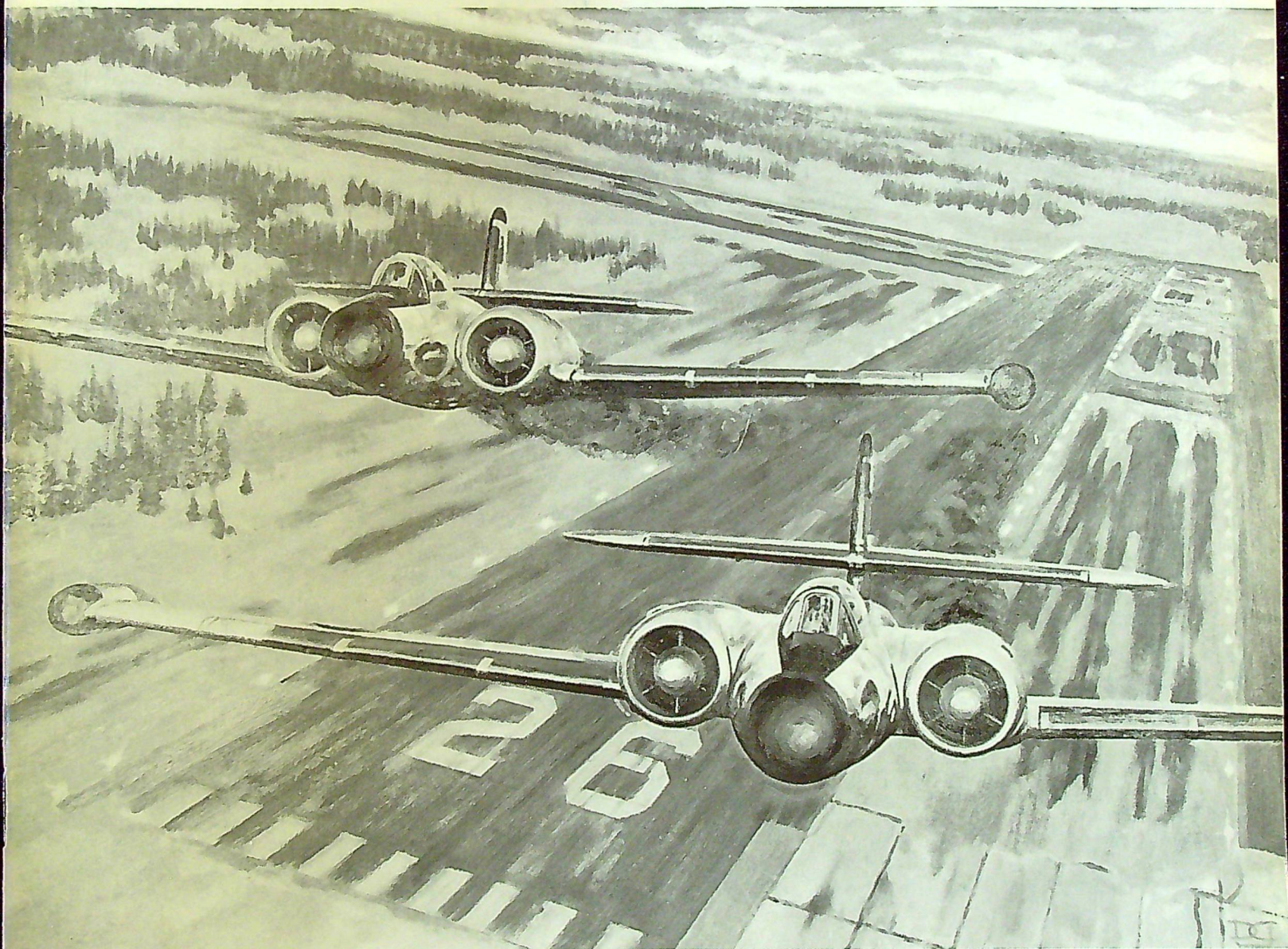


THE

Roundel

VOL. 14, NO. 2

MARCH 1962





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Roundel

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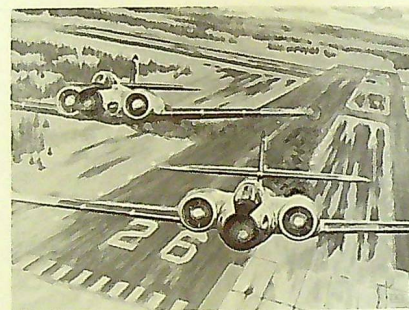
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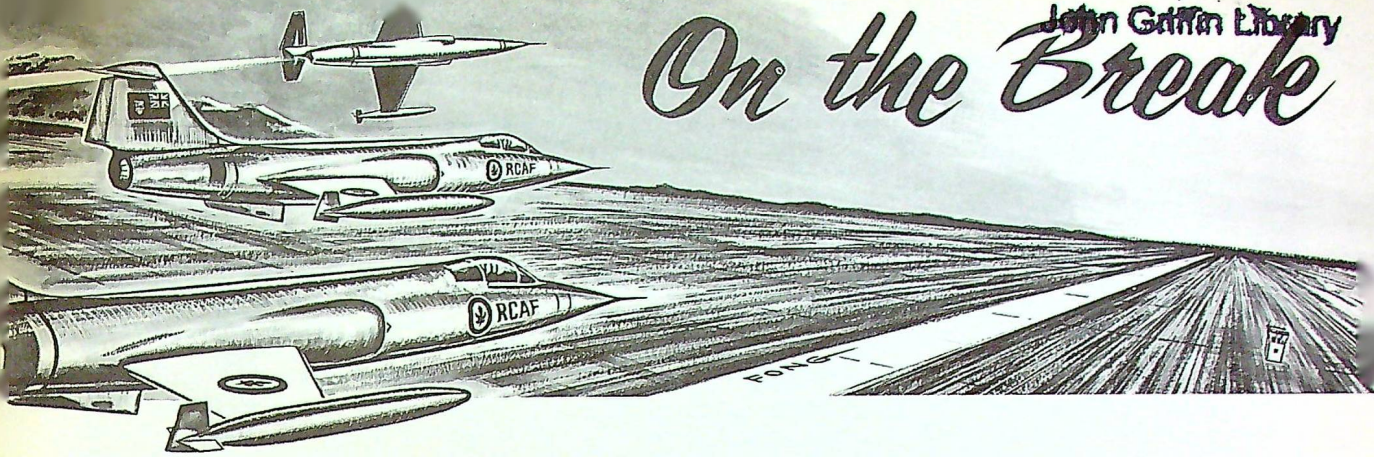


THIS MONTH'S COVER

This painting, entitled **DINNER FLIGHT**, won first prize for F/L D. J. Connolly of Ottawa in the amateur class, air force connotation division, of the RCAF recreation branch's service-wide art competition. For further examples of air force art see pages 2 and 3.

Views expressed in THE ROUNDel are those of the writer expressing them. They do not necessarily reflect the official opinions of the Royal Canadian Air Force.

On the Break



THE Air Transport Command story (page 4) is the third in a *ROUNDEL* series on the evolution and current status of RCAF commands. Air Defence Command was thus featured last June and Maritime Air Command in October. Similar articles, by their respective air officers commanding, will be published on Air Materiel Command and Training Command later this year.

Air Commodore R. J. Lane, a native of Victoria, B.C., has been AOC ATC since June 1961. Joining the RCAF in 1940, he had risen four years later to the rank of group captain. As a bomber pilot he completed three tours of operations, won the DSO, DFC and Bar and was mentioned in despatches. Before assuming his present position, he served as chief of plans and intelligence at AFHQ.



DR. J. C. Arnell, a native of Halifax and today one of Canada's outstanding defence scientists, begins a three-part series on "Man's Advance Into Space" on page 12. He has been a frequent *ROUNDEL* contributor since becoming scientific advisor to the CAS in September 1958.



A Fellow of the Chemical Institute of Canada and a member of the American Chemical Society, he is an original staff member of Canada's Defence Research Board and is an expert in the defensive aspects of atomic, biological and chemical warfare. Before his secondment to the RCAF he held various DRB posts, including those of director of scientific intelligence and director of plans.

WRITING wartime squadron histories has become S/L A. P. Heathcote's specialty. The one beginning on page 17 is the seventh he has prepared for THE

ROUNDEL, in addition to compiling several dozen shorter histories of sundry units and formations for other media.

A bomber pilot himself (he completed a tour with No. 433 "Porcupine" Sqn. on *Hallys* and *Lancs*), S/L Heathcote resumed his university education in hometown Toronto following the war, rejoined the RCAF in 1948 and flew *Cansos* with No. 413 Sqn. A tour on THE *ROUNDEL* preceded his transfer to the air historian's staff in 1954.



RUMMAGING through a trunkful of old papers at his Comox home, W/C H. Bryant (ret.) came across a faded blue-covered textbook dated 1928. "Thinking THE *ROUNDEL* could stand a little humour, even if this is a poor excuse for same," he wrote, "I am forwarding the enclosed excerpts and tongue-in-cheek personal comments". "According to Methuselah" (page 24) is a condensed version of his story.



The author joined the RCAF as a rigger in 1927. Trained as a pilot in 1931, he flew on such pre-war operations as experimental air mail flights to Ottawa from incoming ships in the Strait of Belle Isle and rum-running patrols off the Maritimes, then became a flying boat instructor at Trenton in 1936. Before retiring in 1959, W/C Bryant logged time on over 75 types of aircraft, held administrative posts in many places and had become one of the best known characters in the service.

A. P. Heathcote s/l

Editor.

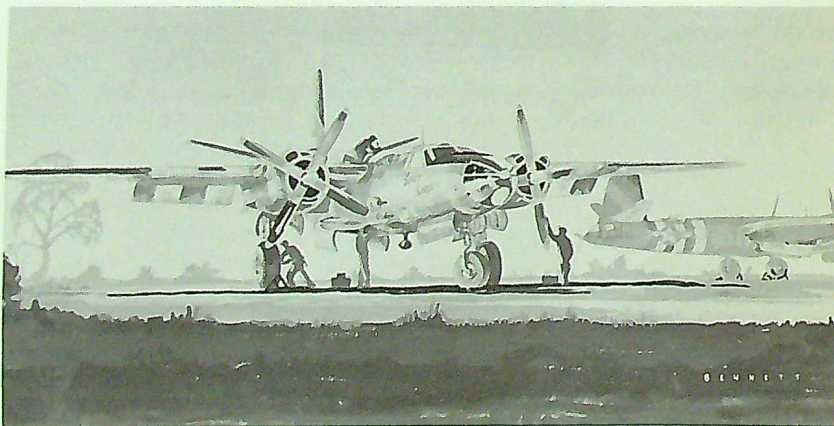
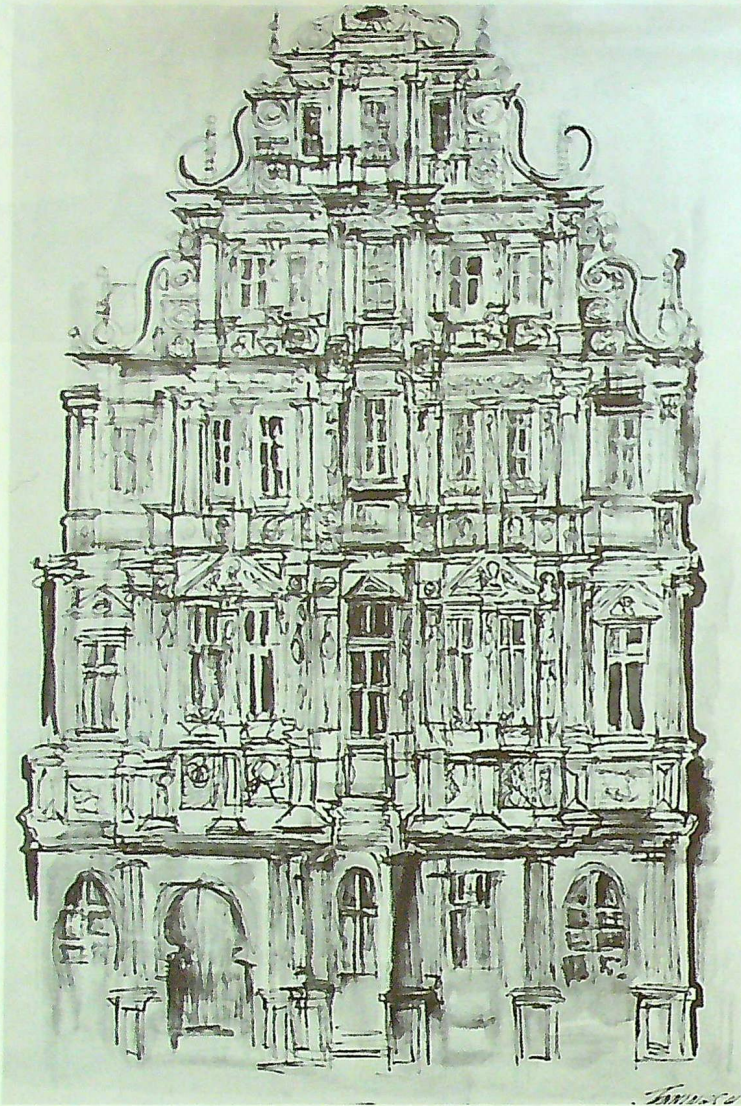
Air Force Art

BUDDING Picassos or Rembrandts within the RCAF community are being encouraged in the healthy and satisfying pastime of sketching and painting. The RCAF's recreation branch held an art competition last fall which attracted 300 entries. Open to RCAF personnel, attached allied forces personnel, civilian employees of the RCAF and dependents, the contest was composed of two categories, professional and amateur.

Paintings could be done in either oil or water colour; drawings in pencil, pen and ink, crayon, pastel or chalk; and prints were accepted in the media of wood-cuts, lino-cuts or silk screen.

Prizes were awarded to the best entries in the amateur class and a special prize was awarded to the entry judged best in the exhibition. After the judging the prize winning entries, and other selected works, were placed on exhibition in Ottawa. The prize winners are as follows: Amateur class (air force connotation) — first, F/L D. J. Connolly; second, F/O G. Bennett; third, Sgt. K. Sutton. Amateur class (artist's choice) — first, Mrs. L. E. France; second, Mrs. L. Gobeil; third, Sgt. F. C. Staines. Professional class — first, Mrs. L. K. Jennings; second, Mrs. A. Ashton; third, Mr. H. Hames.

The recreation branch plans to sponsor a similar competition later this year.



Top left: THE RITTER, HEIDELBERG, by Mrs. L. K. Jennings of No. 3 Wing, Zweibrücken, was awarded first prize in the professional class and was also judged best entry in the competition.

Bottom left: D-DAY ENGLAND, by F/O G. Bennett of RCAF Station Moose Jaw, won second prize in the amateur class air force connotation category.

Top right: INTERIOR B.C. by F/L
E. Dahlgren of RCAF Station Cold
Lake.

Bottom left: STILL LIFE IN WHITE
by Mrs. M. King of RCAF Station
Centralia.

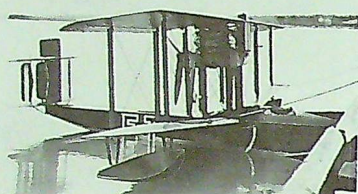
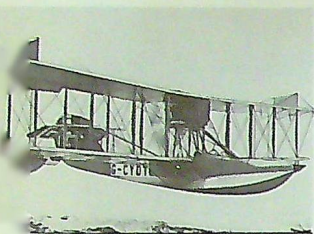
Bottom right: OLD MISCHIEF by
Mrs. J. E. Errington of RCAF
Station Sea Island.



ON 8 JANUARY 1962 the inaugural weekly-scheduled *Yukon* passenger flight left Trenton for Marville, France, followed later in the week by three scheduled freighter trips. Thus Air Transport Command commenced a ten-hour, non-stop trans-Atlantic service which provides, in addition to the obvious economies in transportation costs, essential practical training in the handling of military personnel and supplies in case of wartime emergency.

Capable of carrying 58,000 pounds of freight or 134 combat-ready troops at a speed of 320 knots, the *Yukon* is a striking contrast to the aircraft used in military air transport 40 years ago. In 1921 the Canadian Air Force could airlift, in twin-engined F-3 flying boats, seven passengers or 1460 pounds of freight at an airspeed of less than 90 knots.

Between the First and Second World Wars Canada's flying service performed a variety of tasks. The majority of these duties were closely allied to our present air transport role. The Air Board's 1919 report, which stated "... unlike other military skills, aviation is capable of a large measure of useful exercises in peace," prophesied the post-war work of Canada's Air Service: forest patrols, including fire and "bug watching" (some forestry patrol flights carried entomologists who were delving into the treatment of the various insect pests that, from time to time, ravaged the forests of Canada), timber cruising, general



The Evolution and Current Status of

AIR TRANSPORT COMMAND

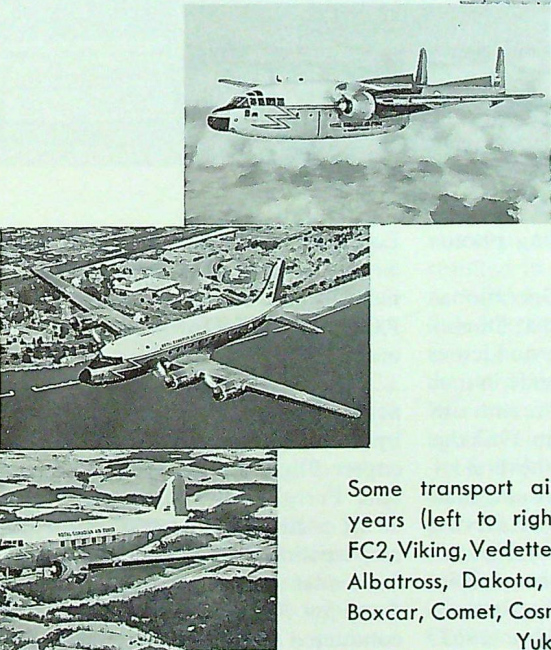
By AIR COMMODORE R. J. LANE, DSO, DFC.
Air Officer Commanding, Air Transport Command

reconnaissance and photography, anti-smuggling and illegal fishing patrols, as well as air transportation of government officials.

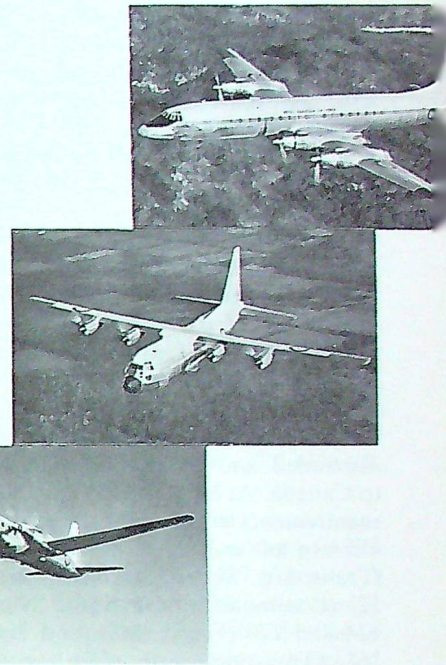
These aerial assignments were carried out by crews flying, principally, F-3 twin-engined and HS2L single-engined flying boats, Avro 504K and DeHavilland DH4 and DH9 landplanes. A *Bristol* fighter served as the photographic platform for the first Canadian aerial mosaic — that of the nation's capital. In 1925, the Canadian-designed and built Vickers *Vedette* came into service with the air force. This little machine was used to good effect in aerial photography and forest patrols. Gradually other aircraft were added to the air force's establishment: Fairchild's replaced the DH4 and DH9s; Vickers *Viking*, *Varunas* and *Vancouver*s took over from the F-3 and HS2L flying boats. One or two orphans were fostered by the air force — a single Ford tri-motor on floats and later a pair of Super Fairchild 71s found temporary haven

with the force. A number of Bellanca *Pacemakers* increased the service's photographic and transport capability. The depression brought this gradual re-equipment of the RCAF to a halt. Not until the years immediately preceding the Second World War were any major purchases made for Canada's flying service.

Although the RCAF had communications and ferry squadrons early in the war (No. 12 Communications Sqn., 1940; No. 124 Ferry



Some transport aircraft through the years (left to right): HS2L, Fairchild FC2, Viking, Vedette, Vancouver, Canso, Albatross, Dakota, North Star, Flying Boxcar, Comet, Cosmopolitan, Hercules, Yukon.



Sqn., Jan. 1942), the first unit specifically earmarked for air transport was formed at Moncton in January, 1943. Flying *Digby* and *Lodestar* aircraft, No. 164 Sqn. transported essential freight to the RCAF's Labrador air base at Goose Bay and during its initial year of operation traded its *Digbys* for *Dakotas*, fostered Numbers 165 and 168 Transport Sqns., and, early in its second year, provided trained crews for the two overseas squadrons operating in Burma — Nos. 435 and 436 Sqns. (see page 17). Canada's third overseas air transport squadron, Number 437, was formed in England in September, 1944, and immediately took part in the Arnhem operation, towing gliders and dropping supplies.

Following VE Day, No. 426 Sqn.* was re-equipped with *Liberators* for its new job as a transport unit and transported troops to and

* The "Thunderbirds" operated as a No. 6 Group heavy bomber squadron during the war.

from India until disbandment in Britain in December 1945.

After the Japanese surrender, Nos. 435 and 436 Sqns. moved from Burma to Britain where they joined No. 437 Sqn. in No. 120 (Transport) Wing RCAF. The Wing provided the total airlift for RAF Transport Command in the European theatre, carrying repatriated nationals to their homelands, flying emergency supplies to all parts of Europe and returning sick and wounded troops and POWs to England. The three squadrons continued this work for the better part of a year, then were disbanded and their aircraft flown to Canada. At home the diminishing requirements of the immediate post-war era left only Nos. 164 and 165 (Transport) Sqns. (*Dakotas*); No. 12 (Communications) Sqn.; Nos. 124 and 170 (Ferry) Sqns. and No. 168 (Transport) Sqn. (*Fortresses*, *Liberators*, *Dakotas*) in operation.

However, air transport activities within the RCAF swiftly began to increase and No. 9 (T) Group, formed at Rockcliffe in February 1945, attained full command status in 1948. In the interim, squadron numbers changed and new aircraft were added to the fleet. Nos. 165 and 170 Sqns. were disbanded in late 1945; No. 164 Sqn. followed in the summer of 1946, its personnel being immediately absorbed into two "new" squadrons: 435 at Edmonton and 426 at Dartmouth. In the spring of 1947 No. 12 Sqn. became No. 412 Sqn. and in the fall of that same year No. 426 began equipping with *North Star* aircraft.

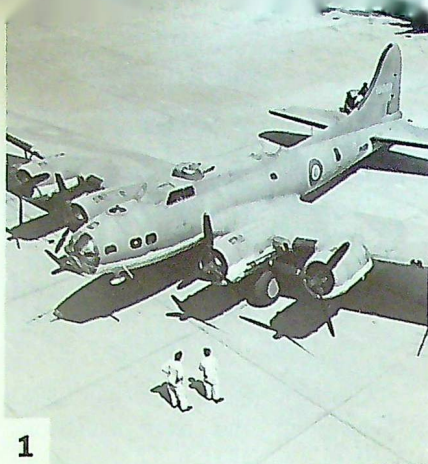
Aerial survey and photography, which came under 9 (T) Group control in 1946, was carried out in the early post-war years, using *Dakota*, *Mitchell*, *Canso*, *Norseman* and *Lancaster* aircraft. Nos. 408 and 414 (photographic) and 413 (Survey Transport) Sqns. continued this specialized work until early 1951 when Nos. 414 and 413 were disbanded, leaving No. 408 Sqn. as

the RCAF's one remaining photographic unit.

Early in 1952 an Operational Training Unit was opened at Dorval to provide aircrew and groundcrew training on transport aircraft. No. 4 (T) OTU moved to its present site at Trenton in 1953. Also in 1953 the RCAF took delivery of the first of a pair of *Comet* jet aircraft and thus became the first military air service in the world to fly pure jet transports. Air Transport Command continued its growth with the re-activation of No. 436 Sqn. in 1953.

Equipped with C119 *Flying Boxcar* aircraft, this squadron moved from Dorval and now operates out of RCAF Station Downsview in Toronto.

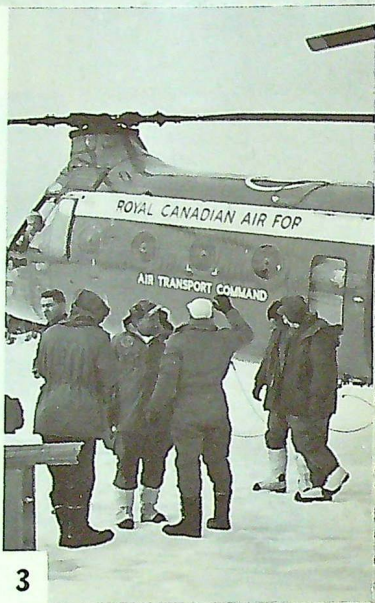
The varied occupations of ATC personnel are graphically illustrated by the activities of No. 108 Helicopter Flight Service and the Overseas Ferry Unit. The rotary wing airlift used in conjunction with the construction of the Mid-Canada Line sites was organized and executed by ATC. This operation was conducted so efficiently that the Of-



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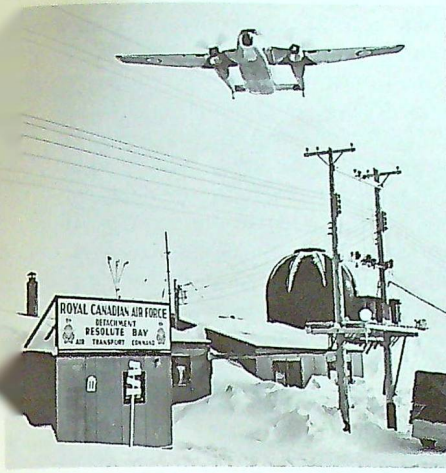


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1. No. 168 Sqn. *Fortress*, 1944
2. No. 108 Flt. H-34 on MCL, 1956
3. OFU pilots on survival course, 1955
4. Royal tour by No. 412 Sqn. C-5, 1957



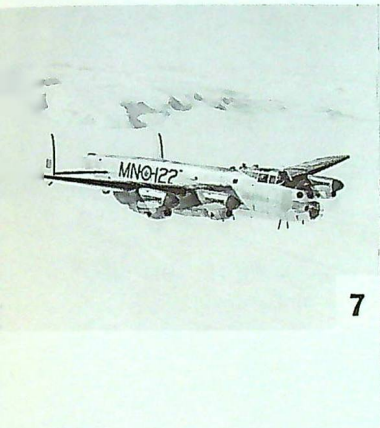
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- 5. Arctic re-supply by No. 436 Sqn.
- 6. AOC inspects UNEF airlift, 1957
- 7. No. 408 Sqn. Lancaster photographs Arctic
- 8. No. 115 ATU Caribou patrols Sinai



6



7



8

ficer Commanding No. 108 Ft., S/L R. T. Heaslip (now W/C at ATCHQ) was awarded the McKee Trophy for 1956. ATC's Overseas Ferry Unit, given the responsibility of flying jet fighters from Canada to Europe, made more than 800 trans-Atlantic air deliveries to the Canadian Air Division and to other NATO countries overseas.

Air Transport Command in 1957 was again honoured by the presentation of the McKee Trophy to one of its officers. The RCAF completed its major photographic commit-

ments in 1956 and this achievement resulted in the award of the trophy to W/C J. G. Showler (ret.), Canada's SHORAN expert. Today, military photography and northern reconnaissance is still ably carried out by crews of No. 408 Sqn., flying the ageless *Lancaster* aircraft.

In any growing organization changes are continuous. Air Transport Command is no exception to this rule. During the past few years, ATC operations and responsibilities have expanded. When Tactical Air Command was dissolved on 1 Janu-

ary 1959, ATC became heir to RCAF Stations Whitehorse, Namao and the Canadian Joint Air Training Centre at Rivers, along with survival training for the RCAF. The headquarters' move from Lachine to Trenton in 1959 resulted in ATC acquiring not only Station Trenton and its detachment at Resolute Bay in the Arctic, but also 65 Ontario Air Cadet Squadrons and the Eastern Area Rescue Co-ordination Centre. Later, the Command assumed operational and functional control of all RCAF auxiliary flying squadrons as well as auxiliary technical training units and medical units in Canada.

Late in 1961 a new squadron, bearing the time-honoured ATC designation of No. 437 ("Husky") Sqn., was created. This unit, equipped with the big CC106 *Yukon* turbo prop transports, bears a motto which is most apt: "Anything, Anywhere". Also, RCAF Station Vancouver joined the growing list of ATC stations, bringing the total to eight regular stations: Vancouver, Whitehorse, Namao, Churchill, Rivers, Trenton, Downsview and Goose Bay; with detachments at Resolute Bay, NWT, and El Arish in Egypt. ATC Auxiliary Wings are located at: Vancouver, Calgary, Edmonton, Saskatoon, Winnipeg, Hamilton, Toronto and Montreal; and ATC squadrons as lodger units at Uplands, Rockcliffe and St. Hubert.

In 1921 government officials indicated that a military air arm could provide "useful service in peace." Today, the peaceful useful service performed by the RCAF's air transport force, is a programmed part of ATC's emergency preparation. The need for such preparation should perhaps be reviewed in more detail.

Government policy has decreed that the RCAF shall be the air carrier for the Department of National Defence. This responsibility has been delegated within the RCAF to the

Air Officer Commanding Air Transport Command. The size and composition of the ideal air transport force is based on war or peacetime emergency requirements. Just how nearly the actual force resembles the ideal depends upon allocation of funds within the defence budget and the level of efficiency of the force in being. Experience has shown that the state of readiness which will meet the increased demands of an emergency requires that the transport aircraft and the maintenance and control organization must be operated in peacetime at a rate not less than 50% of the emergency requirement.

The air transport force is exercised at the peacetime flying rate in such a way as to ensure that the aircraft crews and the supporting ground organization and controlling agencies train to and maintain a high degree of proficiency in the special skills associated with the airlift of military personnel and equipment. Arctic weather station re-supply, trans-Atlantic operations in support of the Canadian Overseas Brigade, the Air Division and the UN Forces in Egypt and the Congo and, to a lesser degree, trans-Pacific flights to support UN Forces in the Far East are particular examples of the types of peacetime operations which provide the knowledge, experience and training that is necessary to meet war emergency requirements. The importance of doing useful work on these exercises cannot be over-emphasized.

The principle of employing transport aircraft at a planned peacetime flying rate on tasks which provide the aircrews and ground personnel with training in their wartime roles is not a new concept. It is a principle which was adopted the day the RCAF formed its first strategic airlift squadron with *North Star* aircraft. It was for this reason that the RCAF was able to meet quickly its commitments on the Korean airlift.

This same preparation allowed us to implement speedily Canada's contributions in support of the UN in Egypt and the Congo. As an example, *North Star* aircraft were on their way to the Congo on the same day that the Canadian Government approved the initial UN request for emergency supplies.

Major economies are effected by making use of the RCAF's airlift capacity in peacetime. Pipeline requirements for high cost items are materially reduced and we are also able to reduce the man hours that are lost when service personnel are moved to and from Europe by surface means. Additionally, if the RCAF, in peacetime, did not carry freight and passengers in its aircraft, the Canadian taxpayer would, in effect, be paying transportation charges twice: first, through the cost of flying empty aircraft (which must be flown to maintain an adequate state of readiness), and, secondly, through the cost of the alternative means of transport.



Para-rescue jumper leaves *Albatross* over Ontario.

The role of Air Transport Command is to train, support and control those forces which are provided to meet RCAF commitments in the fields of air transport and area reconnaissance. To carry out the specific tasks involved in this general role, ATC has received a number of new aircraft in the past two years. The *Albatross*, *Caribou*, *Cosmopolitan*, *Yukon* and *Hercules* constitute a re-equipment program that is more extensive than ever before undertaken by the RCAF in peacetime.



Saigon stop for round-the-world *Yukon*

Welcome to Marville for No. 437 Sqn. OC and crew.



The purpose of these aircraft is to help us maintain the peace and to be prepared for time of war — a purpose that can best be achieved with aircraft that incorporate the most up-to-date technological advances and which, in their various roles, will serve ATC well in the years ahead.

The *Albatross* was selected to meet Canada's domestic and ICAO search and rescue obligations. Ten of these aircraft are deployed at search and rescue centres at Greenwood, Trenton, Winnipeg and Sea Island. Train-

ing of crews from all across Canada takes place at Trenton in the *Albatross* Flight of No. 102 Composite Unit.

The *Caribou* is a short take off and landing aircraft. Four were purchased from the DeHavilland Company of Canada. Three are operating with the United Nations Forces in the Middle East, where they have given a very good account of themselves. The fourth *Caribou* is located at the OTU in Trenton, to convert aircrews to this machine before they

leave for El Arish. The three *Caribous* have replaced the four *Dakotas* formerly operating with *Otter* aircraft over the Sinai Desert.

Another *Dakota* replacement is the twin-engined, turbo-prop *Cosmopolitan*, a medium range transport capable of rapidly transporting passengers and freight. Nine of the RCAF's fleet of ten *Cosmopolitans* are operated by 412 Squadron; the tenth is at the OTU in Trenton for conversion and continuation training.

The *Yukon*, produced by Canadair Ltd. and powered by Rolls-Royce turbo-prop engines, is a modified version of the *Britannia* airframe and has been chosen to supplement the *North Star*. Ten of the 12 *Yukons* equip the newly-formed No. 437 Sqn. and the OTU at Trenton. The two remaining *Yukons* will operate with No. 412 Sqn. at Uplands.

Another long standing transport requirement, for an aircraft that would be complementary to the *Yukon* and the *Flying Boxcar* in the rapid movement of heavy, bulky cargoes has been met by the Lockheed

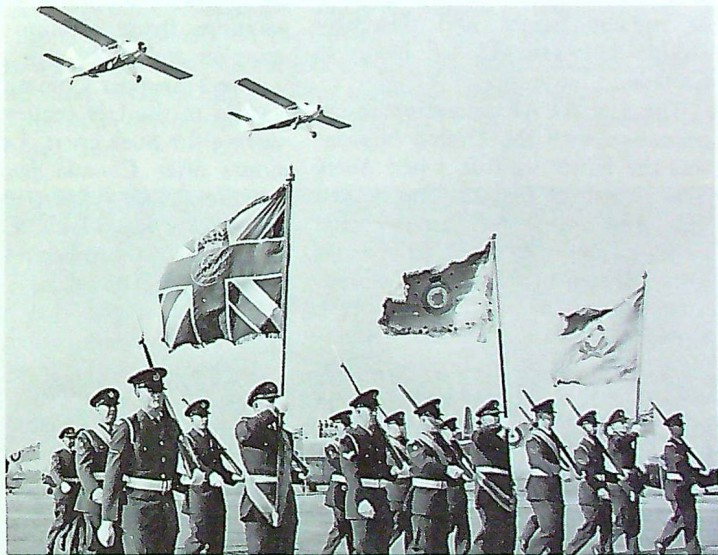


At Leopoldville airport, Congo.

No. 424 (Hamilton) auxiliary squadron parade on receipt of sqn. standard, November 1961.



Propeller change for *Boxcar* in -30° at arctic base.



Hercules. The principal wartime task of the *Hercules* would be the air transportation of personnel and materiel for delivery by parachute or landing on primitive airstrips. In peacetime, this aircraft has proven to be particularly useful in the re-supply of our Arctic weather stations. The four *Hercules* owned by the RCAF are assigned to No. 435 Sqn. in Edmonton.

Canada's military airlift can be divided into two categories: strategic and tactical.

Strategic airlift is the long distance movement of personnel and supplies to re-inforce and support units in threatened areas, normally overseas. The aircraft fly to and from well developed bases. Speed and volume of traffic are the most important features of strategic airlift.

Tactical airlift, on the other hand, is the movement of troops and supplies into battle positions, and may involve airdrops by parachute or landing on hastily prepared airstrips.

Continuing commitments for military airlift include UN operations to Egypt and the Congo; annual re-supply flights to the Canadian contingent in Saigon; air support of the NATO Air Division in Europe; Arctic airlift and combined exercises with the Canadian Army, as well as regular freight and passenger flights between RCAF bases in Canada.

The first RCAF operation in co-operation with the United Nations was the Korean airlift, when *North Star* aircraft of No. 426 Sqn. joined the USAF in a massive trans-Pacific airlift to Japan from McChord Air Force Base near Tacoma, Washington. During the four years of the Korean airlift, the squadron completed 599 round trips to Japan without a fatality or loss of a single pound of cargo.

In August, 1954, the RCAF was again called upon by the United Nations; this time to airlift members of the Indo China Truce Commis-

sion and their equipment to Saigon. Eight special flights were completed in that year, and each year since then Air Transport Command aircraft have carried out flights in follow-up support, flying rotation personnel, supplies and mail.

Air Transport Command reacted swiftly to the UN request for airlift during the Suez crisis. Less than 48 hours after Canada had accepted the commitment, RCAF *North Stars* and *Flying Boxcars* were assembled in Naples ready to begin their flights into Egypt. Today, air support for the UNEF is provided by No. 426 Sqn. *North Stars* which complete one flight a week into El Arish, Egypt. A 100-man unit maintains and operates four *Otter* and three *Caribou* aircraft there. This unit constitutes the total air arm of the UNEF in Egypt and is responsible for the air transportation of UN per-

sonnel and aerial patrol of the Gaza Strip.

The RCAF's response was equally rapid when the UN moved into the Congo. Two hours after Ottawa's authorization, four *North Stars* were on their way to the Congo loaded with Canadian government food supplies. Later, Operation Mallard saw one *North Star* departing Trenton for Leopoldville every 12 hours carrying Canadian Signals Corps personnel and equipment. Now ATC operates eight *North Star* flights to Leopoldville each month. Last year two *Flying Boxcars* were dispatched on short notice, complete with aircrews and maintenance personnel, for a two-month attachment to the UN Air Transport Force in the Congo and carried out internal airlift operations. These aircraft returned to Canada at the end of November.

ATC ROLES AND FLYING UNITS

Strategic Airlift

No. 412 Sqn., Uplands (*Comet, Yukon, North Star, C5, Cosmopolitan, Dakota*)

No. 426 Sqn., St Hubert (*North Star*)

No. 437 Sqn., Trenton (*Yukon*)

Tactical Airlift

No. 435 Sqn., Namao (*Hercules, Flying Boxcar, Dakota*)

No. 436 Sqn., Downsview (*Flying Boxcar*)

Arctic Reconnaissance

No. 408 Sqn., Rockcliffe (*Lancaster*)

Special Air Transport

No. 115 ATU, El Arish, Egypt (*Caribou, Otter*)

*No. 137 Transport Flt., Langar, Eng. (*Bristol Freighter*)

*No. 109 KU, Grostenquin, France (*Dakota*)

Search and Rescue, Short Range Communications

No. 121 KU, Vancouver (*Albatross, Dakota, Otter, H-21*)

No. 102 KU, Trenton (*Albatross, Dakota, Otter, H-21, H-34*)

Stn. Flt., Goose Bay (*Otter, Dakota*)

Stn. Flt., Churchill (*Otter*)

Auxiliary Squadrons (*Expeditior, Otter*)

Operation Training

No. 4 OTU, Trenton (All ATC types)

CJATC, Rivers (*Flying Boxcar, helicopters*)

*No. 1 Air Division Units.

RCAF resupply flights to isolated Arctic outposts continue throughout the year, not only to meet the continuing needs of these Arctic units, but also to provide the continuation training required for the main annual airlift operations in the high Arctic. Four times a year special operations are conducted for short periods when large amounts of equipment and supplies are delivered to the weather stations in a concentrated period. In April 1961 *Hercules* aircraft were used for the first time by the RCAF in a large scale Arctic operation. Spring resupply for 1960 saw 680,000 pounds airlifted in 12 days using three *Flying Boxcars*. In 1961 four times that amount, over two million pounds, was moved in ten days using two *Hercules* aircraft. Each year the RCAF carries out "Operation Santa Claus," when *Flying Boxcars* of No. 436 Sqn. and *Hercules* of No. 435 Sqn. parachute panniers of Christmas mail and supplies to isolated Arctic weather stations and RCMP detachments. On 27 September 1960 No. 435 Sqn. lived up to its squadron motto "Certi Provehendi" (Determined to Deliver) when an Eskimo mother gave birth in one of its *Flying Boxcars* during an emergency flight from Resolute Bay to the USAF hospital at Thule.

Each year ATC and Canadian Army personnel join in air mobility exercises operating out of Calgary and Edmonton in the west and London and Quebec City in the east. Troops and equipment are parachuted from RCAF transports over open country, while additional troops and machines are flown to forward air strips. Often these joint operations are more than exercises, as in the case of "Operation Rapid Jump" when over 1000 Canadian Army troops, along with many vehicles and tons of fire fighting equipment were airlifted to Gander from Quebec City and Fredericton to help fight serious forest fires in the prov-

ince of Newfoundland during the summer of 1961. The airlift was completed in just under 48 hours.

Hardly a current operation, but steadily becoming more recurrent, are ATC emergency flights to disaster areas. Evacuating fire-threatened families from Janis Lake in Quebec; carrying Red Cross doctors, nurses and medical supplies to Agadir, Morocco; transporting medical supplies and food to quake-shattered Chile and, most recently, flying Red Cross and Canadian government supplies to hurricane-harried Belize, British Honduras, have acquainted our crews with widely separated parts of the world on extremely short notice.

In addition to the aforementioned tasks, ATC is responsible for all transport training and the setting of transport flying standards for units throughout the air force, para-rescue training, flying boat conversion and helicopter training.

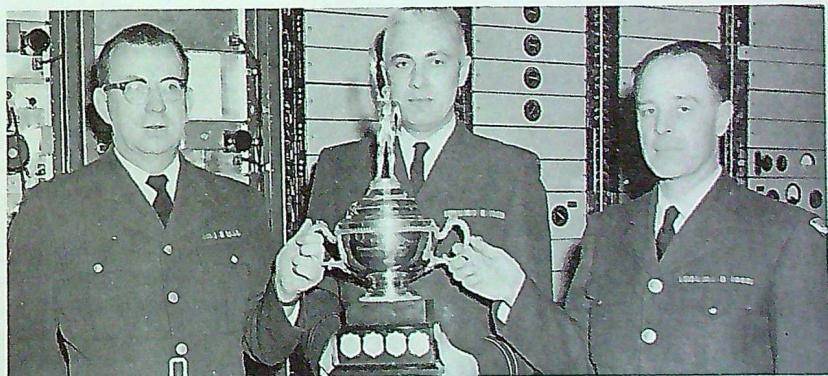
Over the past ten years a number of airlift activities which started out as military operations have since been turned over to civilian operators — the Korean airlift, DEW and

Mid-Canada Line air logistics to name a few. Aerial photography and survey and Arctic ice patrols are also tasks which were begun by the RCAF but today are almost exclusively carried out by aviation contract. Civilian air carriers are now flying many tens of thousands of hours annually in Canada on such missions.

In summary, the size and composition of the RCAF's Air Transport Force is based on the predicted wartime or emergency requirements for the rapid movement of military supplies and personnel. To be effective in the first days of an emergency the force must operate at a peacetime rate not less than half of the emergency requirement. Air and ground personnel must be trained in the special skills, strategic and tactical, of transport support. Finally, by using transport aircraft for the air movement of DND personnel and supplies in peacetime, the RCAF is not only getting essential training in the handling of passengers and cargo, but it is also effecting significant economies by reducing pipeline and transportation costs. ☉

WINNIPEG UNIT AGAIN WINS TROPHY

The RCAF Telecommunications Efficiency Trophy, won by No. 3 Communications Unit, Winnipeg, for its performance in 1961, is displayed by (l. to r.): WO1 H. Harley, operations officer; F/L R. H. Mitchell, officer commanding; and WO2 G. R. Griffith, technical warrant officer. This is the second time in its seven year existence that the trophy has been awarded to the Winnipeg unit.



MAN'S ADVANCE INTO SPACE

By DR. J. C. ARNELL

Scientific Advisor to the Chief of the Air Staff

Part I

A Review of Space Research

SINCE the first earth satellite was launched by the Russians over four years ago, both the Americans and the Russians have made many achievements in space which were almost unbelievable in 1957. To many people SPUTNIK I marked the beginning of space activities of any type. Nothing could be further from the truth. Space research is of long standing, dating back to the astrologers and their plottings of the movements of the stars and planets and includes the studies of many famous scientists through the centuries. The result of this fundamental research provided the necessary base for man to expand his operations to include space probes and satellites. Part One of this three-part series reviews the build-up of space research with special emphasis on the Canadian effort.

Although Canada has not figured very prominently in the work involving space hardware, Canadian contributions to the scientific measurements of the upper atmosphere have been going on for over 100 years. This early work found a focal point early in this century as a result of the development of meteorology as a science and the invention of radio as a communicating medium. These two fields took man's eyes off the stars and pointed them at the upper atmosphere. In these early days most measurements had to be made from the ground, although balloons were used occasionally to carry instruments above the dense layers of the atmosphere. Sound waves resulting from large man-made explosions were also used to study the atmosphere to heights of about 50 kilometers. Such heights are above the upper reaches of the stratosphere, but below the ionosphere.

Studies of the ionosphere were begun when it was discovered that radio pulses were reflected back to



Illustration courtesy THE AIRMAN

earth by various clouds of ionized gas. This technique of ionospheric sounding was first employed about 1925 and marked a great advance in the exploration of the upper atmosphere. Until comparatively recent years, except for the balloon experiments, observations were limited to instruments located on the earth's surface and the data sought were obtained only by indirect means, rather than by direct measurement.

Advances in rocket technology provided a new tool for direct measurements in and beyond the upper atmosphere. Although a limited amount of experimentation with rockets was done in the 1930s, particularly by Professor Robert H. Goddard in the United States, the employment of high altitude rockets for scientific measurements is a post-World War II phenomenon. The use

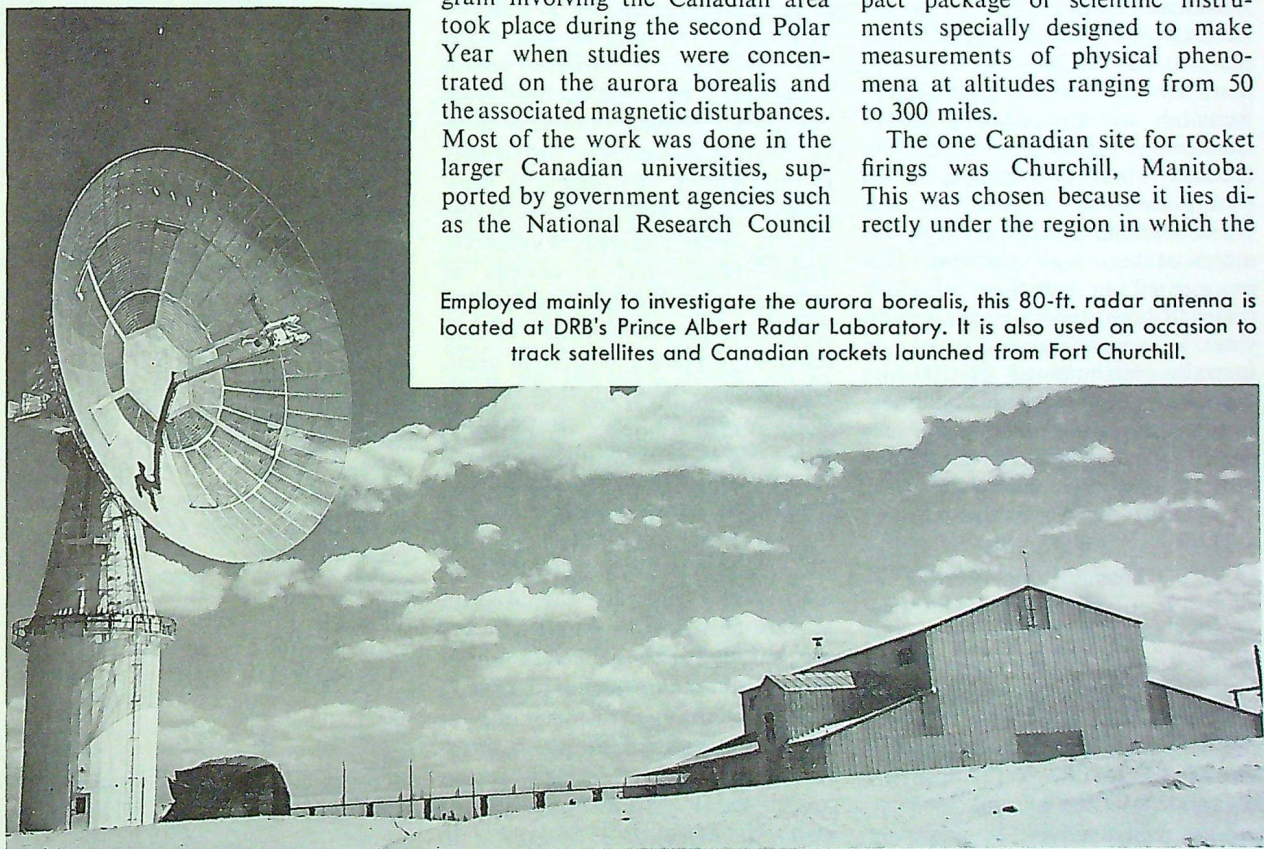
of rockets has been developed almost entirely through military efforts; direct participation by non-defence organizations has only occurred during the last few years. One can date the beginning of this activity with the American, and presumably the Soviet, firing of captured German V-2 rockets in 1946. Since that time, the scientific use of rocket-borne probes has increased markedly and a number of rockets have been developed specifically for this type of work.

Upper atmosphere research was given a tremendous boost during the International Geophysical Year (IGY), actually the 18-month period from 1 Jul 57 to 31 Dec 58. This was really the third such period of concentrated geophysical studies. The previous two periods were the International Polar Years of 1882-83 and 1932-33. The first large-scale program involving the Canadian area took place during the second Polar Year when studies were concentrated on the aurora borealis and the associated magnetic disturbances. Most of the work was done in the larger Canadian universities, supported by government agencies such as the National Research Council

and the predecessor of the Department of Mines and Technical Surveys. The Department of National Defence has only been actively involved since the establishment of the Defence Research Board (DRB) in 1947. Since then it has played a very prominent part in Canada — particularly with respect to the building of space instruments and rockets.

The IGY may be said to have got upper atmosphere research off the ground. By the time the IGY program was being drawn up, the development of high altitude sounding rockets had reached a point where they could be considered as a major component of the program. As a result, periodic firings of such rockets were scheduled by a number of the participating nations from a number of different places in the world. Each rocket carried a compact package of scientific instruments specially designed to make measurements of physical phenomena at altitudes ranging from 50 to 300 miles.

The one Canadian site for rocket firings was Churchill, Manitoba. This was chosen because it lies directly under the region in which the



Employed mainly to investigate the aurora borealis, this 80-ft. radar antenna is located at DRB's Prince Albert Radar Laboratory. It is also used on occasion to track satellites and Canadian rockets launched from Fort Churchill.

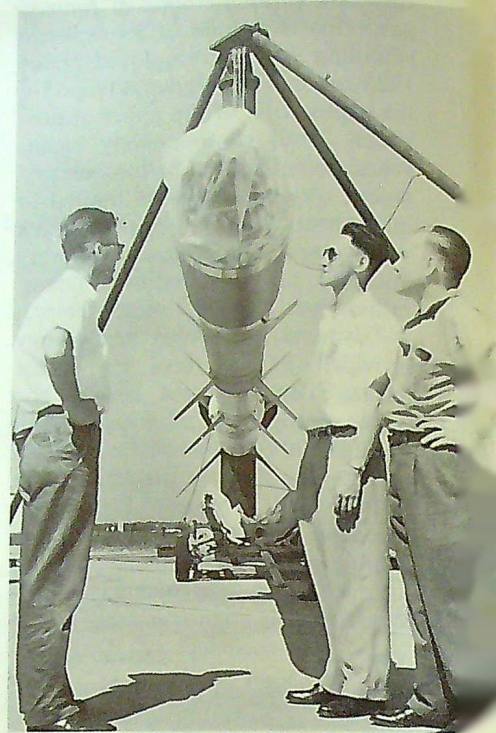
aurora borealis reaches a maximum. Although the northern lights are a common sight to most Canadians, little was known about them scientifically. It was planned to fire rockets into the region where they occur, which extends upwards from about 60 miles altitude. The rocket launching facility was constructed just outside the Churchill military camp with money provided by the American IGY Committee. It could handle the firing of both solid and liquid fuel rockets. The first of these were the simpler of the two, but were quite limited in both payload and maximum altitude. The latter had very much greater height and load-carrying capabilities, but presented many problems because of the dangerous liquid fuels which had to be handled.

The program of rocket firings at Churchill was almost exclusively American. However, DRB was invited to provide the instrumentation for two of the rockets. This was done by the Canadian Armament Research and Development Establishment (CARDE) at Valcartier, Quebec. These two firings, which took place in September 1958, provided infrared radiation measurements at very high altitudes. This represented an extension of work that had been underway for several years in which use was made of specially instrumented CF-100 aircraft and high altitude balloons. Both firings were completely successful and represented the beginning of Canadian participation in direct measurements in near space.

Since that time a number of firings at both Churchill and Wallops Island, Virginia, have carried Canadian-instrumented nose cones. In addition, a CARDE-developed solid fuel rocket, the **BLACK BRANT**, has been used for similar research and a number of firings have taken place at Churchill over the past two years. With the **BLACK BRANT**, Canada has available a relatively

inexpensive sounding rocket which can be launched with a minimum of range instrumentation. Thus there is at hand a means available to the many groups, particularly in the universities, to further their research into upper atmosphere and near space. However, this research received a very serious setback last spring when a fire destroyed most of the rocket launching facilities at Churchill. Plans for their replacement are in hand, but for some time the launching capability will be very limited.

It was only another step in man's desire to examine the environment of near space which produced the first earth satellite. From the beginning of the use of rockets, the extent of space activity has been limited by the power of the available rockets. In order to compare the potential of different rockets, it is worth remembering that in order to place a satellite in orbit, it is necessary to achieve a speed of about 17,000 mph by the time the rocket engine has burned out. This must be compared with the capabilities of the German V2's which, as mentioned earlier, were the first rockets used in upper atmosphere research. These rockets had a velocity at burnout of about 2,000 mph, or a little more than ten percent of that required to place a satellite in orbit. During the postwar period of missile development, each successively larger rocket had a higher cut-off velocity and it was not until intercontinental ballistic missiles such as the **ATLAS** were available that there was sufficient power to actually orbit the rocket itself. This was done on 18 Dec 58 when the **SCORE** satellite was put into a low orbit and broadcast a Christmas message from President Eisenhower. This satellite was nothing more than an **ATLAS** ICBM with a tape recorder and radio transmitter in place of the explosive warhead.



Final stage and Canadian-instrumented nose cone of a four-stage US rocket being moved to launching pad at NASA's Wallops Island site. Successful firing aided DRB's topside sounder satellite program.

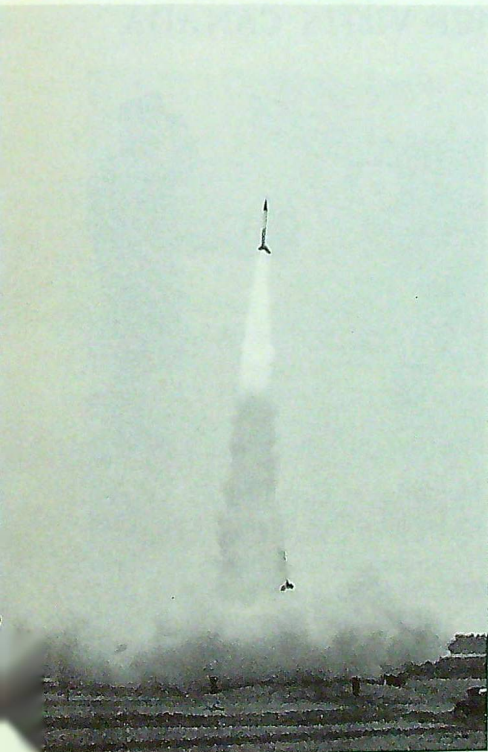
These remarks only refer to the use of single stage rockets to place a satellite in orbit. For a number of technical reasons, it is better to use several smaller rockets which fire successively than a single large one for this work. Much better control is possible, a greater payload can be launched and a higher velocity achieved with less expenditure of power. With the exception of the **SCORE** satellite, all other space vehicles have been launched with multi-stage rockets.

All major US space projects, with the exception of the **VANGUARD** series for the IGY, have used military missiles as the primary stage. In the earlier ones **THOR** and **JUPITER** were used and, once **ATLAS** reached production, it was used where greater power was required. Although the

Russians can place a larger payload in orbit, their space program has been surprisingly limited. In fact, when the relative number of launchings are compared and the variety of American experiments taken into account, there is no doubt that the American program is in advance of the Soviet one. This is not to say, however, that by concentrating in one area at a time the Russians have not achieved a number of spectacular firsts from the propaganda point of view. In this regard the Americans have already achieved an impressive number of scientific firsts with their satellites.

Prior to 1956, the only interest in satellites could be found in the rocket societies and other study groups of wild-eyed enthusiasts. However, the establishment of the

BLACK BRANT, a CARDE-developed solid fuel rocket, is a relatively inexpensive test vehicle used to obtain scientific data in the upper atmosphere.



IGY promised funds to turn ideas into hardware. The Soviet Union appears to have been first in deciding to build a satellite for the IGY and there is reason to believe that they originally planned to launch it on 1 Jul 57 to herald the start of this special scientific period. Technical difficulties apparently forced a three-month postponement on them. Shortly after the Soviet decision, the US IGY Committee received authority for a satellite program, known as VANGUARD. This was to be completely independent of the military missile programs and suffered somewhat as a consequence.

Instead of making use of the missiles under development, the rockets for VANGUARD were developed from scratch and through choice were of lower power than the missile counterparts. The program envisaged the periodic launching of small instrument packages weighing up to 25 pounds into high altitude orbits during the IGY. However, being the first satellite program, it was plagued with difficulties and delays and consequently suffered many failures, when the pace was forced by the successful launchings by the Russians of two SPUTNIKI on 4 Oct 57 and 3 Nov 57. The first VANGUARD launching was attempted on 6 Dec 57 and unfortunately was a failure. Two months later a second try also failed, but the third attempt on 17 Mar 58 was successful and a three-pound radio beacon was put into a high altitude orbit with an apogee of 2500 miles and a perigee of 400 miles. Although this VANGUARD I has been an object of scorn because of its size, the data collected from it were used to determine the shape of the earth and led to the discovery of the "pear-shaped" globe. In addition, it carried the first solar batteries into orbit and as a result is the only satellite launched prior to October 1959 which is still transmitting. Only two more VANGUARD satellites out of a total of eight further attempts

were successful. These were launched in February and September 1959 and weighed 21 and 100 pounds respectively. All three satellites are in such high altitude orbits that they will remain there for at least two centuries and possibly for two millennia.

Arising out of the American reaction to the successful launching of SPUTNIK I, the US Army was authorized to attempt a satellite launching using a modified JUPITER missile as the first stage. The resulting crash program was successful and EXPLORER I became the first US satellite on 31 Jan 58. It was put at a sufficiently high altitude — apogee 1250 miles, perigee 216 miles — that the 31-pound satellite is expected to stay in orbit for three to five years. The geiger counter it carried was powered by conventional batteries and only transmitted for 23 days. However, sufficient data were transmitted to permit Prof. van Allen to announce on 1 May 58 at a scientific meeting in Washington the existence of the belts of radiation around the earth which now bear his name. A second try on 5 Mar 58 was a failure, but this was shortly followed on 26 Mar 58 by success when EXPLORER III, a similar satellite to EXPLORER I, was put in a more elliptical orbit — apogee 1750 miles, perigee 120 miles. This satellite transmitted data for 45 days and soon afterwards, because of its low perigee, fell into the atmosphere on 28 Jun 58. Since then there have been 16 further attempts in the EXPLORER series, of which nine have been successful. Later attempts have used several different launching rockets, including the new, non-military, four-stage solid fuel SCOUT. In fact, EXPLORER IX, launched on 16 Feb 61, marked the first time a satellite was placed in orbit by an all-solid fuel rocket.

On 23 Aug 61 a new series of space vehicles was introduced with the launching of RANGER I. This satellite

had a restart capability in its AGENA B second stage, so that it could be put in a low altitude parking orbit around the earth and later sent out into space on a distant orbit. Although the first part of the operation was successful and the satellite was put in orbit, the AGENA B failed to restart so that it stayed in a 105/312 mile orbit instead of being moved out to the planned 37,500/685,000 mile one and fell into the atmosphere again on 30 Aug 61. It provided useful data nevertheless because the altitude stabilization system which locked on the sun worked perfectly.

The VANGUARD, EXPLORER and RANGER series of earth satellites must be classed as research vehicles. They were intended to make measurements of types which were extensions of the traditional upper atmosphere research. Also in this research category are the original American lunar probe attempt and the PIONEER series of lunar and space probes. Early firings in this latter series made use of THOR, ABLE and JUNO rockets, with the much larger ATLAS-ABLE rocket being used in recent attempts. With the exception of PIONEER V, an interplanetary space probe between the orbits of Earth and Venus, the remaining attempts have all been directed towards the environment of the moon. The original lunar probe was fired on 17 Aug 58 and exploded 77 seconds after launch. This was followed on 11 Oct 58 by the first PIONEER.

This program has been singularly unsuccessful in that no direct information was obtained from the vicinity of the moon from the only satellite to pass near it. Four of the PIONEER satellites were destroyed during launch; two, PIONEERS I and III, had engine and guidance errors and instead of going into orbit, went about 71,000 and 64,000 miles into space before falling back to earth. Considerable data pertaining to near space were nevertheless collected during these flights. PIONEERS IV and V

were put in orbit around the sun on 3 Mar 59 and 11 Mar 60 respectively in the only two successful launchings of the series. PIONEER IV was expected to collect lunar data as it passed within 37,000 miles of the moon, but the special apparatus was not working when this transit occurred. PIONEER IV weighed only 13.4 pounds and carried some instrumentation. Its batteries had a 90-hour life, so that its beacon was tracked for 407,000 miles. PIONEER V, on the other hand, was given the name of the "paddle wheel satellite" because it had solar batteries in addition to nickel-cadmium storage cells. It carried both 5-watt and 150-watt transmitters. The 5-watt unit was used for over three months to transmit data back to earth, by which time the satellite had travelled 22.5 million miles. When the 150-watt was turned on for the first time it proved of little use because the storage cells had apparently deteriorated.

The above gives some idea of the magnitude of the American effort in the field of research satellites and space vehicles. The results obtained are very extensive and of great significance to our knowledge of the solar system. Although the Russian program has received considerably more publicity, it is very disappointing in comparison. Only three of their earth satellites can be classed as research vehicles and even with these, very little has been published to indicate the scientific findings. Their space probes to the Moon in 1959 were significant in that one impacted on the lunar surface and the other orbited the Moon and photographed the far side. Nevertheless, the absence of any further work in this direction leaves the unanswered question of whether these launchings were for scientific purposes or propaganda. ☉

(Next Month — Part II
— Man in Space)

NORWEGIAN AIR CHIEF VISITS CANADA

Lieutenant General O. Bull, commander-in-chief of the Royal Norwegian Air Force, visited Canada for 12 days last month. During his stay he visited various RCAF headquarters and bases in Ottawa, St. Hubert, Winnipeg and North Bay, as well as the site of "Little Norway" at Muskoka, where many Royal Norwegian Air Force personnel were trained during the Second World War.

He was met on arrival at RCAF Station Uplands by A/M Hugh Campbell, RCAF chief of the air staff. Later Gen. Bull laid a wreath at the Commonwealth Air Forces

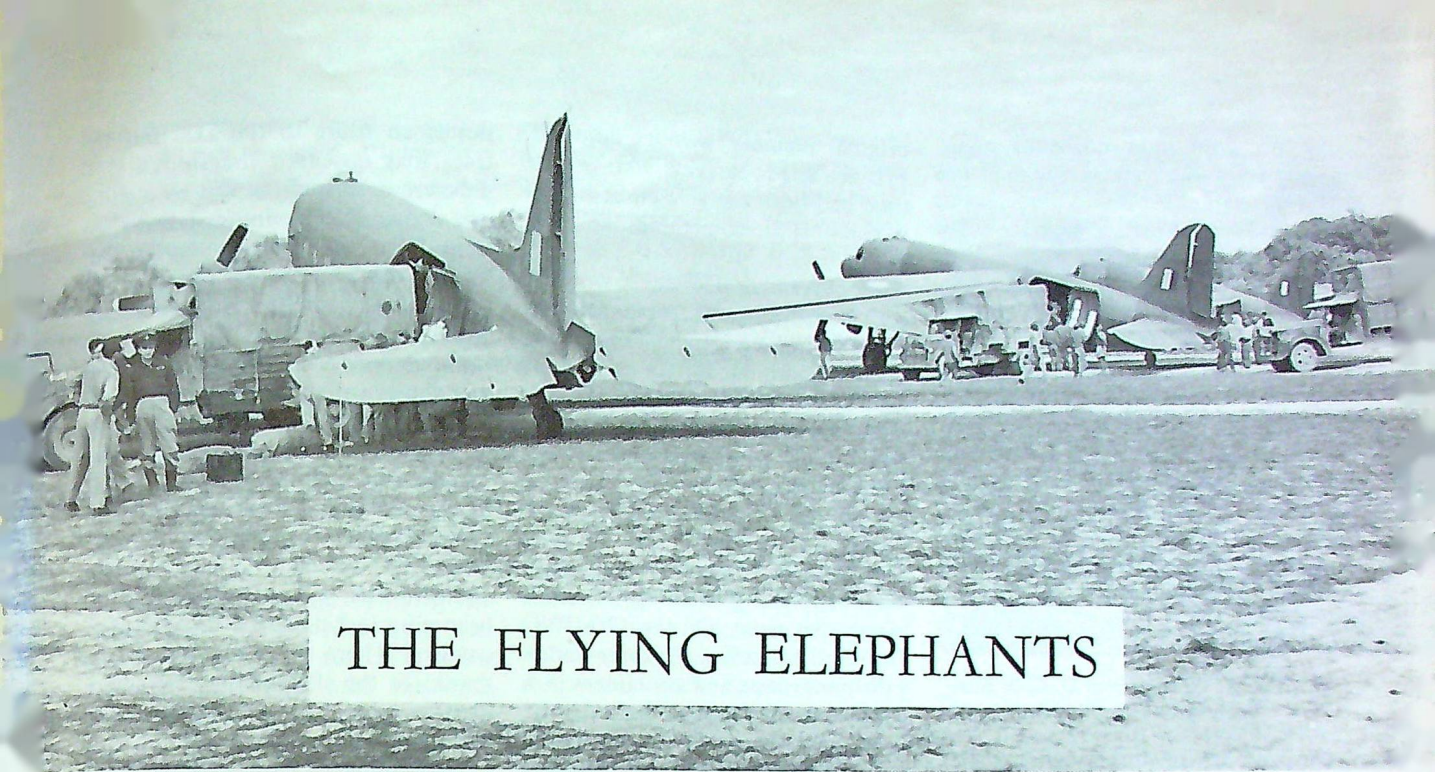


Memorial at Green Island, Ottawa, on behalf of his country's air force.

NOW 92 COUNTRIES IN ICAO

Total membership in the International Civil Aviation Organization, a UN specialized agency with headquarters in Montreal, is now 92

countries. Last month the Islamic Republic of Mauritania and the Gabon Republic became ICAO's newest members.



THE FLYING ELEPHANTS

Dakotas unloading at a forward airfield in Burma, 1944.

Part One of a Four-Part History of No. 436 Squadron

By SQUADRON LEADER A. P. HEATHCOTE

Air Historical Section

SUMMER, 1944. As the invasion of Normandy neared its climax, some 6000 miles to the south-east another Allied offensive was under way. With the coincidence of time, however, any similarity between the two ended. Granted, "Overlord" involved supply problems of staggering magnitude and complexity; but by comparison, the campaign to kick the Japanese out of India and Burma constituted nothing less than a logistical and geopolitical nightmare.

A condition long recognized as one of the area's main causes of economic underdevelopment — lack of an adequate overland transportation system — had now been inherited by the Supreme Commander

South-East Asia. Retarded technology and the tropical monsoon compounded the problem. The former necessitated importation by sea of most of the Allied Forces' needs, which meant a rail and road transfer to the forward area from depots at Calcutta, Karachi, Bombay, Madras, Lahore, and Allahabad over distances up to 2,000 miles.* Inevitably delays were caused by variance in railway gauge in India (necessitating unloading and reloading) and shortage of rolling-stock, among other factors. The monsoon brought heavy rains that washed out sections

* Ports closer to the forward areas were in Japanese hands.

of track and made the few existing roads virtually impassable. As a result, an overland trip that would have taken two days in Canada required as much as two months in India-Burma. Already formidable enough, these supply problems were magnified in a country of mountains and jungle.

Air Power held the answer. Only increased use of aircraft to the point of initiating a major-scale air transport service would solve the problem of long supply-lines and ensure, whenever and wherever necessary, prompt delivery of troops and war materiel to the battle fronts and quick evacuation of casualties. With the build-up of such a service in the summer and early autumn of 1944 there were created two new Canadian squadrons, one of which was designated "436".*

It was on 7 September 1944, to be exact, that 436 Squadron was au-

* The other was "435", whose history appeared in THE ROUNDUP Vol. 5 No. 2, Feb. 53.



W/Cs R. A. Gordon and D. C. S. MacDonald at Gujrat, India.

thorized to form. Though the first Canadian squadron to be officially created in the Far East, the unit existed only on paper until 9 October when the body corporate began to assemble at Gujrat, a fighter base high in the Punjab near the border of Kashmir.

Temporarily in charge, pending the arrival of the CO-designate, was W/C D. C. S. MacDonald, DFC, a staff officer from 229 Group HQ who had been very active in preparing for the organization of both 435 and 436 Sqns. To solve a temporary shortage of senior air force officers in India, he now bore a quadruple responsibility as station commander, OC both squadrons, and staff officer. This led to some interesting developments, not the least of which was a unique situation regarding chain of command.

With the arrival on 21 October of the first intakes of ground personnel, the embryo unit became a squadron in fact as well as in name. Ten days later W/C R. A. Gordon reported to take over one of W/C MacDonald's portfolios (i.e. command of 436), and hard on his heels came his flight commanders, S/Ls R. A. Denison and J. K. Herriot. The squadron's

original member was its adjutant, F/L R. S. McCartney, who at one time had been the sole embodiment of the unit for something like three weeks.

By November 436 was a working entity, with enough personnel and aircraft (*Dakota* III and IV) to start intensive training for its role of air transport in direct support of units of the Fifteenth Army. Belonging to 229 Group, it was part of an RAF-USAAF-RCAF military airline known as Combat Cargo Task Force.

By mid-November the squadron was undergoing training in combined operations. On the 17th W/C Gordon led seven *Dakotas* laden with paratroops and containers in a practice precision para-drop. It was excellently timed, all troops being put on the DZ* in 45 seconds and a mere 11 seconds after the appointed hour. This reputedly marked the first time in India that a full complement of paratroopers and containers had been dropped simultaneously from *Dakotas*. Three more practice drops (with time errors of only five, seven, and nine seconds) before the end of November helped the unit exceed the monthly quota of training hours (1500 for a squadron at full strength) with four days to spare, this despite the fact that it was only at three-quarters strength in personnel and aircraft and was hindered by shortages of fuel tenders and other servicing equipment.

One of the drops was witnessed by Major-General E. E. Down, SEAC's Chief of Airborne Operations, who called it "the best bit of paratrooping I have ever seen". He added that, to be sure of returning to his headquarters with a smile on his face, he planned to watch still another exercise ("Hawk") in which 436 was to take part. Regarding "Hawk", however, it must be recorded that neither Dame Fortune nor the general smiled on 436. Frustrated by lack of pin-

* Dropping zone.

points en route to the DZ and by trees that obscured the smoke signals, crews missed the DZ by a mile and dropped 5½ minutes late.*

And there were other setbacks. On 21 and 22 November, respectively there occurred one ground incident and one air accident. The former came about during the retrieving of parachutes after a practice drop. Two 'chutes had unfortunately fallen on a village, and on this account the natives were quite definitely hostile, flourishing knives to drive away our personnel and warning them to stay away. The accident concerned an aircraft which had crash-landed after becoming lost during a night cross-country. There were no casualties, thanks to the skill of the pilot who had to grope for the ground in darkness.

The all-out training program continued throughout the first half of December. Four more para-drops were carried out, one (Exercise "Mary") being noteworthy for leading off one of the more hectic flying splurges in 436's history.

Immediately after the above exercise (in fact, 436 contemporaries still wonder if they'll ever be debriefed for "Mary") crews were briefed for a task which, though not an operation within the strict interpretation of their terms of reference, was nevertheless recognized as such. They were to move 117 (RAF) Sqn. from Bikram to Hathazari, both in East Pakistan and over 1300 miles south-east of Gujrat. Despite having to fly over unfamiliar country and through dirty weather at night without navigational aids, all 16 crews reached their destination and did the job on schedule. On 13 December, after doing a glider-tow from Bihta to Fhatejang, they returned to base. They had been away about

* A pity it was that the general was not on hand 48 hours later when 436 collaborated with 435 in Exercise "Blackbird". All troops and containers hit the DZ with a timing error of only three seconds.

four days and had been airborne nearly 40 per cent of that time.

Two days later they were ordered to prepare immediately to move themselves to the forward area. Their hopes for early frontline duty were, however, deflated at the eleventh hour; it developed that they remained at Gujrat and helped to move into the line their sister squadron, 435. Thus, even while themselves being temporarily denied what they most wanted, they had at least been instrumental in assisting into operational orbit two other squadrons.

Otherwise in matter of flying activity the Christmas-New Year season of 1944-45 was relatively quiet for 436 and constituted the only partial respite in its active wartime history. Christmas atmosphere did not come easily in the desert-like Punjab, but everyone tried to improvise. In this connection the officers bent over backwards to share what few treats they had with the airmen. Through the months ahead the latter were to prove that all such shows of appreciation were eminently deserved.

On 4 January 1945 the squadron was ordered to move to Kangla and be fully operational by the 15th. It was as good a time as any to be vacating Gujrat, for only the night before heavy rain had caused the roof over the CO's (uninhabited) office to collapse, and in several other offices rivulets of mud were trickling down the walls. The 1300-mile self-airlift to Kangla was the longest overland move undertaken by an RCAF squadron overseas.

At the new base all hands of the advance party, officers included, turned to the task of unloading the aircraft and setting-up camp by the airstrip, a task hardly facilitated by the lack of drinking water and motor transport.* Considerable side-hill

* The USAF eased the situation by lending the squadron a full 200-gallon water trailer and a jeep.

gouging had to be done to accommodate the overflow of tentage caused by the presence of 436 personnel plus members of the outgoing unit (42 Sqn., RAF) who had not yet given up the premises.

Overcrowded Kangla, which was little more than an airstrip hemmed-in by a sea of tents, was situated about eight miles north-west of the town of Imphal, Manipur, and 40 miles from the India-Burma border. Eight months or so before, Imphal had been relieved after an 80-day siege by the Japanese. Counter-attacking in May 1944, the Allies had cleared the Imphal-Kohima road and the Fourteenth Army had begun its drive to liberate Burma. It pushed the enemy back across the Chin Hills, crossed the Chindwin River, surged onto the Shwebo Plain and, barely a week before 436 arrived at Kangla, had recaptured Shwebo. Now was to begin a drive on Mandalay, an important part of which was the build-up of Shwebo as a key supply base for the army's main body and forward elements. It was in connection with this build-up that 436's first ground-support operations were flown, on 15 January 1945.

The tactical debut involved seven aircraft and their four- or five-man crews in the transport of fuel, food and medical supplies to 33 Corps at Shwebo, 180-odd miles to the southeast. That day they para-dropped, free-dropped or landed 45 tons of payload without incident, and the fighter escort of *Thunderbolts* around the DZ proved unnecessary. The honour of delivering the unit's first load fell to F/L W. S. Robertson (captain), Sgt. B. J. Vincent, RAF (2nd pilot), F/L J. W. Dolphin (nav.) and P/O R. W. Eves (wop.). This crew and S/L Denison's each flew three complete sorties in just over nine hours. To help effect speedy turn-arounds between loads, aircrew subsisted on "K" rations throughout the day.

The squadron now took on a variety of commitments. While some crews supplied 33 Corps at Ye-u and evacuated casualties therefrom, others delivered aircraft fuel and oil to RAF fighter strips in the forward area and relieved their own housing situation by airlifting 42 Sqn.'s personnel and effects out of Kangla.

At first, to take full advantage of the aircraft's green camouflage and lessen the chance of fighter attack, flights were made mostly at tree-top level. The rare opportunity to indulge in legitimate low-flying to their hearts' content was available to pilots until roughly mid-March, by which time enemy fighters were no longer considered a serious threat. Many hundreds of hours of on-the-deck flying were to be logged, with all eyes straining to pick out Oscars* and avoid collision with birds, especially vultures.

The very act of dropping loads was not without its hazards. During the unit's second operational drop, for example, one outgoing bundle fouled on the door and tore it loose. The door hit the tailplane and caused

* Japanese fighter aircraft.

F/L A. Blythe reads comics to two native boy bearers.



considerable damage, but not enough to prevent safe completion of the flight.

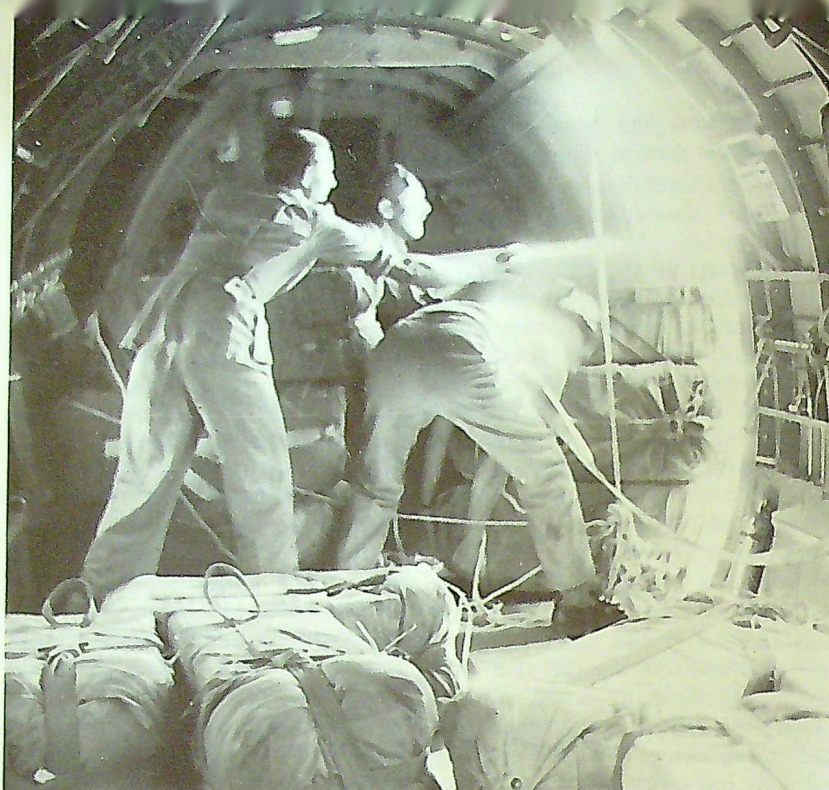
It took 436 less than a week to begin making a name for itself. On 21 and 22 January it topped all squadrons in the Group in matter of tonnage delivered, a feat it was to duplicate again and again in the next eight months. These achievements were realized in spite of two main adverse factors — fogged-in DZs and a shortage of unloading personnel.* Valley mist forced captains to orbit their DZs for as long as two hours and wait for it to clear. Adding to the unloading problem was the refusal, on religious grounds, of Shwebo's East Africans to unload meat.

Whereas there was no way of controlling fog or religious convictions, something could be done about the unloading problem in general. In unit orders of 22 January there appeared the following notice:

“Groundcrew personnel are to be employed as members of aircrews to assist in off-loading cargoes. Airmen detailed will be entitled to 75c per day crew pay whilst so employed. Duration of detail will probably be two weeks. It is pointed out that the work will be heavy and arduous. All airmen desirous of flying with aircrews are to report to the Squadron Warrant Officer . . .”

The appeal was well heeded. So emerged 436's version of the crewman, a hybrid species of airman who flew but was not aircrew, who also toiled in his accustomed ground environment but was constantly on call to take to the air. When airborne, the crewman reverted from his normal trade to the duties of a “kicker”, whose inflight job was to expel by vigorous footwork supply-bundles through the aircraft's open door, while clinging for dear life to whatever hand-grip was available. For a nominal monetary increment

* The shortage had existed almost from the beginning, the aircrew themselves having to off-load freight to gain time and manage an extra sortie before dark at the destination airstrip.



“Kickers” prepare to heave out parachute supplies over tropical jungle battlefield somewhere in Burma.

this volunteer shared with the aircrew all the hazards of wartime operational flying over tropical jungle. Additional crewman responsibilities included supervision of loading and assistance in the inspection, fueling and starting-up of aircraft.

To one crewman and four other members of the squadron early in February 1945 the hazardous nature of jungle flying became only too well known. Returning from Sinthe to Kanga after completing a four-sortie day, Dakota KJ845 became lost. After a struggle to get a homing, unsuccessful because of atmospheric, jamming, and possible Japanese deception, the captain, S/L Dick Denison, decided to abandon the aircraft. Excerpts from his description of subsequent events follow:

“We climbed steadily to 9,000 feet using all available power . . . At this point the port engine failed completely . . . Fuel was very low and I ordered the crew into their parachute harness. I cleared every-

one to the rear exit. LAC L. V. Vannes (the crewman) removed the inner cargo-door and . . . Sgt. T. F. Laffey (the Australian wireless operator) made sure the detonator was in the IFF*. I steadied the aircraft and gave the signal to go.

The crew worked efficiently and followed my orders quickly and implicitly. They left the aircraft in an orderly manner. Vannes, Lindsay (F/L W. D. Lindsay, navigator), Lee (F/O E. G. Lee, second pilot), and Laffey . . . Laffey, who had jumped before, gave each of us brief instructions on how best to land . . . I left the controls and, after considerable difficulty, managed to capture my chest-pack but could not get hold of my jungle kit as the aircraft had commenced a steep spiral dive. I managed to crawl out of the doorway about a minute after the others . . .

Almost at once I saw a river which I was almost certain was the Chindwin . . . As I neared the ground I tried to spill my chute to drift over the river, but I misjudged my height and dropped neatly in the middle of the stream . . . I drifted down to a sandbar . . . and from there managed to bring myself and chute to shore.

* Identification Friend or Foe, a radio device that identified our aircraft as friendly.



Bail-out survivors (l. to r.) F/O M. McLean, F/L W. Lindsay, F/O E. G. Lee and S/L D. Denison meet Lt. Gen. Sir Oliver Leese, KCB, CBE, DSO, at Kangla.

search of S/L Denison. Seeing no sign of him, they followed a jungle trail to a village, whence, after a palaver with natives, they were ferried across the river and taken to Homalin. There, at the British District Commissioners' headquarters, they were later re-united with S/L Denison.

Next morning W/C Gordon, who had taken a quick check-out ride in a *Stinson* L.5, led a flight of such aircraft (borrowed from 194 Sqn) to an airstrip near Homalin*, and by noon the crew had rejoined their unit. They had been the first of 436 to take a look at Burma on the ground.

Three days before the last flight of KJ845 two official pronouncements concerning flying policy had been received. First, the operational tour of transport support personnel in S.E.A. had been extended from 500 to 700 hours. Secondly, squadrons were now restricted to 2500 flying hours a month. The progressive spirit of the Elephants was nevertheless irrepressible. In February they logged 4182 hours, in May 4315, in June 4767, and in July 4999.

Mildly rebellious though this may have seemed to the hierarchy at Group and Command Headquarters, it was rebelliousness in a healthy form, manifesting an uncommonly enthusiastic spirit. It was not the only time 436 was to overlook a regulation for the sake of increased operational output. Moreover, these decisions to deviate from the rule proved so strongly justified, so obviously sensible, that even the lightest official rebuke was unthinkable.

The very next day the unit set another squadron record for tonnage delivered. In 73 sorties it air-

* While there, he combined with business some effective community-relations work, taking the village chief and a boy for their first aeroplane ride and simultaneously searching for the wrecked *Dakota*. The overjoyed Burmese showed their appreciation by directing him promptly to the crash scene.

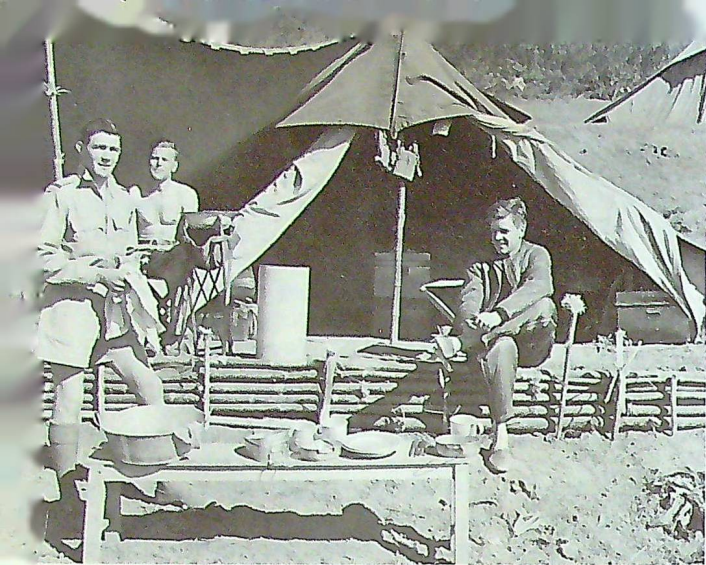
I was quite tired by the time I reached the bank, and, sitting down for a breathing spell, I saw the signal flare go up from across the river. This had been pre-arranged with my WOP to help the crew consolidate on the ground . . . The flare had come from a point half a mile away but I couldn't attract their attention and felt too weary to swim the river. The night was spent trying to keep warm in narrow sand trenches which I scooped into the beach . . . I got a little sleep at intervals.

In the morning I checked my position with a compass rose drawn in the sand . . . I spread out my 'chute in case of searching aircraft and after a few minutes' walk met a native, who co-operated in every way. He took me into his little hut, brought out a coat, and insisted I sleep. He woke me . . . and his wife provided food & tea . . . He and a neighbour indicated by gestures that they wished to take me to a small village called Homalin, where someone spoke English. I was put in a dug-out canoe . . . and after a two-hour paddle upstream we arrived at an imposing little village. My whole crew was there to greet me and no one was hurt."

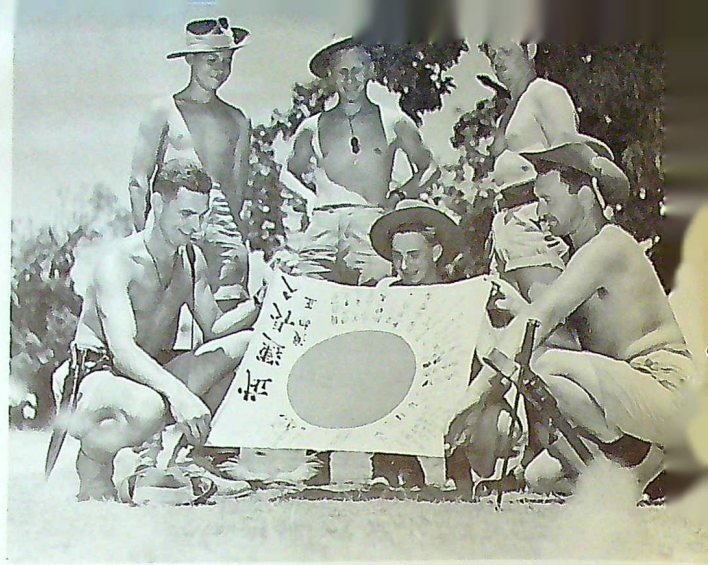
It was Laffey who had fired the flare. He had bailed out loaded down with medical and jungle kit,

water bottles and K-rations, pistol and cartridges. Landing rather heavily on a sandspit in the river, he waited ten minutes before giving the signal. He guided Vannes to his position by the glow of a cigarette, then went to look for F/O Lee, who, after being found, collapsed from concussion and shock. Ensuring that Lee had no broken bones, he took him to where Vannes was waiting and wrapped him warmly in a parachute. Presently the trio were joined by F/L Lindsay. Later on, Laffey and Vannes investigated a fire by the river and there came upon friendly natives who gesticulated to them about "the Englishman at Homalin".

At dawn next morning the four shared two chocolate bars for breakfast, laid out parachutes for aerial searchers, filled their bottles with river water (which they chlorinated), and set out along the river bank in



Domestic scene in Burma: (l. to r.) F/Os E. Langrell, R. Bennett and H. Olafson.



Displaying a war trophy: (l. to r.) Cpl. F. Gosnell, LACs D. J. Good, A. F. Adams, W. N. Walker, C. Genereaux and Cpl. C. H. Rawley.

lifted 223½ tons of freight alone, representing the second-highest total for any day in the squadron's war-time history. The mark was to stand for nearly four months.

Meanwhile, the squadron was maintaining a hot pace of flying. In addition to airlifting a steady flow of supplies to the ground troops, evacuating casualties, and looking for their own lost aircraft, the Elephants* in one two-week period moved four RAF squadrons and a wing headquarters to more advantageous locations. Occasionally they even carried bombs — for some other squadron to drop. Also on behalf of other squadrons they delivered ammunition and another volatile cargo — highly inflammable aircraft fuel. During this period they co-operated with nine USAAF *Commando* crews stationed at Tulihal. The Americans, who were briefed and debriefed by 436, returned after each day's operations to their own base for overnight accommodation.

Statistics for the first month of operations showed that already the Elephants were averaging more operational flying hours than other

* The nickname was in use even though the squadron badge was not yet official.

Transport squadrons (*Dakota* or *Commando*) in the forward area. Cognisant of the contribution made by the groundcrew, more especially the maintenance crews, the aircrew arranged a party for them featuring imported gastronomical delights which most of them had forgotten existed. Furthermore, the officers agreed to sacrifice for the airmen's benefit their entire beer ration for the duration. Greater love hath no man than that!

Other morale-building factors were more subtle but had a more deep-seated effect. As evidenced in their letters home, the airmen well appreciated the fact that the officers were no better off than they were with regard to food (the communal dining-room fare was normally a cut or two below The Ritz' standard) and general living conditions. The spirit of sharing was extended even to manual labour, in connection with operations or menial camp-chores, which led at least one airman to criticize the officers for overdoing it! Another aid-to-morale was the participation in operations by many of the airmen acting as crewmen. Having seen air supply in action, they were better able to realize the importance of their ground duties,

the end result being a boost in self-respect and, consequently, in morale.

Operations continued apace, the principal points of call being Sinthe, Allagappa, Monywa, Sadaung and Shwebo, most of which were newly-captured airstrips within light-artillery range of the front line. It was on the Allagappa airlift of 20 February that the Elephants first became enemy-conscious. Returning crews warned of Japanese patrols active in the area, and all aircraft had to be off the airstrip before nightfall. Crews were also cautioned to watch for enemy fighters over the Allagappa district. On the 26th, crews enroute to their various destinations were informed by W/T that Jap interceptors were operating in the vicinity of Sinthe. The Sinthe-bound aircraft pressed on, however, and, as at Allagappa, no airborne opposition was met.

Thus, without further untoward events, the Elephants completed their first calendar month of operations. For the 28-day period they could point to some impressive statistics: 1625 sorties, 4182 operational hours, 4903 tons of payload (exclusive of 1459 passengers and casualties).

(to be continued)

The Suggestion Box

The following individuals have received awards from the Suggestion Award Committee, Department of National Defence, for suggestions which have been officially adopted by the RCAF. Photographs of winners of \$100 or over appear below. Proper procedure for submitting suggestions is detailed in AFAO 99.00/01.



FS G. E. Robichaud of CJS, Washington (formerly of 1132 TSD, Montreal), and **Mr. R. Baker** of 1132 TSD, Montreal, jointly made a suggestion concerning the repair of the Kearfott Electrolytic Switch which was adopted in May 1961.

LAC M. R. Monett, Stn. Uplands, suggested a method of increasing battery life for the AN/PRC-510 packetset which was adopted officially by the promulgation of EO 35BA-5PRC-510-6A/2 dated 20 June 1961.

Other award winners:

F/L D. S. Marsden
F/O D. A. Redford
WO1 G. Worswick
FS J. J. Huyek
FS C. L. Day
Sgt. J. Jacob
Sgt. R. Rivers
Sgt. A. F. Ingram
Sgt. D. H. Skinner

Sgt. V. J. Murphy
Sgt. R. K. Turner
Sgt. K. A. Worrell
Sgt. G. T. Stulberg
Sgt. D. J. Webb
Cpl. B. G. Williams
Cpl. L. L. Bisson
Cpl. D. D. Cail
Cpl. A. W. Toutant

Cpl. C. Zaborowski
Cpl. J. E. Brown
Cpl. J. W. McGuire
Cpl. C. Chornenki
LAC K. K. Lindblad
LAC J. P. Drover
LAC H. J. Dadds
LAC D. A. McAdam
LAC W. A. Whiston

ST. SYLVESTRE WINS FIRE PREVENTION AWARD

For the third consecutive year an RCAF station has won the grand award in the Canadian military division of the National Fire Protection Association annual competition. RCAF Station St. Sylvestre, Que., on the Pinetree radar line, was chosen 1961 winner from among nine finalists, three each from the navy, army and air force. The grand

award is made in recognition of excellence in the field of fire safety education and performance.

The Grand Award Shield, which was presented to St. Sylvestre representatives at a ceremony in Ottawa last month, was won in 1959 by RCAF Station Falconbridge, and in 1960 by RCAF Station Uplands.

AIR FORCE COLLEGE JOURNAL ESSAY CONTEST FOR 1962

The 1962 AIR FORCE COLLEGE JOURNAL Essay Contest will be open to any Canadian citizen. The prize of \$250.00 will be awarded for an unsolicited essay not longer than 5,000 words on a topic likely to stimulate thought on military matters, particularly those of interest to the RCAF. The field thus includes strategy, operations, training, logistics, personnel administration, technical services, research and production, social sciences, and any other related field. In addition to the prize-winning essay, the judges may select a maximum of two other essays worthy of honourable mention. Writers of these essays will be awarded secondary prizes of \$100.

The authors of the winning and honourable mention essays will also be paid a professional fee if the essays are published in the JOURNAL.

The essays should be analytical or interpretative and not merely expositions or personal narratives. They are not to contain classified information. Each essay must be submitted in two copies, typed and double spaced. Manuscripts must reach the Editor, AIR FORCE COLLEGE JOURNAL, Armour Heights, Toronto 12, Ontario, by 2 May 1962. All essays will become the property of the AIR FORCE COLLEGE JOURNAL.

The Board of Directors of the JOURNAL will appoint the judges, whose decision will be final. If no essay meets the standard set by the judges, they have the right to make no award of any kind.



they were made by the same firm.

Keeping straight was somewhat akin to pumping an organ until you got the hang of it, but at least it helped to keep one warm as most flying training was carried out in the winter except for the Provisional Pilot Officers (28 day wonders). Thus far you will have noticed that no reference is made to getting assistance from flight instruments. The answer is quite simple — there weren't any.

STALLING, CLIMBING AND GLIDING

To demonstrate a stall, ease the control column slowly back. As the nose rises and speed diminishes the controls, particularly the ailerons, will become less effective until a point is reached where they lose their effect entirely. The best climbing angle of an aeroplane is the angle at which the aeroplane will gain the most height in the shortest time. This angle lies between level flight and a stall. Do not attempt to climb too steeply for the aeroplane will then fly level with tail down and the engine labouring although not actually stalled.

Stalling was a pushover. For the most part all one had to do was lean back in the cockpit to go into a climb, after that just wait for Mr. Newton's law to take effect. Fortunately, however, the old kites were pretty gentle and one had to be awfully ham-handed to get into serious trouble during these various manoeuvres. In gliding, emphasis was placed on aileron feel and the singing of the wires. There was no reference to an airspeed indicator, consequently, if you were too cold to feel anything and your ears were plugged momentarily, you were in a predicament. But you'd be surprised how

well the old kites could glide on their own and it seemed they could land themselves a darn sight better than you could do it.

As a matter of interest, it was an offence, adequately punished, to freeze any part of your anatomy whilst carrying out flying instruction. A special anti-frostbite paste was provided to smear on your face and hands to guard against this occurrence, but all it did was gum up your flying apparel. Learning to fly in the dead of a Camp Borden winter in an open unheated cockpit without freezing some part of one's self was difficult enough, to say the least, without the added threat of being placed on charge for doing so.

By the time you got all your clothes on, plus a Sidcot suit, a face mask and fur-trimmed mask goggles, you could just move and no more. Oftentimes if you were rudder heavy the instructor wouldn't let you wear flying boots in order to get a better feel of the rudder bar. It didn't matter too much for after a few minutes you couldn't feel anything anyhow.

TAKING OFF INTO WIND

As you taxi out slowly, look all around for other aeroplanes landing, taking off or taxiing across your path. Face into wind, slowly open the throttle until the engine picks up full revolutions at the same time ease the control column forward to get the tail up quickly, keep the aeroplane straight by coarse use of the rudder. When the tail comes up ease the control column slowly back to keep the aeroplane level until sufficient speed has been gained and then ease the control column back slightly until the aeroplane leaves the ground.

By examination of the first sentence of this sequence you will observe that somewhere along the line there was a profound absence of aerodrome control. In fact, flying control and the chappies that go with it hadn't even been thought of, consequently, getting space to take off was pretty much a matter of dog-eat-dog. All instructors reached this stage of instruction at about the same time, hence quite a traffic jam resulted. Under certain circumstances one swung into wind, closed the old peepers, opened the throttle and hoped for the best. The instructor couldn't see over the nose until the tail came up and not a few instructors got a memorable surprise when the tail finally did come up.

I have actually seen a pilot leap out of his cockpit and run for safety before the inevitable crash. This took stern judgement and was a mark of real flying discipline. Since the onus was on the pilot of the aircraft taking off to ensure that he had a clear path before doing so, it followed that if your aircraft was about to be clobbered it behoved one to remove himself hence with all possible haste, and never mind your dignity or the consequences.

We'll just gloss over that part about keeping the aeroplane running level on the ground. This was an utter impossibility but it sure looks good in print. The aerodromes were so rough that a takeoff more often than not resembled an overloaded kangaroo taking off for the "out-back". Each bounce kept getting higher and longer until at last one

was practically holding his kite in the air by the stick and quite out of breath by the effort. It seems to me they should have included landing in this sequence for the process of getting airborne was a combination of both and you had to be very nimble. It could be exceedingly disastrous to be landing when you should be taking off and vice versa.

LANDING INTO WIND AND JUDGING DISTANCE

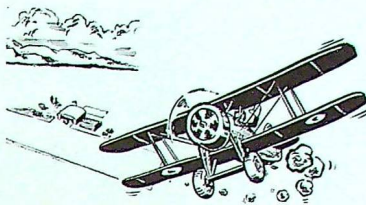
Face your field and head straight into wind. On the glide down check your direction with the wind indicator or by noticing drift and turn into wind if necessary. When landing the pupil should look well ahead of the aeroplane (about 30 yards) and look over both sides of the aeroplane to prevent collision with any objects.

Keeping straight after landing had its problems. You couldn't see over the nose so it was more or less a guess whether you kept really straight or not. The real yardstick of success was to look back, after coming to a full stop, at the furrow made by your tail skid. It told the full story. Almost every pilot had a bias to port or starboard, depending on which side of the cockpit he craned his neck for a view ahead.

In this sequence that naughty word instrument pops up again. I must confess we did have an altimeter but its mechanism was so slow it could well be reading 500-600 feet at the same time you were rolling merrily across the landscape. About the only time it was really accurate was on the climb and this was only because the aircraft climbed so slowly it couldn't help but keep up.

FIRST SOLO

This was the supreme moment and usually took place somewhere around the seventh to ninth hour of instruction. Anything over this amount of time made a student liable for the washout department. The instructor usually kept the moment of first solo a dark secret. A day or two before he had the pupil tested by an instructor of equal or higher status, just



to be on the safe side. Next the instructor looked for two conditions: first, if the student was "on", i.e. if he could make three controlled crashes in a row; and second, the speed and steadiness of the wind. If conditions were right he would fly several landing patterns, showing you precisely where to make your turns and at what position on the downwind leg to cut the engine. Up to that point he would have said

nothing about this being "The Day" but the student got the message.

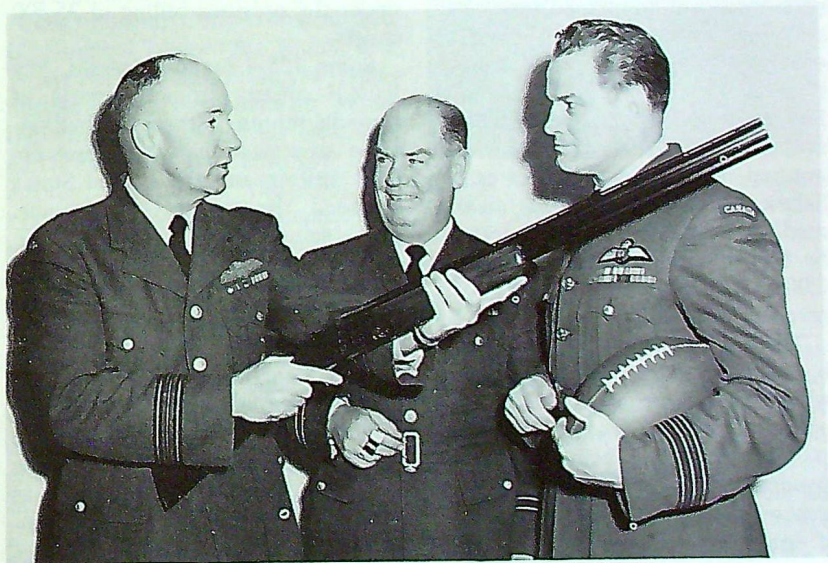
When he considered that everything was just so he would taxi to the lee side of the field and with the greatest deliberation climb out onto the wing, lean back into the cockpit, remove the stick and do up the safety harness. Then, with a few last words of advice shouted into the student's ear, he would step clear. Having stepped clear he would probably take off his 'chute and, with greater confidence than he felt, nonchalantly light up a fag.

With a burst of throttle and a cloud of dust the student would stagger into the air. Thus another embryo pilot for the fledgling RCAF was on his way. Ⓢ

TOP SPORTS FIGURES MEET

Three of the top sports figures in Canada, all members of the RCAF, met recently for the first time in several years. Squadron Leader B. C. Hartman displays the gun that has won him four world skeet shooting records to F/L J. R. Boucher, nationally known football official, and W/C A. C. Golab, one-time

"Golden Boy" of Canadian football. In the air force S/L Hartman is responsible for safety equipment at AFHQ directorate of aeronautical engineering, F/L Boucher is recreational specialist at RCAF Station Rockcliffe and W/C Golab is officer commanding the Advanced Flying School at RCAF Station Saskatoon.





AIR CADET LEAGUE OF CANADA

The following letter was received and read at the League's 21st annual meeting last month at the Seignior Club:

BUCKINGHAM PALACE

As Air Commodore-in-Chief of the Royal Canadian Air Cadets and of the Air Training Corps of Great Britain, it gives me great pleasure to send you my best wishes on the occasion of the 21st anniversary of the formation of the Air Training Corps.

The International Air Cadet exchange scheme has expanded and flourished throughout the free world since it was initiated by your honorary president, Mr. C. Douglas Taylor, fourteen years ago. It has a wonderful achievement to its credit and I am certain that it will long continue to bring young people together in the cause of peace and freedom.

I wish the president, officers, members, cadets and friends of the Air Cadet League of Canada every success and good fortune for the future.

24th January 1962

(signed) PHILIP

As far as Canada's 335 air cadet squadrons are concerned, undoubtedly the most important news to emanate from the 21st annual meeting was the announcement by A/M Hugh Campbell that governmental authority had been granted for a gradual increase in air cadet establishment. The plan calls for an immediate increase of 1,500 cadets, to be followed by annual increases of 1,000 until the ceiling of 30,000 is reached in 1965.

The announcement is welcomed by many squadrons across Canada which have been finding difficulty operating within the strength quotas assigned to them. It also provides an opportunity for provincial committees to proceed with the organization of squadrons in several new areas

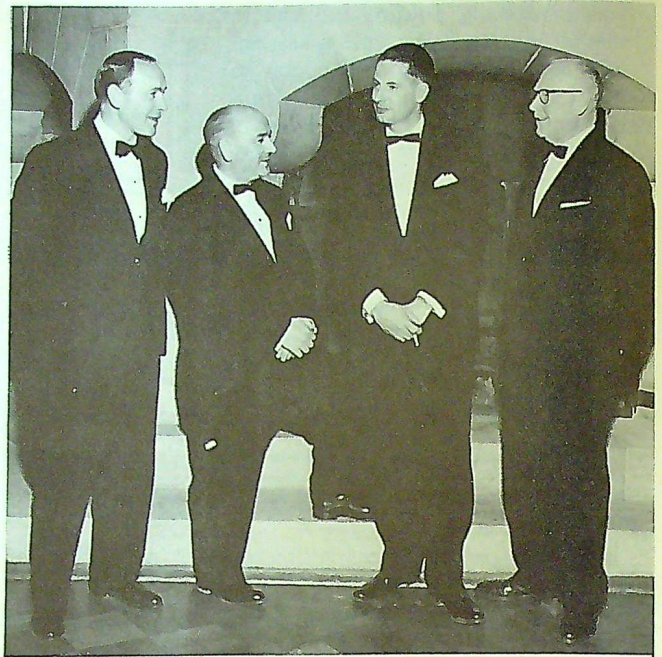
which could not be accommodated under the previous ceiling of 25,500 cadets.

Some 125 League delegates, key RCAF officers from all parts of Canada, representatives of other aviation organizations and observers from Britain and the United States attended the two-day conference. They included A/C A. G. Dudgeon, commandant of the Air Training Corps of Great Britain; Col. Paul Ashworth, national commander of Civil Air Patrol; and Col. W. C. Whelen, chairman of CAP's national executive board.

General sessions were held on the mornings of Feb. 7 and 8, and the afternoon of Feb. 7 was devoted to panel discussions. The following panels were convened:

- Provincial Chairmen — whose deliberations covered a wide range of League matters, particularly the steps that might be taken to further strengthen local sponsoring committees;
- Public Relations — which provided representatives of all 10 provinces an opportunity to study ways of improving PR coverage of League affairs;
- Air Cadet Liaison Officers — who made specific recommendations on methods of assessing the efficiency of air cadet squadrons, qualifying examinations for flying training, maintenance of cadet attendance records, etc.

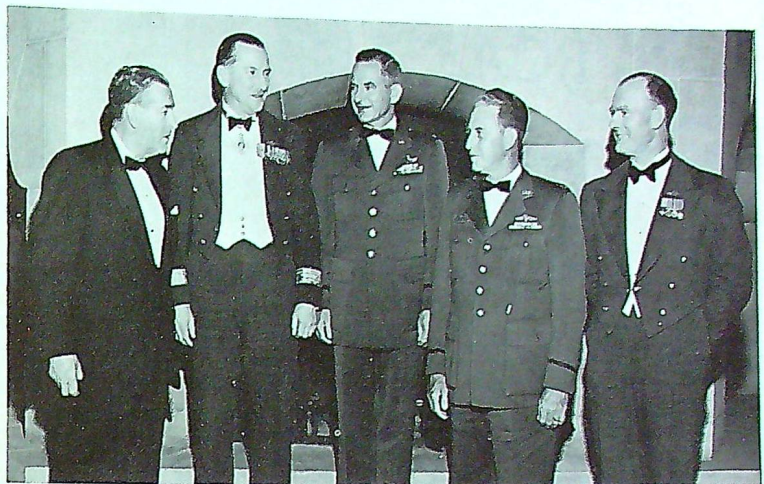
Among the subjects discussed during the business sessions were: a special activities program for 1962, entertainment plans for incoming cadet exchange visits, certain amendments to League by-laws, a possible means of strengthening the identity of squadron sponsoring committees within the League's administrative structure, fund raising, improve-



Re-elected League president for 1962 Arthur Smith (third from left) and his vice-presidents (l. to r.) Ivan Quinn, R. A. Lambert and Robert Inch.



"Director of the year" J. W. Griffis receives award from A/M Hugh Campbell, chief of the air staff.



Left to right: C. Douglas Taylor, A/C A. G. Dudgeon, Col. Paul Ashworth, Col. W. C. Whelen, F/L F. R. Flynn.

ments of selection procedure for flying training scholarships.

Climax of the first business sessions was the election of officers for 1962. In recognition of a year of outstanding service, President of the League Arthur Smith, DFC, MP for Calgary South, was re-elected to that office. Vice-presidents are Ivan B. Quinn of Vancouver (Western Canada), Robert Inch, QC, of Hamilton (Central Canada), and Russell A. Lambert of Fredericton (Eastern Canada). C. Douglas Taylor continues as honorary president, Alex Ross as honorary treasurer and Banker Bates as honorary secretary. Other executive members include: J. T. Eaton, E. Vopni, W. H. Collie, J. R. Gauthier, James Griffis, A. R. Cousins and F. A. J. Laws. Air Marshals R. Leckie and W. A. Curtis will continue to serve on the executive in honorary capacities.

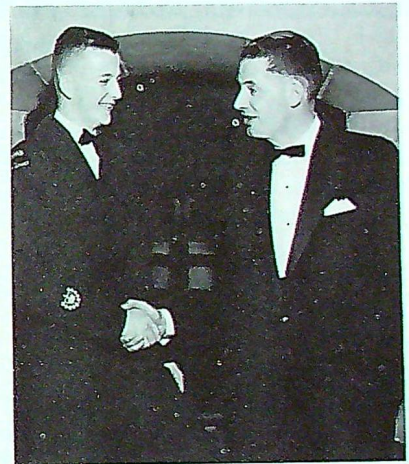
The annual dinner, held in the main dining room of the Seignior Club on Feb. 7, was a colorful and impressive affair. It was with deep regret that those present learned that the Governor General and Madame Vanier were unable to at-

tend, due to the former's illness. However, His Excellency had recorded a message that morning which was played following the dinner. He laid stress on the necessity of educating our young people for their future roles as citizens of the world, and the part the air cadet movement could play in this regard.

Other after-dinner speakers were A/C Dudgeon, Col. Ashworth and C. Douglas Taylor. Air Cadet WO Terry Findley, of 51 Ottawa Optimist Squadron, then spoke on "What the Air Cadet League has meant to me." Mr. W. J. Griffis of Port Arthur was named the League's "Director of the Year" and was presented an illuminated scroll by A/M Campbell on behalf of the RCAF.

The final business session dealt mainly with the program for the coming year. One of the highlights was an outline by A/M Campbell of the current status of the RCAF and of the steps being taken to carry out its assigned responsibilities.

The RCAF Association Trophy, awarded annually to the most pro-



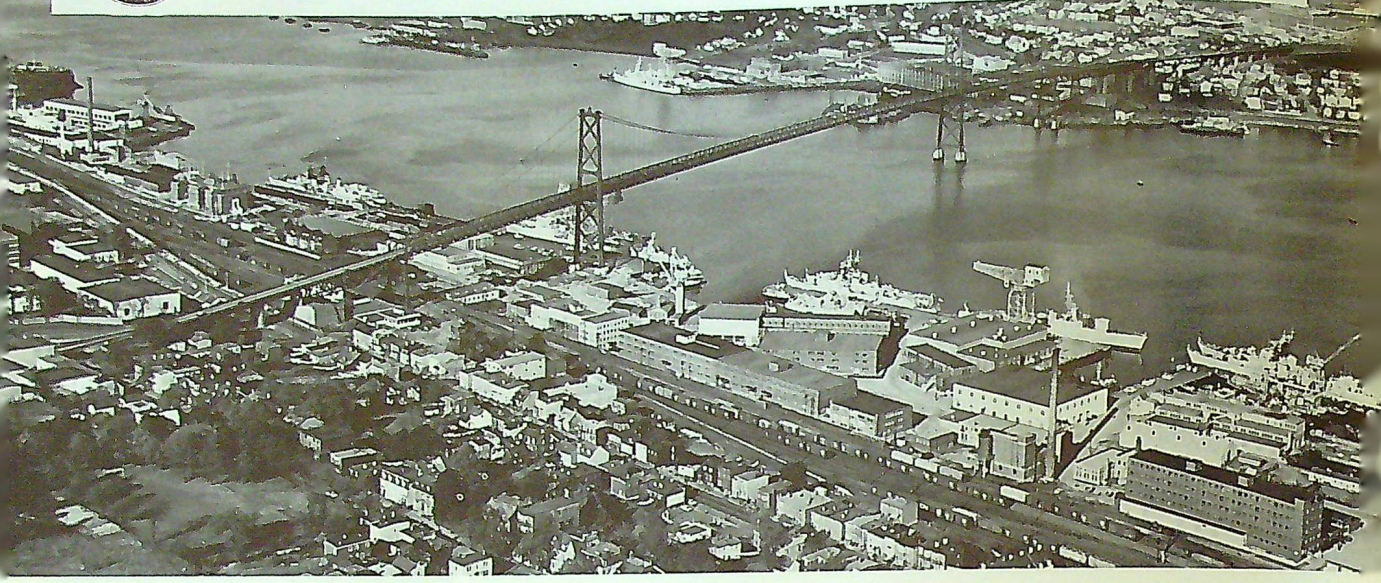
Cadet WO Terry Findlay is congratulated by League president Arthur Smith.

efficient squadron in Canada, was won for 1961 by No. 526 (Barrhead Elks) Squadron, Alberta. RCAF Grand President A/V/M F. G. Wait presented the trophy and an accompanying illuminated scroll to Alberta Chairman R. L. Wilkin (see page 31).



RCAF ASSOCIATION

This section of THE ROUNDEL is prepared by Association Headquarters, 424 Metcalfe St., Ottawa, Ont.



Halifax harbour, spanned by Angus L. MacDonald Bridge.

HALIFAX — SITE OF THE 12TH NATIONAL CONVENTION, 27-28-29 SEPTEMBER 1962

THE City of Halifax, “Warden of the North”, was founded in 1749 as the British answer to the challenge of the great French fortress of Louisburg on Cape Breton Island. The military roots of Halifax are strong to this day, and all three services have headquarters in the city and bases in it or nearby.

Visitors from other parts of Canada who have not visited Halifax since the war probably have memories of a city and port hustling with the war effort, and bursting at the seams in an attempt to provide suitable housing and accommodation. The city of some 45,000 then has more than doubled in population. Members of the RCAF Association will want to visit Citadel

Hill, the fortress around which the city was built, which has become the most visited of National Historic Sites in Canada.

In Halifax the first legislature in Canada was established over 200 years ago. The old legislature was the arena in which Joseph Howe and others fought for more power for the representatives, opposed to the powers held tightly by the executive appointed by the Colonial Office.

Although no enemy fired a shot at Halifax (the nearest battles were with submarines just outside the harbour), the city suffered tremendous devastation in 1917, when two ships collided in the narrows between Halifax and Dartmouth, TNT

exploded and thousands were killed or maimed.

Visitors may see the hydrostone housing development in the north-east end of the city, which replaced housing levelled in that disaster, and in the city's older area see one of the most impressive redevelopment programs in Canada. At first sight, one might think the ravages of TNT were still at work; then it becomes obvious that an ancient city is tearing down its old buildings and is building well for the future.

Haligonians believe in looking ahead. Their advice to all Association members is to do the same. Plan now to be in Halifax for the National Convention next September.

RCAF ASSOCIATION AWARD

No. 526 (Barrhead Elks) Sqn. has been adjudged the most proficient air cadet squadron in Canada and the 1961 winner of the Association Award trophy. The Association Award, in competition since 1951, is accompanied by a scroll to be maintained by the winning squadron and a cash award.

The purpose in establishing the award was to create a healthy competition between air cadet squadrons and in this way keep the standard of training at a high level. We feel that this hope has been fully realized.

The trophy was presented to the Chairman of the Alberta Provincial Committee during the annual meeting of the Air Cadet League at the Seignior Club on February 8th by A/V/M F. G. Wait (ret.), grand president of the Association.

Previous winners of the Association Award are:

- 1952 No. 187 Squadron, High River, Alta.
- 1953 No. 22 Squadron, Powell River, B.C.
- 1954 No. 266 Squadron, Kimberley, B.C.

Executive officers of No. 412 (Windsor) Wing, (l. to r.) I. Pare, W. T. Carmichael and J. Murray (president), being installed by National President L. N. Baldock.



Alberta provincial chairman R. L. Wilkin accepts from RCAF grand president A/V/M F. G. Wait the Association Trophy won for 1961 by No. 526 (Barrhead Elks) Air Cadet Sqn.

- 1955 No. 398 Squadron (Trinity College School), Port Hope, Ont.
- 1956 No. 155 Squadron, Sault Ste. Marie, Ont.
- 1957 No. 588 Squadron, Canadair, Montreal, Que.
- 1958 No. 89 Squadron, Kinsman, Victoria, B.C.
- 1959 No. 103 Squadron, North Vancouver, B.C.
- 1960 No. 333 Squadron, Lord Beaverbrook Sqn., Fredericton, N.B.

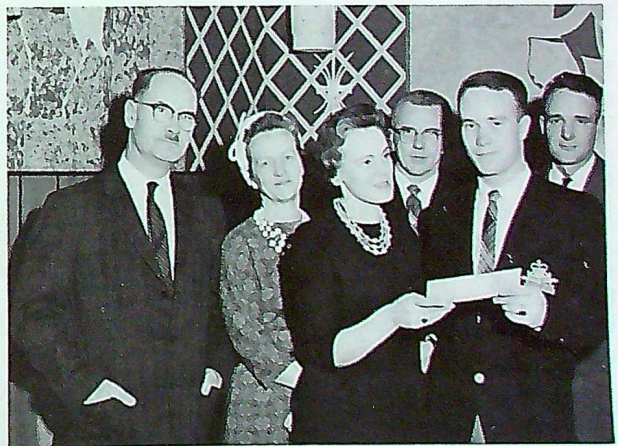
RAF ESCAPING SOCIETY

At last year's National Convention in Winnipeg the delegates unanimously approved the assessment of 10c per member — the proceeds to be given to the RAF Escaping Society to help them carry out their splendid work. Just prior to Christmas \$500 was sent to the Society on account and a letter has been received from the Society's President, Lord Portal, expressing thanks and appreciation for the donation collected as a result of the Association's cross-Canada appeal to all members.

STANLEY JONES MEMORIAL SCHOLARSHIP

This year's winner of the \$200 scholarship is Cadet Warrant Officer Lawrence Johnson of No. 11 Air Cadet Squadron, Lethbridge. The award is made annually by No. 702 (Lethbridge) Wing to an air cadet in southern Alberta who is pursuing a course leading to a university degree in science or aeronautics.

Lethbridge presentation: (l. to r.) Dr. F. L. Johnson, Mrs. Johnson, Mrs. S. Jones, S. MacDonald, L. Johnson, R. Grey.



Letters to the Editor

Dear Readers:

We acknowledge with thanks the letters from so many of you pointing out the fact that two photos in the Dec. 61 issue were printed in reverse. There are several explanations for such occurrences. The one we like best is that only by printing such pictures every once in a while do we ever learn that people actually read the magazine.

The Editor.

ATTENTION EX-443ers

Dear Sir:

I would like to ask any ex-members of No. 443 Sqn., based at Utersen, TAF mobile air field unit, if they have a print of an aerial photograph which I took of Hamburg, showing submarine pens, or another showing oil installations, after the war. I am willing to pay to have these copied, or borrow them to make copies.

G. Greenough,
4650 Alexander Ave.,
Pierrefonds, P.Q.

FRENCHMAN SEEKS RCAF OFFICER HIS FATHER AIDED IN 1944

On 20 May 1944 a French postman, making his rounds by bicycle outside the town of Grenade-sur-Adour (in southwestern France midway between Bordeaux and the Spanish frontier), came across an RCAF officer. He had a beard, his clothes were torn, and he drained a bottle of wine that the Frenchman gave him.

He explained, after the Frenchman had convinced him that he was a patriot, that he had bailed out of his bomber over the Bordeaux area, some 65 or 70 miles to the north, and had headed south, walking by night and hiding during the day.

The French postman took the airman on his bicycle to a spot where he hid him in a clump of brambles near a house, and went in search of food, clothing, and a map. When he returned he again took the Canadian on his bicycle to a spot several kilometres away and, taking him on his shoulders, carried him across the river Adour. The two embraced one another and the Canadian continued his way south, where he hoped to meet up with an underground group that would help him over the Pyrenees into Spain.

The postman who helped the Canadian airman has since died, and his son has written to the Canadian Embassy in Paris, seeking the address of the man his father helped. His name is Robert Mora, Grenade-sur-Adour, Landes, France. He has no idea of the Canadian's name, but understands that he was a flying officer or flight lieutenant.

If the ragged Canadian with the beard who drank the postman's wine bottle empty sees this, he may be interested in writing to M. Mora, Jr. THE ROUNDDEL would appreciate being told, if contact is made.

PER ARDUA AD ASTRA

Dear Sir:

I have always thought that the motto of the RCAF "per ardua ad astra" was translated "through the stars to adversity".

At the beginning of Chapter 4 of Copp Clark's textbook "Latin for Canadian Schools" (1958), the motto is translated "through bolts and bars, we reach the stars" with credit given to the RCAF. This bears striking resemblance to a wartime motto "through b.....s and bars, we reach the stars". I wonder if the textbook translation was supplied by some wag or former army officer who is enjoying a good old leg pull.

D. J. G. Soper,
204 Cummer Ave.,
Willowdale, Ont.

(Adopted from the RAF, "per ardua ad astra" became the RCAF's official motto on 1 April 1924, replacing "sic atur ad astra" (this way to the stars). The generally accepted translation today is "through difficulties (or adversities) to the stars". We printed in Vol.

9, No. 3 (Mar. 57) one version of the motto's origin; it does not appear to be a direct quotation from any Latin author of note.
—Editor.)

WARTIME AIRCRAFT

Dear Sir:

Here is a suggestion I think the oldtimers would appreciate seeing incorporated in THE ROUNDDEL. Why not print a full page picture, suitable for framing, of different World War II aircraft each month?

H. M. Conrad,
2601 Blvd. Laurier,
Quebec 10, P.Q.

(We aim to please. The first of the series appears opposite. Let's have your requests.
—Editor.)

CBC CORRECTION

Dear Sir:

A picture caption accompanying the article on CBC's 25th anniversary (Dec. 61) identifies one of the participants in the handover of CFB Goose Bay as Andrew Corvan. Through the CBC representative in Metz, Mr. Allan Brown, we occasionally are in contact with Mr. Andrew Cowan. Is this the same gentleman?

Sgt. E. Fitzgerald,
Chief Announcer, CFN Metz.

(A Station on the Canadian Forces Network)

(Yes. Mr. Cowan is Director of CBC Northern and Armed Forces Service. We apologize for the mis-spelling.—Editor.)

POLISH PRIDE

Dear Sir:

This is the first time that I have written to you, though often I have meant to tell you how I enjoy reading THE ROUNDDEL and anxiously await the next issue. However, after reading the story by F/L Kowalski (Dec. 61), I could no longer wait to drop you a line of appreciation.

As a former member of the RAF who was RCAF trained, I was really pleased to see this story by a fellow former airman of Polish origin. We Polish members of the RCAF Association are proud of our great traditions and the opportunity we now have to help this association grow. I think an outstanding link between the RCAF and Polish Air Force was P/O A. Mynarski, one of the two RCAF Victoria Cross winners in the Second World War.

Leon Schedlin,
1st Vice-President,
RCAFA Ontario Group,
567 Avenue Rd.,
Toronto 7, Ont.

"An oldtimer is one who remembers when children counted from one to ten, not down from ten to one."

—Sam Levinson.

Farewell to the Canso



After over two decades of valuable service to the RCAF, the *Canso* is about to retire. On 6 April 1962 the final *Canso* to wear air force colours will be flown to RCAF Station Downsview in connection with a No. 162 Sqn. reunion. While flying a *Canso* with that unit on 24 June 1944 F/L D. Hornell was posthumously awarded the Victoria Cross.

First Consolidated *Catalina*, designated XP2Y-1, was produced in 1935 for the US Navy. The amphibious version, called PBV-1A, came into service early in 1941. After World War II the RCAF used *Cansos* for search and rescue, arctic survey and transport operations.

Roger Duhamel

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