A and A News Roundup

High Flight

In a widely quoted article entitled "40,000 Feet for Civil Aircraft?" Gloster Chief Test Pilot, Squadron Leader W. A. Waterton, AFC and Bar, who is in Canada to carry out flight testing on Avro Canada's CF-100 jet fighter, brings to the fore some of the many problems of high flight. S/L Waterton's article first appeared in the Hawker Siddeley Review, published by the Hawker Siddeley Group, of which Gloster and Avro Canada are both members.

Says he: "Perhaps it seems strange that I, with a background of only jet fighter experience, should discuss jet propelled aircraft from the civil operating side. It has often been proved, however, that the problems of fighter aircraft today are those of the bomber tomorrow and of the civil transport the next day, although it would appear that the order of the last two might well be reversed these days in Britain."

On some of the conditions that he has found at high altitudes through personal experience, he says: "In the realms of meteorology much remains to be known, especially of conditions at higher altitudes. Winds of terrific velocities are frequently encountered at altitude; 150 knots is not unknown and in many cases the winds are of sufficient strength to discredit severely the increases in range and endurance gained by operating jet engines at their best heights.

"Met winds at 30,444 feet and over are far from accurate in many parts of the world, as landing up 60 miles south of track in an hour's flight from Greece to Italy over 8/8 cloud tops at 31,000 feet has shown. Meteorologists rarely, if ever, predict cumulus or cumulo-nimbus cloud over 23,000 feet, but in England and over the Alps, Appennines, Corsica, Greece, and the Massif Central of France, we have on numerous occasions seen heavy cu and cu-nimbus cloud with tops up to 38,000 feet. Dense layer cloud frequently extends to 30,000 feet with heavy haze, and cirrus on occasion, well above 40,000 feet."

This means, S/L Waterton indicates, that not only is there icing at these altitudes, but there is also, with cu and cu-nimbus clouds, extremely turbulent air.

"Fortunately, indicated air speeds are low at high altitudes (50% of true at 40,000 feet) and 'G' is therefore not so liable to overload a comparatively lightly stressed commercial aircraft as if it were flying low down at high indicated speeds. On the other hand, damping is comparatively poor if the aircraft's flight path is disturbed and shock loadings are extremely high."

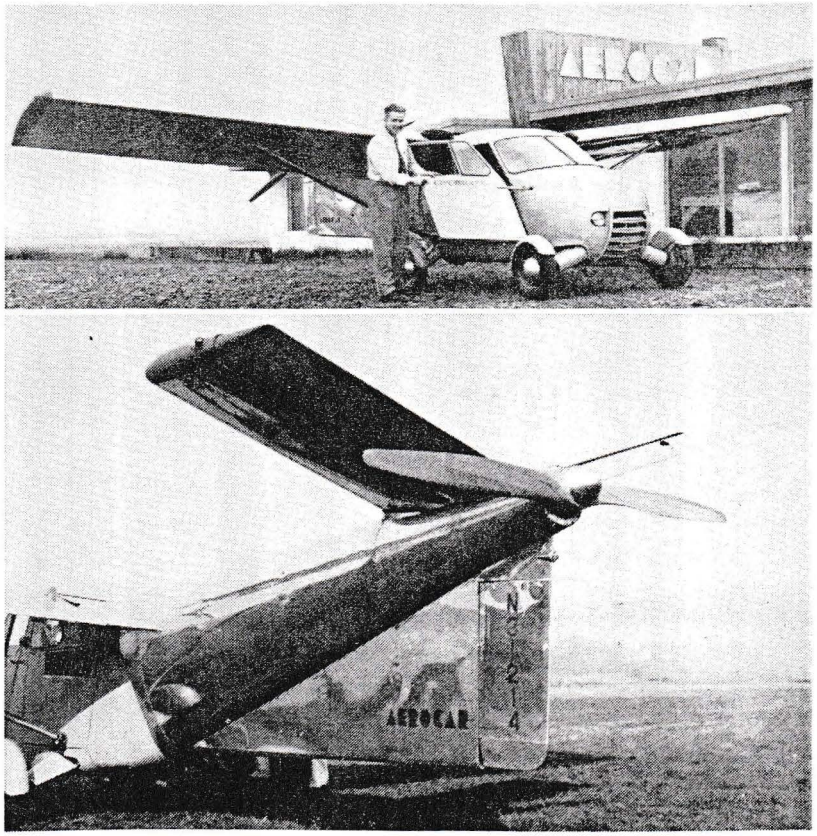
The thing about this that bothers S/L Waterton is that the aircraft may be able to take it, but not so likely the passenger. However, he feels that there is a bright side and concludes by saying:

"All these problems are far from insoluble; but they do exist together with numerous others not touched upon, but nonetheless pertinent, in such widely diversified realms as blind flying instruments, navigation, radio and radar aids, crew training and flying technique. To me the important thing is that they should be recognized and admitted and faced up to with foresight. . ."

Central Northern

Central Northern Airways had net operating revenues of $22,064 (23,112) for the month of June, 1949, the Dominion Bureau of Statistics recently announced. Figures appearing in brackets represent the comparative 1948 amount.

Other figures for the month are: total revenues, $59,209 (62,051); total expenses, $37,145 (38,939); total miles flown, revenue and non-revenue, 73,701 (80,889); total revenue hours flown, 724 (711); revenue passengers, 1,394 (1,292); passenger miles, revenue and non-revenue, 110,294 (130,268):



AEROCAR: Moulton B. Taylor, president of Aerocar, Inc., is shown in front of the Aerocar (Aircraft and Airport, August, 1949) in the top photo. The prototype has flown and the CAA has given permission to build and sell a limited number for service test and demonstration. For road work, the wings and rear of the fuselage is removed and towed behind the roadable section. Changeover takes one minute. Removable portion of fuselage is clearly visible in the lower picture.

goods carried, pounds, 396,668 (348,785); gasoline consumed, 22,653 (23,285); cost of gasoline, $10,154 (9,986); average number of aircraft, 11 (12); number of employees, 50 (56); total salaries and wages, $12,182 (13,593).

Queen Charlotte

The Dominion Bureau of Statistics reports that Queen Charlotte Airlines had net operating revenues of $15,811 for the month of June, 1949. No comparative figures for 1948 are available.

This company also had total revenues of $78,072 and expenses of $62,261; flew 103,220 revenue and non-revenue miles in 963 hours, of which 925 were revenue; carried 4,450 revenue passengers; flew 453,174 passenger miles to make a revenue passenger load factor of 51%; carried 33,804 pounds of goods; consumed 31,922 gallons of gasoline costing $10,063; utilized an average of 15 aircraft and employed 95 people; paid salaries and wages of $21,305.

Queen Charlotte's ratio of miles flown to miles scheduled was 100%.

Aviation History

Frank H. Ellis of West Vancouver, a pioneer airman and now a municipal bus driver, has just about completed his history of aviation in Canada. Entitled "Wings of Memory", the book has been in the writing stage for fourteen years, but is now nearly ready for publication.

Writer Ellis came to Canada from England some 37 years ago, and has been interested in aviation since that time. In fact, he was the first in Canada to make a parachute jump from a Canadian aircraft. That was in 1914. He was also on the first flight north of Latitude 53°; that was in 1920. He is also a member of the Early Birds.

In connection with the book he estimates that he has received some 5,000 letters containing information about aviation in this country. The history will run about 225,000 words and will be illustrated by more than 500 pictures.

Seat of the Pants

Down New Orleans way a Dr. Cecil Mann has been directing a research project for the USN to try to find out why a pilot's senses get scrambled as soon as he tries to fly blind without instruments. It seems that the old-timers who talk about flying by the seat of the pants weren't so far wrong after all—only the researchers call it the postual sense.

The experiments have been conducted by sitting a pilot in a cockpit like affair which is completely closed in. The cockpit is then tilted 20 to 30 degrees from the vertical and it is up to the guinea pig inside to return it to the upright position with nothing but his postual sense to guide him. It has been found that the average error returning to normal position is only one degree.

A variation of this experiment utilizes a white line which is fastened inside the cockpit for the pilot to watch. The line is tilted and then the pilot must try to return it to the vertical (remember, he is in absolute darkness and can see nothing but the white line). Dr. Mann reports that the accuracy in this test is comparatively poor. Thus proving, he thinks, that it is better to rely on the seat of the pants than the visual sense.

For Development

During the year ending March 31, 1949, the Department of Trade and Commerce provided $2,000,000 for research and development of jet engines and aircraft. The allotment appears under War Demobilization and Reconversion Appropriations. In all the government has so far sunk approximately $5,000,000 into these projects

Messerschmidt

Willy Messerschmidt, one of pre-world War II Germany's most talented aircraft designers, is going to put his master touch to work in India. Designer Messerschmidt has been hired by the Indian government to work in the state owned Hindustan Aircraft Company. The government also announced that the Company is to produce a new type of fighter aircraft.

In and Out

Aircraft and aircraft parts imported to Canada during 1948 were valued at $7,854,000, according to the Department of Trade and Commerce. This compares with $12,284,000 in 1947, $9,448,000 in 1946, and $2,883,000 in 1938.

On the other hand, aircraft and aircraft parts exported by Canada during the year were valued at $11,290,000, compared with $5,900.000 in 1947, $9,507,000 in 1946, and $2,799,000 in 1938.

Used Aircraft Imports

Used aircraft may now be imported from the United States under certain circumstances. The certain circumstances have not yet been specified, but it is understood that each case will be judged on its own merits. Each aircraft entering the country will be appraised by a customs appraiser and the normal rate of duty will apply.

Hon. J. J. McCann, Minister of National Revenue, recently said: "We have had no protests from . . . the aircraft industry against this type of legislation."

The Cover

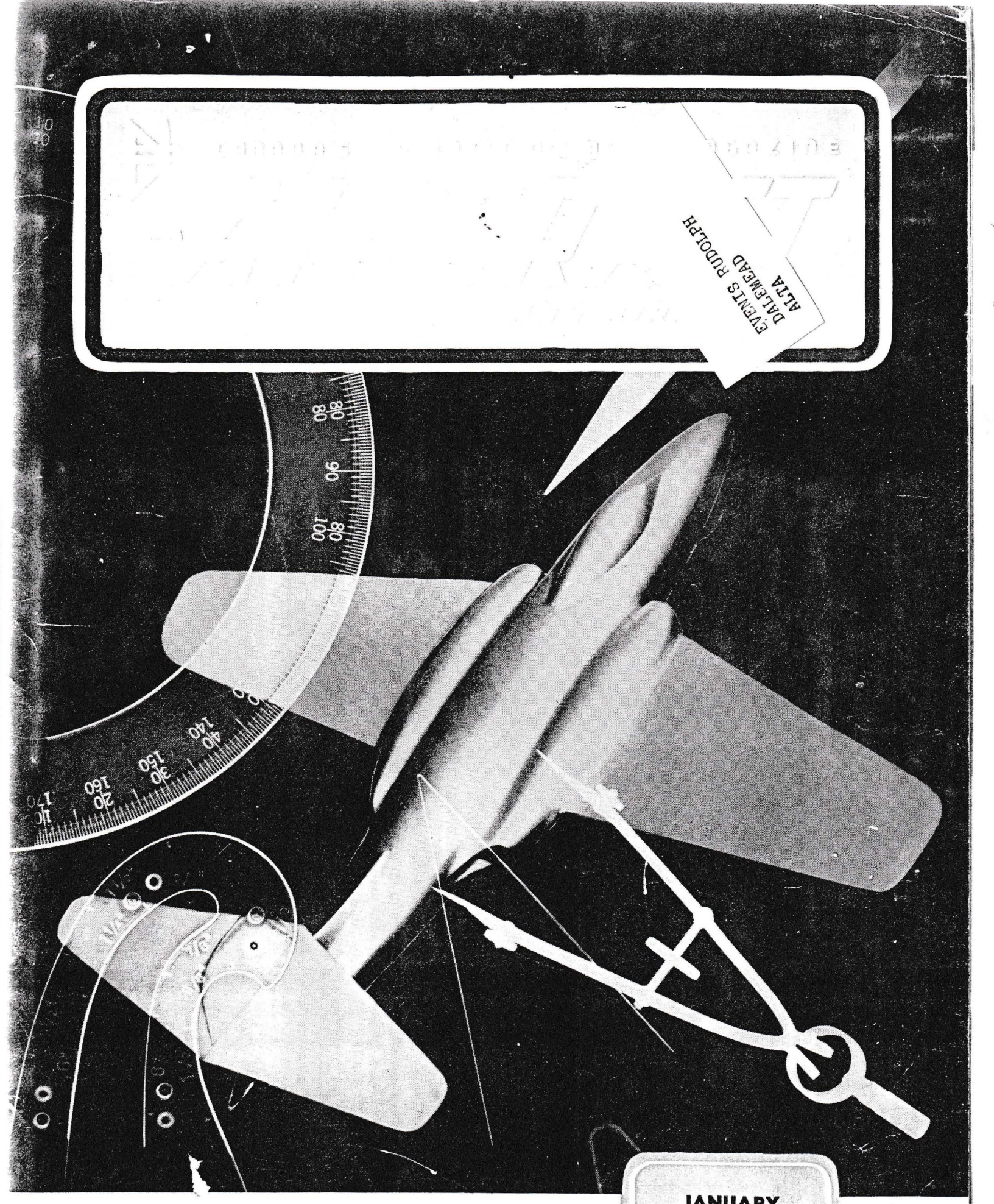
Though it has been officially denied that the model which appears on this month's cover of *Aircraft and Airport* is a scale version of Avro Canada's CF-100, the editors have heard so many similar denials from similar sources, that not much credence is put in this latest one.

The photo of the model first appeared on the cover of Saturday Night, the Canadian weekly magazine, though nothing in the magazine itself gave any indication that the staff realized just what hot subject matter it had on the cover. The Toronto Globe & Mail next spotted the picture and realizing what it portrayed, promptly published a lengthy story on the matter. The astonishing part of the whole business was that Defence Minister Brooke Claxton was shown holding the model, which had been borrowed from A/V/M A. L. James, RCAF Member for Technical Services at the time of the incident.

Though A/V/M James has denied that the model is of the CF-100, it so closely resembles a drawing supposedly depicting the aircraft which appeared in the American publication "Aviation Week" about a year ago, it seems unlikely that this is so. A/V/M James descrbed the model as just a model airplane not depicting any particular type.

New Champion

First of Aeronca Aircraft Corporation's 1950 line to be announced is the 90 hp. Champion, Model 7EC. This new model Champion features a complete 12 volt electrical system including starter, generator, battery, and necess-



JANUARY
1950

FIRST IN CANADA

THE KAMAN HELICOPTER

TORONTO 2, CANADA