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BRUCE AIKENHEAD: CANADA'S MOST VERSATILE SPACE PIONEER

**Abstract**

Among Canada's early space pioneers, no one can match the career of Bruce Alexander Aikenhead in terms of involvement in the full spectrum of Canada's early space initiatives. Aikenhead helped build important Canadian science and communications satellites and the Canadarm for the United States Space Shuttle. He helped train the first astronauts for both the U.S. and Canada, and even worked on a program aimed at using cannons to launch projectiles into space. Born in 1923, Aikenhead served in World War II as a radar mechanic with the Royal Canadian Air Force and the Royal Air Force before studies at the University of Western Ontario in physics and mathematics. Aikenhead joined CAE Industries in Montreal in 1955 where he worked on CAE's aircraft simulators, and continued in this field when he joined Avro Canada in 1958. Avro was building the CF-105 Avro Arrow jet interceptor, and after the program was cancelled in 1959, Aikenhead became one of 31 Avro engineers hired by the National Aeronautics and Space Administration in the United States to work on its fledgling human space program. At NASA, he helped set up astronaut training in the Mercury program, and then returned to Canada in 1962, rejoining CAE Industries. He worked for Canadian cannon researcher Gerald Bull on his controversial high altitude cannon program in 1966 and 1967. Aikenhead then joined RCA Canada, where he worked on Canadian satellite programs, starting with the ISIS 2 upper atmosphere research satellite and then the groundbreaking Communications Technology Satellite, also known as Hermes. Once Hermes was launched in 1976, Aikenhead was hired by the National Research Council of Canada (NRC) to work as systems manager for the Space Shuttle Remote Manipulator System, or the Canadarm, which was built by Spar Aerospace in cooperation with the NRC. When the Canadarm reached operational status in 1983 just as NASA invited Canada to send astronauts into space, the NRC moved Aikenhead to the Canadian Astronaut Program. When the Canadian Space Agency was set up in 1989, Aikenhead was named Director General of the Canadian Astronaut Program, and served in that role until he retired in March, 1993. Today Canada remains a leader in communications and scientific satellites, and Canadian astronauts and Canadarm2 are integral parts of the International Space Station, all things that were touched by Bruce Aikenhead. His career embodies the international cooperation that lies at the heart of Canada's space program.