

Canada's missile plans took new form in 1956

Canada now has the basic elements of a guided missile industry according to a review of 1956 Defense Research Board (Canada) activities. Reference is made in the review to the project, begun in 1950, to develop the air-to-air guided missile Velvet Glove for the RCAF. This, it is stated, was instrumental in training several hundred scientists and engineers, armed forces technical officers and industrial specialists in the techniques of missile design, development, production and testing.

"The project created permanent research and development facilities worth \$7,000,000," says the report. "The necessary tools and specialized equipment acquired now provide Canada with the basic elements of a guided missile industry."

► **Velvet Glove** was abandoned last year because the appearance of bombers with much increased performance made it desirable to change the production program in favor of a more advanced missile of U. S. design. The missile referred to is the Sparrow II which has been adopted to arm RCAF jet fighters.

► **Janet**, the new communications technique, is also mentioned in the report. This employs meteor trails to transmit radio messages over long distances. Tests have shown that signals can be transmitted up to 1,000 miles by this means without the usual adverse atmospheric interference.

► **Telecon.** Scientists from the Radio Physics Laboratory assisted UK Ministry of Supply and RAF technical officers in trials on a new aircraft-telephony system. This development — the single side band system — enables voice contact with a central control point over distances of thousands of miles. The tests were made on U. K.-Ottawa-Van-

couver flights from the Board's Shirley Bay site near Ottawa.

► **Medical.** The report refers to recognition for the outstanding aviation medicine achievement of Dr. Walter H. Johnson, of Toronto. Dr. Johnson is DRML physiologist with an international reputation for motion sickness investigations. He received the Arnold D. Tuttle Memorial Award at a meeting of the Aero-Medical Association in Chicago.

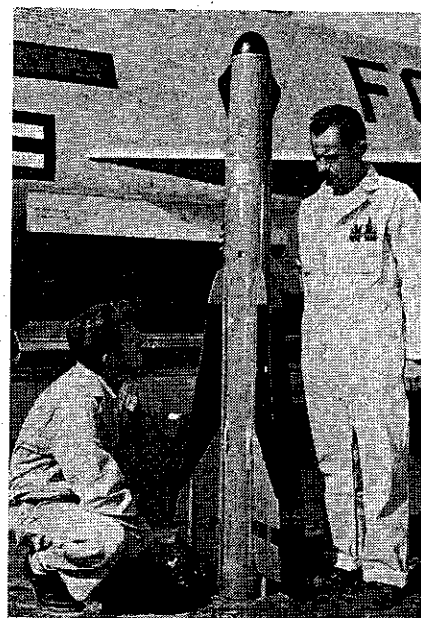
► **I.G.Y.** With regard to Canada's participation in the 1957-58 International Geophysical Year the report mentions the contribution of the Canadian Armament Research and Development Establishment. The department's scientists worked with a U. S. Army rocket firing team at Fort Churchill on a number of test firings at the northern Manitoba rocket site. Object will be the collection of data concerning the upper atmosphere.

Low Fatality Record

Despite the 117 fatalities in the June 30 collision of United and TWA aircraft over Grand Canyon, U. S. scheduled airlines had a fatality rate of less than 1.0 per 100 million passenger miles for the fifth consecutive year in 1956. The industry rate of 0.53 surpassed the safety record of 1955 (0.65).

Electronic Advances

Five major developments are under way in the special projects department of Computing Devices of Canada Ltd., Ottawa. The cathode ray tube test station being built for the Canadian Military Electronics Standards Agency is claimed to be as advanced and more compact than any similar equipment on the continent. It is intended as a military standard in Canada and as a tool to



AIR TO AIR. New Falcon guided air rocket made by Hughes Aircraft Co. for the USAF. Adds greatly to attack altitudes of jet fighters.

investigate problems associated with cathode ray tubes.

The company is also building a light screen system for projectile velocity measurement for the Canadian Army Research and Development Establishment.

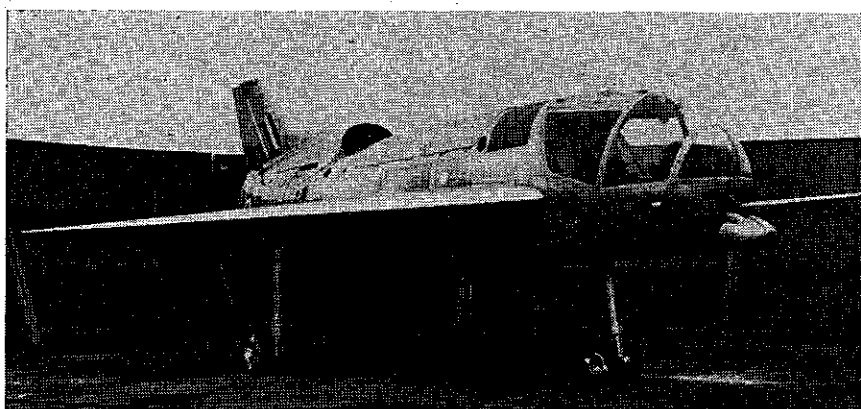
Color Radar

Significant advance in aviation radar is expected by the use of the Lawrence color television tube, being developed by Litton Industries, California. The new tube enables selective color radar presentations of different subjects on one screen. In air traffic control airplanes landing and taking off may be indicated by different colors and planes within a given distance by a third color.

Hostile aircraft may be distinguished from friendly machines, or planes may be indicated by different colors according to size. Application of the Lawrence tube to military and industrial uses is being studied at the Emeryville, California, experimental section of Chromatic Television Laboratories Inc. Acquisition by Litton Industries of a license agreement and of the Emeryville, Calif., experimental and development facilities of Chromatic Television Laboratories was announced recently.

Field Aviation Advance

A pneumatic starting unit now being produced by the Field Aviation Company is powered by a Blackburn-Turbomeca Palouste engine. The unit can be operated manually or automatically and produces a maximum bleed flow of well over 150 lb per min. at 40 psig. Field has been appointed as Canadian distributor for Dayton Aircraft Products Inc., Florida, and of the Russell Mfg. Company.



FIRST PICTURE of the revolutionary Short SC-1 vertical take-off machine. Chief purpose of the SC-1 is to flight test the Short electronic stabilizer, used to balance VTOL aircraft.