

The **ROUNDDEL**

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ROYAL CANADIAN AIR FORCE



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This Month's Cover



The Lockheed T-33 jet trainer now being used in the R.C.A.F.

I. C. A. O.

By Wing Commander W. P. Pleasance, D.F.C.

(Wing Commander Pleasance began his flying career in 1933. Six years later he joined the R.C.A.F., and after serving at Trenton, Camp Borden, Hamilton and Pendleton, was posted overseas. He won the D.F.C. when C.O. of No. 419 (Moose) Squadron. Later he assumed command successively at No. 6 Group's Tholthorpe, Wombledon, and Linton-on-Ouse. After repatriation he became Senior Air Staff Officer at Air Transport Command. At present he is R.C.A.F. Advisor to the Canadian Delegation, I.C.A.O.—EDITOR)

INTRODUCTION

NEARLY SEVEN YEARS have passed since the signing of the Convention on Civil Aviation at Chicago in December 1944. It was this Convention that gave birth to the International Civil Aviation Organization as we know it to-day, and placed upon it the responsibility for the safe, efficient, and economic development of civil aviation.

In the brief review that follows much detail has been omitted. However, an attempt has been made to show something of I.C.A.O.'s achievements to date and to give a general picture of the structure, scope, and work methods of the Organization as a whole.

In general it may be said that "standardization" has been the guiding principle of I.C.A.O.'s work, particularly in those technical fields of aviation covered by the Annexes to the Convention. To date twelve such Annexes have been adopted by the Council of I.C.A.O. and, pursuant to the terms of the Convention, added to the national regulations of the fifty-eight member States.

It is in the adoption of these Annexes that the influence of I.C.A.O.'s work on military aviation is most apparent.

This is understandable when it is considered that nearly all air navigational facilities used by

the R.C.A.F. have been provided (in Canada and elsewhere) by the civil administration, specifically for the use of civil aviation under the terms of the Convention and in accordance with the Standards and Recommended Practices* contained in these Annexes.

The facilities so provided and jointly used include the majority of our major aerodromes; communication, meteorology and airway systems; navigational aids such as Radio Ranges, Loran Chains, Ocean Station Vessels; and Air Traffic Control, etc.

It seems obvious, therefore, that to the extent that I.C.A.O. affects civil aviation in the foregoing technical fields, so to a like degree will it affect military aviation.

HISTORICAL

International air transport may be said to have commenced in 1919, for it was in that year that the first commercial air service was established between London and Paris.

*Standard — Any specification for physical characteristics, configuration, materiel, performance, personnel or procedure, the uniform application of which is recognized as necessary for the safety or regularity of international air navigation and to which contracting States will conform in accordance with the Convention. In the event of impossibility of compliance, notification to the Council is compulsory under Article 38.

Recommended Practice — Any specification for physical characteristics, configuration, materiel, performance, personnel, or procedure, the uniform application of which is recognized as desirable in the interest of safety, regularity or efficiency of international air navigation, and to which contracting States will endeavour to conform in accordance with the Convention.

Even at this early stage in the development of international aviation the necessity for uniform and universal air regulations became apparent, and resulted in the drawing up of the Paris Air Convention by the Peace Conference in 1919.

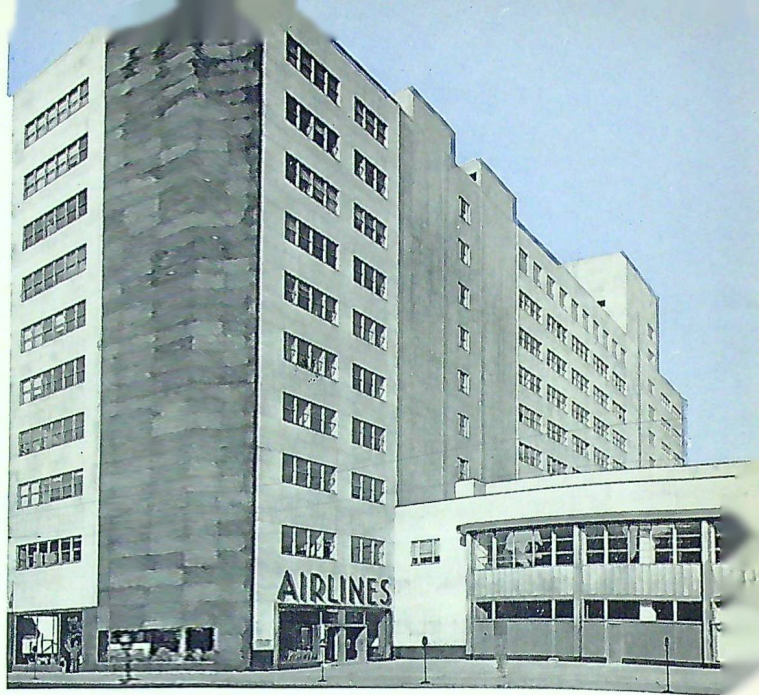
This Convention set up technical standards for civil aviation, established the International Commission for Air Navigation (I.C.A.N.), and provided, among other things, for the collection and exchange of information among I.C.A.N.'s member States, which later numbered 33.

I.C.A.N. was, however, not the only international organization designed to further the growth of aviation. There were many others, too numerous to be detailed here. It is sufficient to say that general dissatisfaction existed over the number and variety of international conventions and conferences with their resulting fields of overlap and split membership.

The twenty years that followed the First World War saw rapid expansion in civil aviation in all countries, with the emphasis on colonial routes. U.K. Imperial Airways extended towards the British Colonies and Dominions; France devoted its attention to similar operations; Holland concentrated on the East Indian service. Germany, without Colonies to develop, expanded towards South America. In the Western Hemisphere, Pan Am headed towards Latin America, while Grace Airways (PANAGRA) extended its service down both coasts of South America.

By 1939, more than one half-million miles of air routes circled the globe, and the aircraft which flew them covered some three hundred million miles annually. This expansion naturally multiplied international aviation problems such as interchange of commercial rights and international air law. The building of adequate aerodromes, provision of navigational aids, and the setting up of standard rules of the air and air traffic systems, etc., became matters of the utmost urgency if safety, regularity, and economy were to be achieved.

The outbreak of the Second World War changed this picture drastically, of course. Civil and military air resources were merged in a common



The International Aviation Building, Montreal, headquarters of I.C.A.O.

purpose, and, unhampered by geographical boundaries or by economic or political considerations, a quarter of a century of normal peace-time aviation development was telescoped into a matter of a few years.

If the fruits of this wartime enterprise were to benefit aviation in the years to come, it was obvious that something had to be organized on a world-wide international basis. It was for this purpose that aviation experts of the world conducted exploratory discussions in 1944.

On the basis of these discussions, invitations were sent to 55 allied and neutral States to meet in Chicago in November of that year. The importance of the problem was well demonstrated by the fact that 52 out of the 55 States invited were represented at this Conference. The outcome was the Convention on International Civil Aviation, as well as several other supplementary agreements, and the birth of the Provisional International Civil Aviation Organization. Subsequently I.C.A.N. was merged into (P) I.C.A.O., which, upon ratification by 26 states, became permanent on April 4th, 1947. To-day I.C.A.O. is recognized as a specialized agency of the United Nations dealing with all matters of aviation for its 58 member States.

THE AIMS AND OBJECTS OF I.C.A.O.

The aims and objectives of I.C.A.O. are laid down by the Convention, which, in effect, is the charter of the Organization. As set forth in Article 44, these are to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport so as to:

- Insure the safe and orderly growth of international civil aviation throughout the world.
- Encourage the arts of aircraft design and operation for peaceful purposes.
- Encourage the development of airways, airports, and air navigation facilities for international civil aviation.
- Meet the needs of the peoples of the world for safe, regular, efficient and economical air transport.
- Prevent economic waste caused by unreasonable competition.
- Insure that the rights of contracting States are fully respected and that every contracting State has a fair opportunity to operate international airlines.

- Avoid discrimination between contracting States.
- Promote safety of flight in international air navigation.
- Promote generally the development of all aspects of international civil aeronautics.

It is also well to note the preamble to the Convention, which reads in part:

"International civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security", and "... it is desirable to avoid friction, and to promote that co-operation between nations and peoples upon which the peace of the world depends ...".

OBLIGATION OF MEMBER STATES OF I.C.A.O.

With emphasis on the technical aspects of air navigation, among the more important obligations assumed by a member of I.C.A.O. are:

- To collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures, and organization in relation to aircraft, personnel, airways and

General view of the I.C.A.O. Council Chamber in Montreal.



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auxiliary services in all matters in which such uniformity will facilitate and improve air navigation (Article 37).

- To provide in its territory airports, radio services, meteorological services and other air navigation facilities to facilitate international air navigation, in accordance with the standards and practices of I.C.A.O. (Article 28).
- To adopt and put in operation the appropriate standard systems of communications procedures, codes, markings, signals, lighting and other practices, and rules recommended or established by I.C.A.O. (Article 28).
- To give immediate notification to I.C.A.O. of any differences between the national practices and any international standard (Article 38).

These are by no means the only important Articles of the Convention. They do, however, emphasize the close technical and operational relationship that must exist between civil and military aviation for reasons of economy and safety.

THE ORGANIZATION

Under the Convention, I.C.A.O. is an international organization of sovereign governments working together with the assistance of a permanent Secretariat.

Decisions are arrived at by agreement among States whose views are expressed through designated national representatives constituting the working members of the Assembly, the Council, the Air Navigation Commission, the Air Transport Committee, the Joint Support Committee, and the Legal Committee. These representative bodies are distinct from the Secretariat, which is composed of "International Civil Servants" whose function is to administer the affairs of I.C.A.O., serve as secretaries of meetings, prepare documentation, and carry out directives and decisions of the representative bodies which determine policies and decide all substantive issues. (See Organizational Charts for details of State and Secretariat organization).

The Assembly

This is the top body of I.C.A.O. It meets annually for approximately three weeks, and is composed of representatives of all contracting States caring to send delegations, each State being entitled to one vote. Its major responsibilities

are: to elect members of the Council, to take action on reports and recommendations of the Council, to review the budget and annual expenditures, to delegate authority as necessary to the Council, and in general to handle any broad policy problems of the Organization.

The Council

This is a permanent body composed of the representatives of 21 contracting States elected by the Assembly every three years. The Council meets in Montreal, the permanent seat of the organization, for approximately six months each year. It appoints the members of the Air Transport Committee, the Legal Committee, and the Air Navigation Commission; it administers the finances of the organization, and it carries out the directives of the Assembly. It also adopts international standards and recommended practices which are designated as Annexes to the Convention.

The Air Transport Committee

This Committee consists of 12 members appointed by the Council from representatives of Council Member States. It is charged generally with problems in the economic field of air transport. Its major activities include those of facilitation of air transport, statistics, problems of air mail, insurance, tax burdens, and charges levied for the use of air navigation facilities, etc.

The Committee is in session for approximately six months of each year, and periodically meetings of "Divisional" type are held at which any member State may be represented.

The Joint Support Committee

Members of the Committee are appointed by Council from among Council Member States. The number of members varies from time to time. It is in session for approximately six months of the year. When specific problems of importance are being dealt with, *ad hoc* meetings of interested States may be called in Montreal or elsewhere.

The Convention provides that in the event that a State find itself unable to provide a facility

The Roundel

considered indispensable to the safety or regularity of air traffic, the Council may provide such service through joint support action between countries affected.

The first case of collective action concluded under the sponsorship of the Organization was the establishment of Ocean Station Vessels in the North Atlantic. At the present time there are 10 stations (Lat. and Long. positions) in the North Atlantic requiring the services of 24 vessels to keep them manned. A similar programme for the North Pacific has been more recently implemented.

Although the primary value of these Ocean Station Vessels is recognized to be in the meteorological and air navigational fields, they do serve a secondary purpose in providing search and rescue

services. To date several spectacular rescues have been made, the most notable among these being effected by Station "C" Charlie. It saved the 69 passengers aboard the "Bermuda Sky Queen" which ran out of fuel in mid-Atlantic.

The burden of supporting these and other joint support schemes falls upon those States whose airlines make use of the facilities, in this instance primarily the U.S.A., the U.K., France, Norway, Canada, and the Netherlands. The approximate cost of operating one vessel in the North Atlantic is \$65,000 per annum. The cost of operating in the North Pacific is unknown at the time of writing.

Among other joint support schemes arranged by I.C.A.O., the following may be mentioned:

The Hon. Lester Pearson signing the Headquarters Agreement between I.C.A.O. and the Canadian Government, 14 April 1951. In this agreement the Canadian Government recognizes I.C.A.O. Headquarters in Montreal as the seat of an international organization of sovereign states. Seated on left is M. Camilien Houde, Mayor of Montreal, and on right, Dr. Edward Warner, President of the I.C.A.O. Council. Standing beside Dr. Warner is Dr. Albert Roper, Secretary General of I.C.A.O.





H.M.C.S. St. Stephen — a Canadian weather ship on I.C.A.O. North Atlantic patrol.

- The financing of the LORAN Station located at Vik, Iceland. This long-range directional aid was operated by the military transport services during the war. A financing arrangement, sponsored by I.C.A.O. between Iceland and five other States whose airlines make use of Loran, has kept it in operation as an aid to air navigation. This scheme has been in effect since April 1947. The joint cost of operating this facility is approximately \$30,000 annually.
- A joint support arrangement on air navigation facilities in Iceland was reached on June 26th, 1948, by the I.C.A.O. Conference on Air Navigation Services in Iceland, and was designed to ensure safety in flight across the North Atlantic. Much of this safety depends on the provision of essential air navigation services, such as meteorological observation and forecast, area traffic control, radio aids, and radio communications networks. On the northern trans-Atlantic route between America and Scandinavia these services can only be supplied by installations maintained in Iceland. Even the central Gander-London route requires weather reports from Iceland. The Icelandic services cost in the neighborhood of \$600,000 (U.S.) a year to maintain and operate.
- In May 1949, at the I.A.C.O. Conference on Air Navigation Services, an arrangement was adopted for financing the meteorological and communications services maintained by the Government of Denmark in Greenland and a Loran Station in the Faeroe Islands. The estimated annual expenditure for these two projects is approximately half a million dollars (U.S.).

The Air Navigation Commission

The Air Navigation Commission has a membership of twelve or less persons elected by the Council from nominees put forward by member States. Members are chosen for their ability, experience, and technical knowledge of aviation, and meet in almost continuous session for at least six months each year. This is the body through which all technical matters pertaining to aviation are funneled. The Commission is charged primarily with responsibility for the development of

International Standards and Recommended Practices (S.A.R.P.) in the following technical fields:

- ▶ Communications systems and air navigation aids, including ground marking.
- ▶ Characteristics of airports and landing areas.
- ▶ Rules of the air and air traffic control practices.
- ▶ Licensing of operating and mechanical personnel.
- ▶ Airworthiness of aircraft.
- ▶ Registration and identification of aircraft.
- ▶ Collection and exchange of meteorological information.
- ▶ Log books.
- ▶ Aeronautical maps and charts.
- ▶ Aircraft in distress and investigation of accidents.
- ▶ Such other similar matters concerned with the safety, regularity, and efficiency of air navigation as may from time to time appear appropriate.

The development and adoption of S.A.R.P.'s is a lengthy and laborious process, taking anywhere from six months to years before final approval and adoption by States.

Normally they originate in the technical division of the secretariat corresponding to the subject, or as a result of recommendations contained in the final reports of Regional or Divisional meetings. Then follows a series of preliminary reviews by the Secretariat and the Commission, and frequently by contracting States, before presentation to the Council for adoption. They are then published and distributed in the form of Annexes, or amendments to existing Annexes, to the Convention.

If a majority of the States does not register disapproval of these Standards and Recommended Practices, they become effective, and each I.C.A.O. contracting State is bound under the terms of the Convention either to put them into practice within a fixed space of time, or to notify the Council that this cannot be done.

To date twelve sets of Standards (Annexes to the Convention) have been approved by the I.C.A.O. Council and have been transmitted to member States for comment. Of these, none has been disapproved by a majority of contracting States.

Annexes so adopted are referred to in more detail under the heading "Publications of I.C.A.O."

The Legal Committee

Each contracting State may appoint one or more qualified members on the Legal Committee, and each State so represented has one vote at the annual committee meetings. The objectives of the Legal Committee are threefold:

1. To study and prepare draft conventions in connection with international air law with a view to their adoption by the greatest possible number of states.
2. To provide, if so requested, by or through the Council or the Assembly, advice on legal matters of special importance to the Organization, including public and private air law and the interpretation and amendment of the Convention.
3. To collaborate with other international organizations charged with the unification and codification of international law.

CANADIAN REPRESENTATIVES TO I.C.A.O.

As a Council Member State, Canada maintains a permanent office at the seat of the organization in Montreal. The delegation consists of one Council Member and one technical assistant who, between them, share membership in all the foregoing Committees. In addition, one officer is provided on a full-time basis by the R.C.A.F. His duty is to co-ordinate all matters pertaining to the R.C.A.F., to cover all technical meetings of I.C.A.O., and to act as alternate on various committees and working groups as directed by the Canadian Council Member.

MEETINGS

Divisional Meetings

Meetings of each of the ten technical divisions (corresponding in title to the Annexes listed under "I.C.A.O. Publications") are held in Montreal at periods of from one to four years, or as often as circumstances dictate.

The final reports of these meetings contain the Division's recommendations concerning Standards and Recommended Practices which eventually may be included in the appropriate Annex.

I.C.A.O. Regional Meetings

Under I.C.A.O. the world has been divided into ten regions based on geographical areas in which

major patterns of international air traffic have their terminals and in which air navigation problems are, in general, of a common nature. In each, a Regional Air Navigation Meeting has been held for the purpose of recommending the facilities and services required for the safety, efficiency, or regularity of air navigation within that region, and, to the extent practicable, to recommend the location of such facilities as well as the time when the service should be available. In addition, the meetings consider the application of basic standards, practices, and procedures previously established by I.C.A.O. for world-wide application, and determine whether or not they need to be supplemented, modified or amended in any way to meet the needs of the special operational characteristics of the region. Meetings have been held for the ten I.C.A.O. regions as follows:

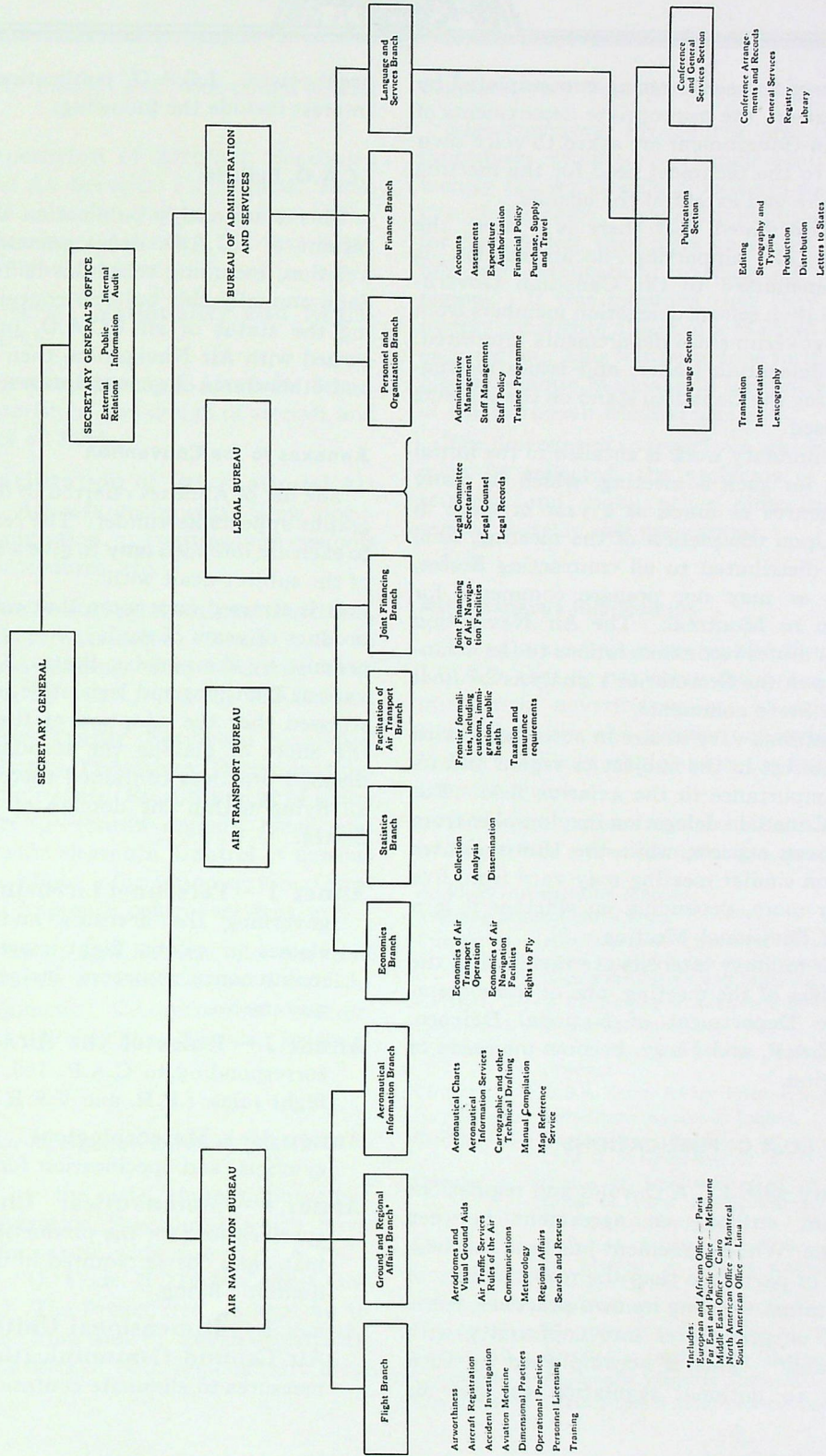
- North Atlantic — Dublin, March 1946. Paris, May 1948.
- European-Mediterranean — Paris, April 1946. Paris, May 1948.
- Caribbean — Washington, 1946. Havana, April 1950.
- Middle East — Cairo, October 1946. Istanbul, October 1950.
- South Pacific — Melbourne, February 1947.
- South American — Lima, June 1947.
- South Atlantic — Rio de Janeiro, July 1947.
- North Pacific — Seattle, June 1948.
- South-East Asia — New Delhi, November 1948. New Delhi, April 1950.
- African-Indian Ocean — London, March 1949.

Meetings of this type last from three to four weeks, and the final reports thereof become valuable reference documents, since they contain comprehensive technical detail on all aspects of aviation within the region.

Canadian Participation in I.C.A.O. Meetings

As previously indicated, Canada maintains permanent representation on the Council, Air Navigation Commission, Air Transport Committee, and Joint Support Committee. However, when a Divisional, Regional, or special meeting is called, a special delegation is formed, the size of which is dependent on the type of meeting and Canada's particular interest in the subject or region.

CHART No. 2 — STRUCTURE OF I.C.A.O. SECRETARIAT



*Includes:
 Arab African Office — Paris
 Far East and Pacific Office — Melbourne
 Middle East Office — Cairo
 North American Office — Montreal
 South American Office — Lima

With respect to each meeting contemplated by the Organization, the appropriate departments of the Canadian Government are asked to voice their opinions as to the technical need for the meeting and the nature and extent of the agenda.

Having determined that there is a need, the agenda and all supporting documentation is formally transmitted to the Canadian Government, which then selects delegation members from the various governmental departments interested, appoints a delegation leader, and issues instructions regarding the Canadian stand on the subjects to be discussed.

Much preliminary work is entailed in the initial preparation for such a meeting, which in many cases commences as much as a year or more in advance. Upon completion of the meeting, final reports are distributed to all contracting States, which may or may not prepare comments for transmission to Montreal. The Air Navigation Commission drafts recommendations to the Council, based upon the Secretariat's analysis of final reports and State comments.

The delegations vary in size in accordance with a State's interest in the subject or region and its particular importance in the aviation field. For example, a Canadian delegation may number from one to a dozen experts, while the United States delegation on similar meeting may vary from five to thirty or more, depending on whether it is a Regional or Divisional Meeting.

Whenever military interests are involved in the subject matter of the meeting, one or more members of the Department of National Defence, usually R.C.A.F. and Navy, become members of the Delegation.

I.C.A.O. PUBLICATIONS

Conformity with I.C.A.O. rules and regulations is dependent entirely on agreement between governments. When agreement has been reached, in whole or in part, it is then the responsibility of each government to bring its own practices, rules, regulations, or procedures into conformity with that agreement. This is accomplished by such amendment to national regulation as may be

appropriate. I.C.A.O. publications of particular interest include the following:

I.C.A.O. Bulletin

This is a monthly publication which presents a résumé of I.C.A.O. developments in all field of aviation, including schedules of future meetings. Semi-annually this bulletin contains tables showing the status of all I.C.A.O. publications concerned with Air Navigation, their effective dates, and other items of general interest.

Annexes to the Convention

The list of Annexes referred to in previous paragraphs appears hereunder. The remarks pertinent to each are intended only to give a rough indication of the subject dealt with.

It is stressed once more that each Annex is the product of years of study, co-operation, and compromise by the member States, I.C.A.O., and its various Divisions and legislative bodies. It is also stressed that the adoption of these Annexes has the effect of making the standards and recommended practices contained therein applicable to all flying within the domain of the 58 member States.

Annex 1 — Personnel Licensing. General rules governing the licensing and rating for all classes of pilots, flight crew members, and maintenance engineers, including medical requirements.

Annex 2 — Rules of the Air. All information corresponding to C.A.P. 100, such as general flight rules, I.F.R. and V.F.R. flight rules.

Annex 3 — Meteorological Codes. Codes, symbols, and specification for MET Services.

Annex 4 — Aeronautical Charts. Detailed specifications for the production of all types of maps and charts required in international and domestic flying.

Annex 5 — Dimensional Units to be used in Air/Ground Communications. Progressive measures to eliminate confusion caused by the

use of both metric and foot-pound-second units.

Annex 6 — Operation of Aircraft. Scheduled International Air Services. Flight plans. Aerodrome MET minima. Oxygen. Safety equipment. Reporting. Aircraft characteristics. Over-water flight. Logs, etc.

Annex 7 — Aircraft Nationality and Registration Marks.

Annex 8 — Airworthiness of Aircraft. Structure, characteristics, and design of aircraft and equipment of all kinds.

Annex 9 — Facilitation of International Air Transport. Aircraft documents. Crew documents. Immigration, quarantine, and customs forms and procedures, etc.

Annex 10 — Aeronautical Communications. V.H.F. R/T transmission. Radio aids to approach and landing. Short distance aids. Specifications for I.L.S., C.G.A., V.O.R., etc.

Annex 11 — Air Traffic Services. Establishment of authority. Objectives. Determination. Allocation of air space. Establishment of units. Specifications for control regions, areas, and zones. Air traffic clearance. Control of persons and vehicles. Flight information service. Communications. Approach control services, etc.

Annex 12 — Search and Rescue. Co-operation and co-ordination between States. Establishment. Equipment. Co-ordination centres. Rescue units. Procedures. Signals. Briefing, etc.

Procedures for Air Navigation Services (PANS)

As indicated by the title, these publications contain Air Navigation Procedures which have been adopted for world-wide use (i.e. A.T.C., S.A.R., I.C.A.O. "Q" Code, NOTAM Code, COM Procedures, etc.) The Procedures are kept up to date and amended from time to time in accordance with recommendations of both regional and divisional meetings.

Supplementary Procedures and Regional Manuals

Supplementary Procedures are those special procedures required to supplement, amend, or modify the world-wide procedures for application in a given region. Originally published separately for each region, they have since been consolidated into one publication covering all ten I.C.A.O. regions. It was intended that they should ultimately constitute a part of a Manual compiled for each region. This has been done in the case of the North Atlantic Manual and (partially) in the case of the European-Mediterranean.

The diversity of sources from which information must be collected, the problems of amendment services, and many other difficulties have all tended to delay this programme.

Miscellaneous Publications

There are many other publications issued by I.C.A.O. that do not enjoy the status of Annexes, but which, nevertheless, are of prime interest, since they are the product of aviation's most highly qualified technicians in the field of international aviation.

These publications are too numerous to mention in detail, but a few examples are quoted below:

- Accident Investigation Manual.
- Training Manual (Air Crew).
- Circular 1 — Airworthiness. The effect of air temperature upon rate of climb of an aeroplane equipped with a constant speed propeller.
- Circular 2 — A Philosophy of Aeroplane Strength Factors.
- Circular 3 — Airport Economics.
- Circular 4 — Crash Fire and Rescue Equipment at Aerodromes.
- Circular 5 — U.S.A. Omni-Range Improvements.
- Circular 6 — Aerodrome Approach Lights.
- Circular 7 — Engineering Factors Affecting Choice of D.M.E. Frequencies.
- Circular 8 — Status of Implementation of Recommendations of First South Pacific Regional Air Navigation Meeting.
- Circular 9 — Collected Airport Tariff Scales (superseded by Manual of Airport and Air Navigation Facility Tariffs).
- Circular 10 — Qualifications of Meteorological Personnel.
- Circular 11 — Measurement of Ambient Air Temperature.
- Circular 12 — Aerodrome Obstruction Charts.
- Circular 13 — Automatic Weather Stations.
- Circular 14 — Facilitation of International Air Transport.

Circular 15 — Airworthiness (AIR). The effects of atmospheric humidity and temperature on the engine power and take-off performance of a Hastings 1.

Circular 17 — The Effect of Turbine-Powered Civil Aircraft on the Design Construction and Equipment of Aerodromes.

CONCLUSION

Although the foregoing makes little mention of such things as I.C.A.O.'s collaboration with other international bodies, Joint Support Agreements, legal and economic studies, etc., it does mention those aspects of I.C.A.O.'s activities that are of significance to military aviation.

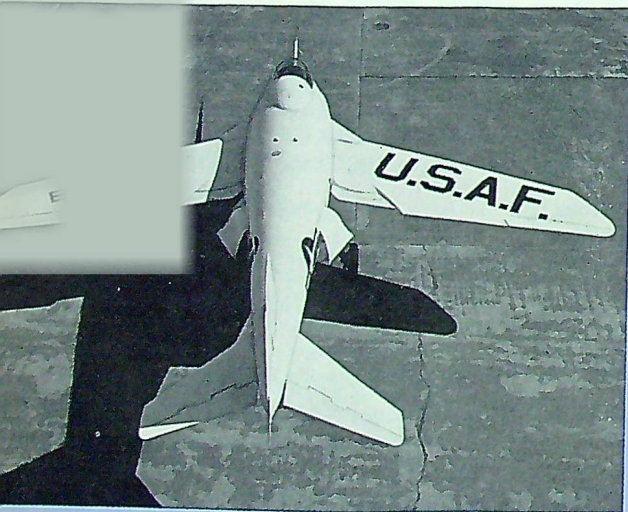
Studies are constantly in progress on such subjects as airworthiness standards, engine performance, high and low intensity airport lighting systems, distance-measuring equipment, long and short range aids to navigation, high altitude meteorology, aerodrome constructions, and problems related to the operation of jet aircraft, helicopters, and runway limitations, etc.

There is no doubt that I.C.A.O. is here to stay and that its influence on aviation, both military and civil, will become increasingly effective in the years to come.

VARIABLE SWEEPBACK

The Bell X-5's degree of wing sweepback can be varied by the pilot during flight. It is the first aircraft to have this feature. For take-off, climb and landing, best performance is with the wings

in a forward position. At higher altitudes, greater speed is possible by increasing the degree of sweepback. At the time of writing tests are proceeding at Muroc, California.



ROYAL CANADIAN AIR FORCE

Association



"CHARTERING" OUR PROGRESS

THE NEWLY-FORMED WING at St. John's, Newfoundland, was hopeful of having its charter presented during the Royal Visit there early in November. By rules and regulations Newfoundland and the U.S.A. had been assigned the 900-block of Association numbers. This was laid down before Newfoundland entered Confederation. As the province now forms part of the Maritime Group, Newfoundland was re-assigned the 150 to 199 series of numbers. The new Wing number thus became 150. To avoid confusion with any other Wings which might be formed in the province, the name was also changed from "Newfoundland" to "North Atlantic".

The National President, Air Vice-Marshal A. L. Morfee, C.B., C.B.E., (ret'd), presented the charter to No. 109 (Bundy) Wing at Dartmouth. During his address, Air Vice-Marshal Morfee said he would like to see a United Nations Strategic Bomber Force ready and poised to meet any aggressor. No nation could long withstand the complete exploitation of air power, he said.

George E. Daine, the Wing's president, accepted the charter. Other charter officers were: first vice-president, Irving Benjamin; second vice-president, G. H. Munro; secretary-treasurer, Donald Sullivan. Mr. Sullivan, having joined the R.C.A.F., has since resigned and been replaced by Harris Naugler (recording secretary-treasurer) and H. A. Stroud (corresponding secretary-treasurer).

No. 308 Wing, St. Hyacinthe, Que., held its Charter night dinner at the Grand Hotel. Air Vice-Marshal C. M. McEwen, C.B., M.C., D.F.C., (ret'd.), was guest of honour, accompanied by Gerald Milson and T. Bruce Baker.

Among the head table guests were Air Vice-Marshal C. M. McEwen; Colonel J. Myers, E.D., Commanding Officer St. Hyacinthe Regiment; Mrs. Myers; Gerald Milson; T. Bruce Baker; G. W. Sicotte, president of the Wing; L. Grenier, chairman of the dinner; G. Trudel, treasurer of the Wing.

To close the evening Colonel Myers invited everyone to a reception held at the Officers' Mess of the St. Hyacinthe Regiment.

The Executive of the Wing is as follows:

President:	Guy W. Sicotte
1st Vice-President:	J. L. Grenier
2nd Vice-President:	R. Laroche
Secretary:	J. G. L'Esperance
Treasurer:	G. Trudel
Additional Members:	N. Palardy
	R. Gauvin
	J. M. Fontaine

From left to right at the head table: J. L. Grenier, T. Bruce Baker, G. W. Sicotte, Air Vice-Marshal C. M. McEwen, Col. J. Myers, G. Milson.



WING NEWS

No. 703 (Central Alberta) staged a very successful golf tournament and get-together, which is planned to be an annual affair. Wings at Edmonton, Lethbridge and Calgary competed with Red Deer, the host club winning the golf cup.

No. 414 (North Star), serving the Cobalt-New Liskeard district, was reorganized. The new executive is as follows:

President:	A. Craig
Treasurer:	A. Wright
Secretary:	W. A. Waldram
Director:	T. C. Swartman

All are residents of New Liskeard. We wish them the best of luck.

No. 412 (Windsor, Ont.) is operating a recruiting information depot two nights a week. No. 703 (Central Alberta), Red Deer, and No. 300 (Granby) also have been operating two nights a week.

R. E. Meyer has been appointed secretary of No. 300 (Granby) to succeed F. Therrien, who has moved to Hamilton.

No. 424 (Cornwall) invited veterans' organizations, including one from the United States, to participate with the Wing in commemoration of Battle of Britain Sunday.

No. 410 (Ottawa and District) Wing executive. Left to right: E. Valley, E. Dagenais, V. Grimes, V. Courtemanche, David A. Hall (president), Miss Dorothy Webster, B. French, W. T. Osborne, J. Cardillo and J. Foy.



Bernie Gillies has been elected president of No. 305 (City of Montreal) Wing. He succeeds Dan Fortune. From a very modest beginning, the Wing has grown to just less than 100 members. The Rosemount Air Cadet Squadron has been enthusiastically supported by the Wing, the financing of which was helped by many social functions throughout the year, each one of which showed some profit. With few exceptions, all committees have non-executive members, which greatly relieves the burden on the executive council. In addition to the president, the officers elected were:

1st Vice-President:	Ken Chester
2nd Vice-President:	Max Stiebel
Secretary:	Nick Mozel
Corresponding Secretary:	Babs Thompson
Treasurer:	Fred Farha
Assistant Treasurer:	Bill Sharpe

No. 252 (Fredericton) Wing has set up a blood donor clinic.

Both No. 300 (Remembrance) Wing at Granby, Que., and No. 406 (North Bay and District) Wing are proceeding with plans to organize Air Cadet Squadrons. No. 428 Wing at Peterborough has started recruiting for its Air Cadet Squadron.

Wings which have recently formed recruiting counsellor committees are No. 250 (Saint John, N.B.) and No. 410 (Ottawa). No. 427 (London Air Force Association) Wing reported that it was co-operating with the London R.C.A.F. Recruiting Unit but so far has not advised members of the recruiting counsellor committee.

C. Y. Swanton, president of the Maritime Group, was one of the first to enquire about arrangements for Battle of Britain Sunday and we are hopeful of having reports from Maritime Provinces Wings about extra special observance of the day in the provinces-by-the-sea.

No. 700 (Edmonton) Wing remained active throughout the summer months (as did a number of others we know about, such as Red Deer). We would be interested in learning from those Wings which attempted business as usual during the summer just how attendance and interest stood up.

We appear to have less information (because of their distance from Headquarters) about British



No. 305 (City of Montreal) Wing's executive. Seated (l. to r.): Bernie Gillies, president; Babs Thompson, corresponding secretary; Max Stiebel, 2nd vice-president. Standing (l. to r.): Ken Chester, 1st vice-president; Nick Mozel, secretary; Bill Sharp, assistant treasurer; Fred Farha, Treasurer.

Columbia and the Prairies. Has anyone ideas to improve the situation?

R. J. Wilen has been elected president of No. 430 (Leeming Air Force Club) Wing, Toronto. Other members of the executive appointed were:

- | | |
|----------------------|---------------|
| Past-President | M. V. Kearns |
| Vice-President: | J. Davidson |
| Secretary: | C. H. Thomas |
| Treasurer: | L. Sproul |
| Membership Chairman: | J. Roberts |
| Advisory: | J. C. Honan |
| | S. M. Shibley |

No. 304 (Beaver) Wing, Montreal, and No. 703 (Red Deer) have both blossomed out with new Wing Bulletins being issued to members regularly. K. T. P. ("Ken") Allan won the competition to name No. 304's bulletin. His suggestion was "Beaver's Bulletin".

Although general meetings were suspended for summer months, the executive and committees of No. 410 (Ottawa and District) Wing were particularly busy. Main item was preparation for the second annual gala reunion at the Coliseum on September 29th, to which all former and serving members of His Majesty's Air Forces and their guests were invited. Headlining the entertainment were beautiful Jinx Falkenburg and her husband, Tex McCrary, movie, radio, and television stars. Combined with the R.C.A.F. Central Band, a professional master of ceremonies, a dance band, refreshments, and other top-flight entertainment, the reunion promised this year to set a standard for subsequent years to emulate.

No. 410 was also preparing to participate in the reception for H.R.H. Princess Elizabeth and the Duke of Edinburgh.

Central Alberta Wing attracted considerable public attention at the Red Deer Exhibition by having on display, on a turn-table, a 12-foot model of a CF-100, built by R.C.A.F. staff at North-West Air Command and loaned to the Wing. Wing members assisted the R.C.A.F. Recruiting Unit, Calgary, during the show.

(And here the Association's scribe would like to point out that he makes no pretension to being a mind reader. If Wings expect to have their activities covered in "The Roundel", they will have to submit prompter — and more comprehensive — reports to National Headquarters.)

A NOTE FOR EX-407 SQUADRON PERSONNEL

A History of No. 407 Squadron overseas has been prepared. A special committee also has crests, pins, cushion tops, etc. Enquiries may be addressed to:

George T. Sutherland,
P. O. Box 52,
Beamsville, Ontario.

WOMEN WITH WINGS

Miss Margaret Carson, a member of No. 410 (Ottawa and District) Wing, was the winner of the third annual All-Women's International Air Race. Her time of 8 hrs. 30 mins. 27 secs. from Orlando, Florida, to Windsor, Ontario, was best on a handicap basis. Miss Carson, who served with the

Miss Margaret Carson (Karsh photo).



R.C.A.F. Women's Division as an administrative officer during the war, learned to fly with the Ottawa Flying Club. Her co-pilot was Betty McCause, also of Ottawa, and she was flying her own aircraft, a Stinson Station Wagon.

NATIONAL PRESIDENT AT A.F.A. CONVENTION

Returning the courtesy visit which Lt. Col. Robert Johnson paid to the Canadian Association Second National Convention in Ottawa, Air Vice-Marshal A. L. Morfee attended the United States Air Force Association's fifth annual reunion at Los Angeles, California, from August 24-26. President Johnson was enthusiastic about co-operation between the two Associations and welcomed the interchange of visits. The National President intended to be present at the many functions of the "Wing-Ding" and it is hoped he will provide a fuller report for next month.

GENERAL BULLETINS

For convenience of reference, numbers and subjects of recent General Bulletins are:

- No. 26: Formation of Publicity Committees.
- No. 27: Attendance of Association Members at the A.F.A. Reunion.
- No. 29: Change in National Headquarters' Postal Zone.
- No. 29: Commemoration of Battle of Britain Sunday.
- No. 30: Resumption of Fall Activities.
- No. 31: Procedure for Obtaining R.C.A.F. Personnel as Speakers.
- No. 32: Formation of Sick and Visiting Committees.
- No. 33: Recruiting at Fall Fairs.

HOW MANY DAYS TILL CHRISTMAS?

We still have a goodly supply of R.C.A.F. Association Christmas Cards. If you are the type of person who dashes to the corner drug store at the last minute for an assorted box of Yuletide atrocities, this should be the answer to your problem. Wings should now lay in a supply to sell to members. Members-at-large may purchase cards directly from National Headquarters for \$1.25 per dozen, including envelopes, or for .65c. for six. As a slight profit accrues to Wings, Wing members should purchase from Wing secretaries.



Ottawa officials, visiting North Bay to discuss establishment of an Air Cadet Squadron, pose for photograph with No. 406 Wing members. L. to r.: F. Snider and R. Joy (No. 406), L. H. Jenkins (R.C.A.F.A. Hqs.), G. M. Ross (Gen. Mgr. Air Cadet League), J. Douglas (No. 406 President), Wing Cdr. R. Cox, D.F.C. (Air Cadet Liaison Officer), Flt. Lt. W. Christmas (O/C Recruiting Unit).

THE TIE THAT BINDS

"I've heard about the tie that binds but I can't find anything to bind about in that tie," said Browndoff when we showed him one of the R.C.A.F. tartan ties.

While we have no intention of entering the general supply business, we do have a small stock of the ties on hand. Operators of canteens asked if we would stock them in preference to their doing so, as sales were confined almost exclusively to Association members.

We charge \$1.10, the cost to us. We must warn, however, that if there is any rush of orders, it may take us a while to fill them, as we will have to re-order ourselves.

"SERVING" MEMBERS ON THE INCREASE

The number of our "Serving" members is gradually increasing. Probably far more members of the Regular Force would join if a concerted effort was made to bring them in. Many now serving in the R.C.A.F. do not realize that they are eligible for Association membership. It would appear that some Wings are not aware of it as well.

Members of the Regular Force are entitled to all rights and privileges except that they cannot vote or serve on committees. The reason for this exception is obvious: we do not wish either governments or the general public ever to be able to say that the Association is only being used by the R.C.A.F. "to polish its own apples." One of

their membership privileges is a free subscription to this magazine, which should be sufficient inducement in itself.

Among those who have recently joined are officers on the administrative staff for the Ground Observer Corps. We had five new applications from them in one day.

This is a subject on which we will have more to say anon.

WHERE ARE YOU?

Below is a partial list of members for whom our records appear to be incomplete.

If your name is included, please sit down immediately and let us know your proper postal address. **WE WANT TO GET IN TOUCH WITH YOU.** If you recognize a name and know where the person may be located, we would appreciate your informing us, instead of trusting to the member to do so himself. (After all, if his name is on the list, it is unlikely that this copy of "The Roundel" will reach him.)

The address given in each case is the last one of which we have knowledge.

ANDREWS, Edward Chris 2219 Osler St., Regina, Sask.
 ARSENEAULT, Francois Emile 14 Harding St., Saint John, N.B.
 ASHLEY, D. G. 1265-3rd Ave. South, Lethbridge, Alta.
 AUNGER, (Miss) E. G. 10157-115 St., Edmonton, Alta.

BABILO, V. 2252 Mercer St., Windsor, Ont.
 BABINEAU, James J. 564 Walnut St., Fairville, N.B.
 BAGGALEY, Thomas 2957 Cameron St., Regina, Sask.
 BARRY, F. E. 56 Casot Ave., Quebec City, Que.
 BEARS, Laurie Clare 1159 Edgar St., Regina, Sask.
 BELL, C. R. 26 Blong Ave., Toronto, Ont.
 BESSETTE, Ernest M. c/o N. B. Publishing Co., Edmonton, Alta.

BIGGS, Theodore Henry 403 Holland Ave., Regina, Sask.
 BOUVET, F. J. 205 Vitre St. West, Montreal, Que.
 BRASSER, J. M. 1068 Marion Ave., Windsor, Ont.
 BRODA, Michael 9522-108a Ave., Edmonton, Alta.
 BROWN, G. M. Baldwin Hotel, Saskatoon, Sask.
 BROWN, John Harry 46½ Knappen Ave., Winnipeg, Man.

CALDWELL, Harold Daniel R.R. No. 2, Ameliasburg, Ont.
 CAMPBELL, W. Alan 732 Cameron St., Regina, Sask.
 CARSON, Percy H. 112 Maple St. South, Timmins, Ont.
 CARTY, Clyde Ronald 22 Courtney St., Saint John, N.B.
 CLEMENT, Robert James, Ste. 5, 812 Grosvenor Ave., Winnipeg Man.

COBB, Albert George 61 Dufferin St., Guelph, Ont.
 COOPER, J. E. G. Oshawa, Ont.
 COOPER, Wm. Stephen 278 University Ave., Kingston, Ont.
 COX, James 10944-77th Ave., Edmonton, Alta.
 CRAIGIE, Walter Atkinson 9921-157 St. South, P.O. Box 23, Edmonton, Alta.

CROSSLEY, Harold G. 1 Albetfall Court, Regina, Sask.
 CRUM, Thomas N. H. 2460 Montague St., Regina, Sask.
 CULLINGHAM, John Douglas Bayview Court Apt. 8, Sheppard Ave. E., Lansing, Ont.

CURRIE, Stanley W. 152 Bloor W., Apt. 14, Toronto 5, Ont.
 CURRIE, (Miss) Vera Maple Leaf Hotel, Regina, Sask.
 CYR, Jos. Hilaire Box 760, Edmundston, N.B.

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 DAVIES, Alfred George 59 Burlingame Road, Toronto 14, Ont.
 DENROCHE, D. 778 West 68th Ave., Vancouver, B.C.

DEUTSCHER, Michael S.
 DEXTER, W. A.
 DICKS, K. M.
 DYCK, William Henry

EMBREE, Merle Russell

FALHS, Maxwell H.
 FARRELL, Kenneth Allen
 FAVEK, M. F.
 FILSINGER, Vernon Boyd

FLETCHER, Archie
 FLETCHER, John C.
 FRITH, James Douglas

GAUTHIER, R.
 GEACH, Robert S.
 GEDGE, George
 GILLIS (Miss) Rodriguez T.

GILBERTSON, Waldemar
 GODFREY, Gordon M.
 GOULD, John R. C.
 GOWAN, Wm. E.
 GRIFFIN, Allison Cleveland

HALEY, Edward Leo
 HALL, A. J.
 HALL, Harold Wilfred
 HAMILTON, John Pollock

HANNA, Russell John
 HARBOTTLE, R. G.
 HARDERN, G. R.
 HARDIE, Alexander
 HATCH, Kelvin G.

HATHEWAY, Frederick Russel
 HEAD, John
 HEALEY, Thomas
 HENDRICKS, E. E. (Miss)
 HENDRICKSON, Donald Carl
 HENDERSON, D. N.
 HICKESON, A. C.
 HIGDON, J. Munro
 HILL, Edward Vernon
 HOPE, George P.

HOWLETT, George James

HULL, Norman S. B.
 HURLEY, Stanley R.
 HUTSON, Kenneth

INSLEY, D. Allan

JANES (Miss) N.
 JENSEN, Marten G.
 JOHNSON, Robert Hollis

JOHNSTON, Fred C.
 JOHNSTONE (Miss) B. E.

JUISTER, M. F.

KAYE, (Miss) Gail B.
 KEY, Allen
 KING, Donald Jos.

LAFRANIER, Vincent Geo.
 LATREILLE, Simon
 LEROY, Rene Edward
 LESLIE, H. W.
 LITTLE, Stewart
 LOVIE, James K.

MADDIN, Charles
 MAHER, J. W.
 MAISONVILLE, Robert A.
 MALO, J. S.
 MARC-AURELE, R.

MARTIN (Mrs.) Joyce
 MARTIN, W. J.
 MACCANNELL, Clarence H.
 MACDONALD, L.
 MACLEOD, Roland B.
 MCCALL, I.
 MCDONALD, Raymond H.

MCDUGALL, T. L.

MCKEESOCK, Russell

1337-13th Ave., Regina, Sask.
 7 Dusstan Apts., Edmonton, Alta.
 Ste. 20, Mona Blk., Fort William, Ont.
 348 Fraser St., North Bay, Ont.

40 Queen St., Halifax, N.S.

71 Parkway Ave., Toronto, Ont.
 25 Francis St. N., Kitchener, Ont.
 77 Monck Ave., Norwood, Man.
 14 Glenview Rd., Gen. Del., Kitchener, Ont.
 1850 Windermere Rd., Windsor, Ont.
 138 Walnut St., Winnipeg, Man.
 Box 843, London, Ont.

28 Sixth Ave., Timmins, Ont.
 155 King St. West, Chatham, Ont.
 7 Tamarack St., Timmins, Ont.
 209 Church Ave., Fairville, Saint John, N.B.

1024 Main St. N., Moose Jaw, Sask.
 94 Sixth Ave., Timmins, Ont.
 3162 W. 7th Ave., Vancouver, B.C.
 Grantville Terrace, Port Arthur, Ont.
 75 Pitt St., Saint John, N.B.

147 Elliott Row, Saint John, N.B.
 10168-107 St., Edmonton, Alta.
 477 Second Ave. E., North Bay, Ont.
 Room 405, 301 Vaughan St., Winnipeg, Man.

362 Newton St., Winnipeg, Man.
 403 Worthington E., North Bay, Ont.
 72-2nd Ave., Yorkton, Sask.
 223 Margueretta St., Toronto, Ont.
 103 Avenue Des Braves, Quebec City, Que.

8 Main St., Fairville, N.B.
 113 Brooke Ave., Toronto, Ont.
 Ste. 26, Eugene Apts., Norwood, Man.
 955 Broughton St., Vancouver, B.C.
 1119 McTavish St., Regina, Sask.
 4 Oak St., Ottawa, Ont.
 2451 Queen St. E., Toronto, Ont.
 Gen. Delivery, Calgary, Alta.
 458-3rd Ave., Verdun, Montreal, P.Q.
 1080 Roseland Drive, Calvert's Corners, Via Windsor, Ont.
 5020 Dundas St. W., Islington, Toronto, Ont.

1228 McIntosh St., Regina, Sask.
 395 Greenhead Rd., Randolph, N.B.
 c/o Arthur Lore Furriers, Regina, Sask.

12190-19th Ave. West, Calgary, Alta.

11 Welsford St., Halifax, N.S.
 4404 Union St., Vancouver, B.C.
 104 McGillivray Ave., Nelson Heights P.O., Toronto 12, Ont.
 148 Joicey Blvd., Toronto, Ont.
 Nurses Res. Calgary Gen. Hosp., Calgary, Alta.
 5142 Hutchison St., Montreal, P.Q.

Oriole Gardens, Toronto, Ont.
 Cranbrook, B.C.
 7 Byre St., Sudbury, Ont.

61 Crescent Ave., Timmins, Ont.
 7185 Itherville St., Montreal, Que.
 7409-112 Ave., Edmonton, Alta.
 137 Hollis St., Halifax, N.S.
 250 High St. W., Moose Jaw, Sask.
 638 Randolph St., Windsor, Ont.

990 Bute St., Vancouver, B.C.
 31 Roberts Court, Saint John, N.B.
 2109 Howard Ave., Windsor, Ont.
 589 Rideau St., Ottawa, Ont.
 Lantern Inn Ret., R.R. No. 3, Magog, Que.

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 192 Marlborough Ave., Ottawa, Ont.
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PELLETIER, Edward Alfred
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15 Ravina Cresc., Toronto, Ont.
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RELF, Herbert Frank
RITCHIE, William
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RUNNER, Wm. B.
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SHARP, J.
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SMEDMOR G. K.
SMITH, H. M.
SMITH, N. R.
- SNAPE, G.
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THOMPSON, R.
TRAIL, P. J.
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TRUSCOTT, George N.
TULLIS, Donald G.
TURCOTTE, (Miss) Geraldine M.
- TURNBULL, Walter Stanley
TYCHIE, R.
- UNGER, J.
- VAN DOOZEN, John C.
VAUGHAN, G.
VAUGHAN, (Miss) H.
VERY, Cameron Barrett
- WADDELL, R. C. A.
WALKER, H.
WALKLEY, D.
WALLACE, H. B.
WALTERS, H.
WARREN, William A.
WEDLEY, G.
WEEKS, Wm. R.
WHITWHAM, Wm. Haigh
WIDENOJA, E. T.
WIGANT, C. H.
WILD, J.
- WILLIAMS, (Miss) Jacqueline
WILLIAMS, R.
WILLIAMSON, G. F.
WILSON, Ronald G.
WOOD, Wm. R.
WRIGHT, A.
WRIGHT, C.
- YOUNG, R. E.
- YUILL, E. B.
- 69 Rue Saint Louis, Quebec City, Que.
422-12 St. S., Lethbridge, Alta.
113 S. Harold St., Fort William, Ont.
157 Oxford St., Halifax, N.S.
R.R. No. 4, St. Thomas, Ont.
Catalina Apts., Apt. 7, 9119-99 St., Edmonton, Alta.
214 B. King St., Guelph, Ont.
c/o T. B. Section Gen. Hosp. Edmonton, Alta.
Rockcliffe Park, Ont.
3986 Welwyn St., Vancouver B.C.
1019 Lena Ave., Windsor, Ont.
1255 Princess St., Regina, Sask.
1225 Barclay St., Apt. 18, Vancouver, B.C.
585 Besserer St., Ottawa, Ont.
- 155 Laviolette Apt. 17, St. Jerome, Que.
66 Queen St., Kirkland Lake, Ont.
14 Madison Ave., Toronto 5, Ont.
Ste. 203, 2001 Beach Ave., Vancouver, B.C.
31 Victoria Rd., Halifax, N.S.
479a Prince Arthur W., Montreal, P.Q.
Room 74, Y.M.C.A., Regina, Sask.
Pharmacie Levesque, 219 King St., North Bay, Ont.
218 Prince St., E., Saint John, N.B.
2359 Meighen Rd., Windsor Ont.
c/o Red Deer Motors, Red Deer, Alta.
- R.R. No. 5, Rockwood, Ont.
738-8th St., Medicine Hat, Alta.
21 Lynch St., Halifax, N.S.
58 Bloor St. Apt. 8, Sudbury, Ont.
- 103 Hillhurst Rd., Toronto, Ont.
49 Westmount St., Halifax, N.S.
716-6th St., Lethbridge, Alta.
40 Elizabeth Court, Saint John, N.B.
Box 132, Courtenay, B.C.
395 Cartier Ave., Sudbury, Ont.
2381 E. 40th Ave., Vancouver, B.C.
57 Wright St., Saint John, N.B.
8 Mt. Hope St., Kitchener, Ont.
Box 236, Nipigon, Ont.
472 King St. W., Brockville, Ont.
c/o Lorne Bros. Eastern Ave., Toronto, Ont.
- 9381-109 A. Ave., Edmonton, Alta.
552 Needlams St., Fredericton, N.B.
R.R. No. 1, Vancouver, B.C.
Carleton Hotel, Halifax, N.S.
2 Chipman Place, Saint John, N.B.
2222 Argyle St., Regina, Sask.
2217 Triumph St., Vancouver, B.C.
- 7 Main St., Apt. 11, Box 655, Kirkland Lake, Ont.
RCAF Station, Trenton, Ont.

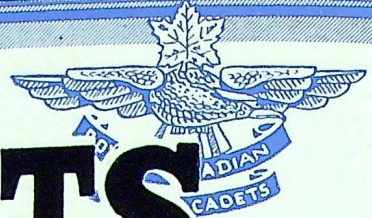
EFFICIENCY

Some time ago a gentleman at the CAA received a directive stating all mail-trays had to be clearly labeled "INCOMING" and "OUT-GOING" and placed in exact positions, presumably so many inches from the back of the desk, so many inches from the sides. The childish nature of the directive and the implied regimentation somehow titillated his fancy, and in a gesture of pixie protest he labelled everything on his desk —

"PEN," "PENCIL," "CALENDAR," etc. Now he finds, in amazement, that people around there think it quite natural that a pencil should be so labeled and an ordinary desk calendar called a calendar. Several of them, in fact, have commented on his efficient desk set-up. As a result, he is really disturbed. He fears that one of these days he may receive a new directive ordering everyone in the office to do the same."

("Aviation Week": U.S.A.)

The ROYAL CANADIAN AIR CADETS



By Arthur Macdonald, Air Cadet League of Canada

HIGHLIGHTS OF THE 1951 Air Cadet exchange programme was a two-day assembly and training forum at R.C.A.F. Station Aylmer, where teen-aged air enthusiasts of seven nations gathered around the conference table. The following report on the conference is published here by courtesy of the St. Thomas "Times Journal".

* * *

"The older fellows haven't made such a good job of getting along, internationally. Maybe the young fellows can do a better job of it if they get acquainted and learn to exchange good will as well as ideas."

"In these words, Major H. McKee, United States Army Air force, attached to the U.S.A. Civil Air Patrol cadets at Charleston, South Carolina, as liaison officer, possibly explained as well as any person could the aims and objects of the international assembly of Air Cadets from seven different countries, which opened at the R.C.A.F. Station Aylmer, Tuesday morning, and is continuing to-day.

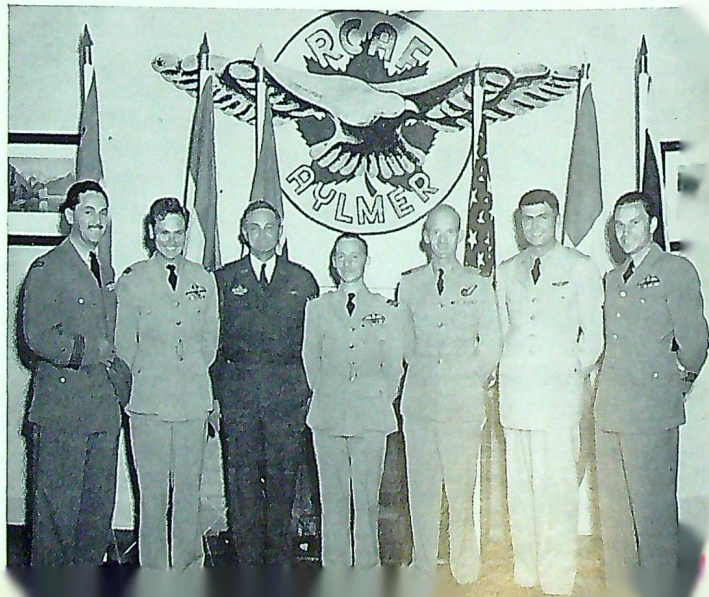
"There are some 25 cadets from as many States in the United States; 25 cadets from the United Kingdom; representatives from Norway, Sweden, Denmark and Holland; and about 50 Royal Canadian Air Cadets from Ontario and Quebec, with accompanying officers and leaders in the Air Cadet League of Canada, attending the assembly. Forum periods were held on Tuesday and Wednesday mornings in the main lounge in the library building, with the afternoons given over to sports.

"Tuesday afternoon, the Americans and young Britons were taught the Royal Canadian Air Force sport called 'Borden Ball', with handball and other sports on the side. Wednesday afternoon, a team composed of Canadian and American cadets met a team of British cadets on the soccer field while another team of American cadets played a team of Canadians at softball.

"Sort of a duplication of the 'playing fields of England,' which laid the foundation for great sailors, soldiers and statesmen, is this very practical approach to international understanding and accord.

"Back behind it all is a definite attempt to bring about a uniform pattern or international

Conducting-officers at Aylmer. Left to right: Wing Cdr. R. M. Cox (R.C.A.F.), Flt. Lt. D. I. Chapman (R.A.F.), Lt. Col. Schultz (U.S.A.F.), Wing Cdr. R. C. F. Lister (R.A.F.), Sqn. Ldr. J. Stock (R.A.F.), Major McKee (U.S.A.F.), Sqn. Ldr. S. C. Tugwell (R.C.A.F.)





Wing Cdr. R. M. Cox, D.F.C., A.F.C., Air Cadet Liaison Officer at A.F.H.Q., welcomes four exchange cadets to Aylmer. Left to right: Karl Petersen (Denmark), Hans van Swyndregt (Holland), Jan Kielland (Norway), Bjorn Hedegarrd (Sweden).

standard of Air Cadet organization and training. Sweden has already adopted a plan very similar to Canada's as the result of an exchange visit by a youth from that country last year. There is said to be a likelihood that Norway and Denmark will follow suit . . .

"The cadets are encouraged to take part in the forum discussion periods and advance ideas freely. Tuesday, representative Canadian, British and American cadets spoke; Wednesday morning, the cadets from the four European countries were heard. Head officials of the Air Cadet League of Canada and R.C.A.F. official representatives are taking notes of the suggestions advanced.

"Thursday, all the cadets of seven different countries will travel to Niagara Falls by Service bus to spend a day of sightseeing and fun; then on Friday, Sarnia will be visited for a tour of industrial plants, a civic reception and dinner, and a dance in the evening.

"The American cadets spent the past week in Algonquin Park and at North Bay. They were impressed by the beauty and the vastness of the North Country, but found the mornings a bit chilly.

"The cadets from the more southerly parts — especially José R. Martinez from San Juan, Puerto Rico; Robt. MacFarlane from Yuma, Arizona; and Orville MacAllister from Albuquerque, New Mexico — weren't particularly enamoured of

the ice they found over water containers in the mess hall, Camp Lake-of-Two-Rivers, Algonquin Park, one morning last week.

"They were more enthusiastic about the wonderful hospitality extended to them in private homes in North Bay and also by the cruise on the French River, arranged by the North Bay Wing, R.C.A.F. Association, following a dinner reception at Lakeview Inn. What made the cruise on the 'Chief Commanda' so enjoyable is that some of North Bay's fairest young ladies also made the trip. Before the cruise was over, most of the girls found themselves dated for the evening . . .

"The Americans call the forums like that being held at Aylmer, 'Brotherhood in the Air.' A year ago, 25 cadets from the United Kingdom, five each from France, Switzerland, Italy and Portugal,

Exchange cadets in Algonquin Park. Left to right: J. C. Kielland (Norway), Chief Opeongo (Algonquin tribe), K. R. Cawdron (U.K.), N. G. Lea (U.K.)



and 26 from Canada, visited the United States as guests of the Civil Air Patrol and the U.S.A.F. This year the plan to create an international brotherhood of air-minded youth was extended to include several more countries. More than 150 youths of other lands, including 25 from Canada who left Aylmer ten days ago for Washington, are participating in the cadet exchange programme, with a like number of American cadets as exchange visitors to the participating countries — hence the group of 25 cadets now at Aylmer.

“Just as the Royal Canadian Air Cadet corps is an integral part of the Royal Canadian Air Force,

so also is the Civil Air Patrol in the United States an auxiliary of the U.S. Air Force, and the Air Training Corps in the United Kingdom is a junior training medium and proving-ground of the Royal Air Force.

“The Civil Air Patrol in the United States now numbers more than 30,000 cadets, between the ages of 15 and 18 years.

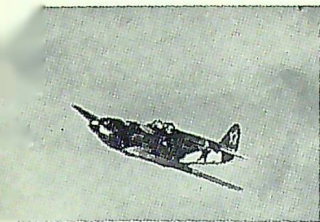
“National headquarters is at Bolling Air Force Base, Washington, D.C. The Civil Air Patrol cadet plan is now being used in high schools of 43 States and the Territories of Alaska and Puerto Rico.”

MARCH OF THE LONE BAPTIST

FROM THE TIME when the unit (The Royal Canadian Regiment) assumed garrison duties in Halifax in 1905, it had been the custom for the Church of England, Presbyterian, and Roman Catholic detachments in rotation, leaving the detachments of the smaller denominations to proceed without musical accompaniment. On the complaint of certain ministers in Halifax against what they considered unfair discrimination, the Honourable the Minister of Militia and Defence ruled that all denominations must be treated alike and that the band must accompany each detachment in turn. In accordance with these orders, Sunday, April 27, was allotted to the Baptist denomination. There were three Baptists serving in the Regiment in Halifax at the time, two of whom were on detached duty, but the orders were explicit. Accordingly, the lone Baptist was paraded, Lieut. H. T. Cock assumed command of the parade, the Regimental Sergeant-Major took his appointed post, two police joined the detachment as usual, the band of approximately 40 pieces struck up an appropriate air, and off the Baptist was marched to his place of worship more than a mile away.—
“The Royal Canadian Regiment,” a history
by R. C. Fetherstonhaugh.
(“Canadian Army Journal”)

AIRCRAFT IN THE NEWS

(The photographs and silhouettes shown below are reproduced from "The Joint Services Recognition Journal" by permission of the Controller of H.M. Stationery Office, U.K.)

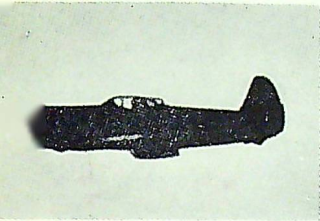
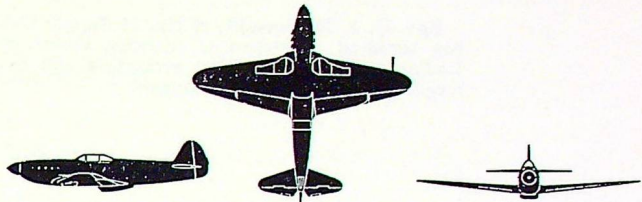


YAK-3 (Fighter)

(One VK. 105 PF engine)

Span 30' 2"

Length 27' 9"

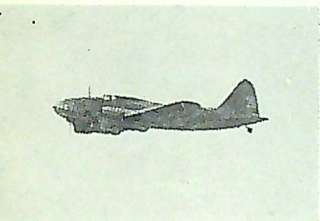
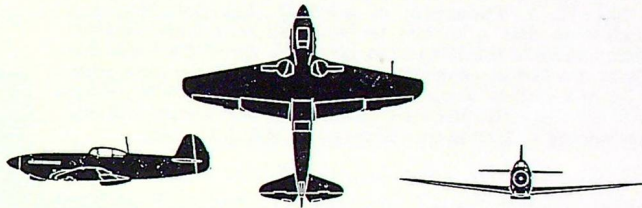


YAK-9 (Fighter)

(One VK. 105 PF engine)

Span 32' 10"

Length 27' 11"

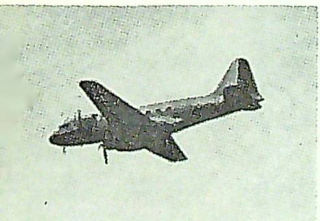
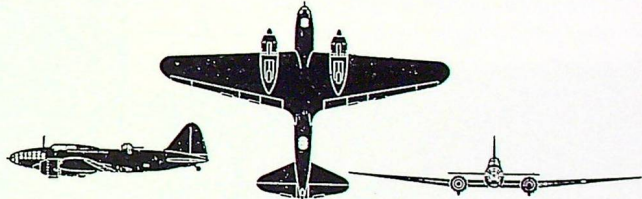


IL-4 (Bomber)

(Two M. 88B engines)

Span 70' 0"

Length 48' 6"

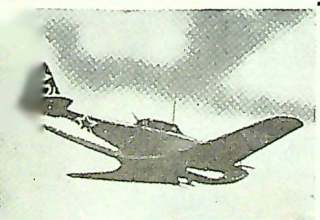
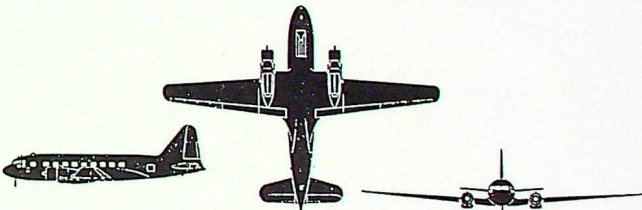


IL-12 (Transport)

(Two ASH. 82 engines)

Span 100' 0"

Length 74' 3"

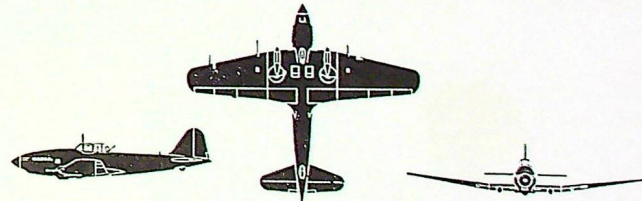


IL-10 (Attack)

(One AM. 42 engine)

Span 45' 6"

Length 50' 0"



From the Suggestion Box

The Chief of the Air Staff has written to those members of the Air Force whose photographs appear on this page, thanking them for suggestions that have been officially adopted by the Service.

Sgt. D. J. McDonald, of No. 11 Supply Depot, Calgary, has initiated a system of marking Government Bills of Lading whereby additional protection will be ensured for fragile equipment during shipment.

Sgt. D. J. McDonald

Sgt. H. A. Diceman, of A.F.H.Q., has put forward a suggestion that a booklet be produced containing coloured illustrations of the King's Colour of the Royal Canadian Air Force, the Colour of the Royal Canadian Air Force, and other flags and ensigns flown by the R.C.A.F. The booklet, which will also give the histories of the flags etc. shown, will be distributed in limited quantities to all R.C.A.F. units.

Sgt. H. A. Diceman



Sgt. W. I. Sheppard, of the Experimental and Proving Establishment, Rockcliffe, has devised a modified mounting for the Magnesyn Compass Inverter used on the Vampire III. Hitherto, at 100-hour inspections, it has been necessary to spend a considerable amount of time in disturbing other installations before it was possible to remove the inverter. With Sgt. Sheppard's mounting, the whole operation can be carried out in less than ten minutes.

Sgt. W. I. Sheppard



A.M.E.S. 894: Part 5

The Story of a Mobile Radar Unit in North Africa

By Marshall S. Killen

FEBRUARY 1943

DURING FEBRUARY, while the Cap Serrat operation was in progress (as described in the last chapter), A.M.E.S. 893 continued to be busy with interceptions, which more often than not were of a preventive nature. Only four enemy aircraft were actually shot down by our night fighters, since — as we learned from prisoners — the Bône Fighter Sector was considered too “hot” by the German pilots to make them very zealous in pressing home their attacks. And, as spring approached, the Bône defences were further augmented by several batteries of rocket guns, as well as by more searchlights and heavy ack-ack. Irrespective of nationality, all aircraft entering the I.A.Z. (Indicated Artillery Zone) were fired upon, so that it became necessary to attach to us an officer and two men of the ack-ack personnel and to establish a special reporting line direct to the Bône gun operations room.

But, although the night attacks were becoming fewer as the campaign progressed, the enemy continued his daylight raids with anything from one to twenty fighters or fighter-bombers. The favourite method of attack was to come in close to the deck at high speed and to beat up the harbour and shipping without any preliminary bombing-run. Despite the fact that the radar chain was plotting these sneak-raiders and giving plenty of warning to the ground defences, the Allied fighters and ground gunners found it extremely difficult to intercept them on account of their high speed, low altitude, and complete disdain of our defences.

We could not help admiring their courage and the brilliance of their attacks.

One morning Flying Officer Hurcombe, the Adjutant, went off in a truck along the narrow coast road to visit the Sector officers' mess. While he was there, a German aircraft dropped a 500-lb. bomb in the middle of the road, so that, on his return journey, Hurcombe found himself confronted by a crater ten yards in diameter. On one side of it there was a sheer drop to the sea, on the other side a cliff; and there was no other road that did not entail going many miles inland. Fortunately, while he was still pondering his problem, another R.A.F. officer came driving up from the opposite direction. The two of them promptly slid down into the crater, climbed up the other side, exchanged trucks, and went happily on their respective ways.

On another occasion I was driving towards the R.A.F. embarkation office on the docks when suddenly a single F.W. 190 came in at terrific speed, barely skimming the surface of the water. The harbour defences could not depress their guns enough to fire at it, but just as the German zoomed up half-way across the harbour, a dirty little trawler let go with its one and only Oerlikon gun. The range was very close, and the first burst must have hit the aircraft dead on, for suddenly it reared up on its tail for a moment, then dived straight down. It bounced off the dock and disappeared beneath the water less than twenty yards from the embarkation office. All that was left to tell of the scant minute's action was half a

The Roundel

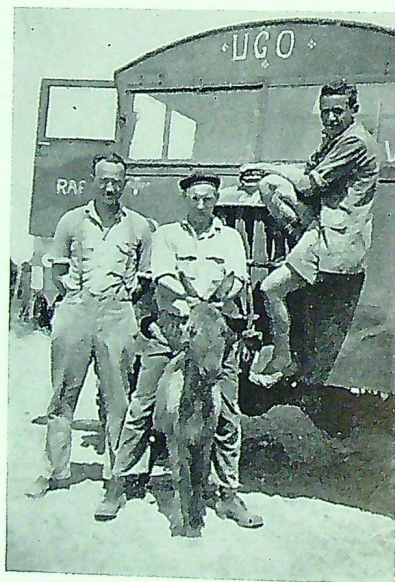
propeller on the dock, an oil slick on the water, and the overpowering smell of dope and synthetic gasoline that always characterized the crash of a German aircraft. As I drove up to the door of the office, an R.A.F. corporal came dashing out to grab the piece of propeller as a souvenir.

All radar stations were supposed to close down for two hours each day in order to carry out maintenance work. By monitoring the beams of the North African and Malta stations, the enemy soon got to know at what time the shut-downs occurred, so that he was able to pick up the odd gap and sneak in quickly without fear of detection. To combat such raids, a scheme was worked out whereby no two adjacent stations would ever be off the air at the same time and whereby no station would take the same hours off on consecutive days. The Germans replied to this by starting various types of jamming which, although they never caused much trouble in North Africa, worried the Malta stations a great deal, as the latter were located very much nearer to enemy-held territory than we were. Eventually the Malta stations did manage to beat the jamming, to a large degree anyway, by devising several highly ingenious anti-jamming gadgets. A little later still, both sides began to use "Window"—the code name for the metallized paper that was dropped in large quantities by the leading aircraft in a formation, effectively swamping the screens of all radar stations in the area with false responses. It was the hardest type of jamming to counter, but even to this an answer was eventually found by the Allies.

Those first months of 1943 saw an improvement not only in the war situation but also in the unit's social life. A number of us had become friendly with local French families and were frequently invited to their homes for meals. Furthermore, the 6th General Hospital, recently located at Zerizer about two miles away, received a consignment of sixty nursing-sisters, and shortly afterwards an American hospital opened up within a mile of us—also with a generous complement of nurses. In no time at all every R.A.F. and Army unit in the district had begun to organize whist drives. We ourselves held one each week. About eighteen

girls were allowed to visit us at one time, and it was comical to see the frenzied sprucing-up, both of men and marquee, that took place during the afternoon before a whist drive night. The cooks drove themselves almost insane trying to manufacture dainties out of materials that in no way lent themselves to such purposes. The only fly in the ointment was the solicitude for her girls' welfare exhibited by the matron of the 5th General Hospital. She insisted that an officer collect them and then return them to camp not later than 10.30 p.m. One evening she even came along herself to make sure that the whist drives were conducted on a seemly basis.

On February 25th, Squadron Leader Justice, the padre, had to visit several front-line units, and since I had to go up to Souk-el-Arba on the same day, we decided to travel together in the Humber car. Twice along the road to Beja (one of the front-line towns which were by now completely in ruins) enemy fighters came over, but we were not interfered with although the vehicles in front of us were blitzed. As we approached the town, a



Cpl. Stephenson, LAC Connor (on donkey), and Flt. Sgt. Valeriote in front of the Receiver Tender.

The Roundel

German F.W. 190 and an American P.38 (Lightning) were having a scrap overhead. The P. 38 was shot down and crashed in a nearby ploughed field. We drove over to where it had crashed, but all that was visible was the tip of a wing and one of the twin tail-fins. The entire aircraft had buried itself in the soft earth and was burning away below the surface. Smoke was pouring out of the ground, and we could hear the muffled sound of exploding ammunition. We learned later that the pilot, though wounded, had baled out successfully. When, eventually, we arrived at Beja, the army officer at the control post told us that ours was the first vehicle to get through safely all morning.

At Oued Zarga, a small village where contact between the British and German armies had first been made in November 1942, we visited a small radar unit which was doing great work just a few miles behind the lines. It was a light mobile unit and had a crew of fourteen. The radar mechanic was a Canadian corporal whose instructor I had been at No. 1 Radio School, Cramwell.

My second reunion, however, was not so agreeable. In a small wood close by were half a dozen graves, of which the first I saw was that of a young Guards officer who had sat beside me at table on the "Leopoldville". He had been killed on November 25th, during the first engagement, only a few days after saying good-bye to us at Algiers. Tamarisks overhung the graves, and the whole scene looked so peaceful in the afternoon sun that it was hard to realize that all the ugliness of war was so close at hand. Twelve hours after we left the above radar unit, the entire area was overrun by the Germans.

From Oued Zarga we went on to Medjes-el-Bab, where the padre had to visit a forward R.A.F. radio unit. A Guard battalion was holding the line at this point and it was necessary for us to crawl between the wrecked buildings on our bellies to

get from one post to another, as the Germans were on the hills less than a mile away. After two hours in Medjes, I was quite satisfied that life in the R.A.F. was a more agreeable affair than it was in the army.

We travelled for nearly ten miles parallel to the German lines before we reached our next stop, Souk-el-Khemis. Shortly after leaving Medjes, we passed a Spitfire in a field just off the road. It appeared to be undamaged, so I got out of the car and started off to investigate. Before I had covered half the distance, a couple of shells came over and landed sufficiently close to induce me to retrace my steps with such dignity as I could muster. As we learned later, the German artillery made a habit of only firing at vehicles when they had stopped.

Just outside Souk-el-Khemis, we were held up while two squadrons of Algerian cavalry moved across the road — a strange and rather picturesque sight that seemed curiously out of keeping with the war as we had known it.

A few miles further on, after leaving "Charing Cross" (where about nine roads converged), we began to climb up over the mountain range which separates Tunisia from Algiers. The road wound in and out of lovely valleys until at last it arrived at the summit, more than three thousand feet above the sea which could be seen shining in the bright moonlight more than twenty miles to the north. We stopped in Ain Draham, a small village tucked away among the hills. In peacetime it had been a winter resort for tourists, so that, unlike most Tunisian villages, it was clean and well laid out — and, despite the general scarcity of food elsewhere, it was still possible to get a good meal in its chief hotel.

From Ain Draham we returned, along a road packed with army convoys on their way to the front, to Morris and home.

(To be continued)



THE PARACHUTE

By Flight Lieutenant Edward J. Hudson

(This article was written while the author was attending the U.S. Armed Forces Information School at Carlisle Barracks, Pennsylvania, and has also been published in the U.S. "Army Information Digest." Flt. Lt. Hudson joined the R.C.A.F. in 1940. He served as a Navigator "B" with No. 178 Bomber Squadron, R.A.F., until September 1943, when he became Chief Bombing Instructor at No. 1657 Heavy Conversion Unit, Lydda, Palestine. Discharged in July 1945, he re-enlisted in 1948. After two years with No. 435 Transport Squadron, he was transferred to A.F.H.Q. as a Public Relations Officer.—EDITOR.)

HISTORY

THE BREEZE WISPS the seed away on its parachute of down; the seed drifts to earth and another dandelion beachhead is established. From Icarus of mythological days to the Wright brothers of the machine age, men have been fascinated by

Paratroopers of Canada's airborne brigade.



the flight of birds, the effortless soaring of gulls and vultures, the mechanics of seed dispersal, and other miracles of nature. Attempts to emulate them have led to innumerable fiascos, but at the same time these efforts have brought to light principles of enduring scientific value.

Man's search for something to amuse himself and others led him to develop a type of parachute in the early fourteenth century. It was not the type with which we are familiar to-day, nor did he have an easy way to get it into the air. He lugged his parachute up the stairs of Chinese pagodas, then jumped, performing acrobatics on the way down to induce his fellow countrymen to loosen their purse strings. This spectacular feat was introduced to Europe, where it was demonstrated as a method of escaping from burning buildings.

In the course of demonstrating their lighter-than-air theories, the eighteenth-century Montgolfier brothers hung a thoroughly frightened sheep from a parachute and let it drift to earth from the top of a Paris tower. Another Frenchman used a parachute 14 feet in diameter to reach the ground from a tall building.

Interest in this type of spectacle waned, however, as people turned their attention to the balloons that had begun to drift over the towns and cities. Jacques Garnerin achieved fame by jumping from balloons, and even the King of England invited him to put on a display. Garnerin ascended 8000 feet with his parachute attached to the basket of the balloon, then cut the ties and started down. The amazed, then anxious, crowd

ENGAGEMENT EXTRAORDINARY!

SEE....
THE
BRAVEST
OF THE BRAVE



LAPHAM

PLUNGE INTO SPACE FROM

HARRY BINGHAM BROWN'S

AEROPLANE

Speeding at a Mile a Minute, Three Thousand Feet in the Air and Descend Safely to Earth with a

"STEVENS' SAFETY PACK"

The STAR FEATURE of the Aeronautical Society.



FLYING

CARNIVAL

OAKWOOD HEIGHTS, STATEN ISLAND

MAY 30-31, JUNE 1,

... 1913 ...

NOTHING LIKE IT SEEN BEFORE!

1913 poster. (Courtesy of "The Aeroplane.")

saw him swinging violently from side to side with ever increasing rapidity. He was badly shaken when he hit the ground, and the oscillation of his

descent was the subject of heated debates as to its cause and remedy. The armchair experts of the eighteenth century had a field day until a French scientist suggested making a vent at the top centre of the canopy to allow the escaping air to go straight through instead of escaping around the skirt.

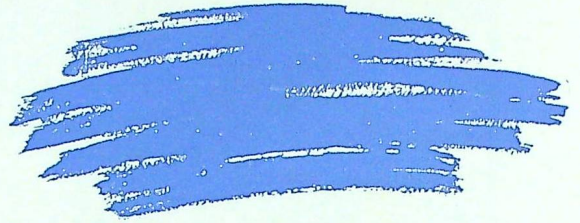
Soon descents from balloons became so common that the parachutists had to revert to the original Chinese stunt of doing acrobatics on the way down. In the nineteenth century, circuses throughout the United States had their displays of daring parachutists, both men and women.

New thought was given to the parachute when the Wright brothers successfully flew their aeroplane. A collapsible type of parachute had been invented by Captain Thomas Baldwin, but arguments arose as to whether man could stand the effects of bailing out at such "terrific speeds." This was answered in 1911 when Grant Morton jumped from an aeroplane over Venice Beach, California. Headlines told how he carried the canopy of his 'chute under his arm and threw it out after he left the 'plane. There was no parachute pack in those days.

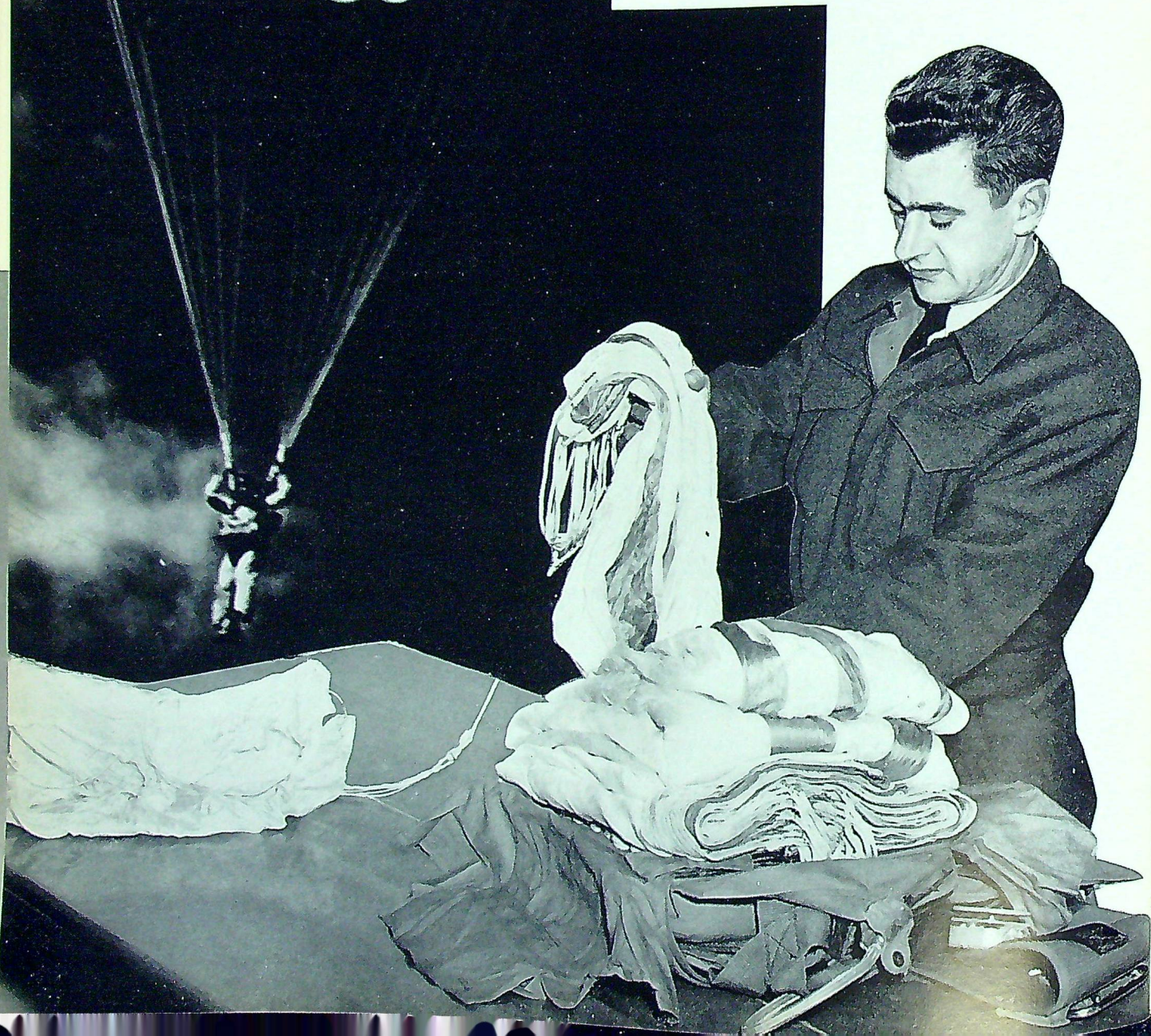
It took a full-scale war to add impetus to the development of the parachute. In the First World War, some 800 balloonists were saved by taking to their silk canopies. Aviators, however, did not take kindly to parachutes. To some the idea of wearing a parachute was evidence of a lack of faith in one's aeroplane. Thousands of aviators lost their lives in leaps from burning or disabled 'planes, until concern over these losses prompted the British to introduce the "Guardian Angel" 'chute for its airmen in 1917. This 'chute was designed to be opened by a static cord attached to the aircraft, but it had its defects. Sometimes the static line either pulled the 'chute open too soon, letting it foul in the tail of the 'plane, or the line broke and failed to open the 'chute. The Germans experimented with a similar type which had the added feature of a pilot 'chute designed to be opened by a static line. The Americans were experimenting with their own types of 'chutes when the First World War ended.



Derry slots.



Parachute-packing. Pilot 'chute is at left.



The war over, the 'planes rotted and rusted and the aircrews went home. Fortunately, research in the problems of parachute design continued in developments and experiments at McCook Field, Dayton, Ohio. At last, in 1919, a self-released 'chute was ready for test. Leslie Irwin was the first man to pull a rip-cord on the way down. This rip-cord system of parachute release is the one generally in use to-day. In the Battle of Britain alone, eighty-five per cent of the fighter pilots who were shot down saved their lives by this type of parachute.

CONSTRUCTION AND TYPES

The modern-type parachute consists of four main parts — the canopy, the suspension lines, the harness, and the pack. In addition, there is a combined trigger and opening mechanism (or pilot 'chute) in all parachutes that are opened by a rip cord.

The main part of a parachute is the canopy, which in a standard parachute of 24-ft. diameter is constructed of 24 triangular panels of silk or nylon. Each of these panels is constructed of four smaller panels with cloth cut on the bias, so that the threads make an angle of 45 degrees with the centre line of the panel. Thus, any run starting in the panel could continue for a maximum of slightly more than four feet before being brought to a halt by reaching a double-stitched seam. Cutting on the bias also increases the elastic properties of the assembled cloth, enabling the canopy to withstand the terrific shock of opening.

The diagonal double-stitched seams joining the four sections of each panel are overlapped in such a manner as to give four layers of cloth with the raw edges hidden inside the fold. At the point where the main panels are sewn together there is a stitched channel five-sixteenths of an inch wide, through which runs the suspension line (often referred to as the shroud line). Points where the shock of opening exerts its greatest strain are reinforced — at the base of the canopy, at the vent in the centre of the canopy, and at points where the suspension lines cross over. Zig-zag stitching is used to permit a certain amount of stretching without breaking. The canopy is further



P.P.C.L.I. paratrooper ready to jump.

reinforced with strong flat nylon tape around the vent and the skirt.

To attach the canopy to the harness, the suspension lines are divided into groups which are tied to two D-rings. The rings in turn are attached to the free ends of the harness webbing (called "risers"). The harness itself is strongly made of cotton or nylon webbing. All cut ends are parafined, then turned under and stitched to prevent any possibility of fraying. In effect, the harness forms a swing in which the wearer sits during his descent.

A few seconds after bailing out from a 'plane, the parachutist pulls the rip cord. The actual opening of the main canopy is accomplished by a pilot 'chute which is attached to the suspension line at the centre of the canopy by a strong cord. This little 'chute, only 36 inches in diameter, is opened by four steel ribs which are forced open by a compression spring the minute the rip cord pulls the safety pin out of the pack.



Airing parachutes at Para-Rescue School, Jasper.

freedom of movement but is immediately available when, as sometimes happens, the pusher loses his balance and goes overboard with the cargo.

Commercial airlines are introducing still another type of pack—one that fits into the airline chair. It looks neat, is comfortable to sit on, and is right there if needed.

TACTICAL USES

The concept of mass employment of parachutists in surprise assaults was advocated as early as 1918, when General Mitchell proposed this technique as a means of "climbing over the Western Front." However, he was not able to test the idea until 1919, when he arranged to have a lieutenant and six men drop from a 'plane over Kelly Field, Texas. The men assembled quickly and set up their machine-gun ready for action.

The main 'chute worn by paratroopers is opened by a static line which is fastened by a snap to a steel cable in the 'plane. The auxiliary 'chute worn by paratroopers, however, has the pilot 'chute mechanism.

There are various types of packs adapted to the type of work in which the wearer is engaged. The seat type is generally worn by fighter pilots who have neither room nor time to put on any other type of 'chute before they "hit the silk." The chest pack is worn by navigators and others who have to move about considerably while working in the aircraft. Their harness is worn continuously while in flight and the pack can be attached by two snaps almost instantly in an emergency.

There are also two types of back packs: the standard type worn by paratroops, the other flexible. The latter is generally worn by those who push cargo out of 'planes. It allows considerable

Para-rescue jumper training at Jasper.



Russian officers employed this technique in the manoeuvres of 1930 with nine men jumping to capture the headquarters of the army corps. Specialized small units were trained to drop behind the enemy lines to attack and secure aerodromes and bridges. Foreign military observers at the 1936 Soviet manoeuvres beheld whole battalions of Red troops dropping from the sky. This was just one phase of the large-scale training carried on in Russia.

To the Russian civilians this was mere routine, for they too practiced parachute jumping. A civilian organization called "Osoviakhim" was set up throughout the Soviet Union to advance the sport of jumping from the more than 500 towers that were built for the purpose. By 1939, estimates of the total trained parachutists ran to two million — a potential force whose military value was not overlooked by the Germans and Italians, who watched closely.

The Italians supplied some of their troops in Ethiopia by parachute. In the Spanish Civil War, German paratroopers fought against Russian-trained paratroopers. Twenty-one of the fifty German paratroopers who survived returned to Germany to set up a parachute academy.

Anticipating the need for paratroopers, the United States set up an official paratroop training centre at Fort Benning, Georgia, in 1940. Familiarization jumps were carried out from a 250-foot tower. Here, too, Canadians were trained before returning to Canada to set up their own paratroop training programme.

The parachute served to introduce a third dimension to military tactics in the Second World War. The large-scale Normandy invasion was preceded by mass parachute drops by the British 6th and United States 82nd and 101st Airborne Divisions. Later the First Allied Airborne Army, consisting of the British 1st and United States 82nd and 101st Airborne Divisions, struck at Eindhoven and Arnhem in Europe; while, in the Pacific, paratroop landings played a key rôle in the liberation of the Philippines and other islands.

Both sides used the parachute to drop agents behind the enemy lines and to supply the guerrilla forces. Planes from secret aerodromes in the

Middle East droned through the mountain passes of Yugoslavia seeking the signal lights on which they dropped agents and supplies. Not all trips were as silent and as unpublicized as these. A familiar phrase recurring in communiques throughout the war was "parachute mines were laid in enemy waters." Parachutes slowed the descent of "block-busting" bombs to permit the carrier 'planes to escape the area of concussion.

MODERN DEVELOPMENTS

With the advent of modern jets travelling at near sonic speeds, in the postwar era, special devices have been invented to protect the airman from the initial shock as his parachute opens in the slipstream. To overcome this problem, modern jets are equipped with a capsule compartment for the pilot which is fired from the 'plane by a gunpowder charge when he presses the right button. Once the capsule is clear of the 'plane, a drogue 'chute opens which slows the capsule down and also pulls the main 'chute out. The pilot floats to earth in his own private compartment.

Research shows that an airman leaving a jet at 600 miles an hour will slow down to a mere 120 to 135 m.p.h. in about six seconds. To overcome the lack of oxygen and extreme cold at rarefied levels, it is desirable that the opening of his 'chute be delayed until he has fallen to a reasonably safe altitude of about a mile above the earth.

In a recent test near Holloman Air Base, Alamogordo, New Mexico, Captain Richard V. Wheeler jumped from the height of more than eight miles to test a device that automatically opens the 'chute upon reaching an altitude where there is sufficient oxygen to live. This automatic parachute opening device, developed in the U.S.A.F. Equipment Laboratory, Air Materiel Command, operates on an aneroid cell which actuates the 'chute-opening mechanism when the airman has reached a certain pressure level of altitude. All the flier does is pull the safety handle before he leaves the 'plane. If the bail-out is made at high speed and low altitude, the automatic release provides a five-second delay which allows the pilot to clear the aircraft and slow down to a safe speed before the parachute opens.

Several types of experimental parachutes have been developed to answer the need for a 'chute that can be opened quickly without causing serious shock to the wearer even at speeds of several hundred miles per hour. During the Second World War the Germans experimented with a ribbon-type 'chute, but this had the disadvantage of not slowing the man enough before the ground stopped him permanently. This type of parachute has been found useful, however, in slowing the landing speeds of fast aircraft and in preventing aircraft spins.

The ribbon-type parachute has a canopy consisting of circular strips of cloth, and this accounts for its low opening shock. Another type of 'chute is made of undrawn nylon whose elastic properties allow it to stretch with the shock of opening. Still another has a centre canopy fastened to the main one by elastic bands, so contrived that the shock of opening allows air to escape between the canopies. This latter type has its limitations because rubber becomes brittle at low temperatures.

The capacity of the parachute for service in peace or war is apparently limited only by man's ingenuity and skill in providing the aircraft to dispatch the loads. During Operation Swarmer, in North Carolina in the spring of 1950, quarter-ton trucks and 105 mm. howitzers were pulled from C-119's by drogue 'chutes, then lowered safely to the ground by clusters of parachutes.

For this one operation, it was necessary to pack 10,560 main parachutes, 8980 reserve parachutes, and over 5000 cargo parachutes. Although not all these were used, the tactical situation required that they be ready for support purposes if needed. Among the special-purpose cargo 'chutes used were 100-foot, 64-foot and 48-foot canopy parachutes.

MAINTENANCE

Personnel of parachute maintenance companies serving with airborne divisions have an exacting task in keeping the aerial lifelines in top condition. Each parachute is inspected thoroughly and repacked every thirty days in the Canadian forces,

every sixty days in the United States. The technicians who do this work are highly trained and experienced. As part of the inspection process, each parachute is hung in a "well" of sufficient height to permit the canopy and suspension lines to hang freely for airing. Airing takes at least 48 hours. The parachute is then laid out at full length on a long narrow table to provide easy access for the workers on either side. Here all the stitching and fabric is examined for discolouration, fraying, or tears. Tears up to one-quarter inch in diameter may be darned; but 'chutes requiring more extensive repairs, or replacement of damaged suspension lines, must be returned to the manufacturer. When the parachute has been thoroughly inspected, it is folded and packed.

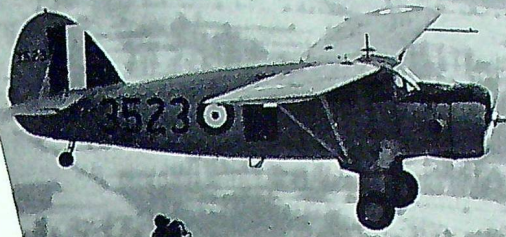
The packing is done according to standard procedure. After each panel is examined it is folded neatly, then held flat by a bag of lead pellets. The suspension lines are packed first into loops in the back of the pack, followed by the canopy and the pilot 'chute. As the packing is completed a thread is slipped through the lead seal pellet at the end of the rip-cord as a visual indication that the parachute has been checked and packed.

Parachutes in storage are normally checked and repacked every 60 days. Regular packing keeps life in the fabric, so that, with proper care, a parachute can be used for a period of eight years before it is retired to cargo-carrying service.

CONCLUSION

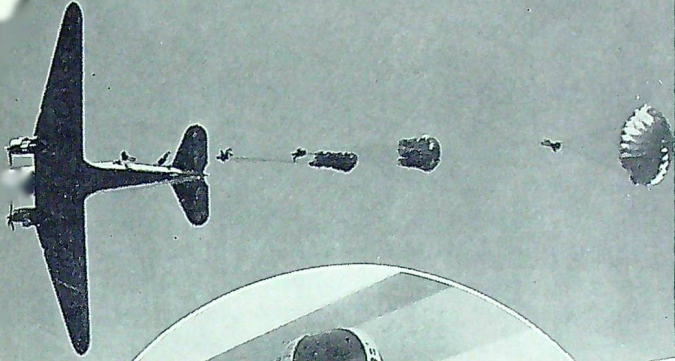
In the Arctic the parachute may find its kingdom, for the transportation problem there is still unsolved. Several successful experiments have been carried out in the northland, using the parachute as the chief means of supply. The Russians have used the parachute for years in dropping supplies to their northern outposts. The Wood-Yukon expedition of 1941 relied on parachuted supplies; and Exercise Musk-Ox, in 1946, further tested the effectiveness of supply-dropping on the tundra.

Increasingly, the parachute is becoming known as an instrument of emergency rescue and disaster



Norseman delivering para-rescue jumper.

Demonstration on East Coast.



Member of para-rescue team ready for action.

relief. The news of recent years abound in accounts of the dropping of plasma by parachute for the injured and of antitoxin to combat epidemics in isolated villages. Physicians and rescue teams have dropped into the wilds to administer first aid and lead the lost to safety. Members of these air rescue teams are specially trained in first aid and bush work. They frequently reach the scene long before the ground party and bring the injured to a rendezvous with it.

The "smoke-jumpers" who leap to the scene of remote fires, are a unique breed of parachutists whose mission is the preservation of timber reserves. Their experiments began in 1939 in the Chelan Forest in the State of Washington — site of some of the roughest terrain in the Pacific North-west. As an aid in this work, a steerable type parachute was developed by Buster Derry, one of the first smoke-jumpers. This 'chute has openings in opposite panels which allow the air to slip through. By closing one of the apertures, the jumper can gain a forward or backward speed of five miles an hour. The smoke-jumpers can thus steer themselves to the scene of remote fires long before the ground parties and proceed with the task of putting out the fire.

* * *

Thus, the canopy of silk which was originally an amusing Oriental innovation and a novelty at the country fair, it to-day an important factor in strategy, logistics, sociology, and economics. It has brought food to the hungry, rescue to the lost and injured, health to the sick; and to-day in Korea it is bearing men and supplies earthward to stem the tide of Red aggression.

It is the vital connecting link between the airborne and the earthbound.

“...and the Greatest of These is Faith”

By A. M. Feast (R.C.A.F.A.)

(The author of this little article flew to Malta in 1942 and operated from there and the Middle East. Taken prisoner in March 1943, Flt. Lt. Feast spent six months in an Italian P.O.W. camp until, together with his fellow-prisoners, he was freighted in the direction of Germany after the Italian surrender. When the train was attacked by U.S. Fortresses near the Brenner Pass, he and two British Army officers escaped amid the confusion and decided to see Switzerland. Near the outskirts of Bolzano, the two Englishmen were shot as they were pedalling frantically down the road on stolen bicycles. Flt. Lt. Feast managed to make his way to a luxurious villa which, unfortunately, proved to be the local Gestapo Headquarters. He therefore saw Germany — through the wire of Stalag Luft III.— EDITOR).

WHEN ITALY DECLARED WAR on 11 June 1940, Malta had, according to all the best Intelligence (Italy's included), no aircraft defence.

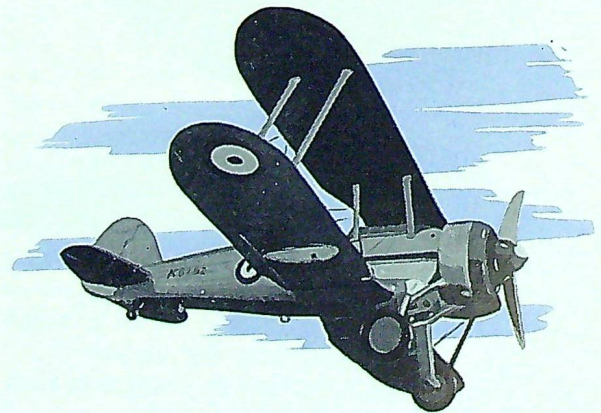
Located a scant sixty miles from the enemy-held south-eastern coast of Sicily, the tiny Island felt the first air attack within seven hours of Italy's entry into the war. Approaching high in faultless formation, the Savoia Marchettis set the first sirens wailing over Malta and its diminutive satellite Gozo while curious islanders stood about gazing up at the oncoming aircraft. But even before the 'planes had crossed the rocky coastline, anti-aircraft bursts were spotting the sky . . . and four Gladiators dived into battle from 15,000 feet.

Taken completely by surprise, the Savoias dropped their loads haphazardly around Valetta and its Grand Harbour, Sliema and the improvised aerodrome at Halfar. The first Maltese casualties were six artillerymen killed by a bomb at Fort St. Elmo, while one Macchi 200 fighter was sent spinning into the sea.

In the days that followed, all Malta watched the dauntless exploits of the four Gladiator biplane fighters, and although their numbers were shortly reduced to three, these lived to rejoice in the name of "Faith," "Hope," and "Charity,"

and to play their amazing part in the indelible chapter that Malta was to write in the annals of the Second World War.

Their story really starts two months before the air-raid just described. The Island at that time was devoid of any air defence whatsoever, a matter of grave concern to the then Air Officer Commanding, Air Commodore F. H. M. Maynard. All available Hurricanes and Spitfires were desperately needed in the U.K. or France, and a





*Admiral of the Fleet Sir Andrew Cunningham, K.T.,
G.C.B., O.M., D.S.O.*

quiet backwater such as Malta naturally stood far down on the aircraft priority list.

Left virtually to his own resources, Maynard provided a temporary solution to the problem. Scouring the Island, he found that four naval deck-fighters were in packing-cases at Naval Stores, Kalafrana. Several weeks earlier the aircraft carrier "Glorious" had left Malta hurriedly without taking aboard the four Gladiator fighters assigned to her. Maynard's signal to the Mediterranean C-in-C., Admiral Sir Andrew Cunningham, asking permission to use the 'planes for local fighter defence, brought an affirmative reply. The machines were speedily uncrated, assembled, and armed.

Problem number two then reared itself. What about fighter pilots? There weren't any. The Personal Assistant to the A.O.C., Flt. Lt. George Burges, was the first to volunteer. Other volunteers were found among the pilots at Kalafrana seaplane base — all of them flying-boat personnel with negligible single-engine experience.

Led by Burges, the flight operated out of Halfar aerodrome, a small landing-field near the southern tip of the Island adjacent to the Kalafrana naval base. Strenuous training followed for the next two months, broken only by a few days' lapse when higher authority ordered the aircraft back into their packing cases for consignment to the Navy. Maynard was equal to the occasion, however. After a brisk exchange of signals, the order was countermanded, and the four Gladiators were left to their appointed destiny.

One of the pilots, Flying Officer W. J. Woods, filed the first combat report on the afternoon of June 11th:

"We sighted a formation of five S.79 aircraft approaching Valetta at a height of approximately 15,000 feet. We climbed until we were slightly above them, and then Red Two delivered an attack from astern. The enemy had turned out to sea. I delivered an attack from astern, and got in a good burst at a range of approximately 200 yards. My fire was returned. I then broke away and returned over the Island at approximately 11,000 feet, south of Grand Harbour.

"While still climbing to gain height, I observed another formation of five enemy aircraft approaching. They were about the same height as myself. I attacked from abeam at about 150 yards and got in one good burst. The enemy started firing at me long before I opened up. This formation broke slightly but left me well behind when I tried to get in attack from astern.

"Just after that, when again climbing to gain height, I suddenly heard machine-gun fire from behind me. I immediately went into a steep left-hand turn and saw a single-engine fighter diving and firing at me. For quite three minutes I circled as tightly as possible and got the enemy in my sight. I got in a good burst, full deflection shot, and he went down in a steep dive with black smoke pouring from his tail. I could not follow him down, but he appeared to go into the sea."

The next day the Savoias were back, still flying high and in impeccable formation. The Gladiators were waiting for them, however. They tore into the raiders and, though greatly outnumbered and outspeeded, succeeded in breaking up the main attack. One of the battle-damaged Gladiators wrote itself off in landing and the full brunt of the battle now rested on the remaining three machines and the anti-aircraft batteries.

Attacks continued throughout all that week and the next, with growing accuracy on the part

The Roundel

of the enemy's bomb-aimers. Their defensive tactics against the Gladiators also improved considerably: they came accompanied by heavier fighter escort, consisting of Macchi 200's and Fiat C. R. 42's. This latter type of biplane, which was shortly to tangle in numbers with the R.A.F. in Greece, was slower than the Macchi but highly manoeuvrable and a worthy opponent for the Gladiators. The bombers also commenced to feature stepped-up-and-down formation in order to derive maximum benefit from their swivel guns.

By the end of the second week the Italian Press was trumpeting the end of Malta, and even Radio Berlin announced that the British Naval Base at Malta had been destroyed. This claim was somewhat discredited when a single S.79 photo-reconnaissance aircraft attempted on June 22nd to confirm the boast with photos of Grand Harbour. The report of Burges and Woods tersely relates what happened:

"Ordered to intercept enemy aircraft reported approaching Malta. Enemy sighted at 13,000 feet when we were at 12,000 feet. Altered course to intercept and climbed to 15,000 feet and carried out stern attack from above enemy. Port engine and then starboard engine of enemy caught fire and attack was discontinued."

The Islanders, watching the action in the late afternoon sky, saw the Savoia, trailing smoke and flame, plunge into the sea. Two crewmen, the sole survivors, parachuted to safety and were taken prisoner.

The Italians, grimly determined to neutralize the island fortress, stepped up the tempo of their attacks, and when yet another Gladiator was knocked out on the ground by a bomb, the situation looked bleak indeed for the defenders. Then, providentially, four Hurricanes en route to Egypt landed at Halfar. Maynard gathered them into

the fold and they joined the Gladiators in the battle.

Despite miracles of improvisation and maintenance, within two weeks the four Hurricanes were down to one. It became a daily occurrence for three doughty pilots to grapple with twenty-plus enemy fighters at a time. Despite this, it was not until July 16th, some five weeks after the air battle had opened, that Malta lost its first pilot in the air. The Hurricane went in a scant hundred yards from the smoking wreckage of a C.R.42 it had downed, and both pilots were killed. This marked the Island's tenth victory for one loss in the air.

Tired and battered, the Gladiators carried on. Help was not far off, however, for by the first of August the Air Ministry, despite the need of fighters for Great Britain's defence, despatched twelve Hurricanes to Gibraltar, where they were taken aboard the carrier "Argus." These were launched in the mid-Mediterranean and were guided into Malta by two Fleet Air Arm Skuas.

With their arrival, the load was taken from the shoulders of the weary Gladiator pilots. Although "Faith" continued to operate for several more months, the saga of the Gladiators was just about ended. Air Vice-Marshal Sir Keith Park summed it up in an impressive ceremony on September 3rd, 1943. In the first five months of the war, he told the Maltese, the three Gladiators and, subsequently, a small number of Hurricanes had intercepted seventy-two enemy formations and had destroyed or damaged thirty-seven enemy aircraft.

In presenting "Faith" to the people of Malta, he said:

"The defence of Malta can justifiably be included among the epics of this war; and 'Faith' has earned a place of honour in the armour of Malta."



The Bureau of Current Affairs

(Contributed by the Bureau of Current Affairs)

IT IS ESSENTIAL for the proper functioning of our democracy that all our citizens, military as well as civilian, be fully informed. It is essential if they are to vote intelligently in elections, if they are to understand our relations with other countries, if they are to know in what democracy consists and to recognize its enemies, both internal and external. Only with knowledge can there be conviction — conviction about our way of life, its virtues and its potentialities.

The Bureau of Current Affairs has been established in the Department of National Defence to ensure that Canada's sailors, soldiers and airmen are well-informed. Thus, it is believed, there will be engendered in them the conviction that the democratic way is not merely the *right* way but that it is the *only* way to establish and maintain those freedoms for which we stand. We serve best when we know what we stand for and believe in what we know.

The function of the Bureau of Current Affairs is two-fold. First, it aims at developing in officers qualities of leadership through the dissemination of information; secondly, at inculcating in all members of the Services as wide a knowledge as possible of Canadian and world affairs. To these ends all personnel will be given a training period of one hour a week. Discussion groups will be sufficiently small to facilitate understanding and to permit discussion of the topics presented. As many as possible of the personnel within each group will be given an opportunity for active participation.

The Bureau of Current Affairs will publish, every two weeks, pamphlets that will deal with

international and national issues. Each pamphlet will include hints for discussion leaders in handling the topics and will suggest further reading. Unit libraries should obtain as many as possible of the books and periodicals which are listed as source material. The hints for discussion leaders will acquaint the group leaders with the purpose of the article. They will also give some suggested headings for the blackboard, an outline to help in presenting the material, and a few questions that may serve to stimulate discussion.

There is no idea of lecturing involved and the pamphlets are not to be read to the group. The group leader is not expected to hold the floor for more than fifteen or twenty minutes. Two assistants, chosen each week, will be provided with copies of the pamphlet so that they may study the article and the hints to discussion leaders. It is their function to lead off the discussion. Every alternate week a news-sheet will be edited and distributed in time to allow discussion leaders to prepare their material in advance of the discussion period. Other materials will deal with such topics as the government and history of Canada, which should provoke discussion of Canadian issues of the day and an appreciation of our institutions.

Staff officers from the Navy, the Army and the Air Force will assemble in the near future to take the first of a series of courses designed to give both information and a knowledge of detailed techniques in setting up and conducting discussions on current affairs. To this end, the first course will feature noted experts in the field of international affairs. Provision is being made for discussion periods following each talk.

Armed with the information obtained in these discussions, the officers will then conduct discussion groups (in which each in turn will act as a leader) to consider closely allied aspects of the subjects already discussed.

The promotion of successful discussion groups, however, is an art which, although not difficult to master, requires a knowledge of certain fundamental techniques. Thus, the course will seek to bring home to students the qualities necessary in a good discussion leader, and how to measure the success of a discussion period. The psychology of a group in discussion, the various methods by which different subjects can be most effectively handled, and the briefing of discussion leaders will all be given particular prominence.

In all matters dealing with instructional techniques, able individuals currently associated with

the teaching field are being invited to pass on to the group the knowledge gained from their long years of experience.

It will be the purpose of the Bureau of Current Affairs to assist commanding officers in making the "Current Affairs Hour" interesting and worthwhile to personnel. The "Current Affairs" pamphlets will provide background information about events, institutions and ideas. They will range widely in subject, dealing with what lies at the roots of the questions that all thinking people are asking to-day. But — and this fact cannot be too strongly stressed — the materials supplied by the Bureau are merely tools to aid in the achievement of the final purpose. The real determining factor in the success of the whole programme will be the enthusiasm of commanding officers, group and discussion leaders, and all the men and women who are in any way concerned with it.

ADMIRAL MOUNTBATTEN REPORTS

The increased emphasis on military developments in Asia makes especially noteworthy the publication of Vice-Admiral Mountbatten's "Report to The Combined Chiefs of Staff by the Supreme Allied Commander South-East Asia 1943-1945." This new volume includes numerous detail maps, texts of official documents and organization charts.

Possibly of most contemporary value insofar as the matter of military command is concerned is Admiral Mountbatten's discussion of the intricacies of a Supreme Commander's assignment, both as related to the various branches of the service of a single nation and also the collective

forces of all the allies. Admiral Mountbatten, in the conclusion to his analytical report, notes with "great regret" that "the conception of unit of command and close association between the Commanders-in-Chief of the land forces, air forces and fleets and the Supreme Commander was abandoned after the war came to an end."

Admiral Mountbatten's report, published by His Majesty's Stationery Office, is available at a cost of \$4.15 from the Sales Office, British Information Service, 30 Rockefeller Plaza, New York City (in Canada: United Kingdom Information Service, Truro Building, 10 Albert Street, Ottawa, Ont.).

("Army Navy Air Force Journal": U.S.A.)

First Flip

By Cpl. L. W. Hopkins, R.C.M.P.

(Cpl. Hopkins, who has seen extensive service with the R.C.M.P. in Canada's remote areas, is now stationed at R.C.M.P. Headquarters, Ottawa, in the Identification Branch. Living as he does between two large airfields, he is, in actual fact, very air-minded and well acquainted with the R.C.A.F. His first experience as a passenger in a light plane, however, strikes us as well worth recording.—EDITOR).

THREE YEARS AGO this summer I was visiting my school-chum Bill in Brattleboro, Vermont. He is one of those lads whose room is littered with aviation magazines. These I glanced at . . . and presently, as one does, I found myself discoursing knowingly on things about which I knew less than nothing.

To me a monoplane was a machine with one wing. A low-wing monoplane, therefore, could be nothing else but a ship with a wing under the stomach, differing from one in which the wing protruded from the ribs, just abaft the gizzard section. This latter type one could possibly term a mid-winger. A high-winger, on the other hand, was something quite different and much more difficult to understand. It resembled, I explained to Bill, an unwary seagull trying to extricate its foot from the mouth of a barracuda. The biplane I declined to discuss, beyond explaining that it was a manufacturer's misprint in the first place and was no longer talked about.

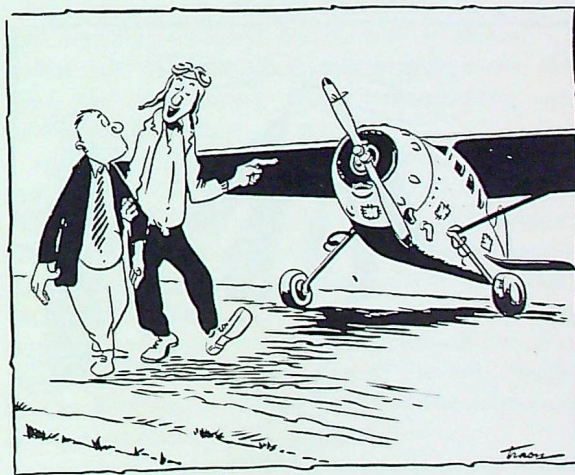
Having listened to me for a while, my friend informed me that he was a pilot in the local flying club and "would I care to have a flip in the morning?" . . .

After a sleepless night, during which I did my best to get my wife to forbid my taking the flip, I found myself at the club-house door. A cool clerk shoved some papers at me and said: "Sign here — just in case things don't go so well." As he spoke, he tossed a sinister wink at Bill.

I followed my friend to the hangar where, with the resignation of despair, I helped him to roll out

a small 'plane. It was, as I realized later, a beautiful little thing, but in that dark hour it appeared to my jaundiced eye as much too new and inexperienced for the rather precious load it was about to bear. It gleamed with the enthusiasm of youth. It was, my twitching solar plexus told me, nothing more than a skittish juvenile from which anything might be expected.

Since there was ground haze, Bill decided to delay the take-off until the sun burned it off. In the meantime he described to me the 12,000 or more parts which made this dreadful machine what it was. The engine had four cylinders sticking out here and there. There were pipes, wires, a magneto or two, and a crankcase loaded with what

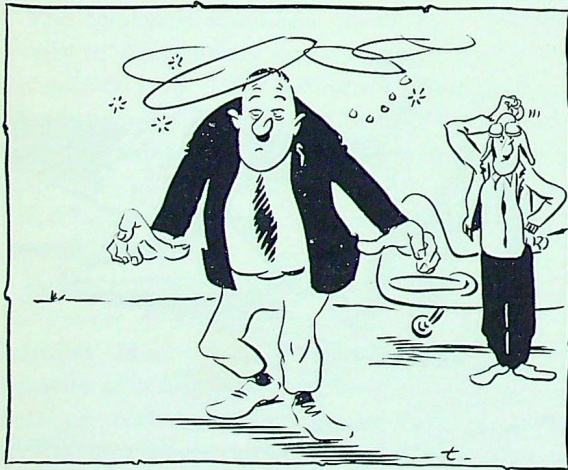


I fervently hoped were enough parts to give that engine a long and untroubled existence.

The prop, in particular, filled me with misgivings. It was small and frail. I would have been infinitely happier if it had been a great, lusty air-screw capable of chewing off mighty bites of air. I commented nervously on its size, but my reckless chum merely said: "Anything more rugged than this lath of a prop would be aerodynamically unsound." This monstrous statement left me speechless, for I remembered how easily my father had broken laths on me during certain memorable sessions in the woodshed.

But before I could brood further, he began explaining the hideous components of the airframe. Here was further fodder for the most melancholy forebodings. Before me were reed-like struts, starting here and ending there, and indifferently joined together by some misanthrope who was stealing solder from the manufacturer. My friend, however, received my thoughts on the matter very casually, and then came up with the crushing information that the ship's skin was made of some sort of fabric!

Cloth! Cloth I had always regarded as something to be pampered, as something temperamentally unsound. Cloth was something that in a fickle moment could tear itself to ribbons out of sheer suicidal frenzy. Personal experience had more than once demonstrated to me that a mere un-



guarded stoop could place the wearer of cloth in a state of social degradation. And now I was about to place my very life in the hands (as it were) of a few yards of cloth! I stifled a shriek of dismay.

To encourage me, Bill related a little anecdote about a friend of his who recently had an accident at another club a few months earlier. Apparently a mallard, in hot pursuit of its girl-friend, had hurtled through part of the 'plane's wing. Though I was relieved to hear that the pilot would soon discard his crutches, I could not help feeling that no 'plane should be allowed aloft with anything less than a skin of armour plate.

By now the sun had cleared the fog, and we climbed into the 'plane. Bill reached here and clawed there. Over his shoulder I saw dials, levers, pedals, gauges, and other confusing things. Suddenly a sickening grinding noise began, interspersed by bronchial coughs. These developed into a ringing sneer as the engine steadied off. He warmed her up for possibly five minutes, and then, as if to tear the very vitals out of the machine, he gave it the gun . . . and we began a violent trip across the grass. Crashing jolts and shocks ensued in rapid succession until, when I ventured to open my eyes, I found that I was in the air.

Outside my window a tree went ripping past. Soon there came an unsteady lateral rolling sensation, and I was horrified to see nothing but sky through one window and nothing but ground through the other. My pilot, grimly intent upon his flying, suddenly hurled the little 'plane on to an even keel and stuck her nose up. I now regarded him as a very dangerous character, but I found out later that any pilot is liable to do this. On and up we roared, down and down sagged my stomach. The sun was in the wrong place and the world below was crawling this way and that at an ever-slowing pace. The town where my loved ones waited for me was shrunken like an old apple. Past it, the ribbon-like river flowed backwards . . .

Suddenly I stiffened. The engine had quietened down to a low growl, and Bill's hand had left the throttle. I thought we were done for, but he began shouting the names of the surrounding mountains and other landmarks. For some reason,

I was not greatly interested. He pointed to a particularly high crag ahead of us, and shouted: "We'll go over there and see what's doing."

As we approached it, a mighty gust seized us without warning and we rocketed up in a sickening ascent. I clutched my midriff and bulged my cheeks in an attempt to quell a disgraceful desire to regurgitate.

On we cruised, and at last began that lovely turn toward home. This really saved me from being sick all over Vermont; but our Bill was not through yet. No, he had to hunt for and find a down-draft, which (to judge from my own sensations) is a curious phenomenon not unlike an aerial mine-shaft. Just as I was gabbling through a last prayer, Bill straightened his craft out, and I discovered that by some strange chance we were aimed at the airfield.

Now began an unnerving business of jiggling this way and that, in which the tail was first on one side

and then on the other. We steered between two clutching oaks. They flashed by and a rail fence threatened to amputate our wheels. A crunching bump shook me to the roots of my being, and then there followed a confusion of vibrations which gradually died away as we came to rest . . . We were down! We were safe! I was about to leap out, throw myself to the earth, and clasp the orb to my bosom, when Bill whirled the 'plane around and headed for the hangar.

Luckily, the half hour it took us, from the moment of landing, to reach home removed the green tinge from my gills, so that to this day my family has no inkling of what my initiation into the glories of flight was really like. But I must warn the tyro who finds aircraft magazines scattered around in a friend's house. They may be snares deliberately set in your path by a cunning host who is eyeing you as a fox does a chicken. *Ignore them and talk about horses.*

No Magic Answer

Mr. Lillienthal, who as former head of the A.E.C. should know what he is talking about, has written an article to warn people that the Atom Bomb cannot be regarded as a magic answer to the threats of Communism. Moreover, he adds that no reliance should be placed on a hydrogen bomb; no such weapon at present exists.

But it is clear that his remarks do not mean that the Atom Bomb is to be lightly regarded. The public have been officially informed that the A-Bomb has a destructive power equivalent to the explosion of 20,000 tons of properly disposed T.N.T. Mr. Lillienthal makes this clear by saying that if Soviet Russia should commit an act of war against the United States, his country could, and would, inflict vast and terrible damage upon all the principal Soviet cities and industrial centres.

But Mr. Lillienthal warns that atomic attack would not destroy Russia. She would be gravely and terribly wounded by it, but it would not defeat her. Nor would atomic attack alone prevent the Red Army from over-running and occupying Europe.

As always, there is no magic answer to ensure survival of civilization. Walls of China, of Hadrian and more recently that of the Maginot Line have all been penetrated by the barbarian. And those in Western civilization who have been expecting to find security in a stockpile of A-bombs have now received the clearest warning that the survival of their way of life will depend on the stoutness of their hearts and the soundness of their orthodox defences.

(*"The Aeroplane": U.K.*)

Personnel Movements

July: Officers

S/L E. S. Annis — C.J.S. Washington to Staff Coll., Toronto.
 S/L E. R. Austin — Staff Coll., Toronto, to A.F.H.Q.
 S/L A. V. Branscombe — C.J.S. London to A.D.C.H.Q., St. Hubert.
 S/L N. Burden — Staff Coll., Toronto, to Res. Op. Wng., Toronto.
 S/L W. F. Cameron, M.B.E. — Staff Coll., Toronto, to 12 Grp. H.Q., Vancouver.
 S/L A. Chornobrywy — A.D.C. H.Q., St. Hubert, to 6 R.D., Trenton.
 S/L F. Colosimone — 10 R.D., Calgary, to A.F.H.Q.
 S/L D. D. M. Cunningham — Staff Coll., Toronto, to R.C.A.F. Stn. Macdonald.
 W/C R. R. Davis — R.C.A.F. Stn. Trenton to A.F.H.Q.
 W/C L. C. Dilworth, D.F.C. — T.C.H.Q., Trenton, to 1 A.N.S., Summerside.
 S/L S. S. Farrell — A.F.H.Q. to R.C.A.F. Stn. Trenton.
 S/L E. D. Finley, A.F.C. — F.I.S., Trenton, to T.C.H.Q., Trenton.
 S/L G. J. Foley, M.B.E., C.D. — Staff Coll., Toronto, to 5 S.D., Moncton.
 S/L H. J. Galen — Staff Coll., Toronto, to T.C.H.Q., Trenton.
 S/L C. C. Graham — A.M.C.H.Q., Ottawa, to 11 S.D., Calgary.
 G/CS A. Green, M.B.E. — 6 R.D., Trenton, to A.D.C.H.Q., St. Hubert.
 S/L R. H. Gregson — A.F.H.Q. to A.M.C.H.Q., Ottawa.
 S/L E. J. Haugen, D.F.C. — 435(T) Sqn., Edmonton, to A.T.C.H.Q., Rockcliffe.
 S/L H. J. Hemsley, C.D. — 11 T.S.U., St. Laurent, to U.K. Fighter Wing.
 S/L J. D. Hopkins, D.F.C. — A.F.H.Q. to Staff Coll., Toronto.
 S/L W. J. S. Kettles — R.C.A.F. Stn. Uplands to A.F.H.Q.
 W/C F. W. Kirkcaldy, C.D. — R.C.A.F. Stn. Trenton to R.C.A.F. Stn. Claresholm.
 S/L G. W. Kusiar, D.F.C. — Staff College, Toronto, to A.F.H.Q.
 S/L G. J. Lanigan — A.F.H.Q. to A.M.C.H.Q., Ottawa.
 S/L W. W. Laughland — R.C.A.F. Stn. St. Johns to U.K. Fighter Wing.
 W/C K. P. Likeness, C.D. — N.W.A.C.H.Q., Edmonton, to C.J.S. Washington.
 G/C D. H. MacCaul, C.D. — 10 R.D., Calgary, to 6 R.D., Trenton.
 S/L A. J. Mackie — Staff Coll., Toronto, to A.F.H.Q.
 W/C A. T. Mason — A.F.H.Q. to R.C.A.F. Stn. Trenton.
 S/L J. W. McCalla — 6 R.D., Trenton, to C.J.S. London.
 S/L W. M. Middleton, D.F.C. — Staff Coll., Toronto, to A.D.C.H.Q., St. Hubert.
 W/C D. R. Miller, A.F.C., C.D. — R.C.A.F. Det. Ft. Nelson to A.D.C.H.Q., St. Hubert.
 S/L S. R. Miller, C.D. — A.F.H.Q. to A.D.C.H.Q., St. Hubert.
 S/L R. F. Milne, D.F.C., C.D. — Tac. Grp. H.Q., Winnipeg, to A.F.H.Q.
 S/L V. H. Munro — A.R.O.S., Clinton, to A.F.H.Q.
 S/L A. L. Musselman — R.U. Ft. William to 1 R. & C.S., Clinton.
 S/L A. M. Ogilvie, D.F.C. — 412 (T) Sqn., Rockcliffe, to 1 A.N.S., Summerside.

S/L M. A. Rosenthal, C.D. — Staff Coll., Toronto, to U.K. Fighter Wing.
 S/L C. F. Sanford — R.C.A.F. Stn. Lachine to T.C.H.Q., Trenton.
 W/C R. Trippett — T.C.H.Q., Trenton, to A.T.C.H.Q., Rockcliffe.
 W/C P. S. Turner, D.S.O., D.F.C. — C.J.A.T.C., Rivers, to R.C.A.F. Stn. Chatham.
 S/L J. C. Wade, D.F.C. — Staff Coll., Toronto, to T.C.H.Q., Trenton.

June and July: Warrant Officers

WO2 E. S. Allen — 1 S.D., Weston, to 1 T.T.S., Aylmer.
 WO2 B. F. Bettin — 402 (FB) Sqn. (Res), Winnipeg, to 426 (T) Sqn., Dorval.
 WO2 S. F. Bolin, C.D. — 10 T.S.U., Calgary, to 25 A.M.B., Calgary.
 WO1 J. H. Bowman, C.D. — 25 A.M.B., Calgary to A.M.C.H.Q., Ottawa.
 WO2 J. R. Burdes — R.C.A.F. Stn. Saskatoon to 406 (L.B.) Sqn. (Res.), Saskatoon.
 WO2 S. G. Cable — 400 (F) Sqn. (Res.), Toronto, to C.F.S., Trenton.
 WO1 G. F. E. Champagne — R.C.A.F. Stn. Rockcliffe to 6 R.D., Trenton.
 WO1 J. N. Clemens — A.F.H.Q. to A.M.C.H.Q., Ottawa.
 WO1 R. I. Cook, C.D. — 6 R.D., Trenton to A.M.C.H.Q., Ottawa.
 WO2 J. G. Ellison — 435 (T) Sqn., Edmonton, to R.C.A.F. Stn. Lachine.
 WO2 E. Ferguson, C.D. — R.C.A.F. Stn. Goose Bay to 1 S.D., Weston.
 WO1 G. F. G. Gayton — A.A.S., Trenton, to 1 A.G.S., Macdonald.
 WO1 H. M. Goode, C.D. — 10 T.S.U., Calgary, to 25 A.M.B., Calgary.
 WO1 G. E. Grenke — R.C.A.F. Stn. Camp Borden to M.E.R.U., Calgary.
 WO1 S. Heap, C.D. — R.C.A.F. Stn. Clinton to R.C.A.F. Stn. Claresholm.
 WO1 A. C. Helps — 25 A.M.B., Calgary, to 6 R.D., Trenton.
 WO2 R. Inglis — 25 A.M.B., Calgary, to 1 S.D., Weston.
 WO2 J. P. Johnstone — 2 T.T.S., Camp Borden, to M.E.R.U., Calgary.
 WO2 C. H. Jones, C.D. — 1 S.D., Weston, to A.M.C.H.Q., Ottawa.
 WO2 J. F. Langan — R.C.A.F. Stn. Summerside to 6 R.D., Trenton.
 WO1 J. A. Lapansee, C.D. — 2 T.T.S., Camp Borden, to R.C.A.F. Stn. Winnipeg.
 WO2 R. S. Lay, C.D. — R.C.A.F. Stn. Fort Nelson to R.C.A.F. Stn. Edmonton.
 WO2 F. M. Lindsey — 25 A.M.B., Calgary, to 426 (T) Sqn., Lachine.
 WO2 L. T. Lockwood, C.D. — A.M.C.H.Q., Ottawa, to R.C.A.F. Stn. Trenton.
 WO2 V. H. Meredith, C.D. — 2 T.T.S., Camp Borden, to T.C.H.Q., Trenton.
 WO2 R. G. Miles — 11 T.S.U., St. Laurent, to 25 A.M.B., Calgary.
 WO2 M. W. J. Moffatt — 2 T.T.S., Camp Borden, to R.C.A.F. Stn. Macdonald.

WO2 G. J. Norgaard — 11 S.D., Calgary, to 25 A.M.B., Calgary.
 WO2 J. H. Oldham, C.D. — 426 (T) Sqn., Lachine, to 402 (FB) Sqn. (Res.), Winnipeg.
 WO2 W. F. Olson — J.A.S., Rivers, to 418 (LB) Sqn. (Res.), Edmonton.
 WO1 D. S. Price — R.C.A.F. Stn. Rockcliffe to A.M.C.H.Q., Ottawa.
 WO2 F. Rothery, C.D. — 9406 Unit, Saskatoon, to C.J.A.T.C., Rivers.
 WO2 J. S. Stacey — R.C.A.F. Stn. Edmonton to A.M.C.H.Q., Ottawa.
 WO2 K. N. Stewart, C.D. — 25 A.M.B., Calgary, to 5 S.D., Moncton.
 WO1 A. Taylor — R.C.A.F. Stn. Edmonton to R.C.A.F. Stn. Rockcliffe.
 WO1 W. G. Watt — 5 S.D., Moncton, to A.M.C.H.Q., Ottawa.
 WO2 J. W. Wilkes — M.G.H.Q., Halifax, to R.C.A.F. Stn. Greenwood.
 WO1 W. E. Williams — J.A.S., Rivers, to S.E.S. Unit, Suffield.
 WO2 E. W. Wilson, C.D. — 6 R.D., Trenton, to A.M.C.H.Q., Ottawa.
 WO2 W. Winchuk, C.D. — 2 T.T.S., Camp Borden, to R.C.A.F. Stn. Summerside.
 WO1 G. L. Wright, C.D. — 5 S.D., Moncton, to A.M.C.H.Q., Ottawa.
 WO1 S. T. Yates — A.M.C.H.Q., Ottawa, to A.F.H.Q.

August: Officers

S/L E. Anderson — A.T.C.H.Q., Lachine, to A.F.H.Q.
 S/L J. A. Anderson, D.S.O., D.F.C. — C.J.S. Washington to A.T.C.H.Q., Lachine.
 S/L J. C. Anstead — A.M.C.H.Q., Ottawa, to A.F.H.Q.
 S/L A. W. Appleby, D.F.C., B.E.M. — R.O.S., Kingston, to R.U.F. (McGill U.).
 S/L J. T. Arnold — 103 R. Unit, Greenwood, to R.C.A.F. Stn. Greenwood.
 S/L M. J. Belleau — T.C.H.Q., Trenton, to R.C.A.F. Stn. Bagotville.
 S/L L. P. Bing, D.F.C. — C.J.S. Washington to A.F.H.Q.
 S/L A. A. Bishop, D.F.C. — 2 (M) O.T.U., Greenwood, to A.F.H.Q.
 W/C A. L. Bocking, D.F.C., C.D. — A.F.H.Q. to C.J.A.T.C., Rivers.
 W/C M. W. Brown, M.B.E. — A.D.C.H.Q., St. Hubert, to R.C.A.F. Stn. St. Hubert.
 S/L G. L. Burness, C.D. — C.J.S. Washington to A.D.C.H.Q., St. Hubert.
 S/L J. J. Canty — R.O.S., Kingston, to 1 S.D., Weston.
 W/C R. D. Carter — A.F.H.Q. to A.M.C.H.Q., Ottawa.
 W/C B. E. Christmas, C.D. — A.F.H.Q. to R.C.A.F. Stn. Bagotville.
 S/L J. O. Clark — 25 A.M.B., Calgary, to A.M.C.H.Q., Ottawa.
 S/L J. F. Corrigan, D.F.C. — R.O.S., Kingston, to T.C.H.Q., Trenton.
 S/L M. J. Cowie — T.C. C. & R. Flt., Trenton, to A.F.H.Q.
 W/C F. Y. Craig, D.F.C. — A.T.C.H.Q., Lachine, to 2 A.N.S., Winnipeg.
 S/L J. E. Creeper, D.F.C. — 405 (MR) Sqn., Greenwood, to 2 (Mar.) O.T.U., Greenwood.
 S/L R. Dobson, D.F.C. — 1 A.N.S., Summerside, to (Res.) T.T.W.H.Q., Toronto.
 S/L T. R. Duff, D.F.C. — R.C.A.F. Stn. Whitehorse to R.C.A.F. Stn. Clinton.

S/L J. A. Duncan, D.F.C. — Staff Coll., Toronto, to R.C.A.F. Stn. Claresholm.
 A/V/M C. R. Dunlap, C.B., C.D. — A.D.C.H.Q., St. Hubert, to A.F.H.Q.
 S/L L. P. Dupuis, D.F.C. — T.C.H.Q., Trenton, to Staff Coll., Toronto.
 S/L R. G. Elliott, C.D. — 11 S.D., Calgary, to R.C.A.F. Stn. Greenwood.
 S/L R. F. Epps, D.F.C. — 405 (M.R.) Sqn., Greenwood, to 103 R. Unit, Greenwood.
 S/L D. H. Evans — 2045 A.C. & W.U. (Res), Halifax, to C.J.S., Washington.
 S/L J. C. Fair — 2 K.T.S., Aylmer, to T.C.H.Q., Trenton.
 S/L M. J. Fitzpatrick — R.C.A.F. Stn. Edmonton to A.T.C.H.Q., Lachine.
 S/L J. F. Flemming, C.D. — C.J.S. Washington to 5 S.D., Moncton.
 S/L T. H. Fletcher, C.D. — A.D.C.H.Q., St. Hubert, to Staff Coll., Toronto.
 S/L R. R. Forbes-Roberts — R.C.A.F. Stn. Sea Island to 442 (F) Sqn. (Res.), Sea Island.
 S/L D. G. Forrest — 435 (T) Sqn., Edmonton, to 1 A.R.O.S., Clinton.
 S/L W. D. Foster, D.F.C. — C.J.S. Washington to M.G.H.Q., Halifax.
 W/C D. E. Galloway, M.B.E. — 2 (M) O.T.U., Greenwood, to 404 (MR) Sqn., Greenwood.
 S/L C. L. Gervais — T.C.H.Q., Trenton, to 400 (F) Sqn. (Res.), Toronto.
 S/L C. S. Gilliatt, D.F.C. — C.J.S. Washington to T.C.H.Q., Trenton.
 S/L W. L. Gillespie — 1 A.N.S., Summerside, to R.C.A.F. Stn. Winnipeg.
 W/C W. W. Gilmour, A.F.C. — R.C.A.F. Stn. Calgary to 3 F.T.S., Claresholm.
 A/C R. C. Gordon, C.B.E., C.D. — M.G.H.Q., Halifax, to 12 A.D.G.H.Q., Vancouver.
 W/C E. A. Hale, D.F.C. — R.C.A.F. Stn. Chatham to C.J.S. London.
 S/L C. E. Harris, D.F.C., C.D. — T.A.G.H.Q., Edmonton, to 121 C. Flight, Sea Island.
 S/L E. J. Higgin — R.C.A.F. Stn. Trenton to A.M.C.H.Q., Ottawa.
 S/L C. H. Hoseason, A.F.C. — R.C.A.F. Stn. Sea Island to A.D.C.H.Q., St. Hubert.
 G/C E. A. Hutton, C.D. — A.F.H.Q. to R.C.A.F. Stn. Clinton.
 A/V/M A. L. James, C.B.E., C.D. — A.F.H.Q. to A.D.C.H.Q., St. Hubert.
 S/L G. T. Johnson — T.C.H.Q., Trenton, to C.J.S. Washington.
 W/C E. R. Johnston, A.F.C., C.D. — Staff Coll., Toronto, to T.C.H.Q., Trenton.
 S/L J. S. Jordan — R.C.A.F. Stn. St. Hubert to 1 G.H.Q. (Res.), Montreal.
 W/C R. F. Kempster — Staff Coll., Toronto, to C.J.S. Washington.
 W/C A. G. Kenyon, C.D. — 2 (Mar.) O.T.U. to 405 (MR) Sqn., Greenwood.
 S/L G. W. Kusiar, D.F.C. — A.F.H.Q. to C.J.S. Washington.
 S/L M. J. Le Boldus — R.C.A.F. Stn. Edmonton to R.C.A.F. Stn. Lachine.
 S/L G. A. Lee, A.F.C. — R.C.A.F. Stn. London to 420 (F) Sqn. (Res.), London.
 W/C G. G. Lewis, C.D. — A.F.H.Q. to C.J.S. Washington.
 S/L J. D. Lindsay, D.F.C. — 441 (F) Sqn. St. Hubert, to 413 (AW) Sqn., Bagotville.
 S/L J. O. Maitland — T.A.G.H.Q., Edmonton, to C. & R. Flt., Edmonton.

S/L R. H. Manson, A.F.C. — T.A.G.H.Q., Edmonton, to C.J.S. Washington.
 S/L D. S. McDonald, M.B.E. — C.J.S. Washington to 1 Req. Unit, Dayton.
 S/L F. E. McLaren, D.F.C. — A.A.S., Trenton, to 400 (F) Sqn. (Res.), Toronto.
 S/L D. F. McRae, D.F.C. — 14 T.G.H.Q., Winnipeg, to T.A.G.H.Q., Edmonton.
 W/C R. F. Miller, A.F.C. — R.C.A.F. Stn. Clinton to A.F.H.Q.
 S/L W. M. Mills — R.C.A.F. Stn. Summerside to T.A.G.H.Q., Edmonton.
 S/J J. D. Mitchner, D.F.C. — A.D.C.H.Q., St. Hubert, to Staff Coll., Toronto.
 W/C B. H. Moffit, D.F.C., A.F.C. — T.A.G.H.Q., Edmonton, to C.J.S. Washington.
 S/L R. L. Moodie, A.F.C. — A.F.H.Q. to A.M.C.H.Q., Ottawa.
 W/C G. H. Newsome, A.F.C. — A.F.H.Q. to C.J.S. London.
 S/L G. E. Nickerson, D.F.C. — 14 T.G.H.Q., Winnipeg, to T.A.G.H.Q., Edmonton.
 S/L E. S. Perkins, C.D. — C.J.S. Washington to 6 R.D., Trenton.
 S/L R. E. Porter, A.F.C. — T.C.H.Q., Trenton, to 1 F.I.S., Trenton.
 S/L W. S. Quint — Staff Coll., Toronto, to C.J.S. Washington.
 S/L J. T. Reed, D.F.C. — C.J.S. Washington to T.A.G.H.Q., Edmonton.
 S/L W. O. Reeves — A.T.C.H.Q., Lachine, to A.F.H.Q.
 A/C R. C. Ripley, O.B.E., C.D. — A.F.H.Q. to A.T.C.H.Q., Lachine.
 A/C A. D. Ross, G.C., C.B.E., C.D. — A.T.C.H.Q., Lachine, to M.G.H.Q., Halifax.
 S/L A. N. Roth, M.B.E. — C.J.S. Washington to A.F.H.Q.
 G/C J. C. Scott, D.S.O., C.D. — C.J.S. Washington to A.D.C.H.Q., St. Hubert.
 S/L T. T. Scovill — R.C.A.F. Stn. Edmonton to Staff Coll., Toronto.
 S/L D. O. Shaw — A.F.H.Q. to C.J.S. Washington.
 S/L A. J. Simpson, D.F.C., C.D. — A.F.H.Q. to 408 (P) Sqn., Rockcliffe.
 W/C D. C. Skene, D.F.C., C.D. — T.A.G.H.Q., Edmonton, to R.C.A.F. Stn. Saskatoon.
 S/L E. W. Smith, D.S.O. — A.F.H.Q. to 442 (F) Sqn. (Res.), Sea Island.
 W/C H. E. Smith, A.F.C. — R.O.S., Kingston, to Staff Coll., Toronto.
 S/L T. H. Spear — 421 (F) Sqn., U.K., to C.J.S. London.
 W/C J. A. Sproule, D.F.C. — R.O.S., Kingston, to Staff Coll., Toronto.
 S/L L. S. Thompson — R.C.A.F. Stn. Rockcliffe to 11 T.S.U., Montreal.
 S/L J. J. Thurmeier — 1 A.N.S., Summerside, to A.F.H.Q.
 W/C N. W. Timmerman, D.S.O., D.F.C., C.D. — A.F.H.Q. to C.J.S. Washington.
 S/L C. Torontow, A.F.C., C.D. — A.T.C.H.Q., Lachine, to 426 (T) Sqn., Dorval.
 S/L P. V. Tripe, D.F.C. — Staff Coll., Toronto, to C.J.S. Washington.
 S/L A. W. Tustin — Staff Coll., Toronto, to 2 (M) O.T.U., Greenwood.
 S/L C. C. Underhill — R.C.A.F. Stn. Winnipeg to 2 A.N.S., Winnipeg.
 G/C W. C. Van Camp, D.F.C., C.D. — T.A.G.H.Q., Edmonton, to M.G.H.Q., Halifax.
 S/L N. S. Wade — R.C.A.F. Stn. Clinton to R.C.A.F. Stn. Goose Bay.
 W/C A. Walmsley — 14 T.G.H.Q., Winnipeg, to Staff Coll., Toronto.

S/L C. F. Wattie, D.F.C. — R.C.A.F. Stn. Winnipeg to 2 A.N.S., Winnipeg.
 S/L C. W. White — 1 R.C.S., Clinton, to A.F.H.Q.
 S/L R. J. Wilcock — C.J.S. London to T.C.H.Q., Trenton.
 S/L J. W. Wilkins — E. & P.E., Rockcliffe, to 1 F.T.S., Centralia.
 S/L E. R. Wilson — R.O.S., Kingston, to R.U.F. (U. of Man.).
 S/L T. B. Winslow, D.F.C. — T.A.G.H.Q., Edmonton, to 424 (F) Sqn. (Res.), Hamilton.
 W/C J. A. Wiseman, A.F.C. — A.F.H.Q. to A.D.C.H.Q., St. Hubert.
 S/L S. J. Woodman — 412 (T) Sqn., Rockcliffe, to A.F.H.Q.
 S/L J. H. Woods, D.F.C. — R.O.S., Kingston, to R.U.F. (U. of Alta.).
 S/L S. W. Yoder — R.C.A.F. Stn. Goose Bay to M.G.H.Q., Halifax.

August: Warrant Officers

WO2 G. W. Anderson — R.C.A.F. Stn. St. Johns to R.C.A.F. Stn. Claresholm.
 WO2 J. M. Benning — R.C.A.F. Stn. Goose Bay to R.C.A.F. Stn. Greenwood.
 WO1 E. B. Brackenbury, C.D. — R.O.S., Kingston, to S.S.M., Trenton.
 WO2 J. R. Buchanan, C.D. — 25 A.M.B., Calgary, to 10 T.S.U., Calgary.
 WO2 J. S. Cates — 426 (T) Sqn., Dorval, to A.M.C.H.Q., Ottawa.
 WO2 D. C. Clair, C.D. — A.T.C.H.Q., Lachine, to R.C.A.F. Stn. Rockcliffe.
 WO2 H. E. Cullen — R.C.A.F. Stn. Rockcliffe to A.F.H.Q.
 WO2 A. A. Darlington — A.M.C.H.Q., Ottawa, to R.C.A.F. Stn. Aylmer.
 WO2 O. V. Devooght — R.O.S., Kingston, to Royal Roads, Victoria.
 WO1 G. A. Donaldson, C.D. — 6 R.D., Trenton, to 5 S.D., Moncton.
 WO2 E. R. Eggenberger — R.C.A.F. Stn. Camp Borden to T.C.H.Q., Trenton.
 WO2 T. E. Evans — R.C.A.F. Stn. Whitehorse to A.F.H.Q.
 WO2 G. J. Friend, C.D. — R.C.A.F. Stn. Lachine to A.D.C.H.Q., Lachine.
 WO1 S. J. Frith — R.O.S., Kingston, to S.S.M., Trenton.
 WO2 J. J. Gibson, C.D. — 25 A.M.B., Calgary, to A.M.C.H.Q., Ottawa.
 WO2 R. P. Hamilton — R.C.A.F. Stn. Gimli to R.C.A.F. Stn. Aylmer.
 WO1 J. G. Jones, C.D. — 25 A.M.B., Calgary, to R.C.A.F. Stn. Chatham.
 WO1 S. Lisoweski — 14 T.G.H.Q., Winnipeg, to R.C.A.F. Stn. Winnipeg.
 WO1 J. Loach — T.C.H.Q., Trenton, to R.C.A.F. Stn. Winnipeg.
 WO1 G. E. Lowry — 6 R.D., Trenton, to 11 S.D., Calgary.
 WO2 A. Macauley — 426 (T) Sqn., Dorval, to R.C.A.F. Stn. Lachine.
 WO2 T. O. Madden — R.C.A.F. Stn. Edmonton to 6 R.D., Trenton.
 WO2 P. J. Maguire — 25 A.M.B., Calgary, to R.C.A.F. Stn. Bagotville.
 WO1 R. F. McConnell, C.D. — 25 A.M.B., Calgary, to A.M.C.H.Q., Ottawa.
 WO2 G. J. McCuaig — R.C.A.F. Stn. Trenton to 14 T.G.H.Q., Winnipeg.
 WO2 J. R. McKenna, C.D. — 14 T.G.H.Q., Winnipeg, to 3 F.T.S., Claresholm.

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WO2 I. C. Milne — A.T.C.H.Q., Lachine, to A.F.H.Q.
WO2 D. J. Moyles — 1 T.T.S., Aylmer, to R.C.A.F. Stn.
Claresholm.
WO1 E. G. Munro, C.D. — 25 A.M.B., Calgary, to R.C.A.F.
Stn. Winnipeg.
WO2 N. E. Parsons — 2(M) O.T.U., Greenwood, to 404
(MR) Sqn., Greenwood.
WO2 J. O. Phillips — 2 F.T.S., Gimli, to 14 T.G.H.Q.,
Winnipeg.
WO2 T. A. Prest — R.C.A.F. Stn. Edmonton to C.J.S.
Washington.
WO1 W. H. Roberge — R.C.A.F. Stn. Sea Island to 442 (F)
Sqn. (Res.), Sea Island.
WO1 R. B. Robinson — 25 A.M.B., Calgary, to A.D.C.H.Q.,
St. Hubert.

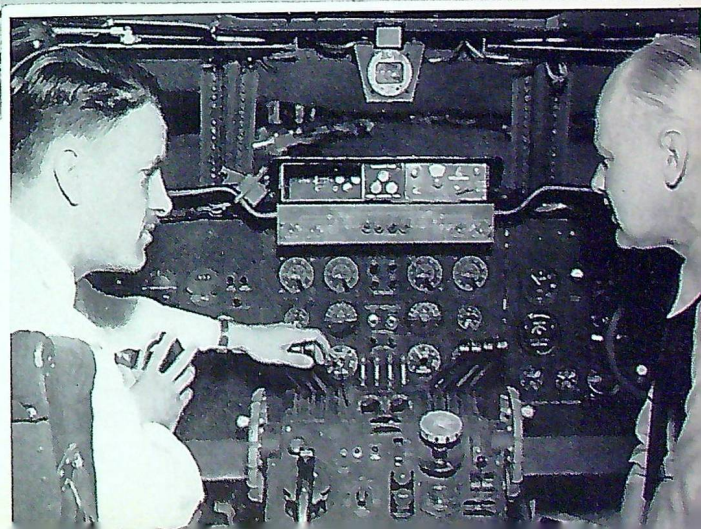
WO2 W. M. Rose — C.J.S. Washington to 1 Req. Unit,
Dayton.
WO2 W. H. Scott — A.M.C.H.Q., Ottawa, to R.C.A.F. Stn.
Greenwood.
WO2 W. M. Thompson, C.D. — 2 T.T.S., Camp Borden,
to T.C.H.Q., Trenton.
WO2 H. Vernon — 14 T.G.H.Q., Winnipeg, to R.C.A.F.
Stn. Winnipeg.
WO2 L. A. Waite — 25 A.M.B., Calgary, to A.M.C.H.Q.,
Ottawa.
WO2 W. F. Walsh — 5 S.D., Moncton, to T.C.H.Q., Trenton.
WO2 B. A. Wood — 14 T.C.H.Q., Winnipeg, to R.C.A.F.
Stn. Winnipeg.

JETLINER AT TRENTON



The Avro Jetliner at R.C.A.F. Station Trenton, where it made three demonstration flights for the benefit of R.C.A.F. pilots.

Mr. Don Rogers, Chief Test Pilot of Avro Canada, explaining Jetliner's controls to Group Capt. G. P. Dunlop, A.F.C., Commanding Officer of the Station.



Letters to the Editor...[★]

ORIGIN OF THE R.C.A.F. TARTAN

Dear Sir:

In the April 1951 issue of "The Roundel", reference was made to the origin of the design of the R.C.A.F. tartan. Your readers may be interested in receiving authentic information regarding the origin of this tartan. I am an ardent student of Scottish history and traditions, being a native-born Highland Scot and a former Drum-Major of the Seaforth Highlanders. The tartans are my special delight and I boast an assortment of Highland uniforms and accessories.

It was while I was in the process of assisting with the organization and development of a pipe band for the New Brunswick Scottish Regiment of the Reserve Army, Saint John, N.B., a couple of years ago, that I visited the premises of "The Loomcrofters" and saw their registered design of the R.C.A.F. tartan. There I learned that they actually created a special plaid, bearing a resemblance to the blue uniform worn by members of the R.C.A.F., which later was recognized and recorded by the Lyon King of Arms, Edinburgh, Scotland, as an official tartan, in exactly the same sense that Royal Stewart, MacLeod, MacDonald of the Isles, Gordon and MacKenzie are official tartans.

"The Loomcrofters" is a weaving organization located within a few yards of the River Road on No. 2 Highway between Saint John and Fredericton, New Brunswick, near a village by the name of Gagetown. They are able to duplicate any of the Scottish tartans exactly, both as to quality and colour — which, incidentally, is quite an accomplishment, when one considers some of the feeble attempts of most Canadian and American firms.

It might be of further interest to note that, should "The Loomcrofters" at any time wish to take legal steps to protect their copyright design and merchandizing interests in relation to the R.C.A.F. tartan, they could rightfully insist upon a 100% monopoly and bring court action against offenders. This they have done, and as a result a number of "bastard" R.C.A.F. tartan designs and materials have appeared on the open market. In view of their courtesy in refraining from taking action, I trust you will feel, as I do, that they are entitled to a corrected entry in "The Roundel" and to full credit for originating and designing the R.C.A.F. tartan.

Ian A. MacLeod (Captain),
R.C.A.S.C.

(The paragraph in our April 1951 issue to which Captain MacLeod refers reads as follows:

"Although it has no direct bearing on No. 401's pipe band, a note on the origin of the R.C.A.F. tartan may be of interest to readers of 'The Roundel'. It was designed during the Second World War by Group Capt. E. G. Fullerton, A.F.C., as a derivation of the Anderson tartan, with a generous background of Air Force blue. Officially recognized by the King, it has its place in Edinburgh Castle, the home of all authentic Scottish tartans."—EDITOR.)

"Letters to the Editor" are printed for the information or interest of readers of "The Roundel" and do not necessarily represent the official views of the Royal Canadian Air Force.

NO. 6 R.D. FIRE DEPARTMENT

Shown in the accompanying photograph are (left to right) LAC Stevenson, Sgt. Graham (Chief), Cpl. Weese, Cpl. Scott (Deputy Chief), Sqn. Ldr. McDonald (Fire Officer), LAC Anderson. The firetruck incorporates several new and interesting modifications, including a 300-gallon water tank. When these 300 gallons are treated with a Pyrodyne "wet water" capsule, they have the effectiveness of 1350 gallons of plain water.

