and Janet, grandchildren Zoe, Michael and Kathryn and great-granddaughters Molly and Norah. He was predeceased by his wife, Kathleen.

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