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GENERAL DATA CANADIAN SAUCER DESIGNS OF AVRO

In 1952 a senior AVRO designer, JCM Frost, designed and submitted to U.S. Air Force Officials a proposal for an aircraft called the "Flying Manta" because of its behavior on takeoff. It more or less resembled a disc but lacked vertical take off capabilities. Its top estimated speed was to be 1430 mph. Reportedly, the Manta interested the American Joint Chiefs but in view of certain design deficiencies it was decided not to build it. The craft has alternately been identified as the "Stingray". A jet take-off was planned by an inclining ramp set at a seventy degree angle. The craft was actually a flying wing type tending toward the circular. It was never intended to hover. There is some question as to how it was to be controlled as it appeared to lack elevators or anyother type of aerodynamic or reaction control system for pitch control.

On February 11, 1953, The Toronto Star announced in a headline that a flying saucer was being built in one of Avro Canada hangars at Malton. Top speed was to be 1500 mph. Government sources limited themselves to stating "The Defense authorities are examining all ideas, even revolutionary ones, that have been suggested for the development of new types of supersonic aircraft, also including flying discs. This, however, is still in the beginning phase of research and it will be a number of months before we are able to reach anything positive and seven or more years before we come to actual production."

The Star reported that on February 16, 1953, C.D. Howe, Minister of Defense Production told the Canadian House of Commons that "the government was constantly studying 'new concepts and new designs' for fighters...adding weight to reports that Avro is even now working on a mockup model of a flying saucer capable of flying 1500 miles per hour and climbing straight up in the air".

On February 27, 1953, Avro President Crawford Gordon, Jr. wrote in the company's house organ: "Like all aircraft companies who want to stay in business, we are directing a substantial part of our efforts towards new ideas and advanced designs. One of our projects can be said to be quite revolutionary in concept and appearance. The prototype being built is so revolutionary that when it flies all other types of supersonic aircraft will become obsolescent. That is all that Avro-Canada are going to say about this project."

On April 21, 1953, The Toronto Star again raised the question of the project when it stated that "Field Marshal Montgomery...became one of a handful of people ever to see Avro's mock-up of a 'flying saucer' reputed to be capable of flying 1500 miles per hour. A guide who accompanied Montgomery quoted him as describing it as 'fantastic'...Security precautions surrounding this super-secret are so tight that two of Montgomery's escorts from Scotland Yard were barred from the forbidden screened-off area of the Avro plant."

The London Times also carried short articles on the Canadian saucer program on April 22 and April 23, 1953.

On April 24, 1953. the Toronto Star confirmed its February story, stating that many of Canada's best aeronautical engineers were working on a flying disc made of metal, wood and plastics intended to be the "weapon of the future". The aircraft had been roumered for months at the Malton plant without official confirmation. However, Air Vice Marshal D.M. Smith stated that what Field Marshal Montgomery had seen was the preliminary study of construction plans for a gyroscopic fighter that could take-off vertically and fly at a speed of 1500 mph. A gas turbine would revolve around the pilot, who would be positioned at the center of the disc.

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Also in April, 1953, The R.A.F. Review featured an article, 'Man Made Flying Saucers' on pg 11-12 publishing schematics of what the American press called the "Omega". The aircraft was actually a horseshoe-shaped flying wing. The design was reportedly to test a new formula for construction of supersonic interceptors. It was small, with a span and length of about 36 ft. About 20 air intake slots were provided along the leading edge to supply the buried turbine. At the sharply cut off tail was a large, elliptical exhaust nozzle with ten deflectors for yaw control which routed the flow from a central turbo-compressor. Exhaust gases were to be discharged from numerous exhaust ducts for propulsion. In the center top of the aircraft was a tear-drop shaped single pilot cockpit with 360 degree visibility to the horizon but blind under the edges of the aircraft. A large turbine engine was to revolve around a vertical axis inside the wing but no details were provided. The question of the exact type of propulsion remained but January 5, 1954 issue of Aero Digest in an article titled "Avro Canada's Omega" suggested that the design was a turbo-propeller with turbine exhausting gas that expanded in a jet.

The New York Times reported that a team of 25 U.S. Defense Experts visited the Avro Ltd plant at Malton on September 16, 1953 and were briefed on 'Project Y' the disk-shaped fighter plane with supersonic speed. The team was headed by Lieut Gen Donald L. Putt, head of Research and Development Command of the U.S. Air Force. The team conferred with Dr. O.M. Solandt, Chairman of Canada's Defense Research Board; C.M. Drury, Deputy Defense Minister; and Gen A.G. McNaughton, head of the Canadian section of the United States-Canada Joint Defense Board. Officially, the team was there to view the new Mark IV Canuck jetfighter and the naval radar installations at Ferranti Electric, Ltd. A.V. Roe reportedly advanced the proposition that they had gone as far as possible with paper studies which were shown to General Putt and his party.

The team viewed the forty-foot model of the jet-powered disc and told that the aircraft would have great maneuverability, allowing hover or course change in any direction. Take-off was to be from a catapult and the wheelless craft would be pancaked to a landing. The Canadian government stated that it had spent no money on the project directly, but had provided two research teams in support.

Members of the U.S. deputation included Maj. Gen John McCormack; Dr. A.G. Hill, Chief of the Lincoln Laboratory; and J. Marchetti, Technical Director of the Cambridge Research Center.

The New York Times reported that the estimated development cost of Project Y was \$200,000,000. It was considered significant that a team of 13 Britons lead by Sir Frank Spriggs, managing director of Hawker-Siddeley consisting of leading jet engine and rocket designers were to visit Malton during the second week of October, 1953.

On October 21, 1953, the Toronto Star reported that the craft had officially been baptised the Avro Omega and that the aircraft had been under development for at least two years. Newspapers stated that the Canadian government was planning to form entire squadrons of flying saucers for the defense of Alaska and the Canadian north territories. It was claimed that the saucers would have a low manufacturing cost and maintenance, and take off vertically, a useful feature in wooded areas and the sub-arctic where runways were expensive and difficult to build and keep operational.

In March, 1954 there was talk in Canadian papers that the whole project might be turned over to the United States and that other projects were under study to replace the original model which had "proved rather inefficient". John C.M. Frost was identified as Chief Designer. It was also revealed that U.S. officials were concerned by Soviet progress in the fields of jet aircraft and guided missiles. The U.S. Air Force was therefore allotting an undisclosed

sum to build a prototype saucer within three years. A rumor among military experts asserted that the U.S. and Canadian joint defense authorities had agreed to build the aircraft. It would be a full VTOL craft with a mid-air hover capability and a top speed of 1850 mph with high maneuverability.

Nothing further was heard on the subject until December '3, 1954 when the Canadian Defense Ministry announced that the project was being abandoned. A number of sub-assemblies had been built at an expense of 4 to 5 million dollars. Minister of Defense Howe confirmed this in an interview and stated although the vehicle would fly, it was agreed that it would have served no useful purpose. At the same time, it was estimated that final development would have cost 100 million dollars on a speculative project.

The Globe and Mail with a byline by James Hornick stated on October 23, 1955 that the U.S. government had assumed the costs of developing the AVRO flying saucer. Negotiations were reported to have been completed several months ago making the project exclusive property of the United States Air Force. Regular progress reports were to be made to the USAF Air Research & Development Command HQ in Baltimore. USAF sources at the Pentagon stated that all information regarding their relationship were "classified and could not be divulged". Under pressure from the press, the AF issued a statement. "The Air Force has a research and development contract with the Avro Company of Canada to explore a new aircraft design concept."