CANADIAN AVIATION

FIRST IN CANADA — 25th YEAR OF PUBLICATION

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STACKS

IN THIS ISSUE

The new one-man radar approach equipment is housed in a bus for mobility.

SMALL APPROACH-RADAR

A NEW radar landing aid which can be operated by one man has been developed in the U. K. and is now in use at Southend airport. The only one of its kind, it was produced by E. K. Cole Ltd.

In operation, aircraft are picked up on DF and identified by means of one or two 90 degree turns. The radar equipment operates on a wave length of three centimetres producing a three-degree pencil beam which is directed at the aircraft. The beam can be moved through 360 degrees in azimuth and 15 degrees in elevation, and the resulting echo is shown on the cathode ray tube. The height and distance of the aircraft is indicated on a graph scale.

Aircraft are "talked down" to a point called the "gate," half a mile from the runway, and are then given a final heading. The DF can pick up aircraft at from 14 to 16 miles and up to a height of 14,000 feet. During the 18 months it has been in experimental use, hundreds of aircraft have been successfully landed, including jets.

The Ministry of Civil Aviation has granted a cloud base minimum of 250 feet. Aircraft start their final "talk down" approach from a distance of six miles, where their height is 900 feet. At four miles it is 600 feet and 300 feet at three miles.

This "talked down" system has several advantages. It needs only one operator, it is not necessary to move it on to the runway in use, it can remain on one side all the time because of the "gate" system.

The Front Cover — A Sabre jet fighter powered with the 6,500-lb.-thrust Avro Orenda is being tested at Malton these days in anticipation of the time, awaiting sufficient production of the engines, when the Canadian jet will power the standard RCAF interceptor. Michael Cooper-Slipper, Avro test pilot, is flying the Orenda Sabre in performance trials. (He is shown, on the cover, about to enter the cockpit). On a recent Toronto-Montreal flight, this aircraft averaged 665 mph.

Pilot Cooper-Slipper came to Avro Canada from England after an adventurous career in the RAF during the war. Before his 21st birthday he had flown cover for the retreat to Dunkirk, had shot down seven enemy aircraft and had won the D.F.C. (He was commissioned at 18).

After a series of story-book experiences in the Far East, including capture by Jap. paratroops and a hair-breadth escape, he gained his first high-altitude flying experience in North Africa. He was engaged in production testing in the U. K. until the end of 1946, became a test pilot at Avro Canada in September 1948. His assignments include engine development test flying of the Orenda Lancaster and the Orenda Sabre.

Jet Age — When Avro Canada reaches full production, 30,000 Canadians will handle various phases of its subcontract work. This was one of a number of enlightening statements made by Crawford Gordon Jr., Avro president during an address at Toronto. Other quotes:

"Some 400 individual companies are now supplying products for the jet program at Malton. Production techniques never before carried out are increasing Canada's industrial capacity . . .

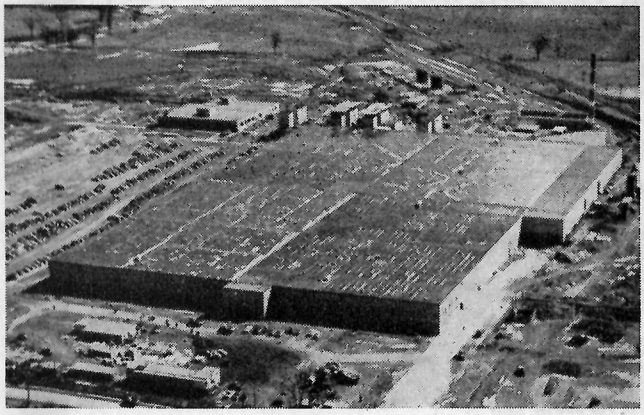
"Not only has Avro Canada done much engineering work itself but it has let out some 500,000 hours of design work. Another 650,000 hours have been let out . . . all over Canada for work on jigs and fixtures . . .

"Avro Canada's average total purchase orders come to around $4 millions a month and have gone up to as much at $9 millions . . .

"In 1943 it was estimated that for a very specialized radar and electronic job, the aircraft manufacturer needed one technician for every 1,000 employees. Today, we need one out of about every 24 employees. In 1943, approximately one out of 22 was an engineering employee. Today, about one out of eight. That's how complicated and technical aircraft manufacturing has become . . .

"Many of our staff men at Avro who would blush if you referred to them as inventors, have actually turned in to date more than 300 revolutionary ideas for speeding up or improving the design, development and construction of jet engines and jet aircraft . . .

Correction—In the article on the new plastic seat for the Beaver, which occupied this space last month, we inadvertently removed the Smith and Stone factory from its location in Georgetown, Ont. to Kitchener. So, please be advised that the Smith and Stone plant is in Georgetown.



AVRO ORENDA ENGINE PLANT—The new plant with 400,000 sq. ft. of floor area to be devoted to manufacture of Orendas at Malton is almost ready for operation. Most of the machine tools have been installed. Official opening is scheduled for late summer when production should be rolling.