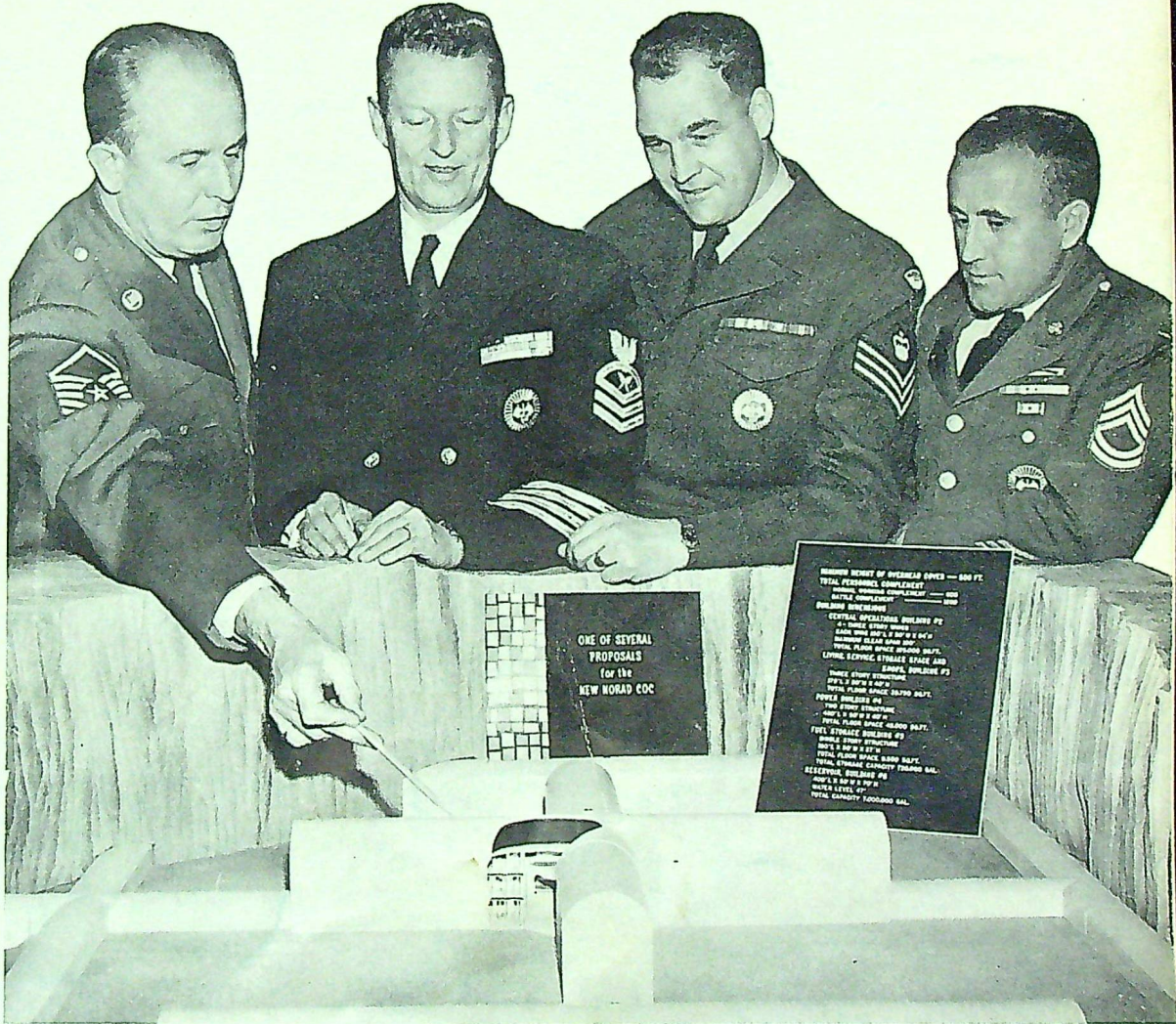
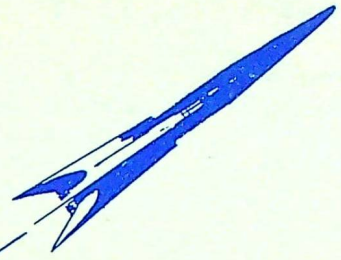




THE

# Roundel



JUNE 1959

## REPORT ON NORAD



T H E

# Roundel

Published on the authority of the Chief of the Air Staff, Royal Canadian Air Force

VOL. 11, No. 5

JUNE 1959

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R.C.A.F. Victoria Island,  
Ottawa, Ont.



### THIS MONTH'S COVER

The Combat Operations Centre of the North American Air Defence Command is going underground. Discussing the model of one plan for its location near Colorado Springs beneath Cheyenne Mountain are (l. to r.): Senior Master Sergeant T. H. Rhone, U.S.A.F.; Yeoman Chief E. H. McCarthy, U.S.N.; Flight Sergeant J. L. Wilson, R.C.A.F.; Sergeant First Class H. F. Shelton, U.S.A.

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

# On the Break



FIRST impressions, as everyone knows, are usually lasting ones. We have recently returned from a week's visit to North American Air Defence Command Headquarters at Colorado Springs with our initial impression more firmly implanted than ever: here is a unique example of international, inter-service integration.

The mission of NORAD is portrayed by heraldry within the two and one quarter inch diameter of a badge worn by members of the R.C.A.F., U.S.A.F., U.S. Army, Navy and Marine Corps who serve at this headquarters. Worn on the left breast, the shield-type insignia is centered on a silver disc which represents a sun-burst. It was approved for wear last summer.

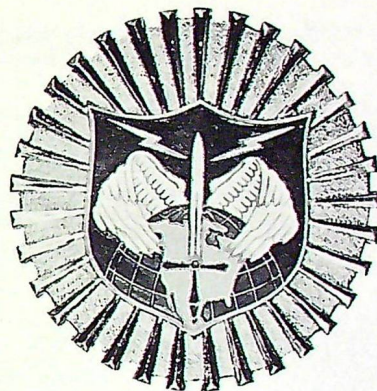
Blue, turquoise and yellow coloring — not apparent in the black and white reproduction on the right — indicate the air, sea and land elements dedicated to the protection and defence of North America. Silver wings enfold the continent, symbolizing a unified command. An upright sword points towards the northern skies which are the shortest direct approach of a potential aggressor. Outward from the sword are two lightning bolts which speak for the instantaneous striking power of NORAD defence forces.

In the pages which follow we have attempted to enlarge on the symbolism of this badge. Those who wear it are putting into practise a new concept on the matter of continental defence.

\* \*

FORTY-ONE years ago this month a young First World War veteran took off from Montreal in a flimsy biplane bound for Toronto. Tucked into the rear cockpit was a bag of letters, duly sealed by the post office. Torontonians allegedly never forgave the Montrealers who thus shattered their dreams of originating Canada's first airmail.

It seems only proper in this Golden Anniversary year — even at the risk of stirring up old controversies — that we should recall the details of Captain Brian Peck's flight. Wing Commander F. H. Hitchins, R.C.A.F. air historian, has pinpointed this important milestone in our aviation history on page 18.



ON 14 June 1947 the first "R.C.A.F. Day" was celebrated at stations and units across Canada. Every year since then our annual open house has been called Air Force Day and has been observed on the second Saturday of June.

This year, however, Air Force Day will be held on different dates at each R.C.A.F. establishment to give as many Canadians as possible an opportunity to watch the "Golden Hawks" aerobatic team in action. The eight-man team, equipped with *Sabre* 5 jets, assembled and trained at R.C.A.F. Station Chatham this spring. Their four-month, cross-country tour began last month.

Check the itinerary on page 14 to see when the "Golden Hawks" will perform in your locality. Their show is one you won't want to miss.

\* \*

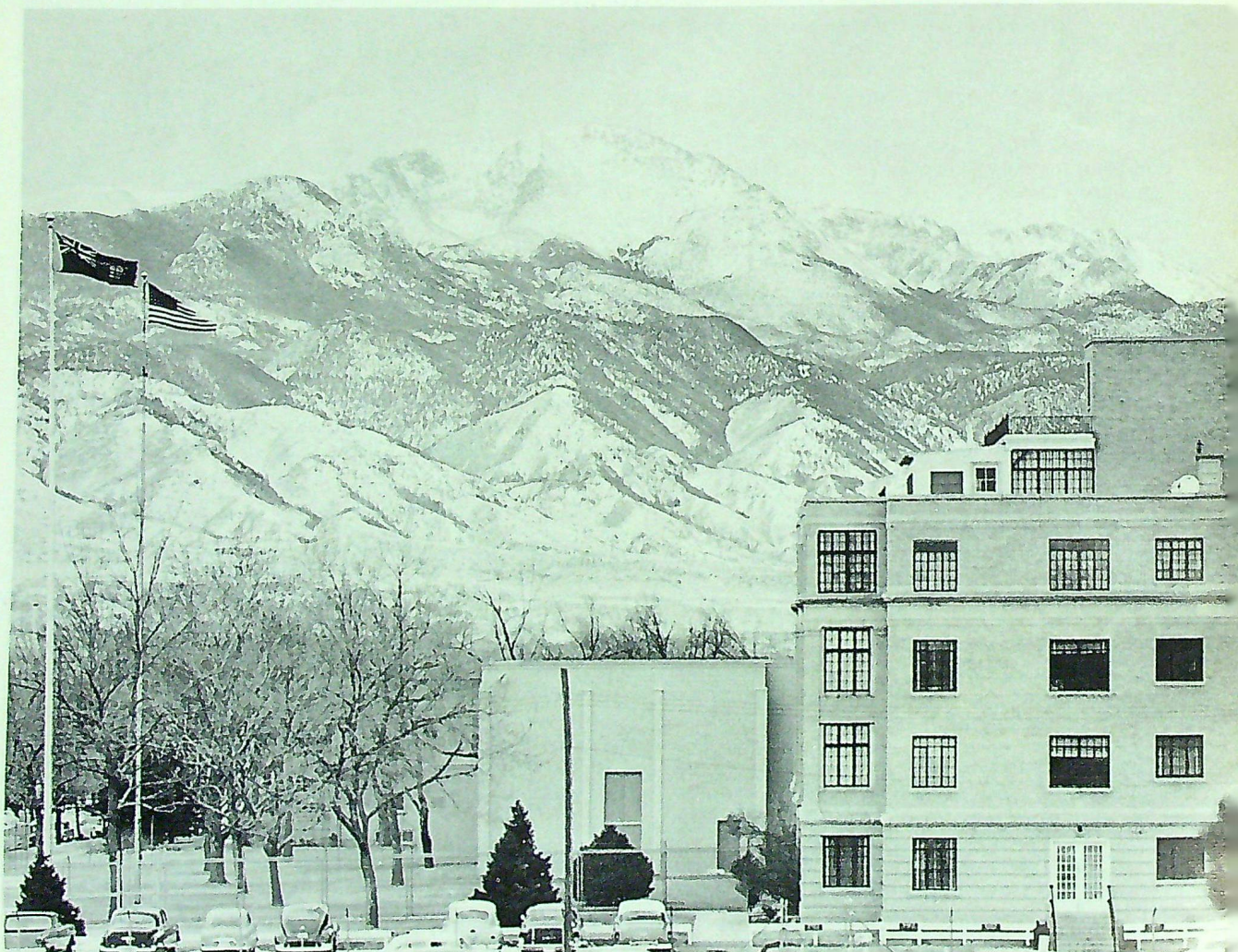
EACH copy of THE ROUNDLE is meant for 10 readers in the service. Please pass this one on as soon as possible.

*The Editor.*

**A Family of Weapons  
For Defence in Depth  
Is the Aim of**

# **NORAD: INTERNA**

*In the shadow of Pike's Peak, two flags fly over North American Air Defence  
Command Headquarters at Ent Air Force Base, Colorado Springs.*



# TIONAL GUARDIAN

CREATION of the North American Air Defence Command by the governments of Canada and the United States was recognition of the fact that air defence of the continent in this era of supersonic bombers and missiles is a single, common problem. NORAD is a truly integrated, international command—responsible directly to both the U.S. Joint Chiefs of Staff and the Canadian Chiefs of Staff Committee.

From its Colorado Springs headquarters, soon literally to be located deep in the bowels of the Rocky Mountains, NORAD will control in wartime all of Canada's and the United States' air defence forces. Today its mission is to prepare plans and procedures for immediate joint action by both countries' forces, which maintain their separate identities, responsibilities and national characteristics. It is the single agency responsible for the air defence of the continent; the single agency welding together all the components.

To manage the vast air defence system, spread north to south from the polar ice cap to the Mexican border and from east to west far out over the oceans, NORAD has divided the continent into regions, each of which is subdivided into divisions. The latter are further divided into sectors. Through this organization, which channels down to the combat weapons, the NORAD commander-in-chief exercises operational control of the air defence forces.

The combat forces—interceptor aircraft, missiles and radars—are provided by the service commands. These include the R.C.A.F. Air Defence Command; U.S. Army A.D.C.; U.S. Naval Forces, CONAD; and the U.S. Air Force A.D.C. The R.C.A.F. component command headquarters is at St. Hubert, Que. The three U.S. component commands have their headquarters in Colorado Springs alongside that of NORAD. In all, there are about 200,000 people in the NORAD system.

Defending North America is a 24-hour, seven-day-week job. NORAD's efforts are governed by the knowledge that an attack could come at any moment and that the first attack could end the war. This is NORAD's basic problem—to have its far-flung force ready to react instantly. Instantly is the important word. The time available for the defence to carry out its functions of detection, identification, interception, and destruction is now estimated in minutes.

#### WARNING AND CONTROL

The first requirement, therefore, is to get warning of an attack as soon as possible. To lengthen the vital interval between the time of first enemy detection and attack, Canada and the U.S. have constructed warning lines as far away from the target areas as possible.

Running clear across the northern rim of the continent in the Canadian Arctic and extending across Alaska and Greenland is the

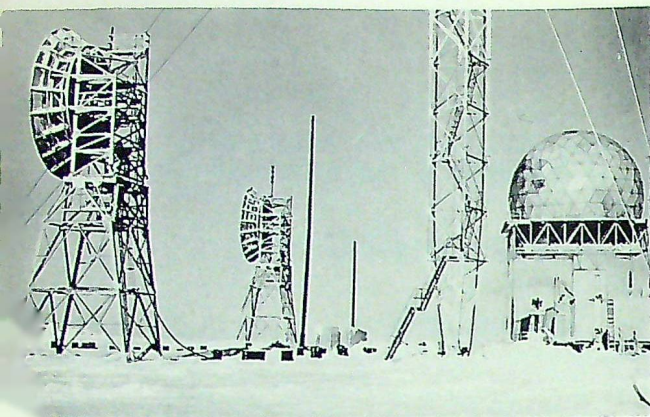
Distant Early Warning (DEW) Line of radar stations. The U.S. Navy guards the sea flanks of the continent by continuing this line with radar-equipped destroyer escorts and *Super Constellations*, called "Warning Star" radar planes. These mid-ocean lines run from the Aleutians to the mid-Pacific and from Newfoundland to the mid-Atlantic.

Below the DEW Line, some 600 miles south, lies a second radar fence, the Mid-Canada Line, built and manned by Canada. A third radar net, the Pinetree System, built and manned jointly by the U.S. and Canada, cuts across southern Canada and also runs along the Canadian east coast. Back of these lines is a network of radars within the United States. The U.S. system is extended offshore by U.S.N. picket ships and U.S.A.F. *Super Constellations*. In addition to these, in the Atlantic, U.S.N. blimps and U.S.A.F. radar platforms called Texas Towers are parts of the system.

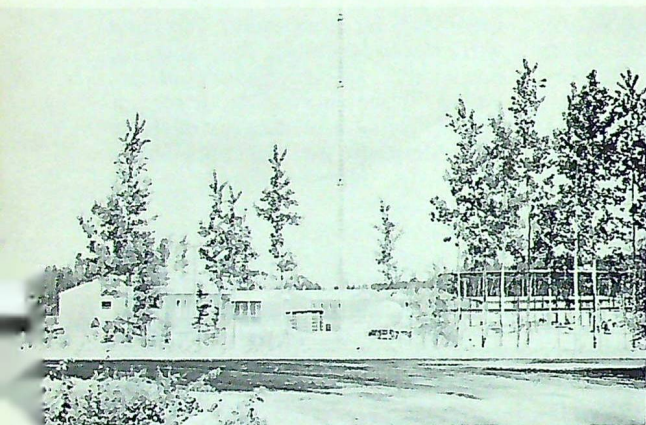
The NORAD system, thus, is one of early warning plus defence in depth. It provides warning of the approach of the enemy and also the ability to track him continually along his line of approach to target areas in Canada and the United States.

This same defence in depth concept has been carried out in the combat weapons system. This involves the use of R.C.A.F. and

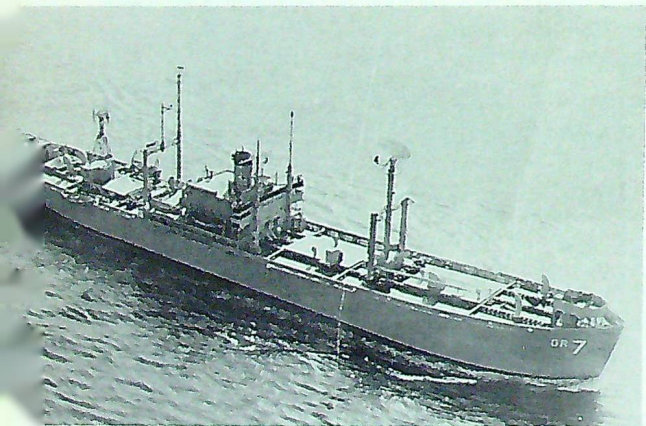
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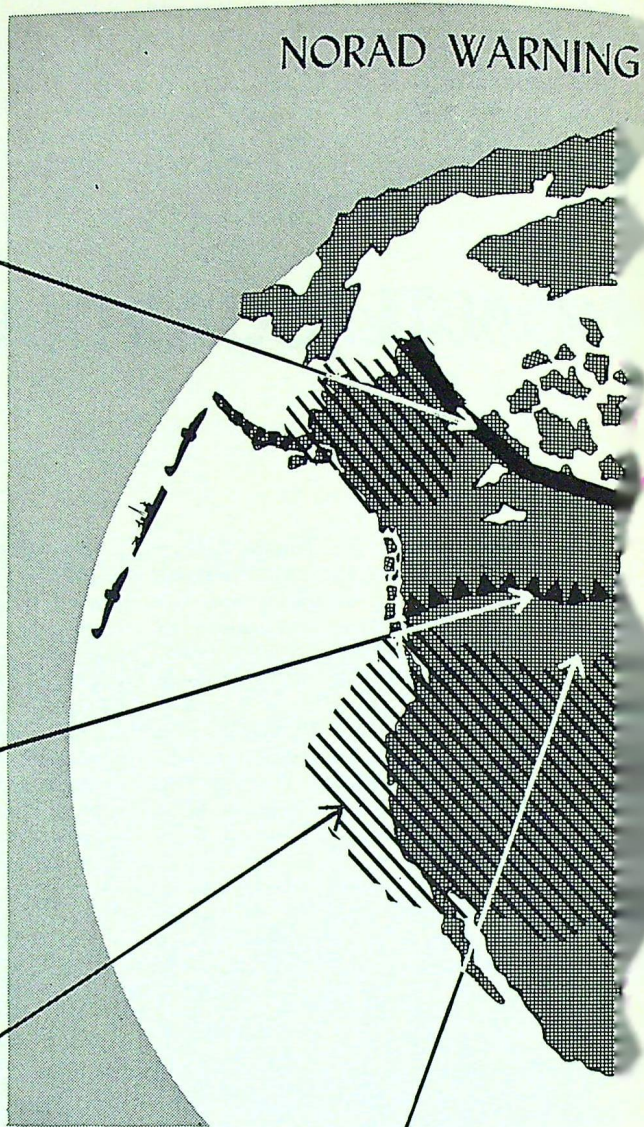
*Distant Early Warning Line*



*Mid-Canada Line*



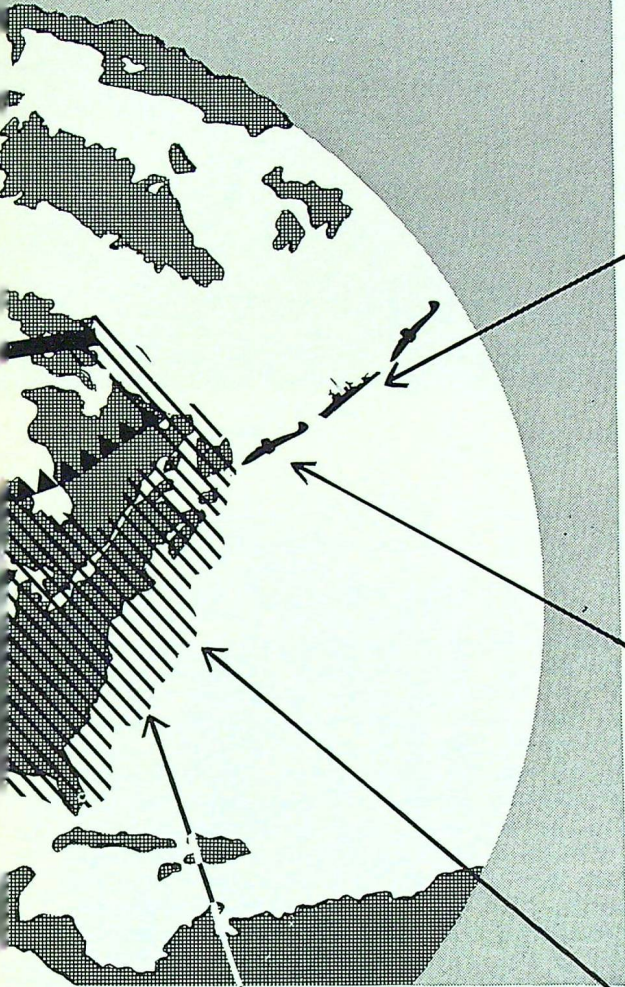
*Liberty Ship Pickets*



*Aircraft Control and Warning Stations*



# LAND CONTROL FACILITIES

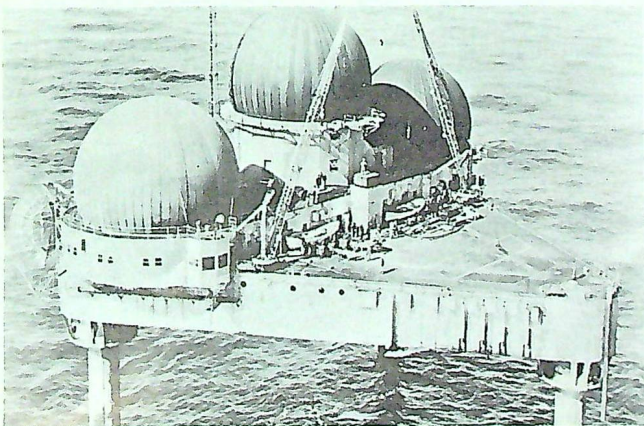
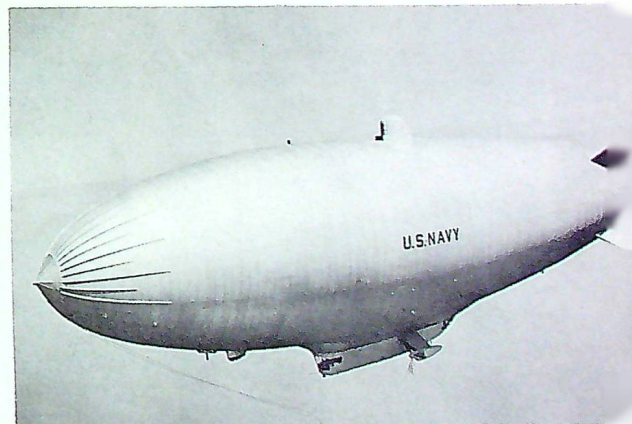


*Destroyer Escort Pickets*

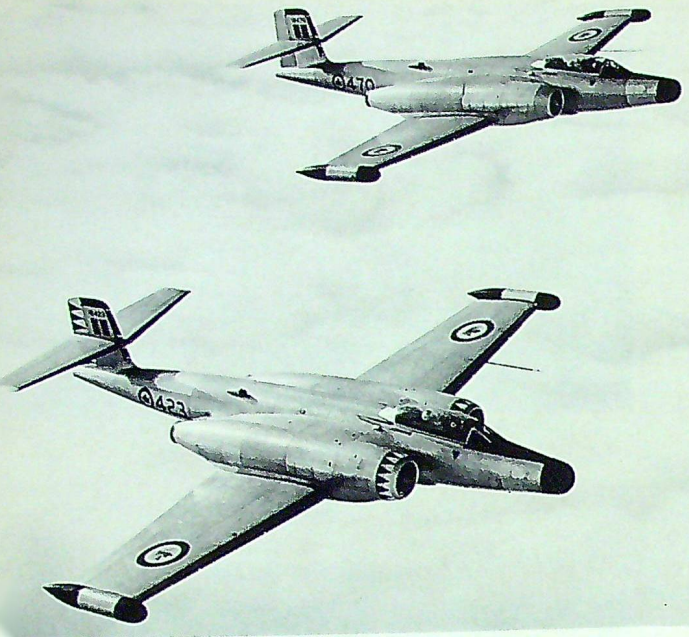
*"Warning Star" Aircraft*



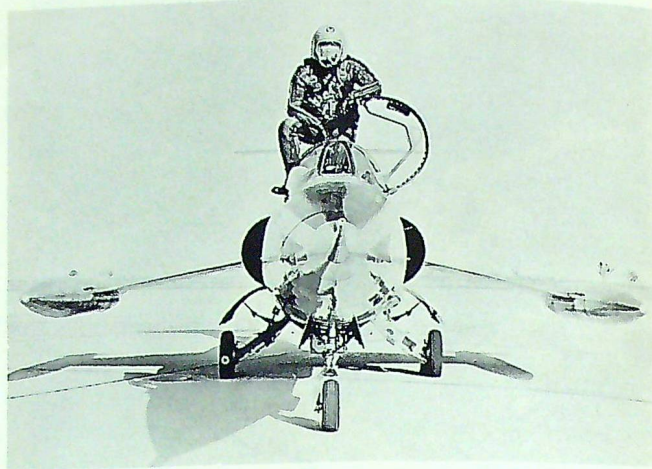
*Radar-equipped Blimps*



*"Texas Tower" Radar Stations*



CF-100 Canuck



F-104 Starfighter

(continued from page 3)

U.S.A.F. manned interceptors; pilotless interceptors of the *Bomarc* type; and shorter range missiles of the *Nike* family, supplemented by the *Hawk* low altitude defence system, both of which are assigned to the U.S. Army. The aim is to subject an invading force to continuous attack as it approaches a target area. An enemy bomber would first be attacked by long-range manned interceptors, next it would be sought by the *Bomarc* missile, and finally, if it

still survived, the bomber would come within range of the *Nike* or *Hawk*.

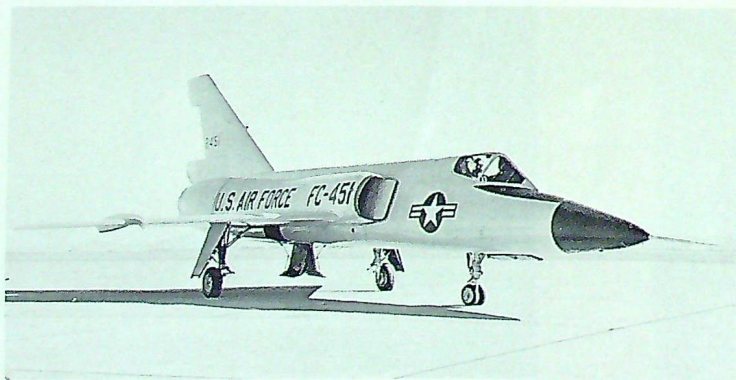
#### MANNED INTERCEPTORS

The manned interceptor is still the mainstay of NORAD's arsenal. There are eight types in current service and one slated to become operational this summer. Armament for these planes include four distinct types of missiles and rockets, with some of the aircraft capable of carrying a variety of the types.

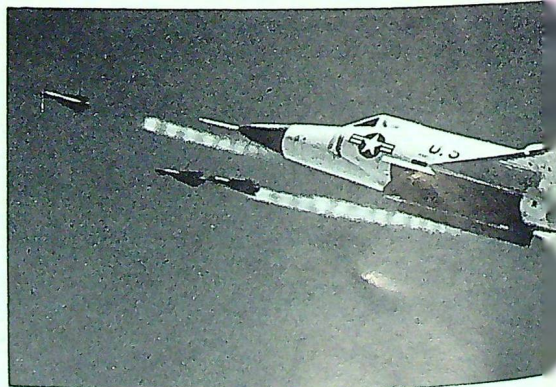
Canada's nine home-based R.C.A.F. squadrons are deployed in the vanguard, flying *CF-100 Mark 5s* armed with "Mighty Mouse" rockets.

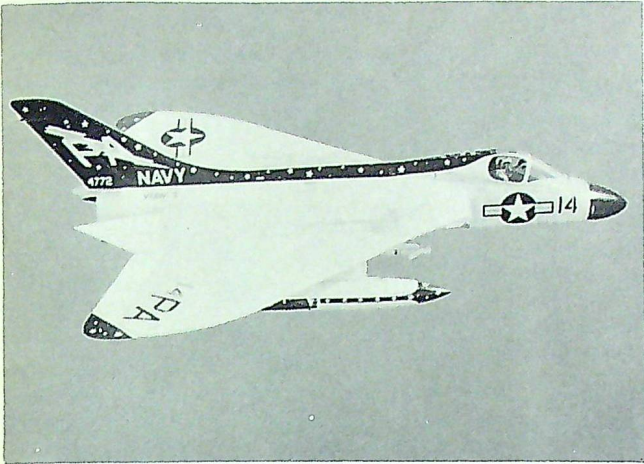
The F102A *Delta Dagger* is one of the U.S.A.F.'s first-line fighters, armed with the "Falcon" missile—a guided aircraft rocket with a radar control unit that constantly recomputes its target's direction of flight and which steers it on a collision course to the predicted point of impact. Soon to join the *Dagger* on the flight line is the F106 *Delta Dart*, an all-weather interceptor equipped with the most advanced armament and fire control system yet produced. Added to the "Falcon" aboard the *Dart* are the "Su-

F-106 Delta Dart

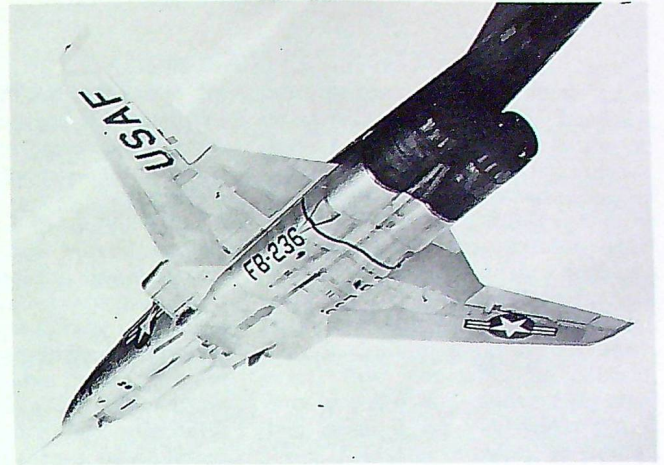


F-102 Delta Dagger





F4D Skyray



F-101 Voodoo

per Falcon" and the MB1 "Genie" nuclear warhead rocket.

Two other supersonic interceptors already in service are the F101B *Voodoo*, armed with the "Falcon" and the MB1; and the F104 *Starfighter*, equipped with the "Sidewinder"—a missile which homes on the heat generated by its target. The *Starfighter* currently holds the world speed record of 1404.09 m.p.h. and the altitude record of over 91,000 feet.

Older U.S.A.F. models still playing vital roles in air defence are the F86D/L *Sabrejet*; the F89D *Scorpion*, armed with "Mighty Mouse" rockets and F89J which in addition can add externally-mounted MB1s. The NORAD-

assigned U.S.N. all-weather fighter is the F4D *Skyray*, using "Sidewinders" supplemented by "Mighty Mouse" rockets.

#### GROUND-LAUNCHED MISSILES

Missiles are the "line-backers" for the NORAD defensive team. Latest to join the ranks is the *Bomarc*. This is the missile that first would be launched against the invader if he survived a run past piloted interceptors.

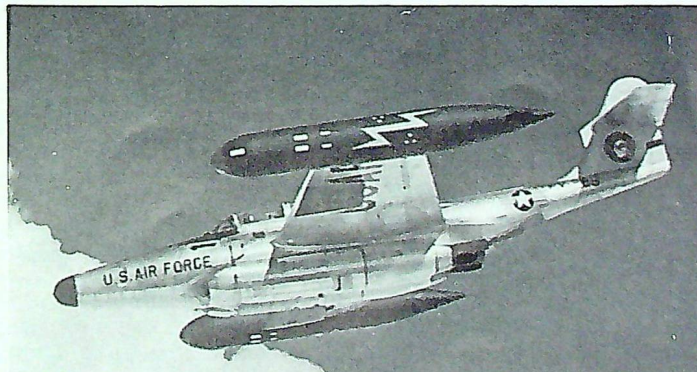
*Bomarc* (IM-99) is a supersonic, rocket-launched ground-to-air missile which will permit engagement and destruction of enemy aircraft far out from the intended target. It has a wingspan of 18 feet, length 47 feet and a

diameter of 35 inches. It weighs about 15,000 pounds and its twin ram-jet engines carry it higher than 60,000 feet at speeds over 1800 miles an hour.

*Bomarc* employs the latest electronic guidance systems, including a terminal guidance system within the missile itself. It can

*Falcon* (left), air-to-air guided missile, and *Mighty Mouse*, 2.75 in. rocket, displayed by interceptor pilot.

F-89 Scorpion



carry a nuclear or conventional warhead. It has been fired on orders from a SAGE (Semi-automatic Ground Environment) control centre nearly 1500 miles from the launching site, successfully intercepting subsonic and supersonic drone targets. Both single and multiple targets have been successfully intercepted by the *Sage-Bomarc* system. Later models of *Bomarc* will have increased range, and work is presently underway on a solid propellant propulsion system.

First of the supersonic anti-aircraft guided missiles to come into NORAD's arsenal was the Army's *Nike-Ajax*. This missile is designed to intercept and destroy

*Bomarc blasts off.*



all types of bomber aircraft regardless of evasive action. *Ajax* units have been operational in the continental United States since 1953.

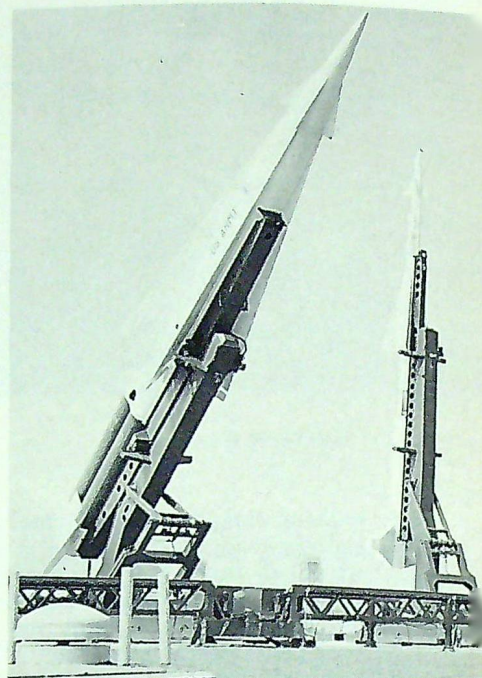
The *Nike-Hercules* is the United States' second land-based surface-to-air guided missile system to be placed into an active air defence role, and is many times more effective than its predecessor. Able to carry a high explosive or nuclear warhead, *Nike-Hercules* is a relatively inexpensive and simple missile and uses solid propellants. The system is capable of operation in an electronic countermeasures environment and has the ability to progressively accommodate improvements to the system. The *Nike-Hercules* system is operational now in the United States. It will be sited in defence of many SAC bases and will eventually replace the *Nike-Ajax* around industrial and metropolitan areas.

One of the newest of NORAD's air defence weapons is the U.S. Army's *Hawk* missile. It is capable of carrying a nuclear warhead and of destroying attackers flying "on the deck". Soon to be placed in service, this mobile system will complement the defence provided by *Nike-Ajax* and *Nike-Hercules* wherever extreme low altitude capability is required. The missile uses a solid fuel propellant and is approximately 17 feet long and 14 inches in diameter.

#### THE ICBM THREAT

To keep pace with that offensive threat, NORAD can never stand still. NORAD must not only maintain its present system of defence against manned bombers but also make plans to block an intercontinental ballistic missile attack.

Under the air defence system now in being it is estimated the continent has a warning time against bomber attack of from two to three hours at the most. A long-range ICBM with the capability of striking anywhere on the continent would reduce warning time to a maximum of 30 minutes.



*Nike-Hercules (left) and its predecessor, Nike Ajax.*

North America has no defence against this weapon today.

What is being done about it?

The problem of providing an anti-missile defence has been given the highest priority by the U.S. Department of Defence and Advanced Research Projects Agency. Canada's Defence Research Board is also working on this problem.

Among the first steps taken to meet the new challenge was the letting of a contract by the U.S. government for the development and construction of *Nike-Zeus* as an anti-missile missile. *Zeus* is getting the highest priority in its development.

Concurrently, the United States has been working on the development of a long-range missile detection system known as BMEWS (Ballistic Missile Early Warning System). The U.S.A.F. is now building two BMEWS stations, equipped with radars that can give early warning of enemy missile launchings some 3,000 miles away. BMEWS stations will use in part

some existing communication lines of the present radar chains including the DEW Line.

No field of the physical sciences, no positive approach to defence against ICBM attacks that might provide an answer, is being neglected.

This month near Prince Albert, Sask., Prime Minister Diefenbaker officially opened PARL, a Defence Research Board radar research laboratory which will investigate factors influencing the radar detection of aircraft and missiles entering the auroral zone. The PARL programme is an extension of the research collaboration that has existed between Canada and the U.S. during the past few years relative to continental ballistic missile defence.

When the solution is found, it will naturally fall into the NORAD family of weapons for defence in depth.

## "Triple Nickel's" Trial

Triple Nickel is a radar-packed *Super Connie*, U.S.A.F. serial number 30555, used on the Pacific D.E.W. Line extension patrol. Last winter, with a finish that would have done credit to a Hollywood thriller, the big *Connie* limped home after losing an engine (literally) 200 miles out of Honolulu.

At 6000 feet, with all instruments reading normally, No. 2 engine suddenly tore from its mounts. Before it plummeted into the sea, No. 2 sheered the tips from two blades of No. 1 prop. Aircraft commander Major E. W. Bierer promptly feathered No. 1.

Sixty percent flap was dropped to cut the buffeting caused by the 30-foot hole where No. 2 had been. Full right rudder trim was cranked in to help compensate for the lost power on the left. The crew began dumping 10,000 pounds of fuel. Triple Nickel continued to lose altitude and threatened to stall, despite full power on the two good engines. At 1500 feet power settings were adjusted and altitude barely maintained. As the flight reached its uncertain final stages, the crew piled into survival gear and prepared for ditching.

Then, with the traditional happy ending, Triple Nickel squeaked into Hickam and a perfect landing. Saved: 19 men and three million dollars worth of equipment.

## NEW NORAD COMMANDER NEXT MONTH

General L. S. Kuter, U.S.A.F., has been appointed NORAD Commander-in-Chief, effective upon the retirement of General E. E. Partridge at the end of July. General Kuter is at present in command of the U.S.A.F. Far East Air Forces.

General Kuter has served with distinction in a variety of posts throughout his 32 years of military service. In addition to military assignments he has also been a member of U.S. delegations to various civil aviation conferences and in 1947 was named U.S. representative to the Council of I.C.A.O. with the personal rank of minister.

General Partridge's military career dates back to 1918 when he served as an enlisted man in the First World War. In 1924 he graduated from West Point and was commissioned a second lieutenant



General L. S. Kuter

of air service in the regular army. When the U.S. entered the Second World War Partridge held the temporary rank of colonel; when

hostilities ended he was a permanent brigadier general. General Partridge became the first commander in chief of the combined Canadian-United States air defence force when NORAD was formed in September 1957.

Air Marshal C. R. Slemon, R.C.A.F., will continue in the appointment of Deputy Commander, NORAD.

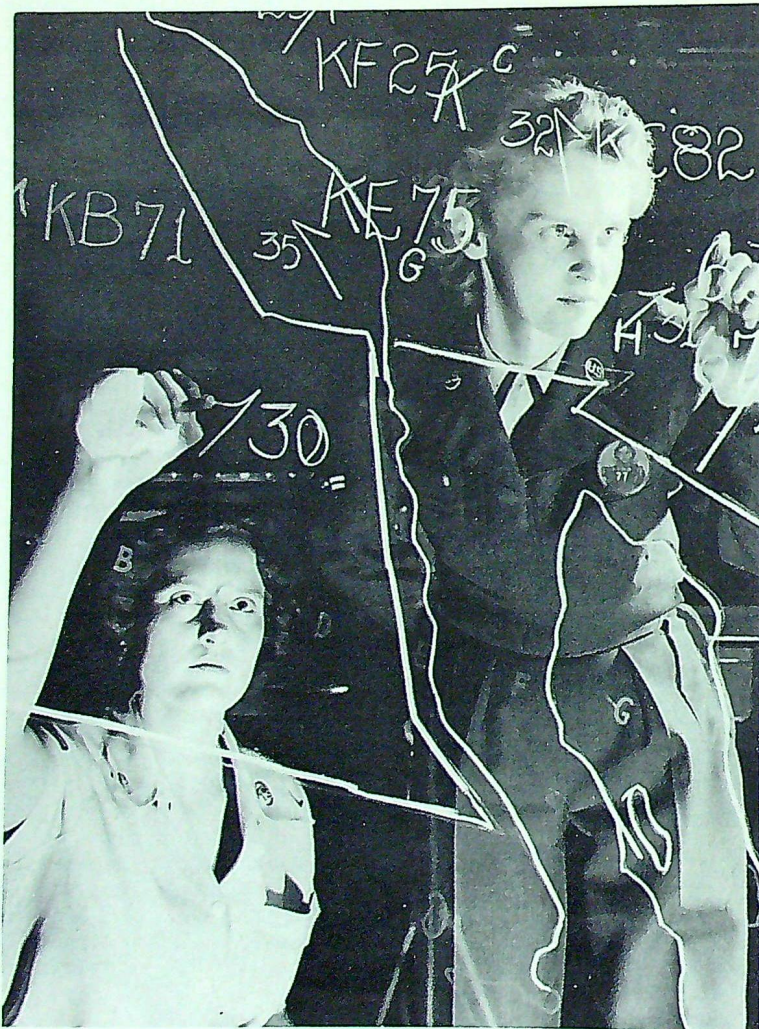
## Canadian Appointed

Mr. R. M. Macdonnell, former deputy under-secretary of the Department of External Affairs, this month assumed his new post as secretary general of the International Civil Aviation Organization, with headquarters in Montreal. I.C.A.O. is a specialized agency of the United Nations whose membership consists of 73 sovereign states.

# Canadians At Colorado Springs

## Hold Important Posts as Equal Partners in NORAD Headquarters

*Backward writing is an asset in plotting on the C.O.C. surveillance board — a plexiglass map measuring 20 x 30 feet.*



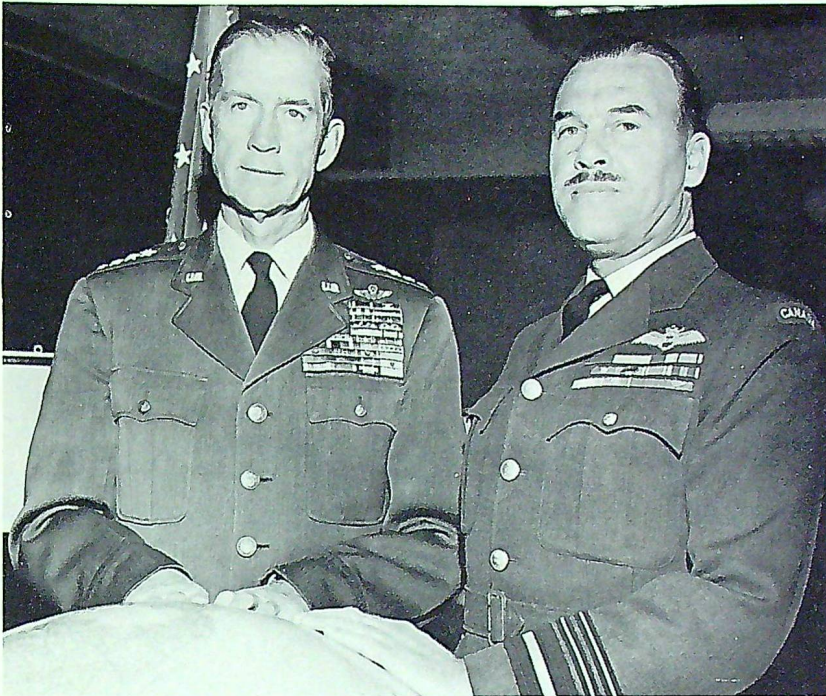
RED lights blink in the dimly lit NORAD Combat Operations Centre. "Hostile" tracks are posted on the huge plexiglass plotting board, simulating the presence of enemy aircraft high over the North West Territories. Warning bells sound the alarm, bringing officers and men of several different services scurrying to their operational positions.

Another practise alert is underway — one which may actively include those on duty at air defence units throughout North America, or merely a "paper scheme" where the "battle" is fought within the confines of this concrete blockhouse at Ent Air Force Base.

Included on every level in the planning, organization and execution of these operations at NORAD Headquarters are R.C.A.F. officers, working in the closest harmony with Americans who may be wearing army, navy or air force uniforms. Of the 166 officers attached to this headquarters, only 28 are Canadians — but they take their places as full partners and some fill positions of awesome importance, considering the comparative contributions of the two countries to this integrated command.

U.S.A.F. Four-Star General E. E. Partridge, NORAD's Commander-in-Chief,\* emphasizes that he and his deputy, R.C.A.F. Air Marshal C. R. Slemon, work on a partnership relationship. Except for the

\*To be succeeded July 31 by Gen. Kuter.



*General E. E. Partridge and Air Marshal C. R. Slemon,  
NORAD commander-in-chief and deputy.*

titles they bear, there is no Number One as distinct from a Number Two. Both are responsible directly to the U.S. Joint Chiefs of Staff and the Canadian Chiefs of Staff Committee.

Air Vice Marshal K. L. B. Hodson, as deputy chief of staff for plans and operations, occupies one of the most responsible positions in the whole NORAD HQ structure. Long range planning, evalua-

tion of systems and setting of requirements, standardization of operating procedures — these are NORAD tasks, while maintaining constant capability to alert and control the whole air defence system in being.

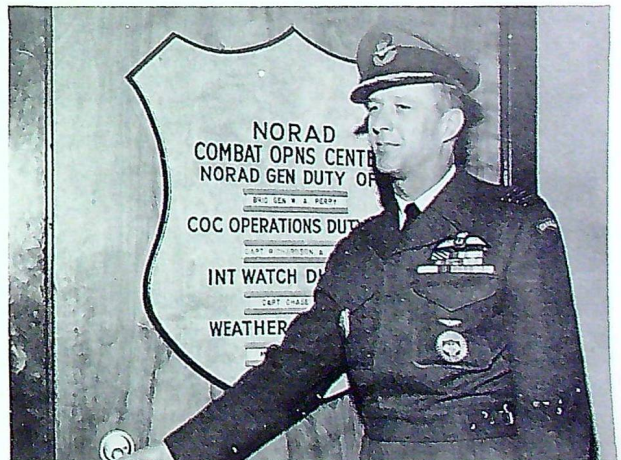
Examination of the organizational chart on down the line shows that R.C.A.F. officers fill key jobs in all spheres. Some of them have been at Colorado Springs, in a liaison capacity before NORAD was officially set up, for almost four years.

Two of the oldest residents, in terms of NORAD service, are Group Captain G. S. Austin, deputy director of operations, and Group Capt. C. A. McNeill, assistant chief of the systems co-ordination division, plans and requirements. Comparatively new arrivals are Group Capt. R. E. Mooney, assistant director plans and requirements, communications and electronics division; Group Capt. R. C. Stovel, assistant chief, plans and policy division; and Group Capt. E. B. Hale, deputy director, combat operations centre.

*Air Vice Marshal K. L. B. Hodson, deputy chief of staff,  
plans and operations.*



*Group Captain E. B. Hale, deputy director,  
combat operations centre.*





*Sqdn. Ldr. R. F. Walker operates closed-circuit TV in C.O.C.*



*Sqdn. Ldr. E. A. Alliston, duty officer, directs a practise C.O.C. alert.*

R.C.A.F. wing commanders, squadron leaders and flight lieutenants are to be found in operational and staff officer positions throughout the various directorates and divisions. In addition, three civilian members of the Canadian Defence Research Board hold permanent posts at NORAD HQ.

Nerve centre and hub of this vast system is the C.O.C., referred to at the beginning of this article. This centre is connected by a communications network to all its subordinate commands and to every command post on the continent. Here personnel plot the air situation continuously and from here

an attack warning would be given to Ottawa and Washington, to the Strategic Air Command, to the civilian defence organizations. From here the air defence battle would be directed.

This whole system is ready for action every minute of every day. Detection must be followed by rapid and accurate collation, evaluation, identification and, if need be, counter-attack. Today NORAD is moving away from manual operations into the era of automation with an electronic data-producing system called SAGE (Semi-Automatic Ground Environment). First of several such units programmed for use in North America became operational in the New York area last summer. SAGE combines current detection techniques with the use of high-speed digital computers. It is able to receive, process, and display air surveillance information; and, as directed, send guidance instructions or information to weapons or commands.

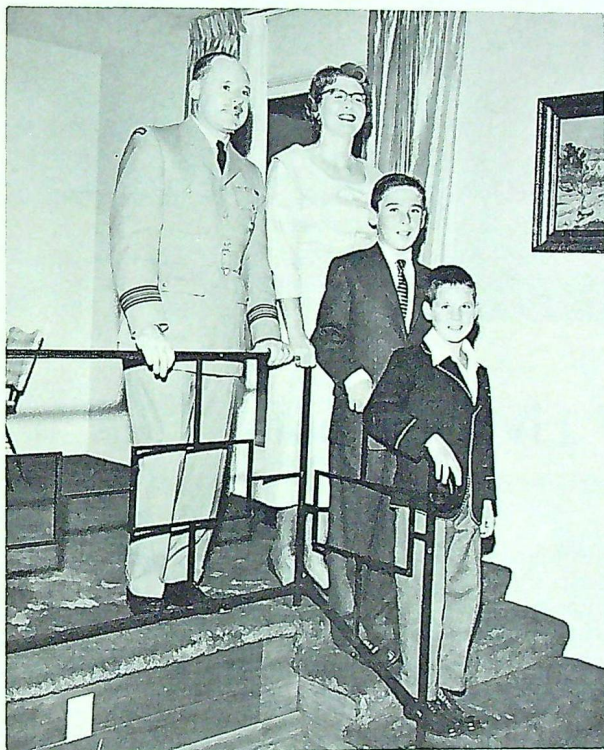
This kind of instrumentation, however, depends upon the human brain for the ultimate decisions. It is entirely possible those decisions will be made in NORAD C.O.C. by a man in R.C.A.F. uniform.

*Sqdn. Ldr. J. A. Connolly, assistant director of public information, dictates to Miss Mary Ann Williams.*



# Canadian Families in Colorado.

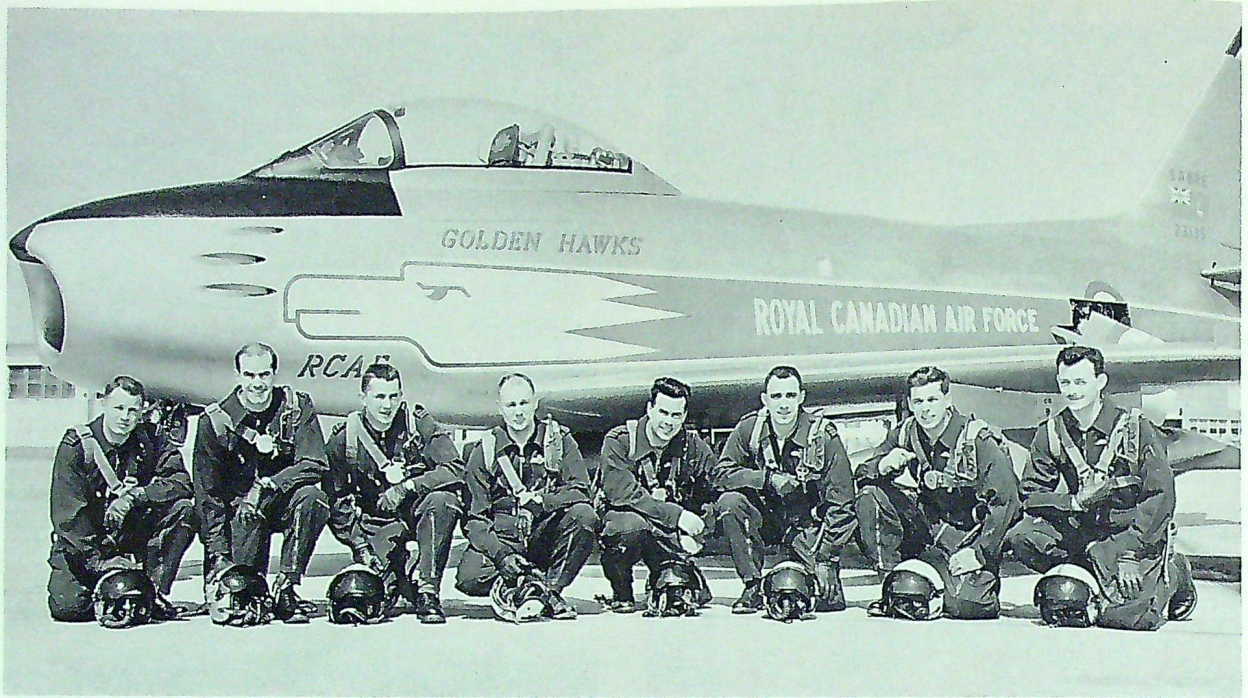
*Wing Cdr. J. F. Edwards, chief of systems branch, environment division; Mrs. Edwards, Jean, Debra, Dorothy and James, Jr.*



*Sqn. Ldr. K. J. Hardy, assistant director of protocol; Mrs. Hardy, Peter and David.*



*Flt. Lt. J. H. Lowery, intelligence staff officer, military capabilities division; Mrs. Lowery, Shannon and Kelly.*



Left to right: F/O W. C. Stewart, Flt. Lt. E. J. Rozdeba, Flt. Lt. J. D. McCombe, Sqn. Ldr. G. F. Villeneuve (team leader), Flt. Lt. G. J. Kerr, Flt. Lt. R. E. Annis (deputy leader), F/O J. T. Price, F/O J. A. Holt.

## "Golden Hawks" Fly On Tour

THE R.C.A.F.'s "Golden Hawks" precision aerobatic team will be seen by millions of Canadians this summer during its four-month tour which started last month.

Organized to take part in the activities celebrating the Golden Anniversary of Flight in Canada and the R.C.A.F.'s 35th Anniversary, the team in their gold, red and white Sabre jets will be one of the few air force aerobatic teams to perform on a nation-wide basis since the famed "Siskins" toured the country in connection with the Trans-Canada Air Pageant of 1931.

Formation aerobatics have long been a part of military flying. Teams such as the U.S. Navy's "Blue Angels" and the R.A.F.'s "Black Knights" are world famous.

Now joining this select group of precision-perfect pilots is the eight-man R.C.A.F. team pictured above.

Four members of the team combine to form a four-plane formation, while two others perform solo displays and two spare pilots are available to fill in any position as required. The shows consists of a 25-minute sequence of loops, rolls, cross-overs, bombursts, Cuban eights and rhubarbs during each performance. All these are standard manoeuvres to R.C.A.F. fighter pilots but will be carried out in tight formation by the "Golden Hawks".

The "Golden Hawks" will perform at 20 Air Force Day and 19 other public air shows this year. Dates of their scheduled appear-

ances, subject to change, are as follows.

DATE	AIR FORCE DAYS	R.C.A.F. STATION
16 May		Torbay
30 May		Trenton
30 May		Camp Borden
6 June		Rockcliffe
13 June		St. Hubert
14 June		Bagotville
20 June		Sydney
26 June		Chatham
27 June		Greenwood
1 July		Summerside
2 July		Falconbridge
4 July		North Bay
5 July		Calgary
12 July		Sea Island
18 July		Cold Lake

8 August	Winnipeg
15 August	Penhold
22 August	Comox
19 September	Centralia
19 September	Clinton

In addition the "Golden Hawks" will be at the following:

31 May	Kingston Air Show
20 June	Halifax Air Display
21 June	Sydney N.S. Air Show
27 June	Moncton Air Display
28 June	Fredericton Air Display
28 June	St. John N.B. Air Display
*	Calgary Stampede
9 July	Moose Jaw Fair
11 July	B.C. Air Show
*	Edmonton Exhibition
*	Saskatoon Fair
26 July	Regina Air Display
2 August	Prince Albert Air Show
7 August	Lethbridge Air Display
9 August	Lakehead Air Show
23 August	Victoria Air Display
*	Pacific National Exhibition
11-12 September	Canadian National Exhibition (C.I.A.S.)
19-20 September	Windsor Air Show

\* Exact dates will be announced.

#### CONDUCTING OFFICERS

When the (mess) dinner is officially over the PMC and Vice-PMC will assist, as required, in conducting the guests from the dining room.

(AFRO 92)

## Headdress for Red Indians

No. 421 (Red Indian) Fighter Squadron, based at Grostenquin, France, now is equipped with tangible evidence of its emblem. A full set of Indian regalia — made by Indians living in and around Calgary, Alta. — was presented recently to the squadron by Mr.

W. N. Love, editor of the Farm and Ranch Review.

Here Mr. Love and Flt. Lt. L. T. Legaarden, air movements officer at Dorval, try the eagle-feathered headdress on Flt. Lt. G. B. Cumming, A.T.C. public relations officer, prior to delivery of the equipment overseas.



## Dambuster Recalls Headline Story

Wing Commander J. C. McCarthy, D.S.O., D.F.C., was a recent guest on Front Page Challenge, recalling the exploits of No. 617 Squadron and the raid on the Germans dams in May, 1943. He was interviewed by the C.B.C. TV show's host, Fred

Davis.

Last month six other R.C.A.F. ex-members of the Dambusters were present at Scrampton, England, when the Queen Mother presented a new squadron standard to No. 617 R.A.F. Squadron.



# Operation Re-Supply



PHOTOSTORY BY CORPORALS G. A. WALKER AND W. M. NOICE

Anyway you look, it's a long way home. Standing (l. to r.): Flt. Lt. H. W. Leleu, F/O M. J. Gallagher, F/O R. M. Wall, Flt. Lt. R. W. Flowers. Seated (l. to r.): Cpl. R. G. Clark, Flt. Lt. J. Egan.

## Semi-Annual Arctic Airlift Has Become Routine For A.T.C.

**A**IR Transport Command has again successfully completed spring re-supply of the Canadian and U.S. weather stations across the top of the world. C119 *Flying Boxcars* from Nos. 435 and 436 Squadrons, based respectively at Namao, Alta., and Downsview, Ont., carried, in a little over a week, a total of nearly one and a quarter million pounds of mixed freight.

Early in April aircraft and ground maintenance crews of the two squadrons converged on Resolute Bay, to set about the 24-hour-a-day task of re-stocking supplies after the long winter at such isolated bases as Isachsen, Mould Bay, Eureka and Alert.

In charge was Squadron Leader D. R. Miller, a member of 435

Squadron and a veteran of arctic flying, who was bossing his second re-supply operation within a year. Goods stored at Resolute from ships which arrived the previous summer and last minute items ferried in from Churchill, a rail-head and jumping off point 965 miles south, were sorted and prepared for airlift by Flying Officer W. J. Forbes, officer in charge of air movements at Namao, and his crew of 18 airmen from both 435 and 436 Squadrons.

Timing reflected the urgency of the operation, which had to be completed before thawing rendered frozen landing strips unserviceable. The *Flying boxcars* flew as much as 16 hours a day each. This feat was accomplished through the



use of two air crews and expert maintenance.

Working 12-hour shifts, the ground crews at Resolute serviced aircraft in less than an hour — refueling, re-oiling, checking minor defects and re-loading. Flying Officer W. H. Adams headed up the ground maintenance crew of 40 men from the two squadrons. At the destination unit, tractors and sleds were drawn up awaiting the C119's arrival and every available man pressed into the task of unloading as soon as the clamshell doors were opened and the ramp in place. Turnaround time averaged five minutes.

The Canadian Department of Transport and the United States Weather Bureau took advantage of these flights to change personnel. Replacements did not have long to chat with their predecessors before the aircraft headed back to Resolute for another load and another station.



*Dr. M. Crockford (left), a Toronto dentist, assisted by Cpl. S. "Doc" Spak, R.C.A.F. medical assistant stationed at Resolute, gives treatment to Eskimos during Operation Resupply.*

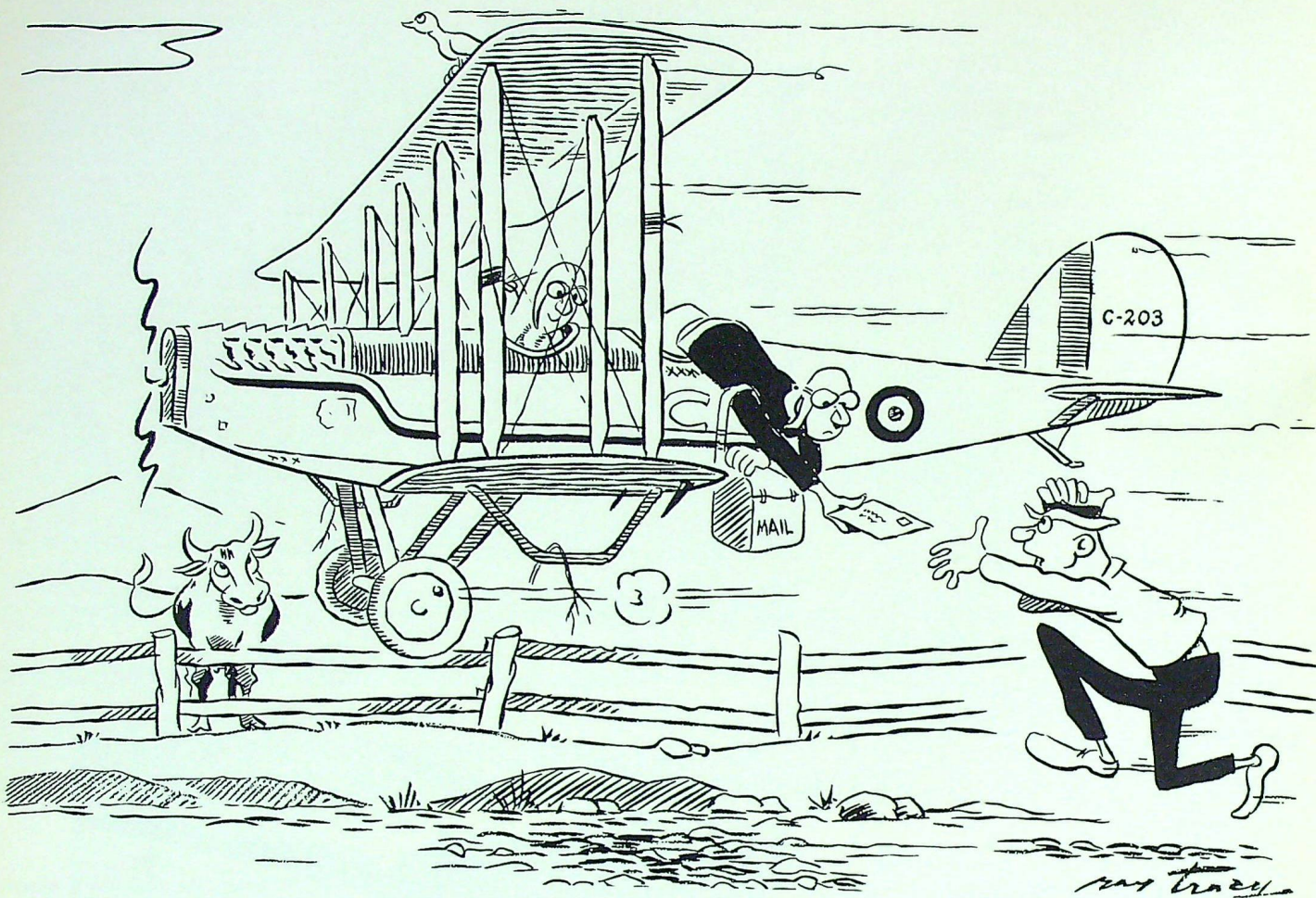
*L. to r.: Cpl. J. E. Prowse, Army Sgt. R. W. Acton, Cpl. R. Seeking and friends at Alert.*



*Over one million pounds of freight handled in one week is a lot of stevedoring.*

*Cpl. H. W. Jollimore and snowmobile at Mould Bay.*





# Canada's Pioneer Air Mail

BY WING COMMANDER F. H. HITCHINS  
Air Historian

*(For the photographs which accompany this article we are indebted to Mrs. Brian Peck of Metis Beach, Que.)*

AT 4.55 on the afternoon of Monday, 24 June 1918, a Curtiss JN4 biplane landed on the Royal Air Force aerodrome at Leaside, north-east of Toronto. To the casual observer there was nothing unusual about the arrival of the aircraft; it was just another in the dawn-to-dusk round of "circuits and bumps". Nevertheless the "Jenny" had just made history, for nestled at the feet of the mechanic in the rear cockpit was a brand-new mail bag containing about 150 letters bearing a special cachet that marked them as Canada's first officially sanctioned air mail.

Although no fanfare of trumpets heralded his landing, Capt. Brian A. Peck, the pilot of the aircraft,

had won for himself a place in Canada's aviation hall of fame as the Dominion's first air mail pilot.

A NATIVE of Montreal and a graduate of Lower Canada College and McGill University, Brian Peck enlisted in the artillery on the outbreak of war in 1914 and, after almost two years' service with a field battery, transferred to the Royal Flying Corps in March 1916. On completion of training as a pilot, he joined an army co-operation squadron in France with which he flew *B.E.2Cs* and *R.E.7s* over the battle-front for several months.

Posted back to Canada early in 1917, Capt. Peck was placed in charge of the Cadet Wing at Toronto when the R.F.C. began to organize its training establishment in central Ontario. His work with the Wing, and in particular the energy and skill which he displayed in setting up a School of Military Aeronautics before the trained staff arrived from England, received high commendation from the R.F.C. commander in Canada. Returning to flying duties, Peck subsequently commanded training squadrons at Long Branch and North Toronto and spent the winter of 1917-18 with the R.F.C. at Fort Worth, Texas. When the R.F.C. units returned to Canada in the early spring of 1918, Capt. Peck's No. 83 Canadian Training Squadron was assigned to Camp Leaside to give artillery co-operation training to fledgling pilots.

#### MONTREAL IDEA

Although the first Canadian air mail was delivered at Leaside it was conceived at Montreal in the minds of some officials of the local branch of the Aerial League of the British Empire. For several years during the war the League had been active in stimulating interest in aviation and in raising money for the donation of aircraft to the Royal Flying Corps. As a further step to encourage aviation the officers of the League, led by Mr. E. Greenwood, the treasurer of the

Montreal branch, in June 1918 arranged with the officials of the Montreal Polo Club to convert their grounds into an airfield. The polo grounds, on the Bois Franc road at Back River, had been abandoned as a sports field since the outbreak of war, but had been used on occasion by visiting aircraft. In announcing their proposal to develop the area as an airfield, the League suggested that it might be used for an air mail service.

The Royal Air Force at Toronto was informed of the League's plans for the polo grounds and lost no time in taking advantage of the opportunity to use the field. The very next day Capt. Peck arranged to fly home to Montreal for the weekend and that afternoon (Thursday, 20 June 1918) accom-

panied by his mechanic, Cpl. E. W. Mathers, he took off from Leaside on *Curtiss C-203*. They broke their journey at Camp Rathbun (Dese-ronto) to refuel and spend the night; resuming their flight at 9.30 the next morning, the two airmen landed on the Polo Grounds at Montreal two hours later. The speed with which the flight was arranged makes it reasonable to assume that Capt. Peck had some prior knowledge of the Aerial League's plans for the airfield at Montreal, including probably the tentative project for an air mail service. Nothing was said in Toronto, however, about this project and if Capt. Peck felt it necessary to offer any justification for his flight it was probably the possibility of doing some exhibition flying while in his

Captain Brian Peck



home-town to stimulate recruiting\*.

While the "Jenny" was en route from Leaside there was much activity in Montreal. As soon as the Aerial League learned that Peck was on his way, Mr. Greenwood made plans to use the opportunity for an experiment in flying the mail from Montreal to Toronto. The proposal was submitted to Dr. R. F. Coulter, the Deputy Postmaster General at Ottawa, who gave his hearty concurrence, and the necessary arrangements were quickly made with Mr. J. E. Leonard, the Montreal postmaster. A new mail bag was provided for the occasion, Mr. Greenwood was authorized to act as "aerial postmaster", and a special cachet was prepared to cancel the stamps on the letters. Impressed on the letters in red ink, the cachet was a triangle surmounted by the words "Inaugural Service" and enclosing "by Aerial Mail, Montreal, 23-6-18". With all arrangements completed, and numerous special letters written for the inaugural service, the Montreal newspapers on Saturday proclaimed "First Royal Mail by air tomorrow". But both the cachet and the newspapers were in error; the arrangements had neglected to include the meteorological officials or make allowance for the vagaries of the weather. The inaugural service was 24 hours late.

#### MAIL TAKES WINGS

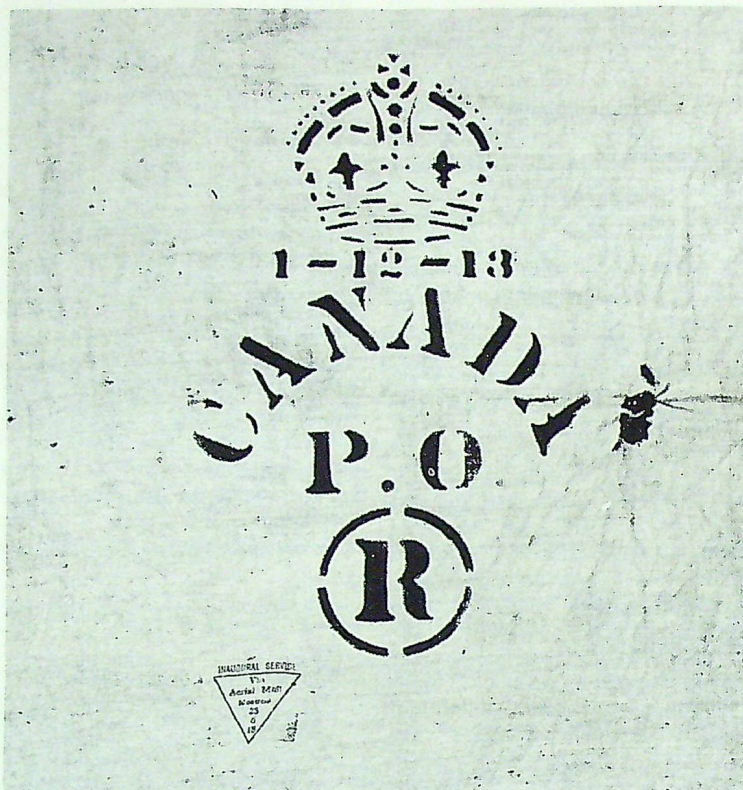
Originally scheduled for 10 o'clock Sunday morning, the return flight to Toronto had to be postponed for several hours due to pouring rain. Then, late in the afternoon, although conditions were still far from favourable a little group gathered at the Polo Grounds

\* A later account of the flight puts forward another objective — to provide the camp quartermaster at Leaside with a supply of liquor for his wedding reception. According to this story, the *Curtiss* on its return trip from Montreal carried not only the mail bag but also a case of whisky. Naturally, contemporary reports make no mention of any aerial liquor-running.

to witness the historic occasion. The letters were cancelled by Mr. Greenwood, the mail bag was sealed, Peck and Mathers climbed into the cockpits of the "Jenny" and at 4.35 the aircraft took off into the lowering, rain-laden sky. After a few minutes in the air, however, the pilot decided it was futile to continue the flight and he returned to the airfield.

At 10.12 the next morning (24 June) Peck set out again, under clearer skies, with his bag of letters still bearing the previous day's date. A 40-minute stop was made at Kingston\* to refuel the aircraft

\* Contemporary reports mention only one intermediary stop at Kingston. A later account of the flight states that Peck landed at Kingston almost out of fuel, and had to accept ordinary automobile gas as no aviation spirit was available; he then flew on to the training camp at Deseronto, drained out the auto fuel, filled up with aviation gas and continued on his way to Leaside.

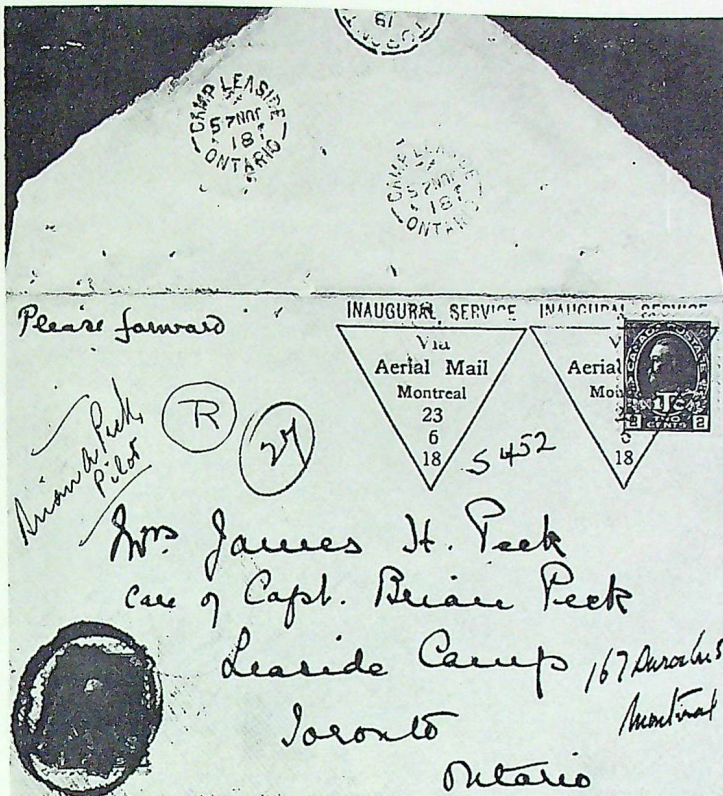


First airmail bag

and its crew, and at 4.55, six hours and 43 minutes after leaving Montreal, the "Jenny" touched down at its Leaside base. Capt. Peck rushed his mail bag by car to Postmaster W. E. Lemon at the Toronto post office to have the letters post-marked again with the time of arrival. The special delivery letters in the bag were distributed the same evening, about two hours after the plane landed at Leaside; the ordinary mail was delivered by the regular carrier service the next morning.

#### VALUABLE COVERS

The first flight covers, about 150 in number, which Capt. Peck carried on 24 June 1918 are today valuable collector's items. Most of the letters were apparently selected at random from the outgoing Toronto mail in the Montreal post office, but the bag also con-



A collector's item

joint" in 1918, amends were made 40 years later. In September 1958 the Archaeological and Historic Sites Board of Ontario erected a plaque on the site at Leaside where the first air mail flight in Canada had terminated. Capt. Peck, unfortunately, did not live to see the ceremony which paid tribute to his pioneer effort; he had died at Montreal two years previously on 6 September 1956.

\* \* \*

After Capt. Peck's flight in June 1918 had demonstrated the feasibility of air mail, the Aero Club of Canada, headed by Col. W. Hamilton Merritt, arranged another series of flights in co-operation with the Royal Air Force and the Post Office Department.

The Aero Club's project was to institute an experimental weekly air mail service between Toronto and Ottawa, and by arrangement with the postal authorities the Club issued a special air mail sticker which was sold for the benefit of the Royal Air Force Fund for Prisoners of War. The design — not too appropriate for the occasion — showed a Zeppelin being shot down in flames by a biplane; around the design was the legend "The Aero Club of Canada's first aerial mail service — per Royal Air Force" with the date August 1918 and the fee 25 cents. In addition to the Aero Club sticker, placed on the back of the envelope, the letters carried the normal postage rate of 3 cents, plus special delivery if desired.

#### EXPERIMENTAL RUNS

The first flight in this experimental service was made on 15 August 1918 when Lt. Tremper Longman of No. 78 Canadian Training Squadron carried a small cargo of air mail from Leaside to Rockcliffe in five hours. Cancelled in the Toronto post office at 9 a.m., the bag of some 60 letters, mostly official correspondence to government offices in Ottawa, was rushed to the airfield where Longman

tained about two dozen letters specially written for the occasion, carrying messages of greeting from Montreal officials and business men to their "opposite numbers" in Toronto. They included letters from the mayor, postmaster and chief postal inspector, the president and officers of the Canadian Pacific and Canadian Northern Railways, the general manager of the Bank of Montreal, the chairman of the Montreal Stock Exchange, the chairman of the Red Cross Society, the secretary of the Aerial League of the British Empire, and the editors of the local newspapers.

Toronto newspapers appeared to be slightly nettled by the fact that Montreal had "stolen a march" on the Queen City in that, although the aircraft had originally set out from Toronto, the mail was carried only one way. *THE GLOBE*

commented that, except for reports in the Montreal papers, "little was known in Toronto . . . of the unique mail service, and no arrangements were made to receive the historic mail bag"; indeed there were some doubts whether the Montreal reports had any basis in fact. Questioned by reporters, the adjutant at Leaside insisted that there was "nothing official" about the flight; Capt. Peck had merely been given permission to "drive" an aeroplane to Montreal and then had been persuaded to fly the mail back as a good will gesture. The adjutant thought the whole affair had been brought about by the newspapers. Despite his protests, the flight had been officially sanctioned by the Post Office (if not by the R.A.F.), and arrangements for it were well in hand by the time the Curtiss and its crew arrived in Montreal.

If Toronto's "nose was out of

took off an hour later. After refueling at Deseronto, he landed on the rifle range at Rockcliffe at 3 p.m. and the mail bag was delivered to the post office in Ottawa half an hour later. Some of the letters were received by officers of the Department of Militia and Defence at 4.30 the same afternoon.\* Two days later Longman made the return trip to Toronto, leaving Rockcliffe at 6.50 a.m. on the 17th and landing at Leaside at 12.25, after the customary refuelling stop at Deseronto. The mail carried on the "Jenny" was delivered in Toronto an hour later.

The second flight in the series between the provincial and federal capitals was carried out by Lt. Arthur M. Dunstan who made the eastward trip with 130 letters on 26 August, and the return trip the next afternoon. The experimental service ended on 4 September with a round-trip flight between the two cities by Lt. E. C. G. Burton. Leaving Leaside at 8 a.m., he reached Rockcliffe at 12.42, had a hurried lunch and took off again an hour later. Delayed by head winds on the return flight, he did not arrive at Leaside until 7 p.m. with his cargo of 118 ordinary and 18 special delivery letters. This small bag was the "heaviest" mail carried on the experimental service operated by the Aero Club of Canada between Toronto and Ottawa.

\* Replies to these official letters, despatched by rail that night, reached Toronto at 8 a.m. the following morning, less than 24 hours after the original mail had closed there. This combined air-rail service cut ten hours off the 33 hours required for all-rail transport of the mail.

## ● THAT'S LIFE

Life is an everlasting struggle to keep money coming in and teeth and hair from coming out.

There may be a destiny that shapes our ends—but our middles are of our own chewing.

# Flyingest Padre in the R.C.A.F.

To Flight Lieutenant L. Murphy, R.C. padre at R.C.A.F. Station Holberg, goes the honour of being the chaplain currently logging the most flying time in the service. Father Murphy earns this distinction by virtue of the fact that, although he is Station Holberg's padre, he lives 200 miles south in Vancouver and must commute by air between these two points.

Since he joined the Air Force Auxiliary two and a half years ago

Father Murphy has made more than 250 flights on commercial and air force aircraft. The padre flies to Holberg each Saturday via commercial airline since the R.C. A.F. "sked" run leaves on Fridays when he is busy teaching school in Vancouver. However, the return flights each Monday are made on service aircraft.

Out of the first 52 flights to the isolated unit, situated on the northern tip of Vancouver Island, Reserve Chaplain Murphy missed only one. It was a last minute cancellation when he was urgently needed at his parish. The flight ended in disaster when the aircraft crashed, claiming 14 lives.

From Vancouver Father Murphy flies to the airport at Port Hardy, transfers to a bus for the trip to Coal Harbour where he is picked up by an R.C.A.F. crash boat for a six-mile cruise to a waiting G.M.T. which takes him on the final lap to the station.

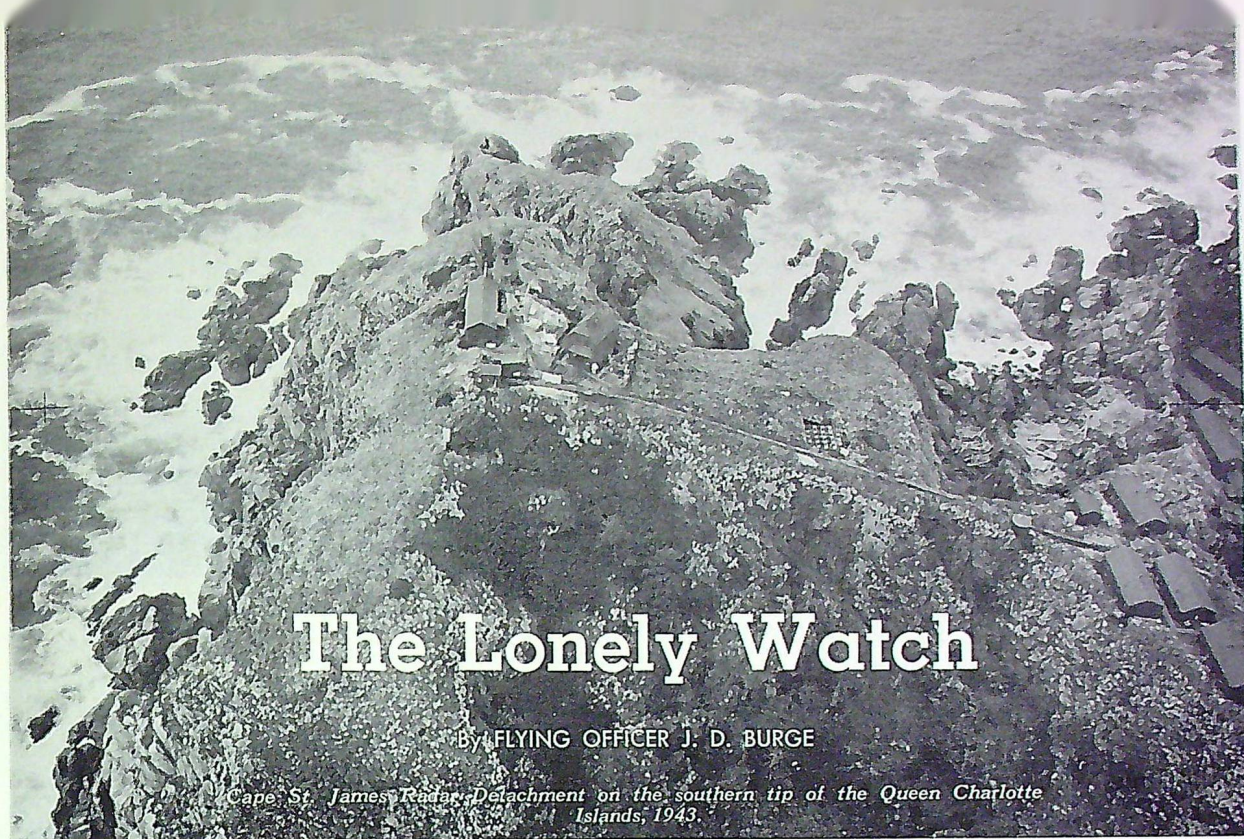
Father Murphy's weekly jaunts make it possible for him to administer to the needs of his congregation at Holberg as well as to attend to his parochial duties in Vancouver. They also allow him the opportunity of running errands for his isolated brethren. This, he claims, gets embarrassing when the errands include shopping for diapers.



## A Sergeant's Answer to a Request for a Day Off

"A calendar year has 365 days. Of these, each guy in the Air Force gets eight hours of sleep, totalling 122 days, leaving 243 days. Also, you guys get eight hours each day for recreation, which makes another 122 days, leaving 121 days. Less your five Zulu weekends a year you also get 47 weekends consisting of Saturday and Sunday, making 74 days which leaves 47.

Now the Air Force gives each guy 30 days leave each year, so we only have 17 working days left — minus ten legal holidays, which leaves only seven days. Normally, you guys swing the lead at least 30 minutes a day — which makes another six days, leaving one day of our original 365 and I'll be darned if I'll give you that one day off because we still have an Air Force to run."



# The Lonely Watch

By FLYING OFFICER J. D. BURGE

*Cape St. James Radar Detachment on the southern tip of the Queen Charlotte Islands, 1943.*

*(Editor's note: Wartime security and post-war oversight have almost completely obscured the fact that the forerunners of the much-heralded D.E.W., Mid-Canada and Pinetree Radar lines were highly operational on both Canada's east and west coasts 15 years ago. This article is in tribute to the men who served at these outposts of civilization — on wartime tours unmatched elsewhere for loneliness and boredom.)*

EARLY in 1941, when the threat of enemy penetration of our shores was very real, the Canadian government decided to build a number of radar stations at remote locations on both coasts to help guard our air and sea approaches. By the end of 1942, and with the threat from Japan on the west coast equal to that from Germany on the east, nearly 40 such stations were in operation — most of them built in incredibly inaccessible spots under the fiercest climatic and topographic conditions. Their antennae rotated from various lonely vantage points and their scopes were scanned by hundreds of homesick airmen until after V-J Day, when almost as secretively as they were

erected, these stations were abandoned to the rampages of nature.

Few instances are recorded of any unit sighting an enemy on its radar, but this in no way detracts from the fact that for three years the R.C.A.F. maintained this vigil under conditions often hazardous, always trying and sometimes downright humorous. The fact that several of our own and allied aircrews owe their lives to the timely aid of alert radar controllers more than justifies their existence.

The first station to go on the air, on 26 June 1942, was at Preston, N.S. Succeeding stations were built rapidly, a few located conveniently close to civilization but the majority far from its reaches. Some

are historic names, such as Number 6 Radar Detachment (R.D.) Louisburg, located near the fort which played such a prominent role in early Nova Scotian history. Other detachments were given such improbable names as Spider Island, Fogo Island and Brooklyn. Most northerly unit on the west coast was Number 26 R.D. Langara Island, B.C., situated at 54 degrees 15 minutes north latitude; and on the east coast Cape Bauld, Newfoundland, claimed this dubious honour.

## LAYING THE GROUNDWORK

In considering these outposts and the men who manned them, we first present a brief history of radar

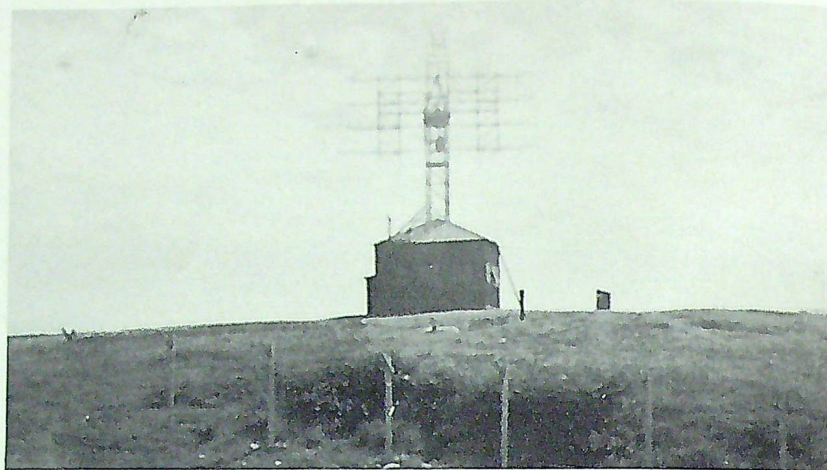
in the R.C.A.F., or Range and Direction Finding (R.D.F.) as it was known in the early war years. Dr. J. T. Henderson, a physicist with the National Research Council, and Squadron Leader F. V. Heakes went to England in 1939 on the invitation of the Air Ministry to view demonstrations of radar equipment and acquire technical information. They were recalled early in September, a few days after the outbreak of war.

During the next year there was little interest shown in radar by the R.C.A.F. Then, in November 1940 Flight Lieutenant G. M. Fawcett (Group Captain), Flt. Lt. C. J. Campbell (Group Capt., ret.) and Flying Officer G. H. L. Norman (Sqn. Ldr. ret.) were sent to the United Kingdom to study and observe radar operations. They studied at Yatesbury and Prestwick, visited factories and flew with Coastal Command. When they returned to Canada in May 1941 they brought back two ground radar equipments, one of which was installed by Research Enterprises Ltd. (R.E.L.), a crown corporation formed in 1941 to produce radar equipment, as a prototype for the manufacture of Canadian built Chain Home Low (C.H.L.) equipment. The other, used for the detection of high flying aircraft, was set up at Preston for the protection of the Halifax area.

Early in 1941 the radar staff establishment under Wing Commander R. E. McBurney (Air Vice Marshal, ret.) consisted of two ground officers and two airborne officers, Flt. Lts. Campbell, Fawcett and Flying Officer Norman and Flt. Lt. C. B. Limbrick (Group Capt, ret.), who had served as a radar officer with the R.A.F.

#### TRAINING

While radar organization was proceeding in Canada, R.C.A.F. officers and airmen as well as other Canadians were being trained in the U.K. and many of them later served with the R.A.F. in Europe, Africa and Asia. In the summer of 1942 the R.A.F. established a radar



St. Brides, Newfoundland.

school at Clinton, Ont., at which R.C.A.F., R.A.F. and U.S.A.F. airmen were trained. At about the same time a scheme for the *ab initio* training of radar mechanics was placed in operation at several Canadian universities. Intake at Clinton was mainly from these graduates and the school turned out about 90 officers and other ranks every two weeks.

Selecting a radar site and placing a unit in operation often proved a long and arduous task. The tremendous distances involved, and lack of communications and roads presented great obstacles. Locations were selected for their topography and geographical position, which meant that radar beams with their normal range of 20 to 150 miles must overlap. Siting was carried out by Flt. Lts. Fawcett, Campbell and Limbrick. Living quarters had to be established and placed where they could best cope with vigorous weather conditions. Building these quarters was the headache of the Construction Maintenance Units.

#### THE REAL ENEMIES

As rapidly as plans were formed to build the radar detachments, elaborate safety precautions were drawn up to hide their existence. The bases were first known as

R.D.F. stations; the name Radar became standardized later. Secret documents were kept in a safe to be quickly destroyed if necessary. Demolition equipment to destroy the radar equipment was installed. Machine gun emplacements were constructed at all units and men sent to guard them. Outgoing mail was censored. As the months wore on, however, it became obvious that monotony and boredom were the real enemies.

To combat this boredom personnel engaged in various forms of recreation. As could be expected, hunting and fishing were the most popular past-times. Softball and baseball were played at units blessed with a forest clearing. At a few western detachments off-duty personnel found fun, but seldom fortune, panning for gold. Several units managed to produce newspapers such as the Cape St. James THE ISOLATIONIST and the Cape Bauld EXPLORER.

Personnel, equipment and supplies were brought to the radar sites by the airforce's own marine section in coastal-type freighters, fishing boats and converted gasoline tenders. Their crews were a colourful cross-section of sea-farers — including pre-war R.C.M.P. members of the preventive service, rum-runners and fishermen. Sometimes

they deposited their passengers and cargoes on land and sometimes the in-going tide was the only means of conveyance. Personnel reporting for a tour of duty of Marble Island, B.C., were brought to about one mile from shore. Then, clad in suits of rubber overalls they would slip over the side and, combining their swimming ability with the force of the tide, they headed for land. On other occasions supplies and personnel were floated ashore on large rafts.

#### EAST COAST

During the war 40 radar units were established in Canada, of which 30 were located on the east coast. Several ground interception detachments were set up, including No. 19 R.D. Gander, which vectored aircraft during interceptions as well as performing its normal plotting duties. A squadron of *Hurricanes* was based at Gander airport for this purpose.

One night a single *Hurricane* was sent out on a high flight and the control tower lost contact with the aircraft. The detachment was asked for help but was unable to reach the pilot through the normal radio channels. The officer com-

manding the unit, Flt. Lt. C. E. Hill, reasoning that the pilot could receive but not transmit, gave the command "make cockrell crow". A few anxious moments later a "pip" appeared on the rim of the radar screen. The pilot had received the message and turned on his I.F.F. If contact had not been established for another five minutes the lost aircraft would have passed beyond the radar range and beyond all help.

But the situation was still critical. Headings to Gander were transmitted blind and the aircraft turned for home. The "pip" was observed moving slowly across the screen when it suddenly dropped from view. Over Botwood fuel had run out, forcing the pilot to "hit the silk". The "pip" went off the screen as the *Hurricane* plunged to the ground. The plotted track gave the approximate position and the pilot was soon rescued.

The majority of the units on the east coast were located in Nova Scotia and Newfoundland. There were several detachments in Labrador, four in Quebec and one each in Prince Edward Island, New Brunswick and Ontario. The latter was a ground experimental station.

The staff of a unit usually consisted of one or two officers and approximately 70 other ranks.

#### CAPE BAULD

No. 30 R.D. Cape Bauld, on Quirpon Island at the extreme end of Newfoundland, was a typical radar station in a remote area. Situated on a barren rock with practically no harbour facilities, the unit came into operation late in 1942 after a three-month construction period during which equipment was floated ashore on rafts.

In the years that followed unloading supplies was always a problem. Drums of oil could only be hoisted ashore by a winch at a nearby lighthouse. At first these were carried one-quarter mile through muskeg and rock to the radar site. Later a make-shift road was constructed so that men could roll or push the drums to the detachment. In winter the oil was brought in by dog sled.

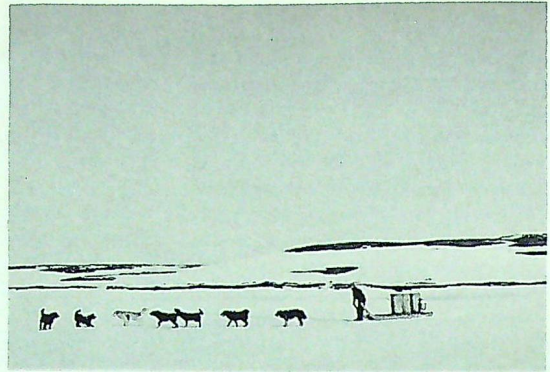
Summer was the best season at Cape Bauld. At least twice a month visits were arranged to the nearest town St. Anthony, 25 miles to the south. Personnel travelled back and forth by supply boats. A feature of these visits were the softball games between the Air Force and St. Anthony's. Fielding conditions left a lot to be desired and boulders presented unusual obstacles on the diamond.

Occasionally personnel would seek time off and obtain a five-day leave. This meant a walk to the south end of Quirpon Island and a ride in a passing fishing boat to the mainland. The airmen would walk along the shore until they reached a hamlet where they would be housed for the night. Many warm friendships were formed between air force personnel and the people of Newfoundland. They provide some of the better memories to come out of that bleak and desolate land.

Mail delivery was improved in the summer months but in winter mail arrived about once every five weeks — by dog team from Deer

At No. 30 R.D., Cape Bauld, Nfld.





*Bringing supplies to Cape Bauld in summer . . . and in winter.*

Lake 200 miles and a ten-day trip away. After the ice cleared supply boats brought in mail once every three weeks.

With winter came the harsh weather features so well remembered by personnel of stations like Cape Bauld. Sometimes the winds would reach hurricane strength. Brig Harbor and Cape Bauld have recorded velocities as high as 120 m.p.h. In the fury of these gales half-filled oil drums weighing well over 300 pounds would be blown around the camp like children's blocks. Storm windows would be torn off, chimneys toppled and opening or closing a door against the elements was a two man job. At times people on duty did double and triple consecutive shifts waiting for the winds to abate so that they could get back to quarters.

#### PACIFIC WATCH

There were nine radar units located on the west coast, seven of them C.H.L. radio detachments. Many were as isolated as Cape Bauld. Recruits reporting to Cape Scott, on the northern tip of Vancouver Island, were taken by steamship from Vancouver to a place called Shushartie Bay. Here they would wait in a telegraph office, the only house in the area, until picked up by a fishing boat for the last lap of the trip.

One of the pioneer drafts included an enterprising L.A.C. who was posted from Dartmouth to Cape

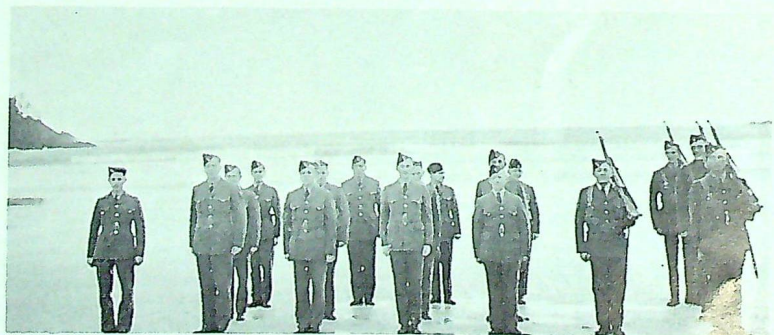
Scott. En route he promoted himself to flight sergeant, putting up three stripes and a crown to prove it. At Vancouver he took charge of a draft of 15 men. When the party arrived at Shushartie Bay the "conscientious flight sergeant" put the waiting period to good use by delivering a series of security lectures. From Cape Scott came word for the party to detour to Coal Harbour. Here the self-appointed N.C.O. warned the unit on the necessity of tightened security. Finally his documents caught up with him. In defence he claimed he was promised an accelerated promotion which must have been delayed. Before this fable was disproved the L.A.C. and party were on their way to Cape Scott and the matter was closed.

There were no roads to Cape Scott, so supplies were brought in either by sea or air leaving the

state of rations at the mercy of the weather.

Shortly after V-J Day all the radar stations, except one at Eastern Passage near Dartmouth, were closed. This station was loaned to the R.C.N. and kept in operation until early in 1955. In 1952 a few of the wartime sites were re-opened for the Northeast Air Command Warning System, but for the most part the wartime radar chain exists only in Air Force records. As the detachments were closed the radar equipment was moved out, the buildings abandoned. Gradually, with the forest re-claiming the land and with the buildings falling apart, all traces of the stations will vanish. But throughout the country there are thousands of men who recall the part they played in this little-known but vitally important wartime activity on Canada's radar chain.

*Cape Scott R.D. personnel, November 1942.*



## Wire Bowling Tourney Results

The 1959 R.C.A.F. Wire Bowling Tournament was by far the largest conducted in the four year history of the event, report A.F.H.Q. recreation officials. Sixty-two men's and 60 ladies' teams were entered, ranging in geographical location from Whitehorse, Y.T., to Zweibrücken, Germany.

Winning men's team, with a score of 3845, was from No. 1 Air Div. Support Unit and comprised Sgt. J. M. Meloche, Cpls. J. R. Blanchette and P. Vandenboeck, L.A.C. G. MacCallum and Pte. R. Danis.

Winning ladies' team, with a score of 3259, was from R.C.A.F. Station Senneterre and comprised L.A.W. B. Clark, Mrs. J. Weatheril, Mrs. L. Danis, Mrs. B. McLeod and Mrs. M. Morris.

Men's high single champion was L.A.C. G. MacCallum, 1 Air Div. S.U. (365); men's high triple, L.A.C. L. Veilleux, Stn. Lincoln Park (926); ladies' high single, Marie Gallagher Stn. Moose Jaw (382); ladies' high triple, Mrs. J. Williamson, Stn. Camp Borden (815).

Commended by C.A.S.



Flying Officer N. F. Francis, of 2 (M) O.T.U. Greenwood, received a personal letter of commendation from Air Marshal Hugh Campbell after the following incident.

On 22 July 1958 F/O Francis, a flying instructor on *Argus* conversion, took instant action in correcting a fault during a normal overshoot procedure at approximately 500 feet altitude. He thus prevented the situation from progressing into a state from which it would have been impossible to recover. His immediate appreciation of the situation, alertness and thorough knowledge of the aircraft earned him this high praise.

## M.C.L. Chapels Dedicated

PROTESTANT chapels at the R.C.A.F. Winisk and Great Whale River radar sites on the Mid Canada Line were officially dedicated last month.

The chapel at Station Winisk, on the west coast of Hudson's Bay, was dedicated in the morning. The officiating group then travelled by aircraft to Station Great Whale River, 300 miles away, where the ceremonies were repeated in the evening of the same day.

Group Captain F. W. MacLean, director of protestant religious administration, dedicated the chapels in the presence of R.C.A.F., Bell Telephone and Marconi Radio personnel, who jointly operate the radar sites. The chapel at Winisk was converted from a construction shack used by building crews during the station's erection.

Squadron Leader R.A.F. Currie is official chaplain of Winisk where he holds religious service once a month. Services for the three re-

maining Sundays are carried out by the senior officers of the site.

Members of the Bell Telephone and the R.C.A.F. volunteered their spare time to renovate and decorate the chapel at Great Whale River. Dilapidated furniture in the construction shacks was dismantled and converted into pews and kneeling benches.

Rev. S. Wilkinson, a chaplain in the R.C.A.F. reserve and resident minister for the Eskimos and Indians, commutes between the radar site, Belchor Island and Great Whale village, where he administers religious services.

*Wing Cdr. W. Rodger, A.D.C. Chaplain, chats with members of the congregation at Station Winisk.*



# The Suggestion Box

Air Marshal Hugh Campbell, Chief of the Air Staff, has written letters of thanks to these individuals for their original suggestions which have been officially adopted by the R.C.A.F. Each has received an award from the Suggestion Award Committee, Department of National Defence.

Wing Cdr. A. C. W. Barrett of A.F.H.Q. Ottawa developed a new Telecommunications (Air) Failure Report.



Sgt. K. A. Kearns of A.F. H.Q. Ottawa designed a new temporary docket for use with form G183.

Flt. Lt. R. M. Muir of Station Foymount developed an angle off computer for the use of fighter controllers.



Cpl. W. Beamish of Station Centralia suggested a new method of reinforcing folding tables.

F/O D. E. Salter of A.F. H.Q. Ottawa devised a quick-disconnect on the frequency converter in the radar sight system for Sabre aircraft.



Cpl. T. M. Bruce of Station Trenton suggested a card and holder for use in T33 aircraft.

Flt. Sgt. H. W. Reynolds of Station Greenwood revised certain soldering techniques which have now been adopted by the Royal Canadian Navy.



Cpl. E. E. Hauka of Station Penhold suggested complete painting of the upper ring cowl of *Expeditor* aircraft.

**Cpl. W. J. Jones** of Station Bagotville designed a dispenser for form R.C.A.F. F17, Daily Flying Log.



**L.A.C. G. K. Hossack** of A.F.H.Q. Ottawa suggested elimination of the transcription of flying hours from F127, Record of Flying Time, to R331, Record of Service.

**Cpl. J. L. G. Nobert** of Station Gimli designed a gauge for checking the range of travel for all control surfaces of T33 aircraft.



**L.A.C. J. E. Potvin** of Station Rockcliffe made a suggestion concerning the use of electronic flash in slide making.

**Cpl. D. V. Hutchings** of 6RD Trenton made a suggestion concerning use of 34A/35, SAEIOW, lubricating oil when storing Sabre and T33 aircraft.



**L.A.C. R. H. Shaw** of Station Rockcliffe suggested useful revision of form RCAF STATS 318, Unsatisfactory Condition Report.

**Cpl. E. Stamp** of Station Gimli suggested a method of using dye for detecting leakage spots in fuel tanks.



**L.A.C. G. M. Smith** of Station North Bay designed extension cables for the Flight Data Computer Sub-Assemblies.

**Mr. A. J. Blackmore** of Station Beaver Bank suggested an improved method of conserving diesel fuel oil.



**Mr. E. T. McFall** of 6 R.D. Trenton made a suggestion concerning a brake timing device.

# OUR FIRST C.A.S.

Air Marshal G. M. Croil, CBE, AFC  
(1893-1959)

**T**HIRTY-ONE years ago, in June 1928, the commanding officer of R.C.A.F. Station Camp Borden welcomed to his station, and to the service, a group of fledgling provisional pilot officers. A decade later the station commander, Wing Commander G. M. Croil, had become an air vice-marshal and the R.C.A.F.'s first Chief of the Air Staff. In 1957 one of his novice pilots of 1928, P/P/O Hugh Campbell, rose to the same supreme office in the service.

George Mitchell Croil was born in the United States, at Milwaukee, Wisconsin, in June, 1893. At the age of 11 he moved with his family to Montreal for a few years before returning to his parents' native land, Scotland. There he completed his education, worked for a time as a civil engineer, and then went out to Ceylon to become the manager of a tea and rubber plantation.

The outbreak of war in 1914 soon brought him home again, to receive a commission in the Gordon Highlanders and quick promotion to the rank of captain. In the spring of 1916 Capt. Croil was seconded to the Royal Flying Corps with which he obtained his pilot's certificate a few days before his 23rd birthday. On completion of his training he was posted to No. 47 Squadron which was then being formed for service in the Middle East. In September 1916 he sailed with the squadron to Salonika and flew on operations over the Macedonian front, distinguishing himself by particularly good work on

bombing raids and offensive patrols. In July 1917 he was posted from Salonika to Egypt where he was engaged on flying training until the end of the war, receiving promotion to major and command of a Training Depot Station at El Rimal. During this period he frequently served as pilot for the famous Lawrence of Arabia on his missions into the desert. For his outstanding work on operations and training in the Middle East Major Croil received a Mention in Despatches (June 1918), the French Croix de Guerre (February 1919), and the Air Force Cross (June 1919).

#### AIR BOARD PIONEER

Released from the Royal Air Force in April 1919, Major Croil came out to Canada and the following year joined the Air Board as an air station superintendent in the flying operations branch (where he served under a future C.A.S., the then Lieut. Col. Robert Leckie). In charge first of the air station at Morley, and later at High River, Alta., Major Croil organized the aerial forest patrol service in the foothills of the Rockies, and also did pioneer experimental work in winter flying.

When the Canadian Air Force was organized under the Air Board in 1920 Squadron Leader Croil was one of its original members. In the summer of 1921 he took part in one of the first demonstrations of army-air co-operation in Canada when he flew a D.H.4 from High River to participate in Army



exercises at Camp Sarcee. Later that year he attended a special C.A.F. course at Camp Borden and while there he had a role in the first ceremonial hoisting and unfurling of the C.A.F. ensign.

Squadron Leader Croil remained in command at High River until the close of the 1923 flying season when he was posted to a staff position at Air Headquarters in Ottawa. He was one of the 62 officers who constituted the Permanent component of the Royal Canadian Air Force upon its organization on 1 April 1924. From headquarters he went overseas in March 1925 to serve as R.C.A.F. liaison officer at the Air Ministry for a year before attending the R.A.F. Staff College at Andover as a member of the fifth course. Graduating with his p.s.a. (and promotion to wing

commander), Croil spent some weeks in the United Kingdom visiting R.A.F. establishments and then took the flying instructors course in the Central Flying School at Wittering.

On his return to Canada late in 1927 Wing Commander Croil was posted to Camp Borden and took over command of the station on 5 December. For five years he remained at Camp Borden, supervising and taking a direct personal interest in the instruction of successive courses in the P/P/O scheme which was then at its peak. Eleven officers of air rank now serving in the R.C.A.F. received their pilot's wings while Wing Commander Croil was C.O. at Camp Borden and seven others received part of their flying training during that period.

#### CHIEF OF AIR STAFF

At the end of 1932 Wing Commander Croil again went overseas to attend the Imperial Defence College and qualify for i.d.c. (He was the second R.C.A.F. officer to attend the College.) From I.D.C. he returned to Canada to become Senior Air Officer on 1 January 1934, with the rank of group captain. A year later he was promoted to air commodore and in August 1938 to air vice-marshal. He took command of the service at the time when the R.C.A.F. was just beginning to recover from the financial stringency imposed by the depression and was also, under the impulse of increasing international tension, beginning to reorganize from a "civil" air force engaged on civil government air operations to a military air force equipped and trained for the air defence of Canada. His task was not an easy one; there were many "lean years" to overcome, and competition in the world's markets for equipment was now very keen.

A second great task confronting him as head of the R.C.A.F. was to gain independence for his service, and elevate it from a "corps" under the control of the Chief of

the General Staff to an autonomous "force" enjoying equal status with the other services. This battle ended in victory and on 15 December 1938 Air Vice-Marshal Croil became the first Chief of the Air Staff.

When war came in September 1939 Air Vice-Marshal Croil played a leading part in the negotiations which led to the creation of the British Commonwealth Air Training Plan and he helped to lay the groundwork for the early stages of that great undertaking. After directing the service, as S.A.O. and C.A.S., for six and a half years, Air Vice-Marshal Croil was appointed Inspector-General of the R.C.A.F. on 29 May 1940 and through the vital war years he exercised close supervision of the efficiency of the service he had helped to create. For his war-time services he was decorated with the C.B.E. in January 1943.

Air Vice-Marshal Croil relinquished his appointment as Inspector-General on 1 January 1944 and six months later, on 2 July 1944, he retired from the service with the rank of air marshal. In retirement Air Marshal Croil made his home in Vancouver, where he died on 8 April of this year.

If one were to describe Air Marshal Croil in a single word that word would be INTEGRITY. He was, above all, a "straight-shooter", an absolutely honest and sincere man of whom it could be truly said "he nothing common did, or mean". Reserved and modest, he never sought the limelight or the fanfare of publicity, but preferred to do his work quietly, conscientiously—and impeccably. Those who served with Air Marshal Croil cherish the memory of an officer who inspired confidence in those about him. "He was the sort of man you liked to work for."

## Oil Boom Sparks Photo Rush

Increased interest in the Canadian north by oil and mining companies is a contributing factor in a boom period at the R.C.A.F. Photographic

Establishment, Station Rockcliffe. Here L.A.W. M. T. Bernier helps sort the thousands of aerial survey photos taken by No. 408 (Recce) Squadron.



## Letters to the Editor

### GOBc's SHARP EYES

Dear Sir:

I wish to congratulate you for the salute to station publications in the article "Hold That Deadline" (Vol. 11, No. 2). However, I was disappointed that nowhere was there any mention of a large and widely circulated group of allied publications which we firmly believe are equally important in their own field.

These are the monthly Ground Observer Corps magazines, compiled and edited by R.C.A.F. personnel for distribution to thousands of civilian volunteers across Canada. Our own publication, THE ARCTIC SPOTTER, has a circulation of approximately 1,700 throughout the Canadian north from Alaska to Labrador.

Flt. Lt. W. W. D. Brown,  
O.C., 20 GOBc Det.,  
Edmonton, Alta.

(Other GOBc publications include THE SKYWRITER, Vancouver; THE SENTINEL, Prince George; THE NORTHERN OBSERVER, North Bay; THE SKYWATCHER, Peterborough; THE SKY SENTINEL, Halifax. — Editor.)

### MEMORY OF "MAWDEY"

Dear Sir:

May I say how pleased I was to read in "Start of a Saga" (Vol. 11, No. 1) the eulogy to Group Capt. F. J. Mawdesley, A.F.C. — one of the best-known and well-loved officers of the R.C.A.F.

It was a pleasure and privilege for me to be his batman from 1925 until 1939. He was, and still is, an institution and it is gratifying to know he has not been forgotten.

J. Wilson, ex-Sgt.,  
635 Granville St.,  
Vancouver 2, B.C.

### MOOSA ASWAYITA

Dear Sir:

Please send me one of the 419 Sqn badges, offered on a first request, first-serve basis in your March issue. I served as a pilot in 419 from January to November 1943.

I find THE ROUNDEL is a link with a part of our lives which is fading with the years. These squadron histories bring back many memories of events and former associates. My 13-year old son found it strange indeed to see my name in print in the December instalment (Vol. 10, No. 10).

John McIntosh,  
Box 1510, Camrose, Alta.

(Our limited supply of badges was gobbled up by ex-Moosemen within two days. The response to this offer certainly proved the popularity of wartime histories. Next squadron slated for publication is No. 411 — a fighter unit. — Editor.)

### COUGARS CONGREGATE

Dear Sir:

On 3 October 1959 the officers of 432 All Weather (Fighter) Squadron, R.C.A.F. Station Bagotville, P.Q., are planning to hold a re-union to celebrate the fifth anniversary of the squadron's re-activation.

For the nominal fee of five dollars (Canadian), all former 432 aircrew members are cordially invited to attend. This promises to be the biggest thrash since the Boston Tea Party.

All interested please contact:  
F/O R. E. Gipp,  
Squadron Re-union Committee  
R.C.A.F. Station Bagotville, P.Q.

### LET'S HAVE A PARTY!

Dear Sir:

I am curious in knowing how many "Instrument Makers" (as we were then known) who were stationed at Victoria Island during 1940-44 would like to attend a re-union, probably in Ottawa sometime next year.

I have come up with 78 names — no doubt there are approximately 100 more in this category. If enough are interested, we can start planning.

Please drop a line to:

A. B. Burns (ex-Flt. Sgt.),  
149 Great George St.,  
Charlottetown, P.E.I.

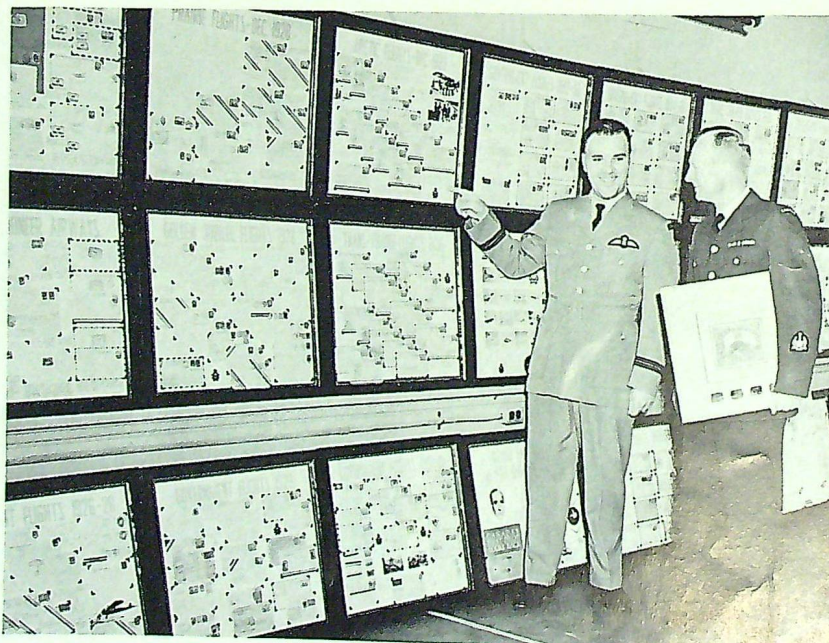
## ASSOCIATION CONVENTION COVERAGE

The R.C.A.F. Association has relinquished its normal space in this issue due to the fact that next month THE ROUNDEL will carry a complete picture and story coverage of the Association's 1959 National Convention held in Montreal last month.

## Stamp Display Depicts Airmail History

The R.C.A.F. Station Aylmer Stamp Club entered a 28-frame display of Canadian airmail first flight covers, photographs and data concerning the development of flight over the past 50 years in the 31st annual Canadian Philatelic Society Exhibition at Sarnia last month.

Flt. Lt. R. K. Malott, left, and W.O.I D. R. Pirie, president and secretary respectively, are shown below surveying the club's presentation.





## *The R. C. A. F. Benevolent Fund*

The Royal Canadian Air Force Benevolent Fund was established in order to assist serving and former members of the R.C.A.F. and their dependents in time of financial distress.

**SERVING PERSONNEL** can obtain full information from their units' Orderly Rooms.  
**FORMER MEMBERS** can obtain it from:

- The local Benevolent Fund Committee.\*
- Any Wing of the R.C.A.F. Association.
- Any District Office of D.V.A.
- Royal Canadian Air Force Benevolent Fund (Inc.), 424 Metcalfe St., Ottawa, Ont.

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\*This address is obtainable from any of the other three sources.

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