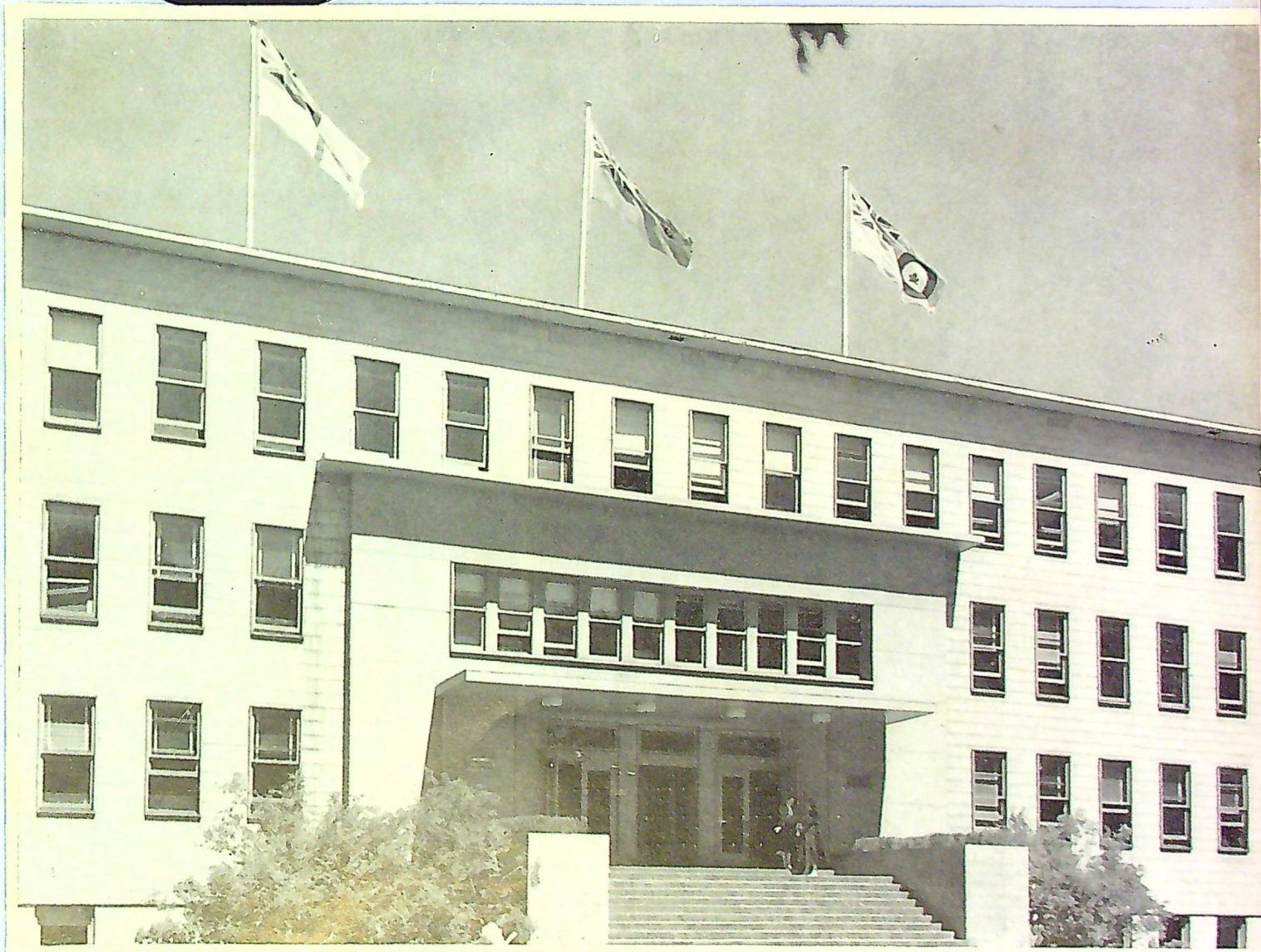


The ROUNDDEL

Vol. 3, No. 8
JULY - AUGUST 1951



ROYAL CANADIAN AIR FORCE



Issued on the authority of
THE CHIEF OF THE AIR STAFF
 Royal Canadian Air Force

VOL. 3, No. 8

JULY — AUGUST 1951

* * * **CONTENTS** * * *

EDITORIAL

	<i>page</i>
Sgt. Shatterproof Withholds the Die	1

ARTICLES

A.M.E.S. 894: Part 3	4
Rescue Co-ordination Centre, Vancouver	18
Construction Engineering in the R.C.A.F.	29
Operation "Bulldozer"	34
The Rockcliffe Ice Wagon	38
No. 442 (Caribou) Squadron	45

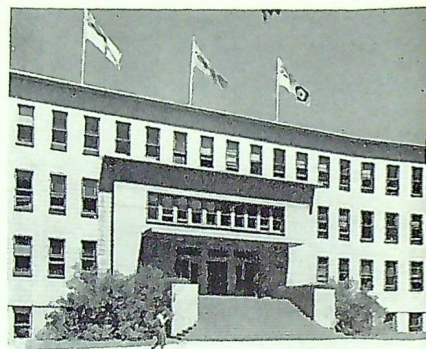
REGULAR FEATURES

Royal Canadian Air Cadets	24
April Transfers	37
R.C.A.F. Association	52
What's the Score?	93
The Dimmer View	95
Letters to the Editor	96

MISCELLANY

Tracers	3
Transatlantic Once-over	14
The Radar Association	17
Naritime Nenorandun	23
S.H.A.P.E. Air Chief	28
The "Savage"	33
George Washington, Esq.	36
B.F.'s and M.E. — 1. Backing-up	43
A Little Knowledge	44
"Tommy the Torso"	51
Romance in a Battery Box	89
Drill is So Bracing	91
Giants in the Arctic	96
The Means to What Ends?	96

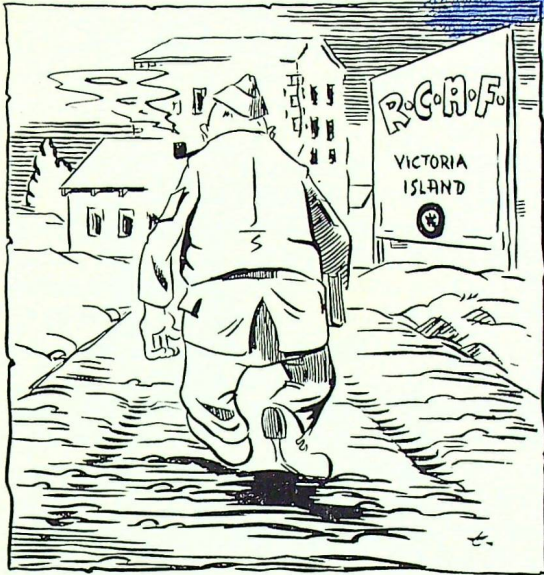
This Month's Cover



The main entrance to National Defence Headquarters, Ottawa, with the Ensigns of Canada's three armed services flying above it.

EDITORIAL OFFICES:
Victoria Island, R.C.A.F.
Ottawa, Ont.

SGT. SHATTERPROOF WITHHOLDS THE DIE



The somniferous murmur of the river outside my office window, coupled with the warmth of the late June sunshine on the editorial bald spot, was contributing little to the zip and sparkle of the July-August issue of "The Roundel."

It was, in fact, contributing nothing. Even Sqn. Ldr. Bloodbracer's uproarious manuscript, "The Confessions of an M.O.," had failed to dispel my drowsiness. Normally I would have split my sides at the story of how he took out the stomach of the wrong Air Commodore, but to-day the episode evoked from me nothing more hilarious than a yawn. Somehow it seemed vague, unreal. No one, I reflected, eats Air Commodores . . . so why trouble to clean them? . . . With fish it was different . . . you just sat in a boat, pulling them in . . . the odd trout . . . a bass . . . perhaps even a lager . . . while dragonflies skimmed around you . . . and now and then a fat sergeant came swimming up with a frown on his face —

"So, Sir! This is where we are hiding, is it? This is the backwater in which we seek to evade the rushing torrent of events? This —"

I came to with a start. Sgt. Shatterproof stood looking sternly down at me across the desk.

I attempted a conciliatory smile. "Oh, hello, Sergeant. Guess I must have dropped off. You know how it is."

His expression became that of an Old Testament prophet debating whether to smite a backslider hip and thigh or to try a spot of moral suasion.

"How what is, Sir? If you mean 'The Roundel,' the answer is 'yes.' It has, like its editor, very definitely dropped off."

Still holding me with his narrowed gaze, he refilled and lit his pipe in silence. I made an effort to inject a bit more camaraderie into the conversation. I emitted what was meant to be a hearty chuckle.

"Well, Shatterproof, that's what happens when you stay away from us too long. Haven't heard from you for nearly nine weeks, you know. The last news I had of you was that you were locked in a death-struggle with the Kremlin. Who won?"

Sgt. Shatterproof's eyes flickered briefly, and his resemblance to a punitive patriarch seemed somehow to grow less pronounced. He turned and moved over to the window, where he remained awhile in solemn contemplation of the Ottawa's many-twinkling waters. Apparently he gathered some inner strength from what he saw, for suddenly he drew a deep breath and swung around to face me again.

"Only the man of small soul, Sir, never admits to a mistake. Did Napoleon ever try to gloss over the fact that things hadn't quite worked out at Waterloo?"

"Er — well, I don't really know, Shatterproof."

He grunted. "The editor of 'The Roundel' *should* know such things. Fortunately, I do. Napoleon made no excuses. Nor, I think you will find, did King Charles the First attempt in his speech from the scaffold to claim that he'd handled himself altogether in accordance with Y.M.C.A.

standards. Similarly, I too feel no shame in admitting that I erred. It was not the men of the Kremlin with whom Shatterproof had to deal.”

“Then who was it?”

He heaved a sigh of resignation, pondered for a few moments, and began:

“As I think I have mentioned before, Sir, W.O. 1 Gallstone usually plays golf on fine Sunday afternoons. It has therefore long been my custom to lie in wait near the tenth hole, which is adjacent to Farmer Fetlock’s woodlot, and watch for his approach through a pair of powerful field-glasses. When his ball rolls on to the green, I crawl forward with the litheness of a panther and take possession of it. Then, having dropped it into the deepest part of a nearby ditch, I fade like a ghost into the bush. I do this, Sir, not in a spirit of empty whimsicality, but in order to provide W.O. 1 Gallstone with an opportunity of developing the cardinal virtue of patience. I find, too, that it adds

considerable zest to my ensuing dinner at Farmer Fetlock’s.”

“Of course,” I nodded.

“On May the thirteenth,” he proceeded, “I had just taken up my position behind a large elm tree when I noticed a piece of paper wedged into a crack in the trunk. Thinking I had stumbled upon some lover’s trysting-place, I withdrew it . . .”

Here, after a sharp bout with the paper-clip by which the top button was attached to his tunic, Shatterproof reached into an inside breast pocket and produced a crumpled note. He handed it to me. I smoothed it out and with some difficulty deciphered the pencilled scrawl.

“Agent X91 reports that flight Lieutenant Hornet will go to the seven a clock movie show in the vilage on Toosday nite. Reccords show that this officer always walks back to the station after the movies. Agents X42, X16 and X38 are detailed to liquidate him at the guard gate at about ten a clock. So perish all tirants. (Sined) the Hammer.”

I gave it back to Shatterproof, dumbfounded. He went on:

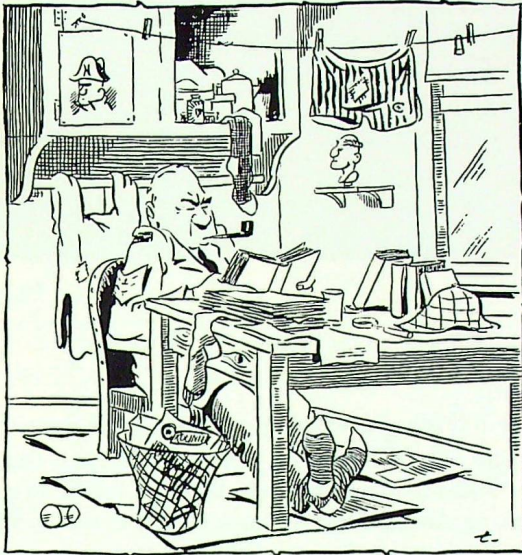
“As you can imagine, I was shaken to the very core. Accustomed to making lightning assessments, I at once perceived from the spelling that its author was a foreigner, and the use of the word ‘liquidate’ and the symbolism of the signature indicated beyond all doubt his nationality. The long arm of the Kremlin was reaching out to our Service.

“A hasty man would instantly have referred the matter to the C.O. But we Shatterproofs are not hasty men. Seated in my room later beneath the bust of Julius Caesar, I planned my campaign. Other than the message, I had no clues. I must handle this thing alone, without arousing the suspicions of the enemy. Then, when my evidence was complete, I would cast the die that would forever rid the Service either of Shatterproof or of the N.K.V.D.”

He paused to draw on his pipe. When it was again going to his satisfaction:

“Ten o’clock on Tuesday night,” he said, “found me positioned unobtrusively behind the





guard-house. The minutes went slowly by . . . five . . . ten . . . fifteen . . . then, shortly before the half-hour, two figures came strolling along the road towards the barrier. I recognized their voices as belonging to Flight Lieutenant and Mrs. Hornet.

"For a brief moment I toyed with the idea of warning them. But too much was at stake. What was the life of one Adjutant against the continuance of civilization? I must make the sacrifice. Furthermore, Flight Lieutenant Hornet would not be greatly missed.

"On they came, nearer and nearer. Still no burst of tommy-guns greeted them, still no bombs burst at their feet. And now they were at the gate. I heard the guard step out to meet them, I heard Flight Lieutenant Hornet's 'Good-night, Ecclesworthy.' And then it came — a roar of mingled rage and pain, followed by a frightful squishing noise.

"Leaping forth from my hiding-place, I found

myself confronted by a remarkable sight. Flight Lieutenant Hornet, his hat off, was clasping what appeared to be the bloody ruins of his head. Beside him, doubled up with laughter, Mrs. Hornet was gasping something about tomatoes, while Corporal Hammer's young hopeful, Rusty, who seemed to have appeared out of thin air, stood watching the proceedings with grave interest.

"As for LAC Ecclesworthy, he was already outside the barrier in pursuit of three small figures who were tearing down the road. Even in the rather feeble radiance of the Station lights, I had no difficulty in recognizing them as Gutsy Nimrod, Jasper Holocaust, and Butcher Highball, to whose parents Flight Lieutenant Hornet had on several occasions had to speak rather forcefully about their offsprings' behaviour around the married quarters. Although I had no reason to regard any of them with particular affection, I was, in the present circumstances, gratified to



note that LAC Ecclesworthy was not showing a very notable turn of speed . . ."

Sgt. Shatterproof stopped speaking.

"H'm," I commented. "And what was the upshot of it all?"

"The upshot, Sir?" The old wardog's face was expressionless. "The upshot was that I withheld the die."

TRACERS

Mrs. ("Mum") Waite, formerly of Bournemouth and now of 22 South Drive, Toronto, Ont., would like very much to hear from or of ex-Flt. Lt. J. Russell. Flt. Lt. Russell served overseas with No. 408 Squadron.

A.M.E.S. 894: Part 3

The Story of a Mobile Radar Unit in North Africa

By Marshall S. Killen

WE SETTLE DOWN

THE DAY AFTER our first night in camp was spent in collecting more equipment from the docks. Since our arrival at Bône three days earlier the weather had been bright and sunny, with clear starlit nights — which was somewhat unusual, as the rainy season had already started.

In the afternoon, Flt. Sgt. Maxim, Sgt. Valeriotte and I set out in the 15 cwt. truck to try and contact Wing Cdr. Passmore, the Chief Signals Officer of No. 242 Group, and Sqn. Ldr. Axon, the Group Radar Officer, in order to obtain operational location maps and other necessary information — and also to try to get hold of our Humber staff car which, as I have already said, had been borrowed by the C.S.O. We proceeded first to No. 322 Wing Headquarters and there contacted Flt. Lt. Lewis, the Signals Officer, who gave me our radio call sign and frequency and who told me that he would run plotting lines to our site as soon as he was notified. He also told me that the Wing Commander was probably located at the village of Morris, some miles further along. So off we went again.

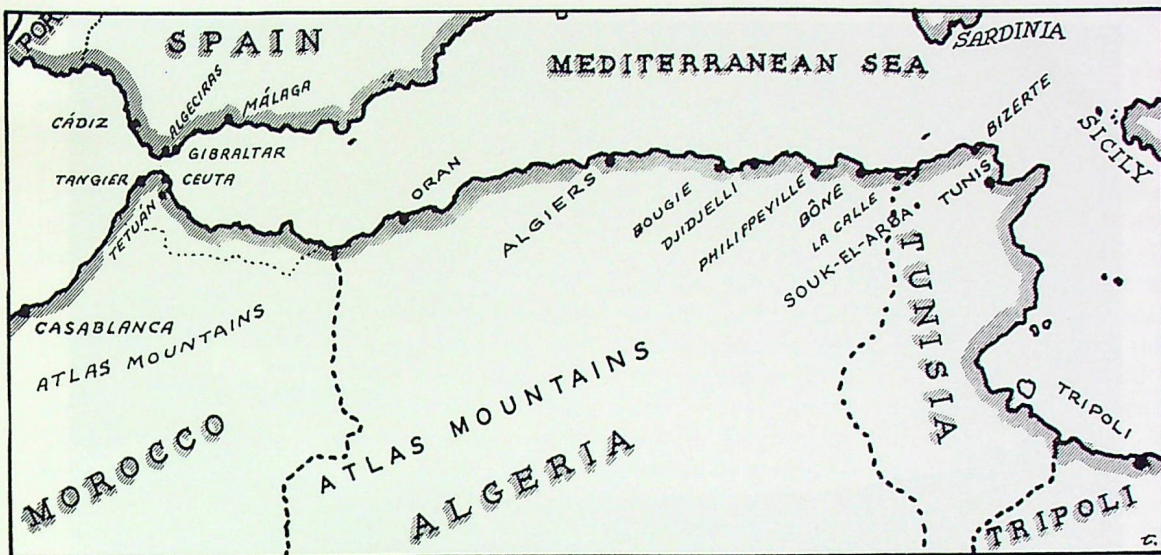
On the way, we stopped to admire a three-motored Italian Savoia Marchetti bomber which had fallen across the main road. It had been cut in two and the halves had been pushed to each side. The Reggio Aeronautico insignia on the tail and fuselage were complete, but we did not have even a screwdriver with which to take them off. This bomber had been damaged by anti-aircraft fire over Gibraltar and had crash-landed

only a few hundred yards from the Bône runway.

The village of Morris turned out to be a little one-street hamlet, not very clean and full of dirty-looking Arabs. Had we known that it was going to be our home for more than a year, we would doubtless have felt more interest in it. As it was, we paid it little attention beyond observing that it showed every sign of having been slightly blitzed a few days previously.

Not being able to locate Wing Cdr. Passmore, we returned to Bône, calling in at the Operations Room on the aerodrome to find out if Group Capt. Appleton, the C.O. of No. 322 Wing, had any gen for us. In the Ops. Room, we found several Spitfire pilots with the Group Captain. One of them was a Canadian, Flying Officer Large. He was sitting on the table, with his arm in a sling. He had just returned from an exciting hike back from behind the enemy lines, where he had landed after baling out of his Spitfire. He was lost in action on 1 January 1943, and his diary was published some six years ago under the title of "The Diary of a Canadian Fighter Pilot."

Darkness was falling as we left the Ops. Room, and we had not gone more than a few hundred yards down the road when the ack-ack opened up both on the aerodrome and in the town a few miles away. We pulled into the side of the road and put on our tin hats just as a number of German fighter-bombers came roaring low over our heads, dropping sticks of bombs as they passed. From the Germans' viewpoint, it was excellent bombing: one bomb landed on the Ops. Room we had just



left and blew off Group Capt. Appleton's foot, as well as killing a sergeant and wounding several men. Fighter aircraft all around the aerodrome were going up in flames, and I remember thinking that this was no way to win a war. The Germans were streaking seaward right on the deck and the ack-ack tracers seemed to be just skimming our heads.

While this was going on Flt. Sgt. Maxim and Sgt. Valeriotte had jumped into an orchard and loaded up with enough tangerines to do us for several days. Those lads never let an opportunity slip. When we saw the Ops. building get hit, we looked at each other, and said nothing — but we thought how easily we could have been in there ourselves. The Germans were clever in that they timed their raid to take place at dusk, just as our Spitfires had come back from patrol and it was certain that there would still be lots of pilots on the aerodrome. Their Intelligence must have been excellent. They even knew where the aircrew personnel slept, and several times they bombed their hotel, several miles away. Fortunately it was always the day after the aircrew had moved elsewhere.

On the next day, December 1st, the last vehicle

was unloaded during a heavy air raid and quickly moved to our camp. Sqn. Ldr. Axon arrived and instructed me to be ready to move off next morning to a site two miles east of Morris. Two Controllers, Sqn. Ldr. Brown, M.B.E., and Flt. Lt. Joyce, were to arrive sometime before nightfall.

While we were still having breakfast on the following morning, Sqn. Ldr. Brown arrived and told us that we must be on the road within twenty minutes. Accordingly, the technical convoy left at 0845 hours and arrived at the new site, two miles east of Morris and twenty miles from Bône, an hour or so later. Flying Officer Hurcombe remained behind to strike camp and follow on with the rest of the personnel.

Our site was located about a mile and a half off the main road. By this time it had started to rain, and since the area in which we were to set up our equipment consisted entirely of ploughed fields, we soon found ourselves working in a sea of grey clay and mud that stuck like glue to our boots. To add to our trouble, Flt. Sgt. Maxim, who had been bringing up the rear with the general purpose truck, had got separated from us in the heavy flow of traffic after leaving Bône and had carried on for another ten miles along the main



Photograph taken by Flt. Sgt. Maxim from under a truck during a raid.

road before discovering his mistake. The result was that we were short several men, as this vehicle didn't show up for over three hours.

When our equipment was almost erected, Sqn. Ldr. Axon arrived with the cheery news that it would have to be pulled down and moved back about half a mile to the end of the lane where the hard surface ended! The new site was much better in that it was nearer to the main road, but the field (a tobacco field) was muddier than ever. Despite the changed orders, the pouring rain, and the mud in which our vehicles were, in several cases, bogged down to the axles, the convoy was aligned and ready to go on the air at 1630 hours.

About this time Flying Officer Hurcombe showed up, and I told him to get the cooks to make us something hot to eat, as we were hungry, miserable, and fed up with life in general. It was amazing what a plate of hot steak and kidney pudding and a mug of tea did to buck us up.

Earlier in the day, the two radio telephone trucks and crew had arrived, and the latter were setting up their two eight-foot masts about 400

yards away. They were also running two sets of field telephone lines down to our switchboard while an Air Formation Signals Crew were stringing several lines down to the main road where existing French civil telephone lines were to connect us with the Filter Room located in the French Aviation Wireless Building near the aerodrome. It may be interesting to note here that it was quite normal to hear a feminine voice suddenly break in, in French, on our so-called secret plotting line. For the first two months of the campaign it was physically possible to telephone the German High Command in Tunisia, as the lines running into Tunis had never been cut.

The equipment had taken quite a beating on the trip out from England, and more than a dozen faults had to be rectified before we were satisfied that the unit could be declared fully operational. This stage was reached at 2100 hours, at which time lots of aircraft were being picked up at ranges of up to 110 miles. However, none of our night fighters was available, and, as the night was wet and dirty, we guessed correctly that the

Germans would not come near our sector. Early in the afternoon I picked out the various positions for our tents on the living-site. There were sixteen mulberry trees on the site, so one sleeping-tent was placed under each tree. The large marquees for stores and the two messes were erected among the haystacks. This, of course, was done on the following day. On the first night only a few sleeping tents were erected, and most of us just snatched a little sleep anywhere.

The next morning, December 3rd, broke fine and clear. The technical crews, when not on watch, spent the day in tidying up the technical site and in camouflaging the vehicles with netting. The immediate area was also covered with nets, so that the paths which we soon wore on the ground would not be visible from the air. (Our camouflage was, indeed, so effective that for weeks our Beaufighter pilots reported that there seemed to be a new Arab village close to a green hedge near the lane. Later on the Germans made the same mistake and bombed the wrong village.) The communal site needed little camouflage except for a few buckets of green and brown paint smeared over the large marquees and for some nets hung here and there, to break up the shadow. All the general purpose vehicles, when not in use, were backed up against the main farmhouse building. By nightfall, the camp looked well established.

The local Arab sheik was friendly and co-operative. He lived in the farmhouse and had his village of thorn huts in the next field. However, in one thing he played safe: all the young girls had disappeared overnight. This Arab had an old gasoline pump near his well which LAC Connor soon put into shape, and this enabled us to have plenty of water for washing. Our drinking water — and that of all the other units in the area — was supplied from a village pump in Morris. The water bowser was towed there twice weekly, and LAC Charlesworth, the medical orderly, saw to it that the water was purified before use.

While the camps were being constructed, the R.A.F. Regiment gunners were constructing gun emplacements and harmonizing our eight Brownings, which were set up in a wide circle

around the sites. These emplacements were linked by 'phone to the Operations Tender, so that advanced warning could be given when hostile aircraft were approaching.

No. 255 Squadron and a section of No. 89 Squadron, equipped with Beaufighters, had arrived at Souk-el-Arba by now and were ready for operations. Souk-el-Arba, which was 100 miles from us and only 60 from Tunis, was under continuous bombing, being close to the front line and to the enemy aerodromes at El Alouina and Bizerte. Furthermore, there was a 4000-foot ridge of mountains between it and our unit, and its dirt runway became unserviceable whenever it rained. Despite its disadvantages, however, use had to be made of it because the runway at Bône was too short for Beaufighters.

A.M.E.S. 894 was located on one of the best possible sites for the type of operations involved. In all directions the terrain was flat for at least eight miles, except for some small hills behind the unit and about two miles away. The Mediterranean was more than three miles to the north, while the towers of St. Augustin Cathedral in Bône could be seen about twenty miles to the west without a single hill of any sort intervening. Behind Bône a ridge of pine-covered mountains, more than two thousand feet high, stretched right down to the sea. The aerodrome lay approximately half-way between the city and A.M.E.S. 894, so that we had a ring-side seat when it came to watching enemy air raids. The enemy-held island of Sardinia was 140 miles due north, and it was from there that we expected most of the enemy raids to originate.

On the night of December 3rd very heavy raids were made both on the aerodrome and the harbour, but, since Souk-el-Arba was waterlogged, none of our Beaufighters could become airborne. The raids lasted for nine hours without intermission and a lot of damage was done to dock installations and buildings in the city.

December 4th was spent in checking equipment and in drawing rations. As night fell, the Germans came over as usual; and once more the harbour and aerodrome were the targets. Again we were forced to watch the enemy aircraft on our C.R.T.



A common sight around our camp.

(cathode-ray tube) screens, come in, drop their bombs, and return home again without any serious interference.

But things were destined to change before dawn. Shortly after 0300 hours a signal came through from Souk-el-Arba saying that we could have three Beaufighters from No. 89 Squadron.

FIRST OPERATIONS

The three aircraft became airborne safely despite the mud and poor flarepath, and soon they were testing their R.T. with us. Our call-sign was "Pingpong" and theirs was "José," followed by a number to indicate which aircraft was calling. Sqn. Ldr. Brown, our Controller, gave each Beau a beat to patrol, and not long afterwards another wave of Germans came in from the north-east. The pilots of the Beaufighters were Flying Officer Etherton, Flying Officer Spurgin, and Sgt. Kingsnorth. Sqn. Ldr. Brown allotted each pilot a target in turn, and each shot down one bomber.

This made us all feel better, especially as each kill was a "flamer" — i.e. the bomber burst into flames when struck. In fact, throughout the campaign most of our kills went down in flames and there were very seldom any survivors to be taken prisoner.

Sqn. Ldr. Brown, having been a pilot himself, seemed to have an uncanny instinct for being able to foresee each move made by enemy pilots, and consequently he managed to have his fighters just in the right place, no matter what evasive action the enemy had taken. The latter took plenty of evasive action — especially after they had seen some of their friends go down in flames and realized that "The Whispering Death," as they called the Beaufighter, was on the prowl again.

On the evening of December 5th, as dusk fell, the raids began again. It had rained heavily during the day, so we did not get a fighter in the air until 1900 hours, and then only at a great risk to the aircrew. Just as we were becoming really disgusted, six pilots offered to try to get their planes into the

air. Sqn. Ldr. Brown immediately scrambled two from No. 89 Squadron, with one from No. 255 Squadron to come up forty minutes later. The first two had trouble with their radar equipment and had to return to base after thirty minutes in the air. The third aircraft did a five-hour patrol without any success; but his reliefs, Flying Officers Humes and Gloster, both from No. 255 Squadron, really went to town. Soon after these two pilots had started their patrol, Sqn. Ldr. Brown saw six Germans coming in from the north-east in a crocodile formation, with about ten minutes between each aircraft. He therefore started at the back and worked forward, with the result that, out of the six, Flying Officer Hume shot down two and Flying Officer Gloster three.

It was funny to hear the pilots on the R.T. each time they made a kill. They became so excited that all they could do was to swear and call the Germans unprintable names. Our Controller, who was responsible for the safety of each Beau, generally had to call them off to cool down for a bit before he gave them another target to chase. Sometimes, after a patrol of maybe four or five hours, it took the strongest language from him to make the pilot return to base before his gasoline became exhausted. Later on, when R.T. procedure was strictly enforced, there were no more wisecracks and jokes to be heard on the air, and a lot of the fun went out of our operations.

The performance of the Beaufighter crews at this stage of the Tunisian campaign cannot be too highly praised. More often than not, when they took off from Souk-el-Arba, the chances were that they would have to crash-land at the end of their patrol on account of the state of the runway. The Radio Observer who sat facing the tail of the aircraft had a particularly trying time. After the performances of the 4th and 5th of December, the military people in Bône began to ask what were all the fires to be seen in the sky at night. When they were told, the stock of the R.A.F. went up tremendously.

* * *

At this point, a brief description of what happened inside the Radar Operations Tender may help the reader to understand how an interception was conducted at that stage of the war.

The task of the radar station was, first, to detect the approach of enemy aircraft as far away as possible from their target and, second, to direct defending aircraft to a position where the short-range radar carried by the night fighters could directly pick up the enemy raiders. A G.C.I. radar team consisted of the following personnel:

- The Controller, who was in complete command while in the Operations Tender and whose word was law.
- The N.C.O. i/c operations, who was responsible to the Controller for the behaviour of his operators, and who saw that the proper liaison was maintained between the radar station and the Filter and Operations Room at Sector. He also kept the Controller supplied with all necessary information received from outside sources.
- Two radar operators who plotted the aircraft positions on the two radar screens.
- One operator who sat in the Aerial Tender and rotated the aerial array in any direction as ordered by the Controller or operators on the screens.
- And, finally, there was the radar mechanic who stood by all the time in case of a breakdown. He generally stayed in the Transmitter Tender or in the workshops.

All the radar operators wore headsets which were connected to the telephone circuit to Sector, while the Controller wore a headset and microphone which connected him direct to the night fighter by radio telephone via the two R.T. Tenders situated several hundred yards away. In these tenders were three operators whose duty was to switch the circuits to send or receive as instructed and to record all conversations in and out of the circuit.

Operations Tenders were very crowded places when everyone was on duty; but when things were quiet, someone was always brewing a pot of tea, and one small bench was reserved for this purpose.

Normally, when the Controller took over his Beaufighter, he gave each one an area to patrol. From time to time he would check their heights and give them vectors which kept them in the patrol area. As soon as a hostile aircraft was plotted, one fighter would be vectored so that if would intercept the hostile at a certain point in such a manner that the fighter would be coming in behind, and travelling slightly faster than, the enemy. At a range, generally, of from one to two miles, the radio observer on the fighter would pick up the enemy himself, and then our task was finished and all we had to do was to watch the final stage of interception take place on our interception screen. Sometimes the enemy pilot would keep altering course and speed to put our fighters off the track, and then it was that the Controller needed all his skill.

The radar operators had a difficult task, as they had to keep the Controller accurately posted as to the speed of the enemy, his height, the direction of the wind at various levels, and the height and speed of our own fighter. They also had to be able to say at any instant which aircraft was friendly and which was hostile. This latter information was obtained by means of a small instrument which all allied aircraft carried or were supposed to carry. Known as the I.F.F. (Identification of Friend or Foe) this instrument produced a different kind of echo on the radar screens.

DEC. 6th TO CHRISTMAS 1942

By midnight on December 6th, the third night of our operations, we had thirteen enemy aircraft to our credit — and we had also broken the

The Unit's score-board.



previous record of all radar stations by destroying ten hostile aircraft with controlled night fighters in less than twenty-four hours.

The Germans must have been badly shaken by such rough treatment, because for the next three nights not a hostile aircraft came near us, although the day raids continued as fiercely as ever. On the fourth night there were raids in adjacent sectors but none in ours. However, it was decided to let us try interceptions in daylight. Daylight interceptions are extremely tricky from a Controller's point of view as at all times he must be sure that he has his fighters higher than the enemy and attacking out of the sun. One incorrect order over the R.T. during the daylight interceptions could easily result in one of our own fighters being destroyed.

We had considerable trouble with our telephone lines to Sector, over which all the plots and information flowed. They were being constantly

sabotaged by the Arabs, both pro- and anti-ally, who found the wire very useful both for fencing and for miscellaneous domestic purposes such as holding up their trousers. The lines were also cut several times during the first weeks by shrapnel from shellfire and bombs. The radio telegraph equipment supplied to cover such breakdowns was set up and ready for use, but no sulphuric acid had been supplied for the batteries. Il Duce, however, soon supplied our needs.

On the morning of December 6th, a lone hostile aircraft on reconnaissance was plotted about eighty miles to the north, coming in towards Bône. One of our Spitfires was on patrol at the time and it was quickly vectored in the direction of the invader. Shortly afterwards, we heard the Spitfire pilot yell over his R.T. that "he had got the blighter." We rushed out just in time to see the enemy hit the deck about two miles away, and we drove as fast as possible to the scene. None

the less, we were not quick enough. By the time we reached the crash, Arabs were disappearing in all directions, and the dead pilot had been stripped of everything, including his flying boots. Luckily for us, the fuselage was nearly intact, and it did not take us long to locate four new six-volt batteries in a rear compartment. They proved to be fully charged . . . and so within a few hours the radio link with Sector was in full operation. (Incidentally, we also salvaged from the wreck a fine machine-gun complete with lots of ammunition. We mounted it on the nose of a 1000-lb. German bomb which had dropped near us and failed to explode. The bomb had been rendered safe by the bomb demolition squad from Bône and, when set up on its base, made an excellent anti-aircraft mounting.)

A few days after our arrival in Morris, the Arab sheik told me that our technical site had been about a foot under water during the previous February. We instantly began to dig drainage ditches on both sides, to lay raised paths, and to floor all the tents. Herculean though our efforts were, they proved later to have been inadequate. I still have a snapshot of Flt. Lt. Roebuck, one of the Controllers, paddling in an Italian dinghy from my tent to the medical tent.

After another week or two of successes, A.M.E.S. 894 was becoming quite famous in Air Force circles all over North Africa. Senior Staff Officers from one or other of the three Services were constantly visiting us. On one night when six Germans were shot down, a well-known General who was in the Ops. Tender rushed outside to see a plane coming down in flames. He tripped over a guy-rope and landed in one of our drainage ditches which was half full of water. However, he didn't mind, and was as excited as a schoolboy. I can still see him sitting on a stool at two o'clock in the morning, drinking tea out of a none too clean tin mug and eating a bully-beef sandwich. He was so enthusiastic about our success that he said to me "My boy, anything that you or your men want, just let me know and I'll see that you get it!"

Looking back, it is hard to realize how a group of normally quiet and peace-loving fellows like

ourselves used suddenly to become so bloodthirsty and to cheer like mad on seeing fellow-beings roasted alive before our eyes. In point of fact, it was a terrible sight. On an overcast night, we would suddenly see a glow shining through the clouds. As the blazing aircraft fell, it grew brighter and brighter until at last it blossomed out and we could see the plane itself. The ball of fire seemed to fall rapidly at first, but as the aircraft burned more fiercely, the gases generated by the heat seemed to hold it up and its descent became very slow, with bits of the wreckage now and then breaking away. As it hit the earth, there was a vivid flash and we would all cheer. Perhaps our savagery was due to the fact that the whole action seemed so utterly impersonal — and perhaps, too, because we had all seen what the Germans had done to Great Britain.

As time went on, it became more difficult to destroy enemy raiders. We guessed that backward-looking radar equipment had been fitted into the tail of the bombers. As soon as our fighters began to creep up, the enemy would dive away or start to take violent evasive action. He was also using much faster aircraft, and our Beaus were finding it hard to overtake them. Once the raiders got rid of their bombs, they were able to dive away and outdistance us without much trouble.

While all this activity was taking place, the crew was putting in a lot of work to make the camp as comfortable as possible. All the tents were fitted with electric lights, kerosene heaters were obtained from stores, carpets and furniture were salvaged from bombed buildings, and the marquees were made as comfortable and pleasant-looking as possible. In the airmen's mess marquee, after the evening meal, blankets were spread on the tables and the tents became a place where everyone could play games or write letters. A canteen was erected, and this also served as a library. Canteen supplies began to come through via the N.A.A.F.I. from England. Practically all canteen supplies seemed to originate in Canada. The beer was either Dow's or Labatt's, and cost us about thirty cents per bottle. The chocolate was Lowney's, and the candy usually Moir's or some other Canadian make.

The first mail arrived about two weeks after we reached Morris. It consisted of one letter to me from my wife and a parcel for one of the ground gunners. On opening his parcel, he found that it contained six oranges, a tin of bully-beef, and a tin of sardines. It was rather pathetic to watch his face: here were a number of articles which his mother must have made a considerable sacrifice to obtain, and yet they were so plentiful with us as to be practically without value.

In the matter of rations and fuel, there was an equal plenty. An Air Stores Park had been opened at Duvivier, sixty miles to the south, and from it we obtained all that we wanted. It took us some time to get used to such abundance. In England we had signed all sorts of forms in triplicate or quadruplicate before being able to draw as much as a pint of gasoline or a tin of bully-beef. Here in North Africa, however, we just stated our requirements, certified that the issue was necessary, signed a receipt, and drove off with whatever we had demanded. The allied supply organization in North Africa was a continual source of wonder to me.

About this time, Eastern Air Command Headquarters in Algiers decided to make us an assembly and instructional centre for new units arriving in Africa and awaiting disposal. Controllers were also being sent to us for practice, so that the camp continued to grow from day to day — especially as the Army sent in a guard of twenty men, with a further sixty men in reserve close by.

By the end of December, A.M.E.S. 381, under the command of Flt. Lt. Papineau, R.C.A.F., was in operation twelve miles to the east of us, while A.M.E.S. 897 and 388 were located at La Calle, thirty miles further on. A.M.E.S. 895 had arrived and was in operation on Cap Takouche, near the town of Herbillon, sixty miles to the west. The men of this last unit enjoyed an enviable time, as they were the only Allied troops in their district and were made much of by the local inhabitants. A.M.E.S. 8003 was operating as a G.C.I. Station near Phillipeville. Most of the officers of these units were Canadian, as were the technical officers of the neighbouring Mobile Maintenance Signal Units which were responsible for the heavy



Christmas Day. (l. to r.): Flt. Sgt. Maxim, Flt. Lt. Killen, Sgt. Valeriotte.

maintenance of all radar gear. Flt. Lt. Ernest Reid, from Prince Edward Island, was the technical officer of No. 304 M.M.S.U. located at Phillipeville, and we worried him constantly for spare parts and suchlike. The Technical Officer of A.M.E.S. 897 was Flying Officer Howard Rennie, from Montreal. This officer, a friend of mine from Cranwell days, died in the 5th General Hospital in June 1943 at the age of twenty-one and was buried by us near our unit, next to Flt. Sgt. Aaron, V.C., who had been killed on the previous day.

* * *

Flt. Sgt. Maxim had done nothing to astonish us since losing his way with the general purpose truck when we were moving on to our site. On December 15th, however, he had his opportunity. Nor did he disappoint us.

A Ju. 88 had been shot down by Flying Officer Grieves and Warrant Officer Robbins. Before it burst into flames, two of its occupants parachuted out and were captured. Twenty-four hours later we located the aircraft's wreckage and left Flt. Sgt. Maxim to guard it while the remainder of us returned to the Unit. As soon as we reached camp I arranged for a party of gunners to take over the guarding of the aircraft until the Wing Investigating Officer had made his usual check. When we went back, around midnight, a remarkable sight met our eyes.

Flt. Sgt. Maxim had lit a small fire near the dead German pilot and was sitting cross-legged on the ground, working away at a piece of salvaged radio equipment. Most people would have felt justifiably scared at being alone on an African mountain-top on a dark night with only two dead men for company and none but quasi-friendly Arabs in the district. But not Flt. Sgt. Maxim. He was using the pilot's bare chest as a table for his bits and pieces, and seemed quite unconcerned about his surroundings. He had already climbed the fir tree that was holding up the tail assembly, and, after unscrewing eighty bolts with a jack-knife, had freed the tail-fin and lowered it to the ground. This fin became our unit score-board. Each time an enemy plane was destroyed, a small swastika was painted on it — red for night victories and white for day ones.

* * *

Round about December 17th, the Germans began to change their tactics. Soon after dark they came in close to the target area, keeping just above the wave-tops, and then zoomed suddenly up to gain altitude for the bombing run. By this means they avoided detection until the last minute, for at that time we were not able to pick up low-flying aircraft. The result was that our Controller found himself with less than ten minutes to make interception, which was generally not enough, especially if our fighters were well away from the hostiles when they first bobbed up. Out of six interceptions on the 17th we managed to get only one victory. None the less, enemy raids were not causing nearly so much damage to Bone as they had done previously. The harbour defences had been greatly strengthened by the presence of the British cruisers "Dido" and "Sirius," and later on by the "Ajax" (of "Graf Spee" fame).

And, so, amid the routine of raids and interceptions, Christmas approached. For the few days before the 25th we foraged all around the country and managed to buy twelve nice turkeys at an average price of four dollars per bird. The Navy promised us white bread, so we planned to have a real Christmas dinner.

Christmas Day, 1942, dawned bright and sunny. Everybody felt in great spirits, because we had been more than successful in our scrounging efforts for the past few days. The menu for breakfast consisted of oranges, cornflakes, peaches and cream, eggs, bacon and baked beans, bread, butter, dates, jam and tea. After breakfast, a volunteer fatigue party started in and decorated one large marquee. All the floors of the marquees and tents had by this time been paved with road-surfacing materials, borrowed on a long-term loan from the Vichy authorities. With flags, evergreens and coloured electric lights, the marquee looked just like a Christmas scene at home.

Dinner was at two p.m., and the two Controllers volunteered to man the radar equipment for one hour while the crew on watch had dinner. Nobody thought that the enemy would stage any raids on Christmas Day. Our cooks started us off with cocktails, followed by ox-tail soup, turkey, chestnut stuffing, sweet potatoes, green peas, gravy, cranberry jelly, date pudding with brandy sauce, beer, wine, dates, raisins, oranges, tangerines, coffee and biscuits. We drank several toasts, the main one being to our loved ones at home.

At 3.30 p.m. the truck went up and brought down Sqn. Ldr. Brown and Flt. Lt. Roebuck from the technical site. Half-way through their dinner the 'phone rang, and the N.C.O. in charge of the Ops. Room reported two unidentified aircraft coming in from the north. All "bogies" (unidentified aircraft) had to be investigated, so Sqn. Ldr. Brown went up to the technical site... and within twenty minutes added another two victories to our day's score. The aircraft, which were Macchi fighters, had walked into a nice trap: the Spitfires were sitting above, just waiting to jump on them. I suppose they thought the R.A.F. would be too busy celebrating Christmas to keep a patrol aloft.

Such are the emotions aroused by war, however, that this interruption served as a pleasant savoury to our Christmas dinner.

(To be continued)

Transatlantic Once-over

By Flt. Sgt. W. J. Groulx

(Flt. Sgt. Groulx, who joined the R.C.A.F. in 1936, went overseas shortly after the outbreak of war and served for 3½ years at R.C.A.F. Headquarters in London. Returning to Canada, he later graduated from No. 91 (Air Gunnery) Course at No. 10 Bombing and Gunnery School, Mt. Pleasant. Since then he has been stationed mostly at A.F.H.Q., in the Directorate of Postings and Careers.—EDITOR).

AT 0630 HOURS my alarm clock rings. Instead of cursing it, I leap up with a jubilant cry. The great day has arrived.

Presently the Army Transport driver arrives — and views his passenger with evident disappointment. However, a cigarette and a eulogium of the Army's past, present and future, speedily raises me at least four ranks in his estimation. By the time we reach Rockcliffe, we are on the best of terms. He even helps me with my luggage, and we finally part with every expression of mutual esteem.

Two cokes and two cigarettes occupy only ten of the forty-five minutes till departure time. I decide to drop over to the Station Orderly Room and see Joe. Suiting action to the thought, I amble off through the early morning sunshine . . .

"Hello, Joe. What do you know? I'm on my way to the U.K. and Paris on T.D."

Joe's reaction is normal. He hurls down his pen. "Why, you dirty scrounging . . . !"

I apologize. "Honest, Joe, I had nothing to do with it!"

But he is not appeased.

"And to think that the furthest I ever got while I was at A.F.H.Q. was Victoria Island — and even then only just to be told that there was at least four more years' wear in a 1940 uniform."

After further friendly exchanges, I leave Joe still muttering against Fate . . .

By 1030 hours the visibility has cleared enough for the Dakota to take off. We board the aircraft and settle down. Presently the pilot enters, deeply absorbed in his copy of "How to Fly in Ten Easy

Lessons." I recognize him as a time-expired member of D.P.C.'s staff, and the advantages of rail travel immediately become apparent to me. While I am still mentally composing a monograph on the subject, we land at Dorval. . . . Oh well, maybe he can fly, but I'll bet he can't type.

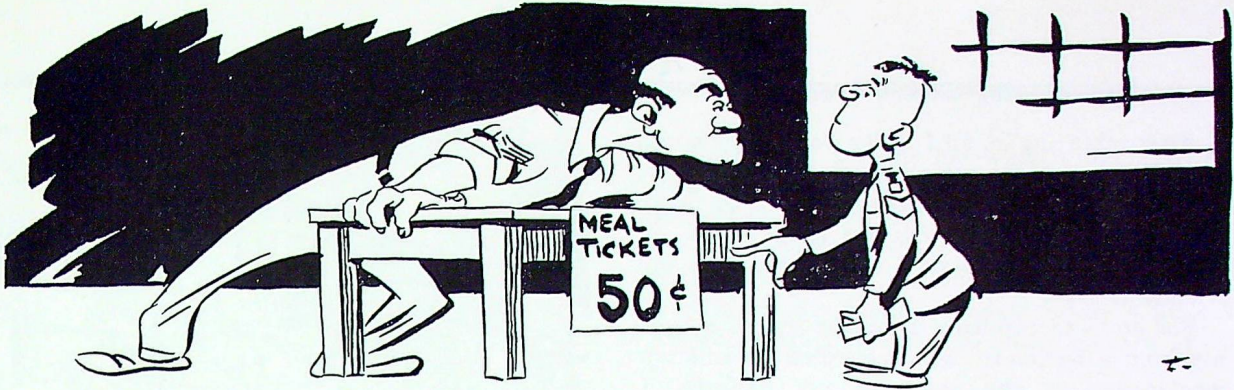
Says the A.T.H.U. Flight Sergeant: "Yes, Flight Sergeant Groulx, we know all about it. You were to go on the Hastings, but it left yesterday and you are to leave on the North Star on Monday. Yes, Flight, I told the Captain *you* were going to be on the plane, but he didn't seem the least bit impressed. There's nothing more you can do."

The Sergeant's Mess at Lachine serves an excellent meal. Hopefully I extol the merits of the establishment to the Mess Sergeant. His only contribution to the conversation is brief and to the point.

"A.F.H.Q., eh? Fifty cents, please." As he turns away, he adds beneath his breath: "A.F.H.Q. types! They all think they can eat here free."

In the Mess lounge, I ponder an intricate problem. It is now 1400 hours on Friday, and I am due to take off at 0630 hours on Monday. Shall I return home to the bosom of my family or shall I suffer the untold hardships of a week-end in Montreal with my good friend Jack? I telephone Jack, who comes to the Mess; and we proceed to discuss the matter. Since we have not reached a decision by closing-time, we adjourn to a less arid environment . . .

It is Monday. The time is 0630 hours, the temperature is 14° below zero, and I wish I had gone home after all. The North Star, I am told, is



a first-class and very dependable aircraft, but the bleakness and immensity of its interior does little to comfort me.

I have been forewarned; therefore I come fore-armed. I stuff a bale of cotton-wool in each ear and make myself as comfortable as is possible in an A.T.C. North Star. After the warm-up, I am sure I have lost the cotton-wool. After the take-off, I am convinced that my eardrums are gone too. Oh, for the peace and quiet of a boiler factory! At first, I find myself hoping the pilot has read those "Ten Easy Lessons". At the end of an hour, I no longer care. And at the end of two hours, I hope he hasn't . . .

But apparently he has, for we arrive at Chatham safely enough. Oddly enough, the noise has completely disappeared. The crew and also the boys in the mess hall seem strangely silent. Even the Mess Sergeant who bears down on me for the usual "Fifty cents, please," merely moves his lips soundlessly. Then it is that I realize that I am stone deaf, as no Mess Sergeant is ever speechless at such a time.

After a hasty meal and a brief visit to the Sergeant's Mess, I discover that the level of my spirits has been somewhat raised, and I return to the aircraft better equipped to carry out the hazardous mission ahead of me — which is to accompany the personnel of No. 421 Squadron on their airlift to Odiham, in England.

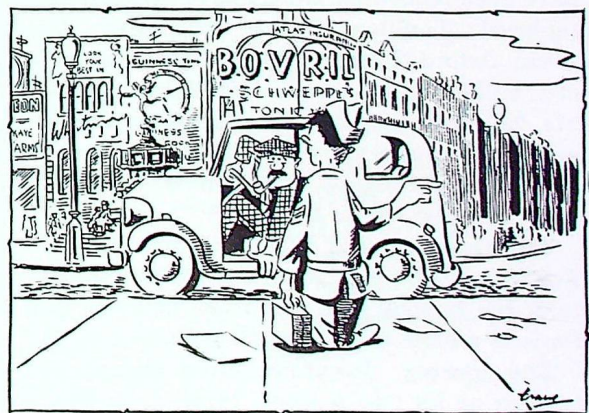
* * *

As we landed at Odiham, I reflected that there was no mistaking this was England. Acres and acres of Brussels-sprouts stretched out before us . . . a sight which revived many bilious memories

of bygone meals. Our charges disembarked immediately, while we members of the crew repositioned at London Airport. Thirty-six hours had now elapsed since I had left Montreal.

Despite three years' previous experience of London, I made the Fatal Mistake. I enquired from a stranger the distance to the nearest Underground station. He replied: "About ten minutes up the road. You can't miss it." Twenty minutes later, when I hailed a cab, it still took me another ten minutes to get there. The Underground, by the way, is still operating as efficiently as ever. The same old ads. still greet the passenger's eye . . . Gordon's, Burton's, Booth's, Schweppe's. But something new has been added that makes the Canadian feel right at home: TIDE.

Those of my readers who remember H.Q.'s palatial premises at Lincoln's Inn Fields would be somewhat disillusioned with No. 11 Hill Street. The quarters are small and there is (horrors!) an atmosphere of business. What a difference a war can make!



After reporting in, all I really wanted to do was rest. However, no matter how tired one may be, one does not go to London to sleep. I therefore lost no time in seeking out the same "local" in which, amid high wassail, I had parted from my friends in 1944.

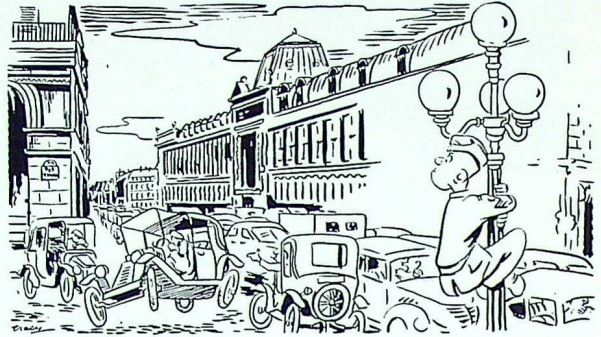
For one and tuppence I bought myself a light ale from a bartender who registered no emotion whatsoever at the sight of my uniform. I manoeuvred my "Canada" badges into greater prominence, but without result: the second ale also cost me one and tuppence. In the next few days I was to learn that "Canada" badges are no longer acclaimed with: "Have a drink, Canada!" The atmosphere that we loved in the "local" has all but disappeared. Even around the dart board, the pulse of life beats more slowly than it used to.

Things these days are not too good for our English friends, nor does there seem to be any real improvement in sight. Consumer goods have sprinted far ahead of wages. Though food is plentiful, the meat ration is pitiful — 4 to 6 oz. a week, dependent upon the cut. While the Englishman of to-day is not grim or bitter, as he is sometimes represented, he looks a little tired and worn in spots. He cannot afford to eat, dress, or entertain in his accustomed manner, and he has consequently lost some of his good humour. In the final analysis, all he really has left is hope and courage.

Much of the bomb damage in London is no longer discernible, though you can still find it if you look for it. Many of the reparable buildings have been renovated, others have been completely replaced. Trafalgar Square, Piccadilly, Marble Arch, Oxford Street, Regent Street, Hyde Park, etc., still look the same as ever. But the old night-life has been considerably curtailed. Practically everything closes at 10.30 p.m., and I have yet to see the bright lights. The dim-out was brought into force just before I arrived.

On Friday evening I left for Paris. The British European Airways excursion rate is cheaper than the fare by rail and boat, and one gets to Paris in a little more than an hour.

The journey downtown from the airport is interesting for two reasons. First, it initiates you



into the dreadful mysteries of Parisian traffic, and second, you can still see quite a lot of uncomplimentary inscriptions which tell in no uncertain terms of the Frenchman's appreciation of the German occupation. When you reach the Gare des Invalides you are on your own, and you begin to think of your French teacher with nostalgic affection and respect.

I enquired of the telephone girl in my faultless French the number of the Canadian Embassy. She replied in her faultless English — and neither of us understood a word. We reversed the procedure, with no better result. Before long I was surrounded by attendants who apparently thought I wanted to remove the telephone. Nevertheless, I finally got the call through, and my good friend Larry came to my rescue.

That evening Larry and I, accompanied by his wife, inspected Paris by night. En passant, I might mention such names as "Place Pigalle", "Les Naturistes", "Chauve-Souris", "Boîte de Nuit", "La Nouvelle Eve", "Aux Pieds de Cochon" (for onion soup). But the details would, of course, bore you. As I have already told my wife, the time passed very tediously without her . . .

Paris by day is the show-place of the world. Take our own Parliament Buildings, Coney Island, the Empire State Building, Piccadilly, and Edinburgh Castle, wrap them all into one, and you have something not half as interesting as Paris. It is full of character and characters. The Place de la Concorde is one of the largest squares in the world, Les Champs Elysées one of the largest avenues in the world, the Parisian taxi-driver the most dangerous and plausible in

The Roundel



the world, and the Parisian shopkeeper the politest.

Shopping in Paris is an experience in itself. The traveller must accustom himself to addressing everyone as "Monsieur", "Madame", or "Mademoiselle". Marketing is done on Sunday, and you are not allowed to pick and choose — this is the shop-keepers' privilege, not the customer's. Food is plentiful, but expensive by French standards. The French monetary system is a simple one: there is only one denomination — the franc. Since, however, a dollar bill can be broken down into thirty-five ten-franc notes, you need a fair-sized wallet.

A Frenchman without his wine is like coffee without cream. When first introduced to his drinking-habits, you are sceptical. After a little while, your scepticism disappears, and you realize that fifty million Frenchmen are not wrong. Nevertheless, the beginner should retain a little of his scepticism if he wishes to retain his wine . . .

* * *

Back in London, we are grounded for four days by bad weather. But we are not unduly put out by the delay; and when eventually we take off for the return flight to Canada, it is curious how different things seem. The interior of our aircraft no longer depresses me, the roar of its engines no longer shakes me to the very core of my being.

For I am lost in a world of reverie . . . a confused world of husky-voiced chanteuses, of men with walrus moustaches who keep shouting "Time, gentlemen, please!", of perfume-shops and Eiffel Towers, of meatless meals and vin ordinaire, of faces resigned and faces gay, of rhythmically rumbling wheels, of clinking glasses . . . and through it all, as I drowse above the Atlantic, I seem to hear the wild symbolic honking of a Parisian taxi-cab . . .

The Radar Association

WE HAVE RECENTLY received several copies of "The Radar Bulletin," the official journal of the Radar Association, of the United Kingdom.

Among the aims of the Association are those of preserving the comradeship founded among radar personnel under R.A.F. command, regardless of trade or rank, and of maintaining among members close contact with all developments and applications of radar. The annual membership fee is five shillings (75c.), a life membership five guineas (\$15.75); and all such funds are used entirely for the benefit of the members. Full information is obtainable from the Secretary, Radar Association, 83 Portland Place, London, W. 1, England.

Rescue Co-ordination Centre, Vancouver

By Flying Officer P. R. Gilliam

(Flying Officer Gilliam's war-time service was with the R.A.F. He joined the R.C.A.F. in 1948 and spent two years as a radio-navigator with No. 123 Search & Rescue Flight before being transferred to No. 12 Group H.Q. at Vancouver.—EDITOR.)

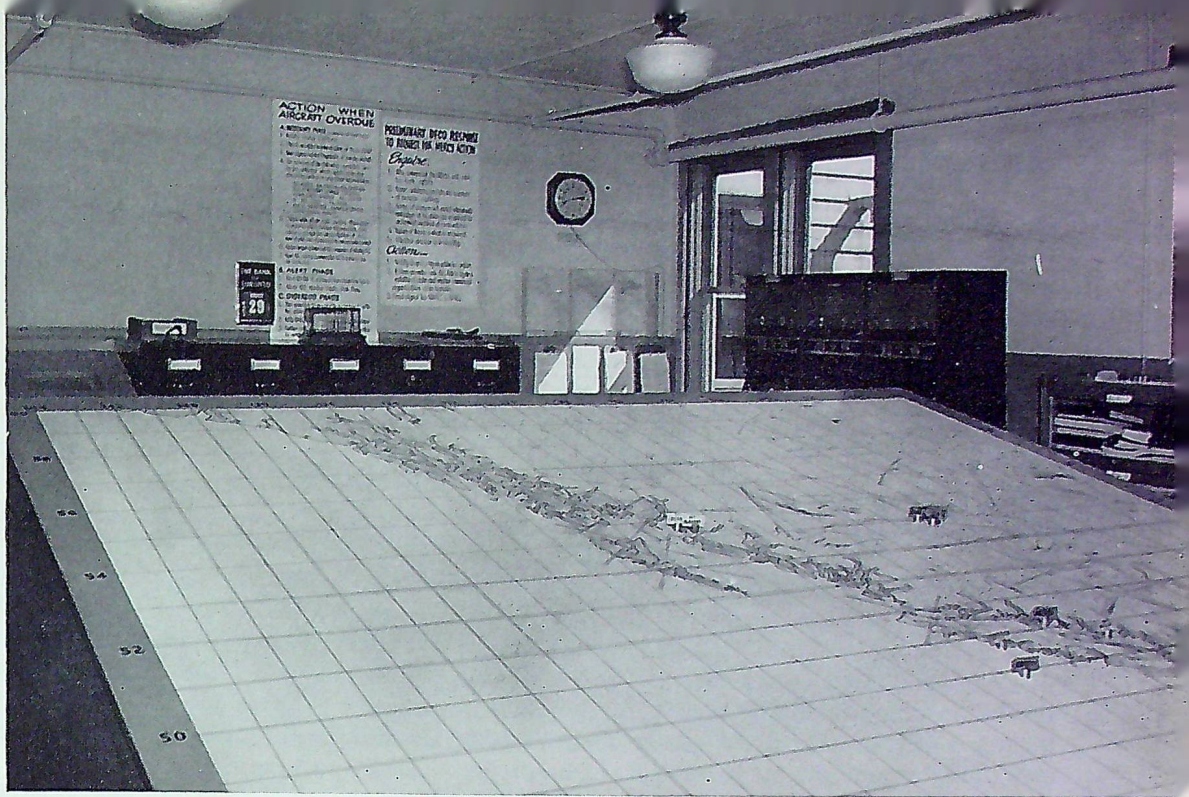
THE VAST half-million-square-mile territory covered by No. 12 Group Rescue Co-ordination Centre ranges northward from the U.S. border to within 150 miles of the Yukon boundary, and westward from the Alberta boundary across British Columbia and 700 miles out into the Pacific Ocean.

When a radiotelephone or normal telephone is available, any person requiring assistance can be connected immediately to the Operations Room, where details of the incident are recorded both on the form provided and on the tape-recorder connected into the telephone circuit. Very often the R.C.M.P. and local police receive information that a mountain-climber or skier is lost in the treacherous mountains north of Vancouver. In such cases a special Mountain Rescue Squad, composed of experienced civilians and police, is called into action. Occasionally R.C.A.F. volunteers from both Sea Island and No. 12 Group, under the guidance of an airman, N.C.O. or Officer from the Rescue Centre, turn out to plod through the snow-covered brush on the mountain-sides to help. Adequately supplied with walkie-talkies, warm clothing, blankets, rescue equipment, emergency rations, first aid, flashlights, etc., they are ready to cope with practically any even-

tuality. When the mountains are clear of the rain-filled clouds that are usually clinging to their jagged peaks, a helicopter from No. 123 Search and Rescue Flight guides the searchers towards any clues that may have been spotted from the air. During 1950 there were many such operations.

Aircraft requiring assistance are, of course, the primary concern of a Rescue Co-ordination Centre, and all possible trained manpower and equipment are available to that end. In 1950 there were at least 145 reports received of aircraft missing or in difficulty, but only 6 cases were reported of missing aircraft that were never found. At Sea Island, under the direction of Senior Operations Officer, Sqn. Ldr. J. F. Easton, D.F.C., and No. 123 Search and Rescue Flight Commander, Flt. Lt. Paul Gibbs, D.F.C., seven aircraft (2 Lancasters, 2 Cansos, 2 Norseman, and a helicopter) are kept in readiness. Seven other aircraft are also available. Para-rescue men Sgt. J. W. Jameson, Sgt. G. B. Leckie, Sgt. D. Wright and LAC H. A. Jenkinson, all fully trained in first aid and rescue work, await any calls that may come by day or by night.

The calibre of men and equipment at Sea Island was well demonstrated in the recent "Operation Captain," when a Canadian Pacific Airlines' DC-3 crashed into Okanagan Mountain



Operations Room of No. 12 Group Rescue Co-ordination Centre.

near Penticton, B.C. R.C.A.F. Dakotas, searching the area on the evening of 22 December 1950, reported seeing fires burning and "people running around waving firebrands." A land party was quickly organized to proceed to the spot during the night, and at daylight on December 23rd, wreckage of the missing DC-3 was spotted on the mountainside. Supplies were immediately dropped, followed by jumps into the area by para-rescue personnel. Vehicles from Sea Island arrived with stretchers, sleeping bags, etc. Combined efforts of R.C.M.P., local police, doctors, radio stations (who broadcast pleas for snowshoes to the local townfolk and received wonderful response), C.P.A. and R.C.A.F. personnel, resulted in all passengers being safely returned to their homes in time for Christmas. Although they all suffered from the effects of having spent an uncomfortable night in the freezing and snow-covered bush, no serious injuries were reported. Unfortunately, the captain of the aircraft was killed instantly, and his co-pilot, despite medical attention by the R.C.A.F. para-rescue team, died shortly afterwards.

The operation had been carried out in extremely adverse weather, with poor visibility and heavy icing reported by all aircraft. There is no need to elaborate on the danger to searchers when it is pointed out that the mountains were anywhere up to 8000 ft. in height. Indeed, this hazard is present in almost all searches carried out in the area covered by No. 12 Group. In other Rescue Areas of Canada, with the possible exception of the Northern regions of North-West Air Command, a ceiling as low as 1500 ft. would not present undue difficulties to searching aircraft. In British Columbia, however, we have an entirely different terrain, where prevalent weather conditions are the exact opposite to those required for safely conducted operations. Whenever the ceiling does enable suitable coverage of high regions there is almost certain to be low-lying fog that blankets the valleys. In spite of publicity from the Tourist Bureau and loyal Vancouver citizens, rain *does* fall quite often in British Columbia and it is in such adverse flying weather that No. 123 Search and Rescue pilots are invariably asked to take off

and search valleys between towering peaks or along treacherous coast-lines. For an example of how Mother Nature does her best to thwart the search operations in this area, let us examine "Operation Brix."

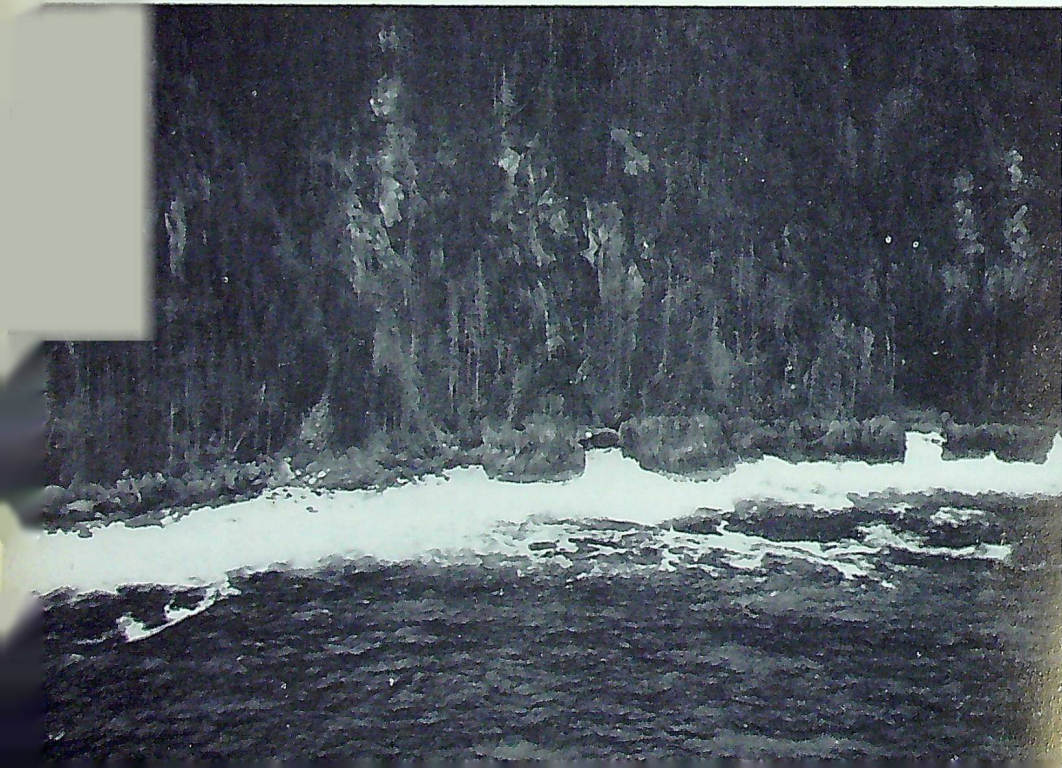
This was one of the most important operations that took place in 1950. On the 13th February, at 2300 hrs., Vancouver Air Traffic Control called the Centre regarding a B-36 that had reported losing two engines at a position 90 miles south of Prince Rupert, B.C. The crew were bailing out and no further reports were received. A search was immediately organized.

The ceiling at Prince Rupert at the time of distress was 500' with visibility 3 miles in light rain. A wind of 52 m.p.h. was reported. The feelings of the pilots involved in the search can be readily imagined as they prepared to enter a search area containing mountains up to 8500 ft. in height in heavy icing conditions on a pitch-black night with winds of gale force. None the less, more than 40 aircraft were airborne in a few hours and were

co-ordinated to cover 25,000 square miles of sea and land.

Because survivors could not be expected to live very long if down in the icy sea at this time of the year, it was decided to cover the water area of probability first. Four U.S. Coastguard cutters, the R.C.N. destroyer "Cayuga," and the R.C.A.F. high-speed launches "Huron" and "Montagnais," were immediately dispatched. U.S.A.F., U.S.N. and U.S.C.G. aircraft combined with an R.C.A.F. Norseman, two Dakotas, one Lancaster, one Expeditor, seven Cansos and a helicopter, to search both the Pitt and Princess Royal Islands south of Prince Rupert as well as the larger Queen Charlottes and Vancouver Island. A fifty-mile-wide stretch of the Pacific Ocean off the west coast of Vancouver Island was also covered. During the afternoon of the 15th February, eleven survivors were found on Princess Royal Island, and another on the day following. This accounted for 12 of the 17-man crew known to have been aboard the B-36. It was later established that one

B.C. coastline near Seal Inlet, where aircraft and ground parties searched for a missing logger in May 1949. Often along this coast mountains rise from sea-level to 10,000 ft.





Peak of Mt. Hozameen, where a lost Fleet Canuck was located by S. & R. aircraft in May 1949. Sgt. C. B. Leckie, Cpl. Binnette and L.A.C. Braidner jumped on to this peak with supplies for the two survivors.

of the survivors had been greatly heartened and encouraged by searchlights from the H.M.C.S. "Cayuga" on the night of the 15th. On the 16th, helicopters and small aircraft covered other little islands and coastal area but no other survivors were sighted. From deductions based on the speed and direction of the B-36 and the winds aloft at the time, it was estimated that the first crew members to bail out must have landed in the water. This view was later borne out when a small dingy was found drifting in the area. A search was made of the shorelines for washed-up bodies, but without success. Twelve of the seventeen crewmen were rescued on this search and much valuable information regarding search techniques was gathered.

In passing, we might mention here that ground parties searching for crew members travelled under what can only be described as almost impossible conditions. One party, carrying a survivor who had a broken ankle, took seven hours to walk $1\frac{3}{4}$ miles in the freezing wind and rain. Others struggled for fifteen hours at a stretch through deep snow and underbrush.

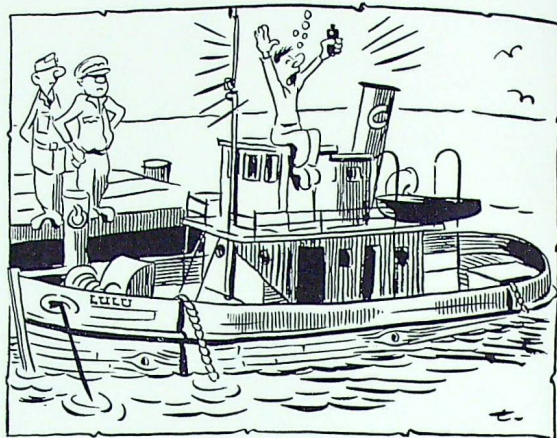
"Operation Brix" proved many things, but one of the most important was the value of inter-Service and international co-operation. (It also demonstrated that the position reports given by the general public as to where they had heard or seen the B-36 were quite accurate, but that the estimated altitudes were most conflicting and of no use whatever.) The total cost of this operation, including gasoline, civilian wages, etc., amounted to well over \$22,000. But twelve men's lives had been saved.

Cases dealt with by No. 12 Group operations are often very much out of the ordinary and therefore no set rules can be laid down for the correct procedure to follow. For example, on New Year's Eve, 1950, a call was received by radiotelephone from a small logging-boat aground somewhere off Fisherman's Cove, West Vancouver. One of the crew members had been thrown through the cabin window and an artery in his neck and face had been severed. Here was a case in which speed was essential to save a man's life; but it was a dark and foggy night and the exact position of the boat was unknown. The captain of the boat was told to

switch all his lights on. Knowing that there was a pleasure resort at Fisherman's Cove, the officer on duty placed a telephone call to the proprietor, who agreed to take out a small motor boat and try to find the stranded vessel. At the same time an ambulance was dispatched from Vancouver. Luckily the boat was found, and the injured man was brought ashore and placed in the waiting ambulance. At 1740 hours — ten minutes after the first call was received — the injured man was on his way to hospital, where he recovered from an injury that would otherwise have been fatal.

At 1800 hours on 22 September 1950, the R.C.C. was asked if it would be possible to pick from the Department of Fisheries boat "Alexander MacKenzie" a man who was badly in need of medical attention. This vessel was anchored off the north tip of Vancouver Island, 350 miles from Vancouver. Gales blowing at the time prevented the "Alec" from carrying the injured man to Queen Charlotte City, where the nearest hospital was located. There were no civilian agencies able to help, so it was agreed that we would send a Canso, with a doctor on board, to land alongside the boat. However, weather conditions were such that the aircraft was unable to take off until 0850 hours on the following day, when Flt. Lt. Gibbs departed from Sea Island. At 1330 hours the lumbering Canso circled the "Alec" but could not land because of the heavy seas. It therefore proceeded to Sandspit to await a break in the weather. At 1500 hours the wind abated slightly and Flt. Lt. Gibbs managed a skilful landing alongside the boat. The injured man was picked up and returned to Vancouver by 2230 hours. The R.C.C. log book recorded "Incident closed," but behind these cold words lay facts that are worthy of mention. The Canso was required to land and take off on a heavy swell amid the rapidly falling dusk. The injured man had broken ribs, a torn liver, internal abscesses, a high temperature, and a pulse of 120. On top of all this, he suffered from sea sickness and had been in this condition for at least twenty-four hours. It doesn't take much to imagine his state when he was at last delivered into a waiting ambulance at Sea Island.

Now and again calls received by the Centre can



be quite humorous. There was the night, for instance, when the R.C.C. staff was alerted by a drunken deck-hand aboard a fishing boat in the Fraser River. He reported that he was alternately sinking, drowning, overturning, out of control, aground and (finally) quite safe and in no need of assistance! All ended happily — except for the whimsical deck-hand.

Another service frequently performed by the Rescue Centre is the locating of lost fishing boats or the rendering of aid to boats in distress. Calls from vessels in trouble average one every three days, and 99% of them have satisfactory outcomes. When boats are in distress, excellent cooperation is afforded by the Point Grey Radio Station, which transmits such information as the vessel's position and the nature of the mishap, so that any other boat in the vicinity can speed to the rescue. Northwest Telephones also put out similar calls. Then there are the high speed launches ("Malecite," "Montagnais," and "Huron") of the The R.C.A.F. Marine Squadron at Patricia Bay, always standing by for dispatch where and when required. It is to the credit of the R.C.A.F. that fishermen in British Columbia waters immediately call the R.C.C. whenever they are in need of assistance or in distress. No doubt exists in their minds that the R.C.C. guards the coastline and 700 miles of Pacific Ocean for their benefit. Their confidence is invaluable, and we in our turn receive every assistance from the fishing industry when we need their help. Many times fishing-

The ROYAL CANADIAN AIR CADETS



By Arthur Macdonald, Air Cadet League of Canada

SUMMER PROGRAMME: 1951

AS THESE NOTES ARE WRITTEN it is clear that the summer of 1951 will bring a new high in Air Cadet activity across Canada. With more cadets under training than at any time since 1945, and with an ever-increasing number of active squadrons, the Royal Canadian Air Cadets are prepared to keep pace with Canada's mushrooming defence effort.

Once again, summer camps at R.C.A.F. Stations will be the mainstay of the summer programme. Held this year at Greenwood, Aylmer and Abbotsford, the camps will play host to more than 4,000 cadets before the end of August. During the two weeks' camping period, each cadet will participate in organized sports, sit in on tactical training lectures, and also receive the coveted familiarization flight.

By the time you read this, the 1951 scholarship flying training course will be past history and another large group of senior cadets will have qualified for Air Cadet Wings. From the latest information available, it is apparent that more Air Cadets will undertake flying training this summer than in any previous year. Because of the high ratings obtained by most of the cadets on the R.C.A.F. qualifying exams, it is also safe to predict that the number of cadets to complete the course successfully and qualify for flying badges will be the highest yet.

A significant development in the Air Cadet exchange visits programme will see cadets of four European countries (in addition to the U.K.)

visit Canada as guests of the Air Cadet League and R.C.A.F. Canada will exchange the usual group of 25 cadets with the U.K. and U.S. and will also play host to one lad from each of the following countries: Norway, Sweden, Denmark and Holland. Sweden, which sent a cadet to Canada last year, will reciprocate by entertaining a Canadian cadet for two weeks.

Highlight of the Canadian itinerary will be an international cadet training forum to be held at Aylmer. Cadets of all six participating countries will spend several days at Aylmer and will be given the opportunity to swap training ideas and compare their respective organizations. There will, of course, be the usual side excursions to points of interest such as Niagara Falls, Algonquin Park, Ottawa and Montreal.

The Air Cadets will again be in the limelight on August 28th, when the International Drill Competition takes place on the impressive outdoor stage at the Canadian National Exhibition. A precision drill team selected from squadrons in the four Maritime provinces will defend the General Beau International Challenge Trophy, which has been won three times in succession by Canada. Keen competition is expected from the U.S. Civil Air Patrol team and there is also a good possibility that a squad of British A.T.C. cadets will be able to participate. Everyone who plans to be in the Toronto area in late August should make careful note of the date — August 28th, at the C.N.E.

NO. 313 (EDMUNDSTON) SQUADRON

Cadets of No. 313 (Edmundston) Squadron were lauded recently for their quick action in preventing the spread of a menacing forest fire. The cadets were returning from a route march when they spotted the fire about two miles north-west of the town. Under the direction of Warrant Officer Lewis Tighe, the boys divided into parties covering the half-mile frontage of the fire. Some of the cadets beat out the flames with tree branches while others cut down some larger trees to create a fire-break.

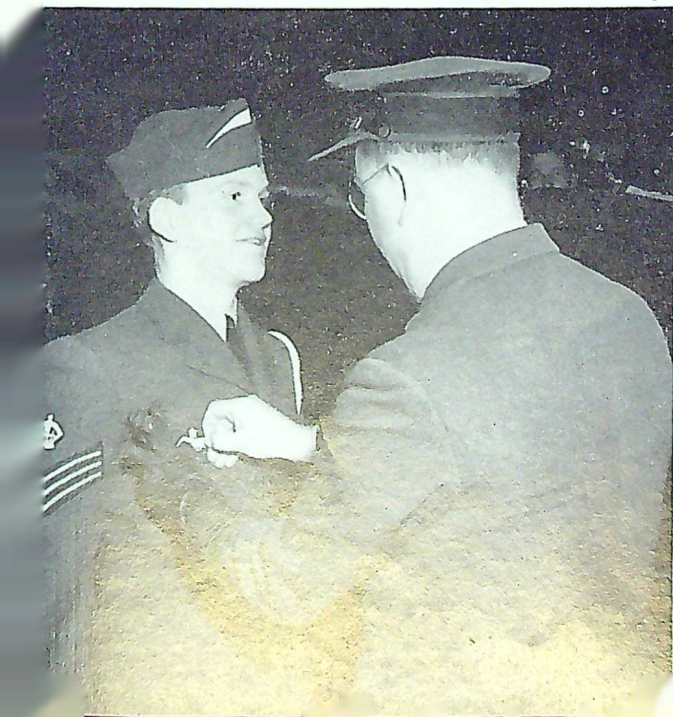
Fanned by a brisk breeze, the flames jumped the fire-break and cut into the dense woods for about four hundred yards. One cadet was sent to the nearest telephone to call the New Brunswick Forest Service, which sent several men to the scene. The fire was well under control, however, by the time the men arrived.

The owner of a woodlot which stood in the path of the advancing flames praised the cadets for their courage and quick action in preventing the possible loss of a large amount of valuable timber.



H. M. Spencer Lewin, O.B.E., presents the official Air Cadet ensign to No. 511 (Humber) Squadron, Cornerbrook, Nfld. Left to right: Flt. Lt. A. J. Candow, Commanding Officer; Flying Officer M. A. Grace, Adjutant; H. M. S. Lewin; Wing Cdr. E. L. Wurtele; Flying Officer H. E. Pledge. The ceremony took place on the grounds of Cornerbrook Public School.

Flt. Lt. A. J. Ayotte, Commanding Officer of No. 11 Wing, Regina, pins Air Cadet Wings on his son Bob who successfully completed an R.C.A.F. scholarship flying course last year. This was one of the highlights of a public ceremony held recently in the Regina Armouries.



Air Cadets of No. 3 Wing formed an impressive guard of honour as cadet instructor Roy Hall was married to Miss Maureen Freeth. Mr. Hall has been active with the Air Cadets since the movement was first formed and has been an instructor for the past four years.

NO. 19 (STRATFORD) SQUADRON

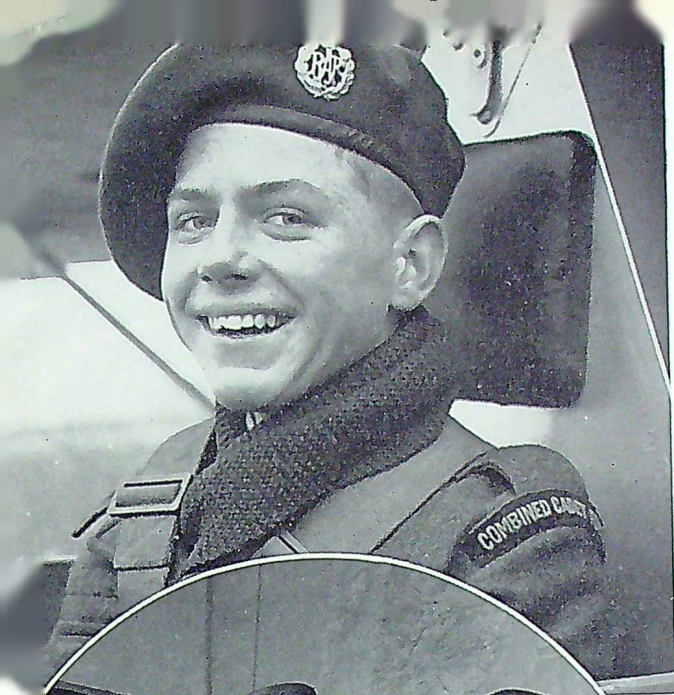
No. 19 (Stratford) Squadron's recent move into new quarters in the basement of the Army, Navy, and Air Force Veterans' Association building came as a fitting climax to National Air Cadet Week. On the opening night, following a special parade at the Armoury, Mayor Simpson officiated at the ribbon-cutting ceremony, after which the cadets entertained their parents and friends in the comfortable club-rooms.

*Mayor A. David Simpson cuts the ribbon. With him is
is Flt. Lt. W. G. Wreford, C.O. of the Squadron.*



Five Lethbridge cadets receive flying badges from Air Commodore W. E. Bennett during a "Father and Son" banquet held at the Lethbridge Flying Club. The cadets are, left to right: Sgt. T. Chapman; L.A.C. Warren Geiger; L.A.C. Mervyn Pinkerton; Cpl. R. Perry (since enlisted in R.C.A.F.); and L.A.C. S. Matheson. Absent is Cpl. R. Barker, who has also enlisted in the R.C.A.F.





A.T.C. Cadet R. Chambers seated in a Kirby Cadet glider before starting on a low hop.

A.T.C. Liaison Officer briefs a group of cadets at Hendon.

Cadet Kerrison climbs into Proctor for a training flight at Hendon.



BRITAIN'S AIR TRAINING CORPS

Last February saw the tenth birthday of the Air Training Corps. It was in 1941, during the darkest days of the war, that the then Secretary of State for Air, Sir Archibald Sinclair, announced the intention of forming an Air Training Corps as part of Britain's master plan of pursuing victory through overwhelming air power. Within a few months of the announcement of the new Corps, over 200,000 young men had been enrolled, with 30,000 officers and instructors. By VJ-day, in 1945, the strength of the A.T.C. stood at nearly half a million. About 170,000 had completed their training and joined the fighting Services. Large numbers had gone to the Fleet Air Arm and the Royal Navy, some thousands to the technical corps of the Army, and some to the Merchant Navy. But the bulk of the trained cadets of the A.T.C. (more than 100,000) had joined the Royal Air Force, about half of them subsequently graduating as air crew.

The aims of the A.T.C. are threefold:

- to encourage and train boys to join the Royal Air Force or the Royal Auxiliary Air Force, both in the flying branches and in the ground trades,
- to promote general air-mindedness and to recruit for civil aviation and the industries which support both military and civil flying, and
- to make good citizens.



The syllabus of training occupies a period of three years. During the first year the boys receive their basic training, which is designed to introduce them to Service customs, physical training, drill, and the basic principles of citizenship. The second year is taken up by proficiency training in some specialized line of work — aircrew, signals and electrical, mechanical — and the cadet may be given a technical institute or a general service course. Advanced training in his chosen trade occupies the cadet's third year.

Cadets get plenty of chances of obtaining practical instruction in both powered aircraft and gliders. Seven-day summer camps are held at R.A.F. Stations, and many Sunday and week-end visits are made throughout the year. Cadets can

also win Flying Scholarships that enable them to be trained up to private pilots' licence standard and thus qualify them for membership in the R.A.F. Volunteer Reserve as pilots.

Great importance is attached to sport in the A.T.C. and the Corps may well claim to have one of the best sports organizations for youth in the country. No cadet, however, is forced to play games against his will, and sport is never a "parade."

The smart turn-out, general efficiency and keenness of the boys of the Air Training Corps show they are just as air-minded as were their elder brothers in the dark days of 1941. This is a heartening thought now that Britain is once again looking towards her defences.

S.H.A.P.E. Air Chief

AIR CHIEF MARSHAL SIR HUGH SAUNDERS, recently appointed Deputy Supreme Commander (Air), in Western Europe, has had an unusually varied Service career. This, together with the experience gained during his previous job as Commander-in-Chief, Air Forces, Western Europe, makes him admirably suited to carry out his present complex and exacting task.

He was born in South Africa fifty-six years ago, and started his military career as a private in the Witwatersrand Rifles in 1914. During his two years in the infantry, while still in the ranks, he earned the Military Medal.

In 1916 he joined the Royal Flying Corps, where he won the Military Cross and (after the R.F.C. had become the Royal Air Force) the Distinguished Flying Cross, having destroyed at least ten enemy aircraft. In 1921, while serving in Mesopotamia, he gained a bar to his D.F.C.

During the inter-war years, he spent much of his career overseas. He commanded No. 84 Squadron at Shaibah in Southern Iraq. From there he returned to Britain to begin his period of Staff training. Three years at the Air Ministry



were followed by a year at the Staff College, after which he again went overseas to command another famous squadron, No. 45, in Egypt. Back in England once more, he did a year as a student at the Imperial Defence College before being sent to New Zealand to act as Chief of the Air Staff to the New Zealand Air Force.

On completion to his three-year tour in New Zealand, Sir Hugh Saunders returned to England, where his war service was mainly with Fighter Command. Later he went to Burma, returning in 1947 to command Bomber Command, and then went back to the Air Ministry in charge of personnel.

Construction Engineering in the R.C.A.F.

By Group Capt. H. B. Long, O.B.E.

(This is the third in our series of five articles on R.C.A.F. logistics. Group Captain Long, who is Deputy Air Member for Technical Services (Construction Engineering), joined the R.C.A.F. in 1940. From then until 1946 he was Assistant Chief Works Officer in Western Air Command. Transferred to Air Materiel Command H.Q. as Staff Officer Construction Engineering, he remained there until he was appointed to his present position in 1949.—EDITOR).

CONSTRUCTION ENGINEERING is the name (adopted in 1944) under which the "Works & Buildings" branch of Second World War days now operates.

Until March 1940, the "Works & Bricks" chore for the R.C.A.F. was carried out by the Royal Canadian Engineers. It soon became evident, however, that the rapid increase in the activities of the Army made it impossible for the R.C.E. to cope with the planning and construction demands of the R.C.A.F., then engaged in the initial stages of the British Commonwealth Air Training Plan. Therefore, under the capable and energetic leadership of Group Captain (later Air Vice-Marshal) R. R. Collard, C.B.E., the Directorate of Works and Buildings was formed, with the Director responsible to the Chief of the Air Staff and to the Deputy Minister for Air. Largely by virtue of this close association, D.W.B. was able speedily to establish the requirements for the many types of buildings required by the B.C.A.T.P. & the Home War Establishments (H.W.E.), and to implement their construction.

The necessity for rapid construction during the emergency period led to the use of wooden

Group Capt. H. B. Long, O.B.E.



buildings, with a potential life of from five to ten years. This policy produced the buildings quickly, but it has also produced many headaches in the present rehabilitation of former R.C.A.F. Stations for active service.

Hindsight can be a tremendous asset, if rightly used to implement foresight. These two visions have been well merged in the present building programme of the R.C.A.F. By planning durable construction at those Stations which will provide permanent accommodation for the R.C.A.F. in the years ahead, with a modified form at those Stations needed only during the present emergency, the R.C.A.F. will get the most from its construction budget.

Construction Engineering is one of the deputy divisions of the Air Member for Technical Services. It includes the Directorate of Construction Engineering and Design (D.C.E.D.), the Directorate of Construction Engineering Administration (D.C.E.A.), the Chief Field Engineer, and the Chief Staff Officer Construction Engineering at Air Materiel Command.

The work of D./A.M.T.S./C.E. officially begins when the Director of Service Requirements (D.S.R.) presents an approved programme for the basic requirements of the personnel, training, operational, and logistic staffs of A.F.H.Q. This programme must be translated into plans and working drawings for airfields, buildings, gasoline storage, water, sewerage systems, heating, lighting, power, and all the ancillary services necessary to operate and maintain the complex organization of a modern military air base. (In one sense, of course, the work of D./A.M.T.S./C.E. may be said to begin *before* D.S.R. submits the programme. The experience of the C.E. staff at A.F.H.Q. has been at the disposal of the air staff planners, so that their sometimes rather high aims may be tempered by the realities of time and space and substance. Much lost motion on plans that are not feasible can thus be avoided.)

D./A.M.T.S./C.E. really swings into action when D.C.E.A., as part of his administrative function, begins the process of financial encumbrances and contract demands, to ensure that the right money from the right parliamentary vote

will be in the right place at the right time and be rightly recorded (internal logistics!). He also sets in motion, through his directorate, the legal processes for land acquisition, rentals, easements, and all the preliminaries necessary to vest in the Crown the title to required lands and services.

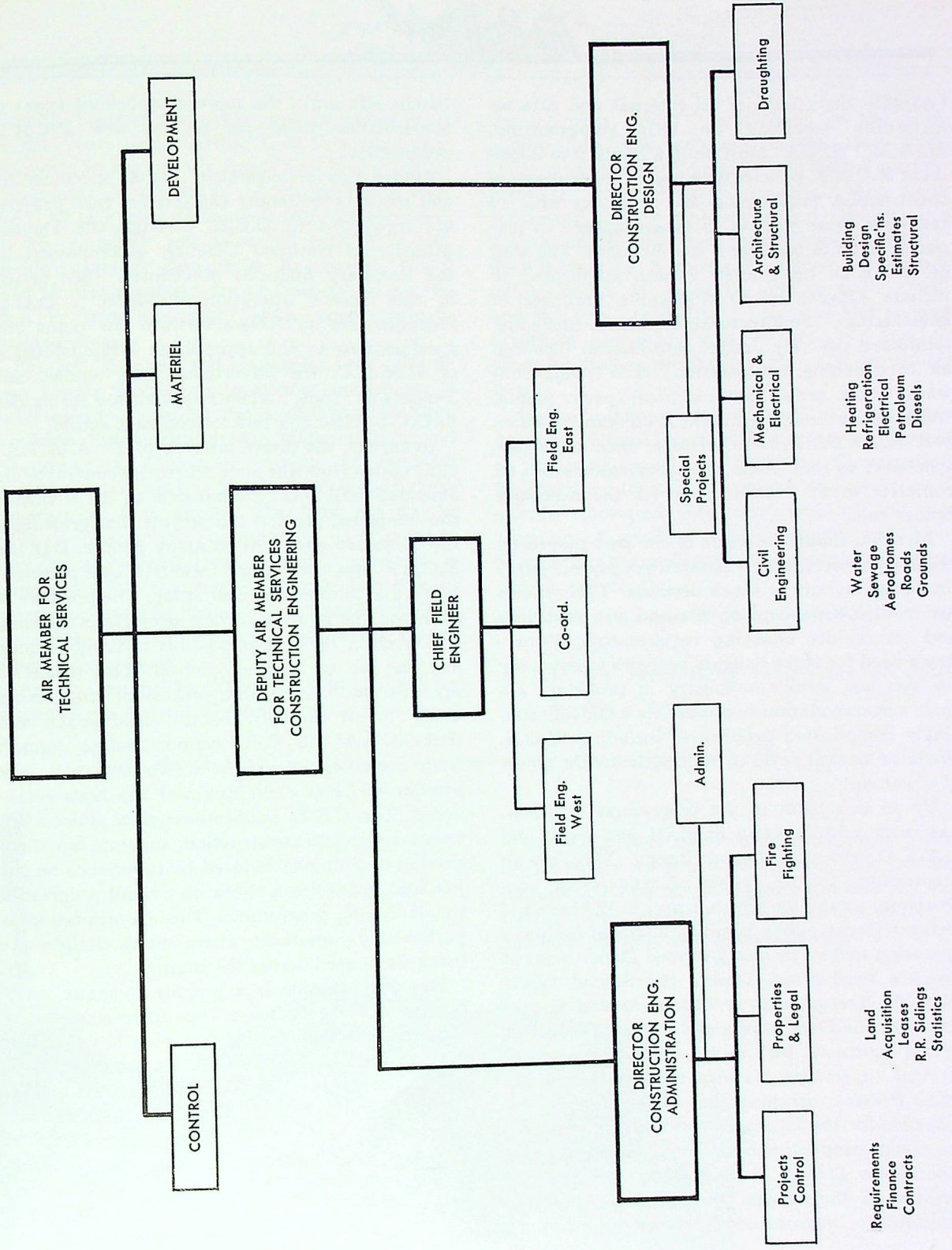
Meanwhile, the Director of Construction Engineering & Design gets down to brass tacks in definite planning. This falls mainly into four groups:

1. Airfield construction — runways, taxiways, lighting, etc.
2. Buildings — hangars, technical and administrative buildings, living, messing, recreational facilities, etc.
3. Roads, water and drainage systems, heat, light, power and the necessary public utilities for servicing the whole area.
4. Site planning for the above.

Under present arrangements, airfield construction is turned over to the Department of Transport for action. Basic requirements for the guidance of D.O.T. are drawn up by D.C.E.D. with definite specifications, to ensure uniformity in operation and in maintenance at all R.C.A.F. airfields.

Plans and specifications are a direct D.C.E.D. responsibility. Under the post-war restrictions of personnel, the policy was adopted whereby the design of standard buildings was entrusted to competent civilian architects, working under the overall guidance of D./A.M.T.S./C.E. Initial sketch plans and general designs were closely supervised, which allowed full scope for individuality but also ensured basic harmony of treatment for all R.C.A.F. projects. This policy of using civilian architectural and engineering firms was fully justified in the first months of the present emergency. By increasing the tempo, plans and specifications for a substantial part of the R.C.A.F. construction programme were quickly made available for tender call.

The recent tremendous increase in the scope and character of the R.C.A.F.'s new construction programme has resulted in amplifying the post-war C.E. policy. The change from planning a few buildings for a few Stations over a few years, to that of completing hundreds of buildings in dozens of Stations over a span of only two years, has required some major reorganization. In order to



AIR MEMBER FOR TECHNICAL SERVICES

DEVELOPMENT

MATERIEL

CONTROL

DEPUTY AIR MEMBER FOR TECHNICAL SERVICES FOR CONSTRUCTION ENGINEERING

CHIEF FIELD ENGINEER

Field Eng. West

Co-ord.

Field Eng. East

DIRECTOR CONSTRUCTION ENG. ADMINISTRATION

Admin.

Projects Control

Properties & Legal

Fire Fighting

Special Projects

Civil Engineering

Mechanical & Electrical

Architecture & Structural

Draughting

Requirements
Finance
Contracts

Land
Acquisition
Leases
R.R. Sidings
Statistics

Water
Sewage
Aerodromes
Roads
Grounds

Heating
Refrigeration
Electrical
Petroleum
Diesels

Building
Design
Specifics.
Estimates
Structural

correlate the efforts of all internal and external agencies working on this programme, D./A.M.T.S./C.E. must be in a position to implement R.C.A.F. policies with regard to all phases of construction engineering and must be able to translate those policies to those engaged in preparing definite plans and specifications. The staff of D.C.E.D. has therefore been augmented to include experts in all applicable branches of engineering — architectural, structural (including reinforced concrete design), mechanical (heating, air conditioning, refrigeration), civil (roads, runways, water, sewer), and electrical (power plants, transmission lines, lighting). These experts interpret R.C.A.F. needs in terms of their particular specialty, so that plans and specifications will be complete in all details ready for the necessary tender call.

Mention should be made of the part played by the site planners, that frustrated yet psychic group on whose layouts so much depends. Their efforts are in turn dependent on site and soil conditions and on rapidly changing requirements. Yesterday's need for three hangars becomes to-day's cry for six; last week's simplicity in providing all-male accommodation becomes this week's interestingly complicated problem of including W.D.'s. We have learned never to underestimate the power of a woman!

Up to this point in the programme D.C.E.A. has dealt with matters financial and legal, and D.C.E.D. with planning and design. These are all preparatory to the calling of tenders for construction, a function which is now in the hands of Defence Construction Limited, a Crown company operating under the newly-formed Department of Defence Production. During the Second World War, the Department of Munitions and Supply acted for the Department of National Defence in letting contracts, with each branch of the armed services supervising its own construction in the field. Present arrangements make D.C.L. responsible for the letting of contracts and also for the engineering supervision on the site. For this supervision D.C.L. is employing the regional facilities of the Central Mortgage and Housing Corporation, augmented as found necessary to

handle efficiently the more complicated types of construction called for in the new R.C.A.F. programme.

Under this arrangement, plans, specifications and requests for tender (35 sets for each project) are forwarded to D.C.L. through the Deputy Minister of National Defence, accompanied by the necessary financial procedures. (See article in this issue: "Operation Bulldozer"). D.C.L. Headquarters in Ottawa forward the plans and specifications to the appropriate Regional Office of C.M.H.C. for advertising and tender call. Tenders or "bids," when received, are forwarded to D.C.L. Headquarters for contract action.

In theory, the direct interest of D./A.M.T.S./C.E. ceases from the time when the contracts are amended until D.C.L. hands over to the R.C.A.F. the completed project, the project that grew from the combined efforts of so many people. But the R.C.A.F. has the "user" incentive and responsibility, and our interest cannot lag. The pressure of time and the number of new projects proceeding concurrently make it impossible initially to plan any one job to final completion. This means in practice that a continuing process of engineering must "follow through" on all construction and that D./A.M.T.S./C.E. cannot isolate himself from activities in the field. To this end, the position of Chief Field Engineer has been established. The C.F.E. maintains a close liaison between design and construction, suggests modifications in planning as dictated by experience on the job, and maintains a check on overall progress of the R.C.A.F. programme. This co-ordination is particularly important where many designs are being duplicated across the country.

New construction is a prelude to plant maintenance. In the field are two other elements of Construction Engineering that do a never-ending job: the C.M.U. and the C.E. Station Officer.

The Construction & Maintenance Unit had its beginning on the West Coast in 1942 when it became impossible to get contractors to carry out the large installations which were suddenly required after Pearl Harbour. No. 2 C.M.U. was organized and undertook most work in connection with the scattered R.D.F. (Range and Direction

Finding) Stations and other units in remote areas of the West Coast. Other C.M.U.'s were subsequently formed on the East Coast and at all Air Commands. At the end of the Second World War, the C.M.U.'s were disbanded, with the exception of No. 2, which was relocated with N.W.A.C. Headquarters at Edmonton. At present, No. 2 C.M.U. Headquarters are at Calgary, where the Unit is doing important work, particularly in isolated areas.

No. 2 C.M.U. is a self-accounting unit, with its own supply section and specialist workshops. It operates directly under the Staff Officer for Construction Engineering at Air Materiel Command Headquarters. Personnel consists of specialist engineering officers and N.C.O.'s, with other ranks covering all C.E. trades. The Unit has all the heavy construction equipment that can be economically maintained, and it is prepared to handle any job from road-building to laying down emergency landing-strips or from the erection of buildings and utilities to undertaking major plant maintenance.

At the Unit, we meet the C.E. Officer. In every organization there's always someone who really

has to make things "perk." And in the C.E. organization, that someone is the Unit C.E. Officer and his staff. No matter who did the original planning, who supplied the materials, who made the installation or who supervised the job, it's "Works and Bricks" that has to make it work and keep it working. A good C.E. Officer is cast in a heroic mould. He must be able to smile "yes" and say "no," to dispense bouquets and receive brickbats graciously and impartially, and to teach his staff to do likewise. He must get things done.

And so we have completed the C.E. cycle, from Alpha to Omega. In actual fact, however, there is no beginning and no end in Construction Engineering; for the experience and practice of one is translated into the thinking and the planning of another. Kipling might well have been writing the creed of the Construction Engineer when he wrote:—

*"It ain't the individual or the efforts of the whole,
But the everlasting teamwork of every bloomin' soul."*

The "Savage"

The U.S. Navy's heaviest carrier-based 'plane is the North American AJ-1, an attack bomber powered by two piston engines and one jet, and having a top speed of more than 350 m.p.h. It has been officially named the "Savage."



OPERATION "BULLDOZER"

By Wing Cdr. C. F. Johns, M.B.E., E.D.

(The brief article that follows is complementary to Group Captain Long's article on "Construction Engineering in the R.C.A.F." It does not pretend to be "popular," but it will give those who are interested some idea of the precision with which — and the pressure under which — certain less publicized Service activities are carried out. Its author, who was appointed Director of Construction Engineering and Design in March of this year, left his job as Chief Engineer of the Enterprise Foundry Co. Ltd. to join the R.C.A.F. in 1939, and at the time of his discharge in 1945 was Director of Mechanical & Electrical Engineering at A.F.H.Q. He was invited to return to the Service in November 1950 to assist in the current new construction programme.—EDITOR.)

Wing Cdr. C. F. Johns, M.B.E., E.D.



OPERATION "BULLDOZER," the current new construction programme of the R.C.A.F., is an excellent example of a concerted drive on the part of all Divisions at A.F.H.Q. to make firm the requirements of the R.C.A.F. as determined by the expanded defence programme.

Whilst "Bulldozer" was the name given to the portion of the project carried out by the Construction Engineering subdivision of A.M.T.S., much of the initial impetus was given, on the part of all Divisions, by the tremendous amount of planning that went into the original scheme.

On 1 Feb. '51, the skeleton programme of "Bulldozer," Phase 1, was given to D./A.M.T.S./C.E. with instructions from A.M.T.S. to provide a fully clothed body in fifteen days. This entailed the preparing of plans and specifications for about 190 buildings and their associated services at 18 different sites, for transmission to Defence Construction Limited.

These sites were chosen from the total of 32 Stations as representing the most urgent requirement and as forming the initial scope of "Bulldozer."

Extracts from "Bulldozer" Directive No. 1, dated 1 Feb. '51, give an indication of the scope of the effort and the varied activities to be co-ordinated:

Situation Appraisal

- The target dates for activation of the urgent priority Stations in the 1951-52 construction programme demand that normal C.E. routine be greatly accelerated in order to produce the necessary plans, specifications and siting plans, as well as the plans and specifications for services.
- The target date for production of building plans, specifications and site plans for tender call is 15 Feb. '51.
- "Bulldozer" will require the full resources of D./A.M.T.S./C.E. and extensive assistance from A.M.C./S.C.E.S.O. (Air Materiel Command/Senior Construction Engineering Staff Officer). The project will be under the direct personal control of D./A.M.T.S./C.E.
- D.C.E.A. will be responsible for acquiring additional space, office equipment, stenographic assistance and other additional personnel requirements.
- Commencing 2 Feb. '51, leave will be in abeyance and overtime will be in effect as follows:—
Half of the personnel in each section will work on alternate evenings and on Saturday and Sunday afternoons.
Evening hours 1900 to 2230 hrs.
Saturday and
Sunday afternoons . . . 1400 to 1730 hrs.
- Double or triple shifts will be worked by the printing, duplicating and assembling section.

Programme

- D.C.E.A. to arrange for final programme sheets in order of priority, after confirming priority listing as above. *Urgent.*
- D.C.E.A. to determine the funds required for the programme.

Briefing of A.M.C./S.C.E.S.O.

- A.M.C./S.C.E.S.O. to instruct C.O./C.M.U. (Construction Officer/Construction Maintenance Unit) to proceed to Ottawa at once to plan organization of field parties in connection with preparation of siting plans.
- A.M.C./S.C.E.S.O. to instruct officers in charge of field parties to arrive Ottawa Feb. 5 for briefing.
 - D.C.E.D. to prepare, in writing, complete briefing of C.M.U. field officers to enable them to perform the duties stated below.

Site Plans

- D.C.E.D. to prepare preliminary site plans — these to be checked by the best local information available at A.F.H.Q. and A.M.C.
- C.M.U. field officers to check site plans on the site.
- After examination on the site by field officers, they will return plans by mail, with a full report if only minor changes are indicated. If major changes are necessary, field officers will decide on site any necessary alterations and will return to A.F.H.Q. with site plan.
- D.C.E.D. will correct site plan and obtain Command H.Q. approval, which will be final. If speedy approval cannot be obtained, refer to A.M.T.S.
- If land acquisition is involved, D.C.E.D. will pass full particulars and site plan to D.C.E.A. as soon as need is known and D.C.E.A. will process the land acquisition.

- D.C.E.D. to pass site plan and design criteria to consulting designer of services, as detailed below.
- Site plans (advance copy) are to be forwarded to D.C.L. as soon as the site plans are determined and completed.
- Site plans to D.C.L. with building plans for tender call.

Specifications and List for Rehabilitation of Existing Buildings

- A.M.C./S.C.E.S.O. to prepare specification, by item, covering all classification of work involved in rehabilitation of a site, and to estimate, by Station, the quantities of all items involved in that rehabilitation project.
- A.M.C./S.C.E.S.O. to inspect all urgent priority stations and gather the field information to permit the foregoing.
- A.M.C./S.C.E.S.O. to be responsible for producing the required number of plans and specifications for rehabilitation tender call. A.M.C./S.C.E.S.O. to check with A.F.H.Q. to avoid overlapping of blueprinting and specification facilities. Extraordinary measures, as required, are to be taken.
- A.M.C./S.C.E.S.O. to arrange for direct channels between A.F.H.Q. and C.M.U. with respect to gathering of field data for siting plans by C.M.U.

Preparation of Blueprinting and Duplicating Schedule

- D.C.E.D. to gather copies of standard specifications for all buildings. D.C.E.D. is to check copies against the index to ensure all sheets are included and cut new stencils.
- D.C.E.A. to survey C.E. staff stenographers, as well as A.M.T.S. stenographers and obtain stenographic assistance from other divisions. 35 stenographers required for one week starting 15 Feb. '51.
- D.C.E.D. to commence duplication and assembly of standard plans, using existing stencils for all standard buildings in tentative quantities.
- D.C.E.D. to design system for the sorting and assembly of plans and specifications on a production-line basis, and to design the necessary chart and control sheets to record this production and assembly.
- D.C.E.D. to advise D.C.E.A. of additional personnel needed for sorting and assembling of plans and specifications, and D.C.E.A. to arrange with A.M.C. for C.M.U. personnel to assist.
- D.C.E.A. to obtain additional space (at least 800 sq. ft.) for storage of blueprints and specifications.

Standard R.C.A.F. "SERVICES" design criteria for "Services," Power and Heating

- D.C.E.D. to prepare statement of standard design criteria for water supply and distribution, sewage disposal and distribution, fire alarm systems and heating distribution.
- D.C.E.D. to prepare a précis covering all available information specific to each site.
- D.C.E.D. to pass foregoing, together with site plan, to Consulting Engineer designers.
- D.C.E.D. to direct consultants to visit site and gather all field information needed to proceed with preliminary design estimate, and to prepare questionnaire. When ready, consultant to proceed to A.F.H.Q. for decisions and approval from D.C.E.D.
- Consultant to complete plans and specifications and forward to A.F.H.Q.
- A.F.H.Q. to process plans and specifications.
- D.C.L. to call tender.

Statistically, the physical number of plans and specifications produced and assembled in the fifteen-day period, reaches a sizeable total.

No. of stenographers producing stencils	39
No. of specification sheets (Produced in five days at the rate of 120,000 per day)	608,000
Sets of specifications (produced in five days at the rate of 1,250 per day)	7,500
No. of sheets of blueprints (Produced in five days at the rate of 8,500 per day)	60,000
Sets of plans complete	7,500

To process efficiently the assembly of the multitude of specifications, the facilities of the Dominion Electoral Officer were sought and generously provided. The use of revolving sorting tables, assembly lines, stacking tables and other

equipment, made possible the great volume of work accomplished.

The many thousands of blueprints were efficiently produced by the blueprinting branch of D.N.D. operated under the jurisdiction of the R.C.N., in addition to many printed in civilian establishments.

Space was obtained at R.C.A.F. Station Rockcliffe for the complete assembly and packaging of plans and specifications, by buildings and by Stations, and for the final checking before delivery to Defence Construction Limited.

And so ended "Bulldozer" Phase I, to the tune of approximately forty-two million dollars. Phase II is now proceeding, to be followed by III and IV as rapidly as the planning and design for new special types of buildings and the location of sites will permit.

George Washington, Esq.

I had a few days in Washington before I was due to return and I stayed, by courtesy of General Eaker, at the Army and Navy Club. This is by far the most conservative institution I saw in America, and has very much the same air as a Service club in London. There is, however, a difference, in that the walls are covered with portraits of generals and admirals famous for

giving the British a good licking, and huge battle scenes showing us getting our licking. But that should never worry us, because in reality they illustrate the defeat of King George's Hessian mercenaries at the hands of the British colonists in America, led by that great Englishman George Washington.

(Air Marshal Sir Robert Saundby,
in "The Aeroplane", U.K.)

April Transfers

OFFICERS

S/L H. D. Barclay (Sup.) — No. 6 Repair Depot, Trenton, to Air Materiel Command H.Q., Ottawa.

S/L C. D. Barnett, D.F.C. (G.L.) — A.F.H.Q. to No. 10 Repair Depot, Calgary.

S/L J. A. N. Buchan (Sup.) — Cdn. Joint Staff, Washington, to North-West Air Command H.Q., Edmonton.

S/L L. R. Chodat (Mar.) — Air Materiel Command H.Q., Ottawa, to No. 122 Marine Squadron, Patricia Bay.

S/L D. K. Deyell, D.F.M. (G.L.) — Air Navigation School, Summerside, to A.F.H.Q.

S/L J. D. Dickson, D.F.C., D.F.M. (G.L.) — No. 426 Sqn., Tacoma, Wash., to R.C.A.F. Stn. Lachine.

S/L K. C. M. Dobbin (G.L.) — Instrument Flying School, Centralia, to No. 435 Sqn., Edmonton.

W/C G. W. Erichsen (T.L.) — A.F.H.Q. (Cdn. Arm. Res'ch. Dev. Est.) to Air Materiel Command H.Q. (ditto).

W/C W. B. Hodgson, D.F.C. (G.L.) — Winter Exp. Est., Edmonton, to Cdn. Joint Air Trng. Centre, Rivers.

W/C W. D. Martin (T.L.) — Air Materiel Command H.Q., Ottawa, to Air Defence Group H.Q., St. Hubert.

S/L J. M. G. McCormack (Sup.) — R.C.A.F. Stn. Rockcliffe to No. 2 Supply Depot, Vancouver.

S/L P. G. McLaren (Sup.) — A.F.H.Q. to Cdn. Joint Staff, Washington.

S/L B. R. Rafuse (Tel.) — R.C.A.F. Stn. Centralia to Cdn. Joint Staff, Washington.

S/L H. E. Smith, A.F.C. (G.L.) — R.C.A.F. Staff College, Toronto, to Res. Officers' Trng. School, Kingston.

W/C P. E. Sorenson, A.F.C. (T.L.) — Air Materiel Command H.Q., Ottawa, to R.C.A.F. Stn. Toronto.

W/C J. A. Sproule, D.F.C. (G.L.) — R.C.A.F. Staff College, Toronto, to Res. Officers' Trng. School, Kingston.

S/L R. D. Stabler (A.E.) — Cdn. Joint Staff, Washington, to Air Materiel Command H.Q., Ottawa.

S/L A. H. Tinker, M.B.E. (Sup.) — R.C.A.F. Stn. Clinton to Air Materiel Command H.Q., Ottawa.

S/L W. T. F. Tourgis (G.L.) — R.C.A.F. Stn. Chatham to North-West Air Command H.Q., Edmonton.

W/C W. G. Welstead, A.F.C. (G.L.) — Cdn. Joint Air Trng. Centre, Rivers, to A.F.H.Q.

W/C C. A. Willis, D.F.C. (G.L.) — Air Materiel Command H.Q., Ottawa, to No. 2 Manning Depot, St. Johns, P.Q.

W/C E. L. Wurtele (G.L.) — Maritime Grp. H.Q., Halifax, to R.C.A.F. Stn. Toronto.

S/L W. J. F. Young, D.S.O., M.B.E. (Med.) — No. 1 Flying Trng. School, Centralia, to Air Defence Group H.Q., St. Hubert.

WARRANT OFFICERS

W.O. 2 B. E. Bettin (M.A. Tech.) — Comm. and Rescue Flight, Edmonton, to No. 402 Res. Sqn. (Support), Winnipeg.

W.O. 1 E. B. Brackenbury (M.A. Tech.) — School of Service Management, Trenton, to Res. Officers' Trng. School, Kingston.

W.O. 2 Cadieux (Clk. Adm.) — A.F.H.Q. to R.C.A.F. Stn. St. Johns.

W.O. 1 R. C. Crompton (M.A. Tech.) — No. 2 Tech. Trng. School, Camp Borden, to No. 1 Tech. Trng. School, Aylmer.

W.O. 2 C. O. Cunningham (M.A. Tech.) — No. 418 Res. Sqn. (Support), Edmonton, to R.C.A.F. Stn. Sea Island.

W.O. 2 O. Dendy (M.I.E. Tech.) — No. 2 Tech. Trng. School, Camp Borden, to No. 1 Tech. Trng. School, Aylmer.

W.O. 2 S. J. Frith (Clk. Adm.) — School of Service Management, Trenton, to Res. Officers' Trng. School, Kingston.

W.O. 2 V. I. Gillette (M. Com. Tech.) — No. 1 Radar & Comm. School, Clinton, to Training Command H.Q., Trenton.

W.O. 2 F. H. Lefevre (Clk. Adm.) — Air Materiel Command H.Q., Ottawa, to A.F.H.Q.

W.O. 1 G. M. Manning (S. Eng.) — R.C.A.F. Stn. Rockcliffe to Air Materiel Command H.Q., Ottawa.

W.O. 1 K. McKinnon (M. Arm. Tech.) — R.C.A.F. Stn. Trenton to Air Defence Group H.Q., St. Hubert.

W.O. 2 I. C. Milne (Clk. Acc.) — A.F.H.Q. to Air Transport Command H.Q., Rockcliffe.

W.O. 2 J. P. Niven (M. M. E. Tech.) — No. 2 Tech. Trng. School, Camp Borden, to No. 1 Tech. Trng. School, Aylmer.

W.O. 2 T. G. H. Pinch (Clk. Adm.) — R.C.A.F. Stn. Clinton to No. 2 Composite Trng. School, Aylmer.

W.O. 1 J. P. Smith (M. A. Tech.) — Recruiting Unit, Regina, to Cdn. Joint Air Trng. Centre, Rivers.

W.O. 2 W. A. M. Smith (M. Photo.) — No. 1 Photo Est., Rockcliffe, to R.C.A.F. Stn. Lachine.

W.O. 2 W. L. Smythe (M.A. Tech.) — Winter Exp. Est., Edmonton, to No. 403 Res. Sqn. (Support), Calgary.

W.O. 2 R. F. Stephenson (M. Cook) — R.C.A.F. Stn. Edmonton to North-West Air Command H.Q., Edmonton.

KEY TO TRADE DESIGNATIONS

A.E.	— Aeronautical Engineering
Clk. Acc.	— Clerk Accounting
Clk. Adm.	— Clerk Administrative
G.L.	— General List
Mar.	— Marine
M. A. Tech.	— Master Aircraft Technician
M. Arm. Tech.	— Master Armament Technician
M. Com. Tech.	— Master Communications Technician
M. Cook	— Master Cook
Med.	— Medical
M.I.E. Tech.	— Master Instrument Electrical Technician
M.M.E. Tech.	— Master Mobile Equipment Technician
M. Photo.	— Master Photographer
S. Eng.	— Stationary Engineer
Sup.	— Supply
Tel.	— Telecommunications
T.L.	— Technical List

The Rockcliffe Ice Wagon

By Flt. Lt. J. W. Wilkins, Experimental & Proving Establishment

(Flt. Lt. Wilkins has had a varied career since he joined the R.C.A.F. in 1940. Before going overseas in 1942, he served as a flying instructor at No. 12 S.F.T.S., Brandon, for a year. His first six months in England were spent in instructing at a Coastal O.T.U., after which he flew for a year with No. 489 Torpedo Bomber Squadron, of the R.N.Z.A.F. This was followed by a year with the Aircraft Torpedo Development Unit at Gosport. He then took the Empire Central Flying School course at Hullavington. Returning to Canada, he was posted to the Accident Investigation Branch at A.F.H.Q., later being sent back to England for four months' familiarization with the accident statistics coding system that was being standardized for use by all Dominion air forces. Finally transferred to the Experimental & Proving Establishment at Rockcliffe, he has since been engaged in writing Pilot's Operating Instructions for all types of aircraft now in use in the R.C.A.F.—EDITOR).

DE-ICING RESEARCH

ICE MAY OCCUR on the fuselage, wing and tail surfaces, and propeller(s) of an aircraft in flight. Icing on the airframe breaks down the aerodynamic airflow over the aircraft's lifting surfaces and adds extra weight that may be, in certain circumstances, dangerous or even disastrous. Propeller icing, which is similar in nature, makes itself felt by a loss of thrust that necessitates the use of more and more power to keep the aircraft aloft.

The weather conditions most conducive to airframe and propeller icing are temperatures from 0°C to -18°C, the presence of supercooled water droplets, and turbulence. The more severe these factors become, the greater will be the amount of ice. In rare instances, ice can form at temperatures as low as -40°C.

Active de-icing research development was begun in 1939, leading to the electro-thermal method of propeller de-icing. After initial flight tests in 1942, over a hundred sets of propeller thermal de-icing pads were installed (in 1945) for service trials on aircraft of the R.C.A.F., R.A.F., and T.C.A. The method is now coming into general use, and aircraft de-icing remains the subject of

extensive investigations in the laboratories of the National Research Council of Canada at Ottawa.

More recently, the electro-thermal method of de-icing has been extended to the wings with very promising results; and this is one of the major projects upon which the "Ice Wagon" (as North Star 17513 is affectionately known) is currently engaged.

THE ICE WAGON

The Ice Wagon is a Canadair North Star, built in Montreal and powered by four Rolls-Royce Merlins. It is a normal R.C.A.F. transport North Star except for the following major modifications:

- A dorsal fin mounted on top of the fuselage and fitted with heating pads.
- Two observation posts in "blisters" mounted on either side of the fin.
- Propeller-heater shoes fed with power via slip rings.
- Two observation posts in the forward cabin, from which, by use of a strobviewer, the propellers can be observed in the "stopped" condition.
- Two special 60 kw. electrical alternators driven by the outboard engines, to supply power for heating de-icing equipment.
- Various experimental installations and instrumentation in the fuselage.
- Reversible-pitch propellers, which enable the aircraft to make emergency landings in small fields or on icy runways.



The Ice Wagon.

The wings and tail-unit are at present de-iced by the standard pneumatic overshoes, whereas the engines have the normal warm air intake (to guard against icing in the carburettor, etc.) and also, as an additional precaution, alcohol de-icing equipment.

Complete arctic emergency equipment is carried during test flights. An auxiliary power-unit in the tail makes the aircraft independent of ground batteries for starting, and airline seats afford some comfort for the groundcrew who are carried on all flights. The aircraft is completely self-sustaining when operating away from its home base, the Experimental & Proving Establishment at Rockcliffe.

The Dorsal Fin

The dorsal fin (which is the only one of the aircraft's abnormalities that really hits the uninitiated between the eyes) is used for wing de-icing experiments during the initial phase of the project. It is eight feet high and ten feet from leading to trailing edge, and represents a high-

speed symmetrical-section wing. In addition to facilitating observation and wiring, the use of the dorsal fin precludes interference with normal aircraft operation in the event of heating-pad failure. Its leading-edge is easily removed, and, since it has two interchangeable leading-edges, de-icing pads can be changed quickly and conveniently. The dorsal fin has no noticeable effect on the handling or performance of the aeroplane.

THE ICE WAGON AT WORK

The Ice Wagon is used for the proving (in flight under natural icing conditions) of the experimental de-icing and anti-icing equipment developed by the Low Temperature Laboratory of the N.R.C. These tests are supplemented by laboratory tests under simulated icing conditions in the icing wind tunnel.

The three main projects on which the aircraft is engaged are:

- Electro-thermal wing de-icing.
- Electro-thermal propeller de-icing.
- Measurement of cloud properties.



The Ice Wagon's crew. Front row (l. to r.): Mr. D. Fraser, Mr. K. Pettit, Flying Officer T. A. R. Harris, Flt.Lts. J. J. Higgins, T. J. Evans, Flying Officer H. A. Smith, Sgt. F. E. J. Dewan, Mr. J. Lynch. Back row (l. to r.): Cpls. R. A. McKay, W. E. McNair, D. A. Chapman, L.A.C. M. Young, Cpls. S. M. Howes, C. I. McKinstry, L.A.C. W. C. Short, Mr. R. Brown. (Photo Richard Studio).

Electro-Thermal De-icing

There are three general methods of getting rid of ice:

1. Mechanically, breaking it off — using, for example, pulsating rubber overshoes such as are fitted to the wings;
2. chemically, by adding, say, alcohol to the ice in order to lower its freezing point; or
3. thermally, by melting the ice with heated wings or propellers.

Of the above three methods, the last seems to be the most effective; and the most convenient, reliable, and easily controlled means of supplying the necessary heat appears to be electricity.

To melt all the ice as it forms, however, would require so much heat that the electrical equipment needed to supply it would be both unwieldy and expensive to operate. Therefore, in the system employed on the Ice Wagon, the ice is allowed to form for a short time, and then only sufficient heat is applied to produce a thin film of water between the ice and the propeller blade or wing. This destroys the adhesion of the ice, which is then thrown off by the mechanical or the aerodynamic forces acting upon it.

Propeller De-icing

Ice is allowed to form on the blades of the propellers, over the rubber pads, for a period of one minute or longer. Electrical power is then supplied to the pads for a few seconds, heating them and so melting the ice. Centrifugal forces acting on the ice soon throw it off.

Rubber is used for the de-icing pads on the propellers because of the abrasion caused by dust, stones, hail, etc., which rubber withstands well. The heater element is made up of conducting rubber (developed by the N.R.C. Rubber Laboratory) protected and insulated by non-conducting rubber.

Dorsal Fin De-icing

On the fin, a "parting strip," one inch wide on the leading edge, is continuously heated so that ice cannot form on it. This divides the ice so that it forms on either side of the heated strip. As before, the ice is allowed to form for a few minutes, and then the "shedding zone" is heated, thus allowing the ice to be blown off by aerodynamic

The Roundel

forces. If the leading edge were not continuously heated, the ice would form a stable cap over it which could not be removed by aerodynamic forces, the result being that melting rather than shedding would ultimately occur.

During the final phase of the project, after the scheme has been satisfactorily proved on the dorsal fin, the fin will be removed and electro-thermal de-icing fitted to all wings and tail surfaces in place of the existing pneumatic overshoes.

Each of the fin's heater elements which have been tested are made up of a fine grid of wires, interwoven with cotton or fibre-glass to hold them in place and insulate them from each other. The element is protected on either side by an insulating layer of plastic or rubber. Rubber, which appears to be more suitable because of its resistance to the eroding action at high speeds, is being used on present pads. The plastic fin pad is approximately .065" thick and weighs about 0.5 lb. per square foot.

Meteorological Instruments

The physical properties of the clouds in which icing is found are measured by a number of in-

struments. The main items of interest are the temperature, the water content, and the size of the water droplets. These are recorded as follows:

Temperature.— Measured by a number of thermometers. The great problem is to keep the thermometer elements from becoming wet or iced-up, so they have to be protected by housings of special design.

Water-Content.— Ascertained by a rotating disc-type rate-of-icing meter mounted on top of the fuselage, ahead and slightly to one side of the fin. It can also be measured from a cloud density meter mounted below the aircraft. Other types of instruments are being developed but are not yet fitted.

Water Droplet Size.— The cloud droplets are actually photographed in flight as they pass the aircraft by a special under-slung cloud-droplet camera. This camera, designed and made by the N.R.C. Instrument Laboratory, is unique.

The Crew

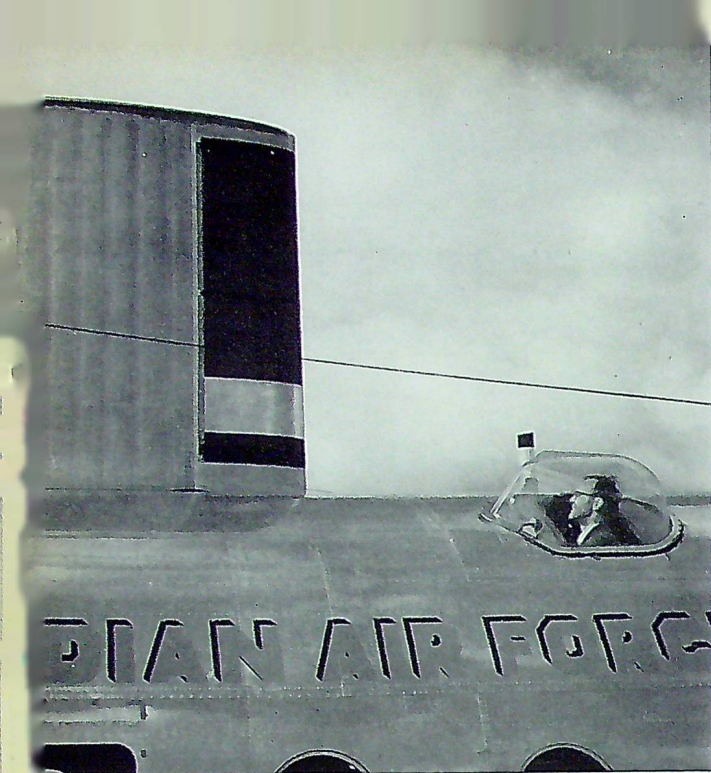
Four observers are carried. Their duties are:

Propeller Observer. Seated in the forward compartment, he can observe the propellers in motion by using a strobviewer. He controls the de-icing of the propellers.

Instrument Observer. Seated in the forward compartment, he has control of the meteorological instruments, and can service them in flight.

Typical terrain over which Ice Wagon flies. (Photo Richard Studio)





*Mr. D. Fraser observing test de-icing boot on fin.
(Photo Richard Studio).*

Meteorological Observer. Seated in the right-hand blister, he observes weather conditions, besides controlling the meteorological instruments. He can assist in observing the fin as well.

Fin Observer. Seated in the left-hand blister he observes the fin, wing, propellers and tail-plane, and can control the fin de-icing.

The test flying comes under the direction of the N.R.C. observers, who are responsible for all the experimental equipment, while the operation and maintenance of the aircraft are taken care of by the Experimental & Proving Establishment of the R.C.A.F.

The entire project is directed by Mr. J. L. Orr, Head of the Low Temperature Laboratory of the N.R.C. The N.R.C. flying crew includes Mr. D. Fraser, Mr. E. H. Bowler, Mr. K. G. Pettit, Mr. R. C. Brown, and (until recently) Mr. J. A. Lynch. The R.C.A.F. crew consists of Flt. Lt. J. J. Higgins (captain), Flt. Lt. T. J. Evans (co-pilot), Flying Officer H. A. Smith (navigator), Flying Officer T. A. R. Harris (radio operator), Sgt. A. E. Frieday (who recently replaced Sgt. F. E. J. Dewan as flight engineer), and two airframe technicians,

three engine technicians, one electrical technician, one radio technician and one instrument technician.

VISIT TO THE UNITED KINGDOM

On 9 August 1950, the Ice Wagon was flown with its complete crew on a liaison visit to the United Kingdom. This visit was arranged in order to demonstrate the aircraft to the Ministry of Supply and other interested parties. Apart from the demonstration, the trip was intended to establish a close liaison with research and development establishments working in the fields of aircraft and jet engine de-icing, cloud physics (including induced precipitation — or rain-making), and nephelometric instrumentation (including the use of radar for cloud and storm detection).

The aircraft was based at the Royal Aeronautical Establishment, Farnborough, from August 14th to 18th, where it was available for inspection by government organizations, civil air line operators, and manufacturers. Each day lectures were given by the N.R.C. personnel, followed by conducted tours of the Ice Wagon. Later the aircraft made a series of visits to manufacturers' airfields — De Havilland, Rolls-Royce, Napier and Son, A. V. Roe, Bristol Aeroplane — as well as a trip to the Aircraft & Armament Experimental Establishment at Boscombe Down. Discussions were also held at such places as the Meteorological Laboratories at Harrow, the Ministry of Supply Icing Committee, and at the Clarendon Laboratory in Oxford. During their stay in the U.K., personnel were afforded an opportunity to attend the S.B.A.C. (Society of British Aircraft Constructors) show at Farnborough.

SCOPE OF OPERATIONS

During the short time that the North Star Ice Wagon has been in service — since March 1950 — it has ranged over the length and breadth of Canada in search of icing conditions, from Labrador to British Columbia, and as far north as the Yukon Territory. A total flying time of 150 hours was accumulated in two months of operational flying last year, of which 20 hours, or 13%, was spent in actual icing conditions.

B.F.'s and M.E.

I. Backing up

("M.E." stands for "Mobile Equipment, and "B.F." for — well, we all know that. This is the first of several articles that deal with the operation of the former by the latter. But lest any reader who is not an M.E. technician, having read thus far, dash his copy of "The Roundel" to the ground and jump on it in protest against its lack of general interest, let us hasten to remind him that several millions of Canadians who are also not M.E. Technicians own cars, trucks, jeeps, or bulldozers. The articles were, as far as we can ascertain, originally put out in booklet form by Vauxhall Motors Ltd., in England. It is probable that they have since undergone certain modifications. — EDITOR).

IT'S SAFE TO SAY — or we wouldn't stick out our neck saying it—that any fool can back-up a truck. But that's as far as we'll go. What are the driver's plans (and we use the word loosely) about just where the truck goes is a question that has baffled the best brains in the country — including that of the B.F. behind the wheel.

However, the manufacturers *did* equip trucks with a reverse gear; so we may expect trucks to be backed up, through, or over, a varied assortment of objects such as hydraulic jacks, airmen, air compressors, grease guns, the oil pan of the vehicle in the next stall, and door jambs.

While the cure for this situation is in the hands of the gods and certain well-informed and red-mustachioed N.C.O.'s, the cause is simplicity itself. For the sake of argument, let's say that you are Simplicity Itself — behind the wheel. (You don't know us, so no harm can come of it). Now, ninety-nine per cent of the time you are driving frontwards. You can see where you're going, and no one, not even the Sergeant, has a suspicion that you are a potential B.F. Then comes that one moment in a hundred when you have to back the vehicle into stall number 4 of the Unit Garage.

First thing you know, you've got into a jam. In fact, the one on the door has become a mere sliver of its former self.

The Sergeant says things your mother never taught you, and you pass an opinion on the Sergeant (mentally) and try again, feeling sure in your own mind that there's a garage door somewhere behind you. Even if it isn't your lucky day, you should find the opening on the fourth or



The Roundel

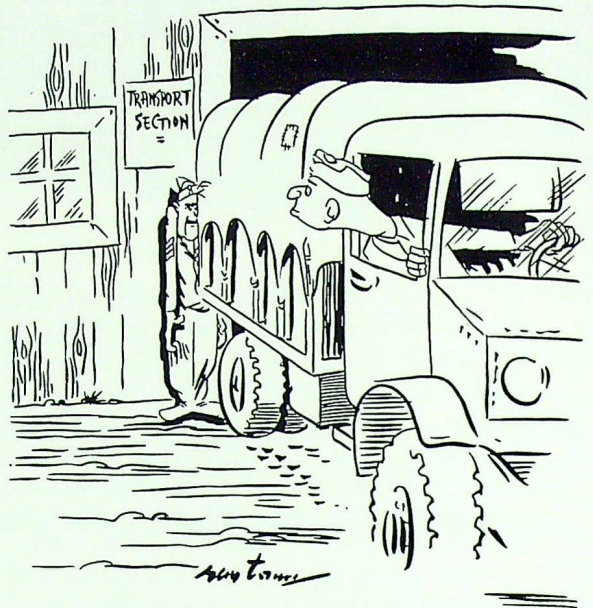
fifth stab. The lucky try is recognized by a lack of any sound of splintering wood or crumpling metal — and by the Sergeant's long-drawn sigh.

There are those, such as the B.F. we have just described, who regard backing up a truck in the same light as a game of "Postman's Knock": it has to be done in the dark. And that's where we differ. Anyone who moves four to ten tons of ironmongery without knowing exactly where it's going, deserves what he gets. And he usually gets what he deserves.

If you're not sure just where you are, stop, look and find out. You should know to the nearest inch — even if it means getting off that nice soft seat and walking once around the truck for luck.

As to the specific instance of backing through an open garage doorway, it's the approach that counts. Make sure you place your vehicle so that, during the whole reversing procedure, you can at all times see the doorway. To do this you must be on the inside of the turning circle. This means that, on a vehicle with the usual left-hand drive, your front wheels should be turned to the left when backing up.

We are amazed at the number of B.F.'s who do it the hard way. With your head peering out on the outside of the turning circle, you get an interesting perspective view of the side of your truck and no view whatever of the doorway you propose to enter. This may lead you to accuse the Sergeant of having completely removed the door, but he will invariably produce witnesses to show



that (a) he did no such thing and (b) that you owe the Canadian Government the sum of forty-nine dollars and nineteen cents to cover the cost of repairing one door jamb, one set of sliding-door guide-rails, and the repair and painting of one rear panel.

Take our word for it: all garage doorways are made wide enough for your vehicle to back through, so long as you can see exactly where they are. Using a vehicle to enlarge them to your own requirements is definitely "not cricket."

A Little Knowledge . . .

"If a little knowledge is dangerous, where is the man who has so much as to be out of danger?"

Thomas Henry Huxley (quoted in "Air Clues": R.A.F.)

No. 442 (Caribou) Squadron

By Wing Cdr. F. H. Hitchins, Air Historian

No. 442, the Vancouver Reserve Fighter Squadron, has a tradition of achievement in two theatres of war. For twenty-one months it served in Western Air Command on operations against the Japanese; then it went overseas to join Second Tactical Air Force, and for the next fifteen months fought with marked success against the Germans from the Norman beaches to the Baltic coast.

The squadron originated as No. 14 (Fighter) Squadron which was formed at Rockcliffe, Ontario, on 2 January 1942, less than a month after Japan's attack upon Pearl Harbour. Under the command of Sqn. Ldr. B. D. Russel, D.F.C., a veteran of the Battle of Britain, the pilots completed a period of intensive training on Harvards and Kittyhawks, at the end of which they flew their fighters to Sea Island, B.C., in March and April, to strengthen the air defences of the Pacific coast. Here the squadron remained until February 1943, carrying out patrols, scrambles, searches and innumerable exercises, all of which were uneventful but were valuable training for days to come.

Leaving Sea Island, the squadron, now under the command of Sqn. Ldr. B. R. Walker, D.F.C., another veteran of fighter operations overseas, trekked north and west by sea and air to join "X"

Wing in the Aleutians, where, since June 1942, American and Canadian forces had been opposing Japanese invaders. No. 14 spent over six months in the bleak, isolated and distant land of the "williwaws" amid conditions that have been called the worst flying weather in the world. The squadron's base was on Umnak Island, but for operations the pilots flew up to an advanced field at Amchitka, seventy-five miles east of Japanese-held Kiska.

The story of the R.C.A.F.'s Aleutian campaign has been briefly described in the late Flying Officer D. F. Griffin's "First Steps to Tokyo." No. 14 Squadron's share in the campaign was two tours of operations over Kiska during which the pilots made 190 sorties to dive-bomb and strafe Japanese gun posts, radar installations, airfield runways and camp sites. When the Canadian and American forces made their landing on Kiska in

Sqn. Ldr. B. D. Russel, D.F.C. (by Flt. Lt. P. A. Goranson)





In the Aleutians. Left to right: Flying Officer D. M. McDuff, Pilot Officers W. L. Pigden, S. V. Garside (No. 111 Sqn.), Flying Officer K. H. Caldwell.

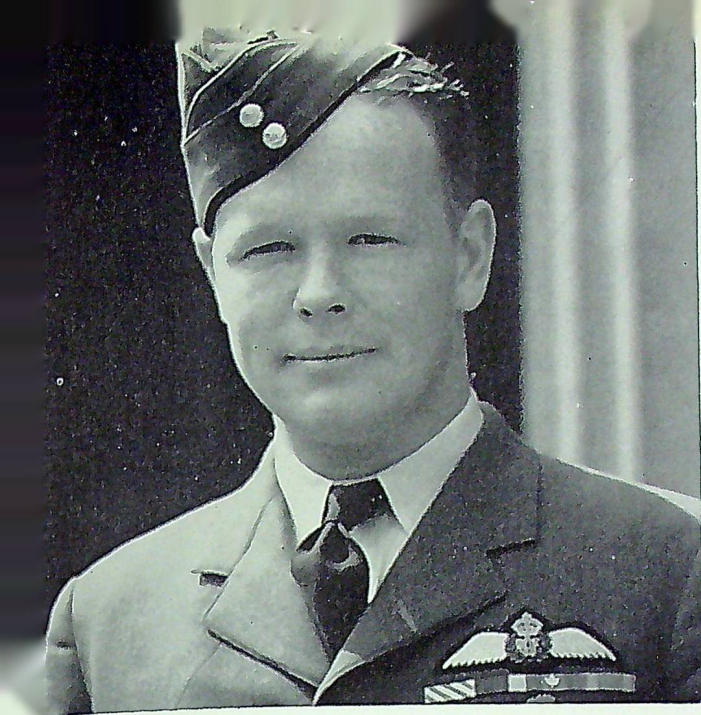
August, weather held the Kittyhawks earth-bound. But their services were not needed: the Japs had fled. For their services over Kiska, eight pilots were decorated with the U.S. Air Medal and two members of the squadron were mentioned in despatches.

Returning to British Columbia in September 1943, No. 14 was stationed at Boundary Bay until late in December, when its personnel were sent on leave preparatory to going overseas. In this first phase of its career the squadron lost eight officers and men, killed in flying accidents or died from other causes.

At the end of embarkation leave the squadron reassembled at Lachine, entrained for Halifax and sailed thence on 21 January 1944. Overseas it was redesignated No. 442 in the R.C.A.F. sequence

and went to Digby where, together with Nos. 441 and 443 Squadrons, which also had just arrived from Canada, it constituted the new 144 R.C.A.F. Airfield or Wing, which had the famous R.A.F. fighter pilot, Wing Cdr. J. E. Johnson, D.S.O., D.F.C., as wing commander flying. Under his guiding hand the squadrons were soon ready for action on their new Spitfire IX's.

On March 18th, 144 Wing flew from Digby to Holmsley South, in Hampshire, and that afternoon carried out its first war operation, a sweep over Luftwaffe airfields in northern France. In the next six weeks, while the Wing moved to Westhampnett and then to Huntingdon, No. 442 Squadron made many sweeps, once penetrating as far as the Ruhr, the first time that Spitfires had gone so deep into enemy territory; but enemy



Sqn. Ldr. B. R. Walker, D.F.C.



Wing Cdr. J. W. Reid.

aircraft were seldom encountered during this period, and the pilots had no combats.

The last week in April was devoted to a gunnery and bombing course, after which the squadron, once again led by Sqn. Ldr. Dal Russel (its first C.O.) who now had succeeded Brad Walker, embarked upon a busy programme of operations in preparation for D-Day. Most of the ops were dive-bombing attacks upon V-1 sites, railroad bridges, freight yards and radar stations. Then the invasion forces landed on the Norman coast and for ten days the squadron, now based at Ford, flew protective patrols over the beach-heads and the convoys in the Channel. Two of its pilots were among the first to set foot on the Norman beaches: one was landed there by a Polish destroyer which picked him up from the "drink" when he had been forced to bale out, and the other pilot made a forced-landing on the beach-head with his flak-damaged Spitfire.

On June 10th, No. 442 began using one of the hastily-constructed landing strips for refuelling and rearming between patrols, and five days later it flew across to St. Croix-sur-Mer — the first British fighter squadron to be based in France since June 1940. Hitherto the squadron had had no luck in air combat (targets were lacking)

Front row (l. to r.): Sqn. Ldr. M. Johnston, Flt. Lt. W. V. Shank. Back row (l. to r.): Flying Officers L. H. Wilson and R. J. Robillard.



but after waiting for over three months, the "Caribous" (as they were now nicknamed) recorded their first victories on June 22nd, and by the end of that month they led the Wing with a total of 15 enemy aircraft destroyed in four days' fighting. A new type of target was attacked on July 8th, when several sections, while on patrol over the beaches, sighted a number of midget submarines, six of which they claimed as destroyed.

Early in July, Dal Russel was promoted to Wing Commander, and Sqn. Ldr. H. J. Dowding, D.F.C., took command of the Caribou squadron. A few days later, on the 14th, 144 Wing was broken up and No. 442 then became a part of 126 R.C.A.F. Wing at Beny-sur-Mer. Encounters with the Luftwaffe were now becoming less frequent, but a dogfight against heavy odds on July 27th added several more tallies to the squadron's score and raised its total to 19 destroyed, two probably destroyed and eight damaged, within a period of exactly five weeks. Two months elapsed before the Caribous were again able to engage the enemy in the air.

August was highlighted by armed reconnaissances on which the Spitfire pilots wrought havoc along the Wehrmacht's lines of communication in Normandy. In the seven days, August 13th to 19th, when the Nazi Seventh Army was trying to escape from the Falaise pocket, the Caribous strafed 575 trucks, cars, armoured fighting vehicles and tanks, sending 210 up in flames, making 98 more belch smoke, and thoroughly clobbering the remainder.

Early in August, 126 Wing had moved to Cristot, west of Caen, where it remained until the end of the month. Then, when the rapid retreat of the Nazis eastward from Normandy to the Rhine left the Spitfires far in the rear, the squadrons began a series of rapid jumps forward, from Cristot to St. André, Illiers-l'Évêque and Poix (in France), Evere and Le Culot (in Belgium), and Rips (in the Netherlands), until in mid-October they finally came to a rest, for a few weeks, at Volkel. During this period of frequent moves the Caribou squadron was engaged for a time on defensive patrols over the Nijmegen-Arnhem battle area and won six confirmed



Sqn. Ldr. H. J. Dowding, D.F.C. (by Flt. Lt. R. S. Hyndman)

Sqn. Ldr. M. E. Jowsey, D.F.C.



victories, plus a probable and seven damaged, including one of the Luftwaffe's new Me. 262 jet fighters.

At Volkel the Caribous, with Sqn. Ldr. W. A. Olmsted, D.F.C., in command, resumed dive-bombing operations in a rail interdiction campaign to stop all traffic on lines behind the Nazi front. In four weeks they made 77 rail attacks and claimed at least 40 cuts, in addition to which they blew up an ammunition dump and damaged or destroyed 83 locomotives, 90 or more freight cars, 88 assorted vehicles and several tugs and barges.

After a fortnight in England on an air-firing course, No. 442 Squadron returned to Volkel late in November, only to move again a few days later to Heesch, about eight miles away, where it remained for fifteen weeks, the longest time the Caribous ever spent on one airfield. Rail interdiction work continued until December 16th, when the Nazi counter-attack in the Ardennes ("The Battle of the Bulge") caused a return to fighter sweeps and patrols. On one of the last dive-bombing missions in December, Sqn. Ldr. Bill Olmsted was brought down by flak and had to bale out, landing safely within our lines. As he had now completed a very successful second tour, which won him the D.F.C. and Bar and the D.S.O., Olmsted was posted for a rest and Sqn. Ldr. M. E. Jowsey, D.F.C., took command of the squadron.

On the last day of 1944 the Caribous had a good fight with fifteen Me. 109's which ended in the destruction of four of the enemy. New Year's Day, 1945, was even more successful. That was the day on which the Luftwaffe made a series of surprise attacks on Allied airfields and inflicted considerable damage at some places; but it paid a heavy price, for No. 442 Squadron alone destroyed six and damaged an equal number of the raiders. In other combats later in January, Sqn. Ldr. Jowsey's pilots added three destroyed, one probable and two damaged, to their total.

Dive-bombing attacks on the enemy's rail lines were resumed in February and continued, whenever the weather permitted, until March 17th. Over forty-four tons of bombs were dropped by the Spitfires; rails were cut in 25 places; and six locomotives, 15 cars and coaches and 47 vehicles



Sqn. Ldr. G. W. Northcott, D.F.C., and Wing Cdr. L. V. Chadburn, D.S.O., D.F.C.

were damaged, in addition to which a fuel dump was blown up. In air combat the pilots destroyed 12 German aircraft and damaged another. These air victories were all won in two engagements, one on February 8th, when three pilots annihilated a formation of five Ju. 87's (Stukas), and the other on the 27th, when the squadron had the best day in its history by destroying seven fighters and damaging one more in a battle with over 40 Me. 109's and FW. 190's. The Caribou score now stood at 52 destroyed, four probably destroyed, and 25 damaged. Sqn. Ldr. Jowsey was missing from one strafing operation late in February, when ricocheting bullets hit his Spitfire and he had to take to his parachute. He got down safely, behind the enemy lines, and successfully evaded capture for forty days until Allied troops reached his hiding place.

No. 442 Squadron left Heesch and 126 Wing on March 21st, returning to England to undertake a new operational rôle. At Hunsdon the pilots were re-equipped with Mustangs for long-range escort to heavy bombers making daylight attacks on targets in Germany. The conversion was effected quickly, and on April 9th seven pilots, led by Sqn. Ldr. M. Johnston, their new C.O.,

undertook the first of the new missions, escorting a force of Lancasters that bombed an oil refinery at Hamburg. Before hostilities ended a month later, the squadron completed twelve of these long-range operations.

In contrast to their previous sorties on the continent, which usually averaged about seventy-five minutes, the pilots were airborne on their Mustangs for about five hours. The longest of the twelve missions lasted six hours, and the shortest four and three-quarters. Only once, however, were enemy fighters encountered; that was on April 16th, when the squadron destroyed one FW. 190 and probably destroyed another over an airfield north-east of Berlin. The Caribous' last operation of the war was an escort mission for a strong force of Lancasters that bombed Hitler's chalet at Berchtesgaden on April 25th.

After V-E Day, No. 442 moved from Hunsdon to Digby and thence to Molesworth, where it was disbanded on 7 August 1945. A recapitulation of its work overseas shows 53 enemy aircraft destroyed, five probably destroyed and 25 damaged, in addition to which it could count 91 rail lines cut by bomb craters, three supply dumps blown up, over 900 vehicles, 125 locomotives, about 200 freight cars, 23 tugs and barges, and six midget subs damaged or destroyed. It is perhaps indicative of the teamwork that existed in the squadron that its 83 air victories were shared between no less than 44 pilots. Flt. Lt. D. C. Gordon, D.F.C., headed the list with 5½ enemy aircraft confirmed as destroyed; he was followed by Flt. Lt. F. B. Young, D.F.C. (four destroyed and one damaged), Flt. Lt. S. M. McClarty, D.F.C. (three destroyed and three damaged), and Flt. Lt. R. B. Barker (three destroyed and one damaged). Outstanding among the ground-straferes were Sqn. Ldr. W. A. Olmsted, D.S.O., D.F.C. and Bar (130 vehicles and 27 locomotives), Flying Officer D. W. Goodwin, D.F.C. and Bar (163 vehicles and 20 locomotives), Flt. Lt. B. E. Middleton, D.F.C. (116 vehicles), Flt. Lt. F. B. Young, D.F.C. (75 vehicles), Flying Officer J. P. Lumsden, D.F.C. (70 vehicles and 14 locomotives), Flying Officer H. F. Morse, D.F.C. (68 vehicles), and Flying Officer W. R. Weeks,

D.F.C. (65 vehicles and 15 locomotives). One D.S.O., ten D.F.C.'s and three Bars to the D.F.C., were awarded to members of the squadron for services in the European theatre. On operations overseas No. 442 reported 16 pilots missing; two of them evaded capture and regained our lines, four were taken prisoner, and the other ten were killed or presumed dead. Two pilots lost their lives in flying accidents.

On 15 April 1946, No. 442 Squadron was reconstituted at Sea Island as a fighter unit in the R.C.A.F. Reserve, and in the past five years it has added new laurels to those won in the Aleutians and Europe. Wing Cdr. Roy F. Begg was commander of the new squadron during its early period of organization and recruiting. He was succeeded in August 1947 by Wing Cdr. J. W. Reid (who was moved to eastern Canada a few weeks later) and Flt. Lt. J. F. McElroy, D.F.C. and Bar, after whom Sqn. Ldr. G. W. Northcott, D.S.O., D.F.C. and Bar, took temporary command until the appointment of Wing Cdr. D. C. S. MacDonald, D.F.C. (one of the first members of the Reserve squadron), on 2 January 1948. At the end of 1948, Wing Cdr. Northcott replaced MacDonald in command.

The squadron was initially equipped with Harvard aircraft for refresher training prior to graduating to Vampires in the spring of 1948. To demonstrate their proficiency, the personnel of No. 442 have frequently presented ground and air displays on Air Force Day, at the Pacific National Exhibition, carnivals and air shows, and thereby have gained much favourable publicity for their recruiting campaign. They have also co-operated with their friends south of the border on air exercises and in flying exhibitions for U.S.A.F. Day and U.S. Armed Forces Day. In July 1948 the squadron held a brief summer camp at Comox, with which it combined a visit to the Air Cadet squadrons at Courtenay and Powell River. During the summer of 1949 and 1950 the Vancouver squadron attended summer camp at Gimli, Manitoba — and on both occasions it won the Gimli Trophy, emblematic of the highest efficiency of all the units attending the camp.

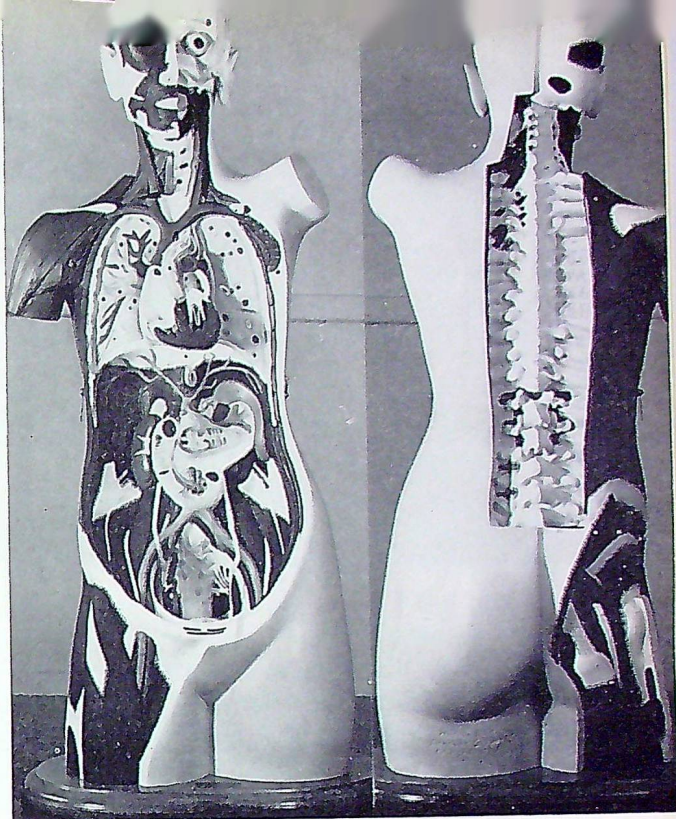
“Tommy the Torso”

SHORTLY after the cessation of the Second World War, the R.C.A.F.'s Medical Assistants' Training Centre was set up at R.C.A.F. Station Trenton. Six months later, upon the completion of six basic courses, the Centre was moved to Rockcliffe. (There is no truth in the statement that Rockcliffe was chosen because at that time it abounded in weird specimens admirably adapted to study by trainees.) To date 153 airmen have graduated from the twenty-three basic courses and 106 from the nine refresher.

The centre, with a staff of two nursing sisters and one sergeant senior medical assistant, trains all medical assistants for the R.C.A.F. Its aims are:

1. To train Medical Assistants thoroughly in routine nursing procedures, with a background of allied medical subjects.
2. To give necessary refresher courses for the purpose of keeping the Medical Assistants in touch with the constantly changing routines of the medical field. (These courses, involving a more intensified and advanced study, serve to renew interest in the trade and to allow the Medical Assistant an opportunity to decide which allied phase of the work most interests him.)
3. To give weekly trade advancement lectures to those eligible to appear before the Regional Trade Advancement Board examinations for further grouping.

Subjects include anatomy and physiology, medicine and surgery, air ambulance technique, first aid, and organization and administration of the R.C.A.F. To ensure a thorough and more lasting knowledge, theory and practice are correlated whenever possible. For instance, in addition to observing in medical and surgical wards, trainees spend some time in the medical inspection room, pharmacy, physiotherapy department, and operating room. Also, a recently obtained projector, screen and delineascope provide a visual aid programme which has proven beneficial in blending the theoretical and the practical.



If not the most important single item of equipment at the Centre, certainly the most popular is a thirty-five pound bundle of plaster known as “Tommy the Torso.” This amazingly accurate facsimile of the human body provides a three-dimensional study of the body's parts and their relationship to one another, and makes the teaching of anatomy and nursing a pleasure. Cold mathematics have proved “Tommy” to be an asset: since his arrival, average marks in anatomy have increased by approximately ten per cent.

It must not, however, be assumed that Tommy looks at life with a cold and academic eye. On the contrary, his countenance assumes a certain rather tragic mien whenever an interesting nursing sister crosses the line of vision of that single staring orb — doomed forever to gaze straight ahead. We understand (tho' not on very high authority) that the Command M.O., Wing Cdr. D. G. M. Nelson, has been so touched by Tommy's desperate plight that he is considering the creation of a female companion for him — “Tessie the Torso.” Failing this, there is a general fear that the Tragic Trunk will take matters into his own hands (figuratively speaking) by demanding a passionate posting . . .

R.C.A.F. ASSOCIATION

SECOND NATIONAL CONVENTION

Ottawa, May 25th and 26th, 1951

(The Royal Canadian Air Force Association is a veterans' organisation, and the opinions expressed at its Second National Convention do not necessarily represent the policy or views of the Department of National Defence or the Royal Canadian Air Force.)

- Compulsory selective service for the armed forces, industry and agriculture, as well as immediate national registration.
- Fullest co-operation with the Civil Defence Organization.
- Extension and improvement of Air Force Reserve training.
- A standing ovation to Air Vice-Marshal A. L. Morfee, C.B., C.B.E. (ret'd), on his reelection as President by acclamation.
- Encouraging reports on the Association's "Operation Recruiting," a voluntary scheme whereby Wings throughout Canada are aiding in meeting the manning requirements of Canada's expanding Air Force.

These were highlights of the Second National Convention of the Royal Canadian Air Force Association, when more than 100 delegates from the 75 Wings and seven Groups across Canada, representing over 10,000 members, met in Ottawa on May 25th and 26th. Every province was represented; and in a sultry atmosphere attributable only to the weather (as discussions were

amicable throughout) delegates convened for business sessions in the recreation hall of Beaver Barracks, while luncheon, dinner and social gatherings took place in the R.C.A.F. Officers' Mess on Gloucester Street.

* * *

During deliberations, the Hon. Brooke Claxton, Minister of National Defence, warned that the danger of direct air attack was increasing year by year and gave an outline of Canada's present plans for air defence and the development of the R.C.A.F.

Air Vice-Marshal Morfee, opposing a "wall-of-flesh" strategy, emphasized the rôle of air power in the present emergency and forecast the need for selective service for Canadian economic and defence personnel requirements.

Major-General F. F. Worthington, C.B., M.C., M.M. (ret'd), Co-ordinator of Civil Defence, declared that civil defence had come to stay, and deplored the apathy of the majority of Canadians to their danger.

Air Vice-Marshal Douglas M. Smith, C.B.E., Air Member for Technical Services, stated that



The President delivering the opening address.

speed of the build-up of the permanent and reserve Air Force was dictated now not by financial resources but by the physical ability of Canadian and American industry to produce the goods.

Lt. Col. Robert S. Johnson, D.S.C., D.F.C., President of the United States Air Force Association, advised that restricted membership without provision for constant new blood would lead to the gradual withering away of any organization.

OPENING SESSION

Chairman of the two-day Convention was J. Cyril Malone, K.C., of Regina, war-time Group Captain with the R.C.A.F., who has been President of the Saskatchewan Group since its organization two years ago.

Group Capt. R. M. Frayne, director of religious administration (Protestant), in pronouncing the invocation, used the tri-Service order of religious services just approved. Following a brief period of silence in honour of fallen comrades, Air Vice-Marshal Smith brought greetings from the Chief of the Air Staff, expressing the latter's regrets at being unable to attend. Delegates then settled down to detailed deliberations.

Most noteworthy feature of the Friday morning session was the stirring and thought-provoking presidential address of Air Vice-Marshal Morfee.

The full text of his address, in which he reported on the expansion of the Association and its activities during the year, appears elsewhere in this report.

Keynote was that the Association must continue to be of national service, and that its first and foremost rôle is to influence the public on the urgent need of air power and to help build that air power.

"We appreciate," said the President, "that defence must be a co-operative effort by the three Services. Nevertheless, the air arm of the Western World must spearhead our efforts. Our real aim is to deter the aggressor. If we are sufficiently and impressively prepared with those arms that can deter him, we may avoid war. But if any decision has to be sought with Russia, it must be sought by the air arm supported by surface forces and not by surface forces supported by the air arm. We cannot subscribe to a wall-of-flesh strategy."

Unanimously and thunderously approved, with a resolution commending him for his untiring efforts on behalf of the Association, the President's address set the pattern for the deliberations which followed.

Hon. Brooke Claxton.



Throughout the ensuing discussions a spirit of unselfish desire to be of service was evidenced by delegates, a spirit reflecting the motivating force of the Association since its organization by Air Chief Marshal L. S. Breadner, C.B., D.S.C. (ret'd), two years ago. In his words: "It is not what we get out of it, it is what we put into it, which counts."

REPORTS FROM THE GROUPS

Considerable progress during the past year was reported by Group representatives, and condensations of their reports appear elsewhere.

Generally, Groups could point to ever-increasing activities by Wings in support of Reserve units, Air Cadet squadrons, and the R.C.A.F. Benevolent Fund. In the field of public relations, Wings had sponsored prominent Air Force speakers, arranged concerts by R.C.A.F. bands, promoted air shows, established Air Force memorials, participated in Air Force Day, Battle of Britain Sunday, and Remembrance Day, as well as working in support of local flying clubs. Several Wings had already assumed responsibilities connected with civil defence plans.

The greatest problem confronting the Association, and one which is general across Canada, is lack of suitable accommodation. Those Wings which had been successful in acquiring their own premises had been able to undertake many community projects which otherwise would not have been possible.

RESOLUTIONS

First introduced at the Friday afternoon session, resolutions were a main concern from then until the end of the Convention.

On behalf of Graham Morrow, O.B.E., Chairman of the Resolutions Committee, his report and the resolutions were monitored by Air Vice-Marshal Brookes, C.B., O.B.E. (ret'd.), President of the Ontario Group.

The more important resolutions urged:

Selective Service. Introduction of legislation at the earliest possible date for selective service for the Canadian armed forces, industry, and agriculture, and for national registration.

Civil Defence. The fullest support by Wings to the Civil Defence Organization at all levels.

Air Power. Endorsation of the action of the Minister of National Defence in giving development of air power first priority in the present emergency. (The Association reaffirmed its pledge to marshal, both nationally and locally, public support for the R.C.A.F. and the choice of the air weapon as Canada's major contribution under our defence programme.)

Reserve Training. Extensive expansion of R.C.A.F. Reserve training throughout Canada by formation of additional Reserve units and by refamiliarization training at established R.C.A.F. units both for ex-Air Force personnel now on the Supplementary Reserve and for ex-air cadets who are over-age for Air Cadet squadrons.

"Chipmunk". An extension of provisions for refresher training of aircrew, such as the "Chipmunk Scheme" now being operated for pilots by the Royal Canadian Flying Clubs, with the request that members of the Association be given first consideration for such training.

Civilian Employers. More general publicity for the need of co-operation of employers in releasing Reserve personnel for summer training, with public commendation to those employers who so contribute to the Canadian defence programme.

Reserve Pay. Raising of the maximum of 65 days' pay per year for Reserve personnel to give compensation more commensurate with the greater time spent by some personnel with their units.

Reserve Uniforms. Alleviation (either through payment of a uniform allowance or by free issue of working-dress) of the difficulty experienced by Reserve officers in purchasing uniforms.

Accommodation. Extension of the facilities of Army and Navy urban establishments to Wings of the Association for the furtherance of its aims — in view of the lack of Air Force urban accommodation.

Aerodrome Facilities. A review by the Departments of National Defence, Transport, and National Health and Welfare, of aerodrome facilities at strategic centres, with a view to improvement of some where necessary, both from the aspect of military defence and of the air supply and evacuation of such centres in a civil defence emergency.

Air Cadet Trophy. Presentation of an Association trophy for annual nation-wide competition among squadrons of the Air Cadet League.

Cadet Recruiting. An active programme of recruiting for the R.C.A.F. among personnel of Air Cadet squadrons, which has heretofore been contrary to the policy and youth-training purpose of the Air Cadet League.

Cadet Instructors. Accordance to civilian instructors in Air Cadet squadrons, when on flying detail, of the same benefits under the Pension Act as apply for permanent force personnel.

R.C.A.F. Personnel Overseas. A study by the Association of the possibility of setting-up a central supply organization for comforts, gift parcels, and stationery to R.C.A.F. personnel serving overseas.

Recreational Centres. Establishment of recreational centres by Wings for the express purpose of providing Canadian and other air force personnel with recreational facilities and direction in respect to local transportation services, lodgings, meals, etc.

Benevolent Fund. Utmost co-operation by Wings in the work of the R.C.A.F. Benevolent Fund.

Reinstatement in Civil Life. Legislation to ensure reinstatement in civilian employment of Air Force veterans of the

Second World War who are asked to re-enlist or accept short-term commissions during the present expansion programme, similar to legislation providing such security for personnel of the 25th Infantry Brigade Group, now in Korea, and the 27th Infantry Brigade Group, destined for European service.

Service Insurance. Examination by the National Executive of the U.S. legislation which, without cost to the servicemen, provides for a \$10,000 payment to the next-of-kin in addition to gratuity and pension benefits upon death on active service, and a comparison of it with Canadian pension legislation.

Professional Personnel for Services. Setting up by the Department of National Defence, in conjunction with the various professional associations, of a board to procure and assign professional personnel for needs of the armed services, with due regard to needs of the civilian population.

Re-enlistment Ranks. Clarification of Air Force policy

on the ranks that are to be granted to ex-service personnel on re-enlistment or re-appointment to the R.C.A.F.

Ex-P.O.W.'s. Consideration of compensation to prisoners of war of the Second World War for the hardships, privations, and especially the reduced rations they were obliged to endure.

"Canuck." The renaming of Canada's new twin-engine jet aircraft, the CF-100, now known as the "Canuck", to the "Thunderbird".

R.C.A.F. Uniforms. Opposition to any major deviation (under plans for standardization of equipment) from the present distinctive uniform of the R.C.A.F.

"Dominion" to "National." Renaming the Dominion Executive Council and Dominion Headquarters as the "National Executive Council" and "National Headquarters."

W.D.'s on National Executive. An increase in Women's Division representation on the National Executive Council from one to four.

COMPULSORY SELECTIVE SERVICE

Whereas the present world situation demands the utmost sacrifice;
And whereas the voluntary recruiting system has proved to have been exceedingly costly, and in our opinion cannot but prove ineffective;

And whereas the Canadian Legion has gone on record as favouring compulsory military service in Reserve Forces;

BE IT THEREFORE RESOLVED that the R.C.A.F. Association urge the government to introduce legislation at the earliest possible date for compulsory selective service for Canada's Armed Forces, industry and agriculture.

NATIONAL REGISTRATION

Whereas it is considered that the resources of manpower in Canada cannot be efficiently organized until a complete National Registration has been carried out, and proper assessment made of the information gained therefrom;

And whereas experience during the Second World War amply demonstrated the great value of National Registration in connection with control of aliens and subversive elements;

And whereas it would take time to conduct such a large-scale project and interpret the result;
IT IS RESOLVED that this Association make representations to the Government of Canada urging that steps be taken immediately to carry out National Registration.

EXPANSION OF RESERVE TRAINING

With separate resolutions on the subject from all Groups, the most persistent demand was for expansion of Air Force Reserve training.

Delegates pointed out that thousands of ex-Air Force personnel, separated from their war-time trades for from five to seven years, are carried on the rolls of the R.C.A.F. "Supplementary Reserve." Because of the very limited number and the specialized rôles of Air Force Reserve units which have been formed (generally only in the larger cities), such reservists had no real military status or function. Similarly, ex-air cadets who reached the passing-out age of 19 years, and other young men without previous Air Force experience, had few opportunities of continuing or undertaking part-time Air Force training.

During a lengthy discussion, delegates gave little attention to the detailed mechanics of their proposals, but concentrated on demands for a three-point programme of expanded Reserve training:

Formation of additional Reserve units where Department of National Defence accommodation

(whether Navy, Army, or Air Force) is available.

A programme of week-end refamiliarization training at permanent R.C.A.F. units.

Increased facilities for refresher training of ex-aircrew, such as is now being conducted for pilots at flying clubs under the "Chipmunk Scheme," and the extension of such training to other aircrew trades.

To the surprise of some observers, no suggestion was advanced for additional Reserve squadrons. On account of anxiety to see available operational aircraft allocated for the build-up of full-time R.C.A.F. regular force squadrons, consensus of Association opinion has been adverse to the formation of additional Reserve squadrons.

Proposals of the Association received a measure of official support. In a letter to the Association, the Minister of National Defence had advised that, under present plans for expansion, the R.C.A.F. Reserve had "a considerable requirement for additional non-flying units of various kinds."

Air Commodore J. G. Bryans, C.B.E., Deputy Air Member for Air Plans, assured the gathering the R.C.A.F. was "ready to do anything practical to increase and improve the Reserve." But the R.C.A.F. must get a profit out of any scheme. Regular force personnel or already trained reservists could not be wasted in a non-productive effort. Many little pockets, he said, do not bring returns.

In any centre of population, the Air Commodore pointed out, ex-Air Force personnel embrace all trades, and it therefore seems impossible in the smaller centres to form functional Reserve units which could absorb the reservists of those centres. This, coupled with lack of accommodation, was a problem yet to be solved, and consideration was being given to correspondence courses for such Reserve tradesmen. Air Commodore Bryans assured the meeting that suggestions of the Association would be most helpful and would receive careful consideration.

Delegates were urged by the R.C.A.F. representatives particularly to encourage younger men without previous Air Force experience to join the existing Reserve units. "We need young chaps who will be in a fit physical condition and ready to go at a moment's notice, as well as the 'old

Air Vice-Marshal G. E. Brookes.





Air Vice-Marshal D. M. Smith.

timers' of the last war," Air Commodore Bryans emphasized.

Wing Cdr. D. C. S. Macdonald, D.F.C., of Air Force Headquarters, announced that under approved plans a limited number of Reserve technical training units were being formed on an experimental basis; a summer training scheme for reservists at permanent R.C.A.F. units was being initiated this year; and certain extensions of the "Chipmunk Scheme" had been authorized.

The minister, was quoted as saying that the "contribution of the Dominion-wide membership of the R.C.A.F. Association towards the national



Air Vice-Marshal K. M. Guthrie.

defence effort has been invaluable, and the interest being taken in the R.C.A.F. Reserve and the Air Cadets has been most gratifying."

ASSISTANCE TO RECRUITING

R.C.A.F.

"Operation Recruiting" (assistance to R.C.A.F. Recruiting Centres) was welcomed by delegates as something concrete they could "get their teeth into." The Association's plan calls upon all members to be familiar with current manning requirements, and (especially upon Wings located in centres where there are no recruiting units) to establish and operate, on a voluntary basis, recruiting information centres.

J. A. Douglas of North Bay reported that the day after No. 406 Wing's meeting on recruiting, four recruits were turned over to the R.C.A.F. Members of the Wing's recruiting counsellors committee had been "genned up" by the North Bay recruiting officer and were already on the road. He declared: "If you are keen enough when you get back, there should be no hitches whatsoever. I heartily endorse the scheme and urge you all to get your noses to the grindstone. If we can turn over four recruits after the first meeting, where we have a lot of distance to contend with, I think you people in the larger centres can do a lot better."

George V. Tennyson of No. 405 (Timmins, Ont.) Wing, said they were ready to operate. Accommodation had been arranged in the Judges' Chamber of the Town Hall.

No. 411 (Chatham, Ont.) Wing had received authorization from the City Council to use the old County Council chambers for its recruiting information centre.

John I. Stewart, of No. 703 (Red Deer, Alta.) Wing, said the Wing had its own recruiting centre and was getting an average of one man per day.

Patrick Haberlin, of No. 302 (City of Quebec) Wing, asserted: "When I get back and report, there is going to be a blast which will wake up the city."

Air Vice-Marshal K. M. Guthrie, C.B., C.B.E. (ret'd.), reported that Alberta Wings were setting

up committees and that every member would carry with him or her a booklet on terms of service and act as individual recruiting units in outlying districts. British Columbia Wings had welcomed the scheme. J. H. Norton, M.B.E., of Vancouver, reported that ten days after it was proposed, one Wing member alone had sent five prospective recruits to the R.C.A.F.

Enthusiasm which Wings throughout the country were showing for the scheme was reflected in other similar comments. Wing Cdr. W. F. Parks, D.F.C., Deputy Director of Reserve and Manning at A.F.H.Q., in expressing his appreciation, assured delegates that all recruiting centres were most anxious to receive such assistance. "They will provide every possible facility to make your task lighter so that you can help us to the greatest possible extent," he said.

Air Cadets

Ever-increasing support of the Association to the Air Cadet League of Canada, recognized as one of the primary aims of the Association, was evident during discussions.

Many Wings have assumed active sponsorship of Air Cadet squadrons, or are working closely in support of the original civilian sponsoring committees. Other Wings are at present organizing new squadrons. Members of the Association have in increasing numbers undertaken instructional duties with the squadrons, and for Air Cadet personnel Wings have provided scholarships to the Canadian Services Colleges as well as Flying Scholarships.

Delegates endorsed a proposal to provide an Association trophy as a proficiency award to be competed for annually on a national scale by Air Cadet Squadrons.

It is of interest to note that of the total intake into the R.C.A.F. during the years 1949 and 1950, the Air Cadet League reports that the following percentages were former air cadets:

R.C.A.F. (Regular): Groundcrew 11.6%, aircrew 22.6%
R.C.A.F. (Reserve): Groundcrew 10.36%, aircrew 5%

An explanation of the seemingly low percentage of the aircrew intake into the Reserve is that until



J. C. Malone, K.C.

the latter part of the period surveyed there were practically no vacancies.

The League has reason to believe that these percentages have been even higher for recent intakes. It will readily be seen that the contribution of pre-trained personnel from Air Cadet squadrons has been a substantial one, despite the fact that the League's avowed purpose has been one of youth-training in citizenship and character.

In commenting on the Association's resolution for an active programme of recruiting among Air Cadet personnel, Air Cadet League officials assured the meeting that, with the international situation as it is, the League too (though not without regret) has accepted the fact that they must temporarily assume the rôle of a youth-recruiting organization.

TRIBUTE TO THE GRAND PRESIDENT

It was a matter of sincere regret to delegates that the founder and organizer of the Association

was unable to attend the convention. Wings expressed their esteem by presentation of a silver rose bowl, inscribed:

"To Air Chief Marshal L. S. Breadner, C.B., D.S.C., from his friends in the Royal Canadian Air Force Association in appreciation of his leadership in organizing the Association."

In a letter received from the Air Chief Marshal while this report was being written, he says:

I greatly regret having been prevented from attending the Second National Convention of our Association. From reports reaching me, I have reason to believe not only that the convention was a success, but that in your deliberations and recommendations

Major-General F. F. Worthington addressing the Convention.



you carried out the high purpose for which the Association was founded.

Mrs. Breadner and I wish to express our sincere appreciation for the magnificent silver rose bowl. I take this opportunity also to congratulate you upon the continued growth of the Association, and wish you every success for the future.

PRESENTATION TO THE ASSOCIATION

On behalf of the County Borough of Bournemouth, England, J. D. McNee, M.B.E., of the Canadian Pacific Railways, presented to the Association a mounted set of photographs of the "Hall of Memory" which has been established in the Town Hall of Bournemouth. Site of the R.C.A.F. Personnel Reception Centre, the city has special memories for members of the R.C.A.F. who served overseas, and a plaque has been placed

Air. Cdre. R. C. Ripley. Seated: R. S. McCartney.



Lt. Col. Robert S. Johnson giving his address.

in the Hall in commemoration of the many thousands of aircrew and groundcrew who were stationed at Bournemouth during the war.

DRESS AND INSIGNIA

Many delegates at the Convention were sporting new items of Association dress, a smart Air Force style wedge cap and blue blazers complete with the badge and buttons of the Association.

Tribute was paid to the work of the Dress and Insignia Committee, under the Chairmanship of C. H. Link, M.B.E., of Montreal, who showed to delegates proposed Association banners and emblems. Other items under consideration were arm bands, ties, and decalcomanias.

NEW NATIONAL EXECUTIVE

During the final session on Saturday afternoon, ballots were cast for election of officers of the National Executive Council. There was unanimous acclaim for the re-election of Grand President Air Chief Marshal Breadner and President





The central feature of the scheme is the bronze Shrine enclosing the Books of Remembrance recording the names of the Fallen of both the first and second World Wars. This Shrine has a glazed front and is illuminated internally. On the polished mahogany lectern in front are copies of the Books for the use of the public. One book only is shown in the photograph.

The bronze tablet on the left and the framed parchment on the right of the Shrine record the names of the staff of the Local Authority who gave their lives in the two wars.

The tablet over the Shrine reads "This Hall of Memory is dedicated to the memory of all those who suffered in the cause of freedom. The whole of this work, and the laurel wreath frieze, is carried out in fibrous plaster lightly tinted. The inverted torch at each side symbolises resurrection after death."



Shrine showing glazed front open and Books of Remembrance



On this wall, which is opposite the Shrine, are two plastic plaques, one presented by the Air Ministry in recognition of "Wings for Victory Week" and the other presented by the War Office in recognition of "Salute the Soldier Week."

The centre panel is of polished African mahogany. This contains, on the left a carved oak plaque recording the work of the various sections of the Bournemouth War Services Organisation and, on the right, a bronze panel in commemoration of the men of the Canadian Royal Air Force stationed in Bournemouth (see close-up). In the centre is the shield presented by the Lords Commissioners of the Admiralty to commemorate the adoption of the warship H.M.S. Pheobe.



A close-up of the Royal Canadian Air Force Plaque

HALL OF MEMORY

After the cessation of hostilities it was decided that the War Memorial to the Fallen should be in the form of an additional bronze tablet on the existing stone War Memorial in the Public Gardens in the centre of Bournemouth. To preserve in perpetuity the names of the fallen, an inscribed vellum book was placed in the Town Hall in the bronze Shrine provided after the 1914-18 war to record the names of the Fallen.

In view of all the other associations of the town with the war it was decided to accommodate all the plaques, etc., in connection with the two World Wars in the Town Hall, and a space opposite the Mayor's Parlour, opening off the main corridor, has been remodelled as a "Hall of Memory."

This Hall is permanently illuminated with a soft golden light from a flush daylight in the ceiling, the general colour scheme being a soft grey, with black and white marbled rubber floor. The lectern and woodwork generally is polished African mahogany.

The Hall of Memory.

Air Vice-Marshal A. L. Morfee. The Executive for the present term of office is as follows:

Grand President: Air Chief Marshal L. S. Breadner, C.B., D.S.C.

President: Air Vice-Marshal A. L. Morfee, C.B., C.B.E.

1st Vice-President: Air Vice-Marshal Adelard Raymond, C.B.E.

2nd Vice-President: R. S. Godfrey.

3rd Vice-President: Paul E. Burden.

4th Vice-President (Financial): Air Vice-Marshal K. G. Nairn, C.B.

Chairman: J. Cyril Malone, K.C.

Vice-Chairman: Air Vice-Marshal K. M. Guthrie, C.B., C.B.E.

Legal Advisor: Graham Morrow, O.B.E.

W. D. Representatives (National): Mrs. E. A. Hall

(Eastern): Miss Ruth Vogler

(Central): Miss Lillian Smith

(Western): Miss Evelyn Halliday



National Executive, 1951-50. Left to right: Paul E. Burden, Lillian Smith, Air Vice-Marshal K. M. Guthrie, Evelyn Halliday, Air Vice-Marshal A. L. Morfee, Ruth Vogler, R. S. Godfrey, J. Cyril Malone, K.C., (Not shown: Air Chief Marshal L. S. Breadner, Air Vice-Marshal Adelard Raymond, Air Vice-Marshal K. G. Nairn, Graham Morrow, Mrs. E. A. Hall.)

GROUP REPRESENTATIVES

(Elected earlier at Group meetings)

Maritimes: H. W. Aslin, C. Y. Swanton.

Quebec: Air Vice-Marshal C. M. McEwen, C.B., D.F.C., M.C.; C. H. Link, M.B.E.

Ontario: Air Vice-Marshal G. E. Brookes, C.B., O.B.E.; Ralph M. Christie.

Manitoba and North-Western Ontario: E. O. W. Hall.

Saskatchewan: J. Cyril Malone, K.C.

Alberta: Air Vice-Marshal K. M. Guthrie, C.B., C.B.E.

British Columbia: Air Cdre. A. D. Bell-Irving, O.B.E., M.C.

CLOSING REMARKS

Before adjourning, the Convention gave formal expression of appreciation to a number of people and organizations, including the Chief of the Air Staff and personnel of the R.C.A.F. regular force; the Canadian Legion; the Army, Navy and Air Force Veterans Association; the National

President; the co-Chairmen, J. C. Malone and Air Vice-Marshal G. E. Brookes; National Headquarters staff; and Air Force observers.

Air Commodore R. C. Ripley, O.B.E., Assistant Chief of the Air Staff, and senior Air Force observer during the Convention, expressed on behalf of the Chief of the Air Staff sincere thanks for the work the Association was doing and for the programme the Convention had decided to undertake for the future. "I am sure you will carry it out," he said, "not only to the best of your ability but in a fashion which will be a surprise even to you."

Then, with the singing of the National Anthem, the Second National Convention of the R.C.A.F. Association came to a close, and the delegates left for their various homes across Canada, secure in the knowledge that the R.C.A.F. Association had come to stay.



Left to right: Harry W. R. Sayers, Miss Ruth Vogler, G. M. Gillespie, Miss Hilda M. Thompson, and H. B. Jewett enjoy Friday evening's dinner.

Casting ballots. Left to right: J. S. Clarke, F. R. Siddal, P. F. Connell.



CONVENTION SIDELIGHTS

In handing over the gavel to Chairman Malone, the National President told an amusing story on himself. He had given a long-distance interview for the radio over the telephone, and walking back to the room where he had the radio tuned to the programme, he heard the announcer continue: "Well, now that we have heard what Air Vice-Marshal Morfee had to say, I'm sure you would like to hear some music." The President handed the gavel to the Chairman with: "Carry on, maestro!"



National Secretary Bob McCartney was of two minds about the change in name of the CF-100 from "Canuck" to "Thunderbird." During the war he was adjutant of No. 426 (Thunderbird) Squadron, and also of No. 436 (Elephant) Squadron, of Burma fame, better known as "Canucks Unlimited."

* * *

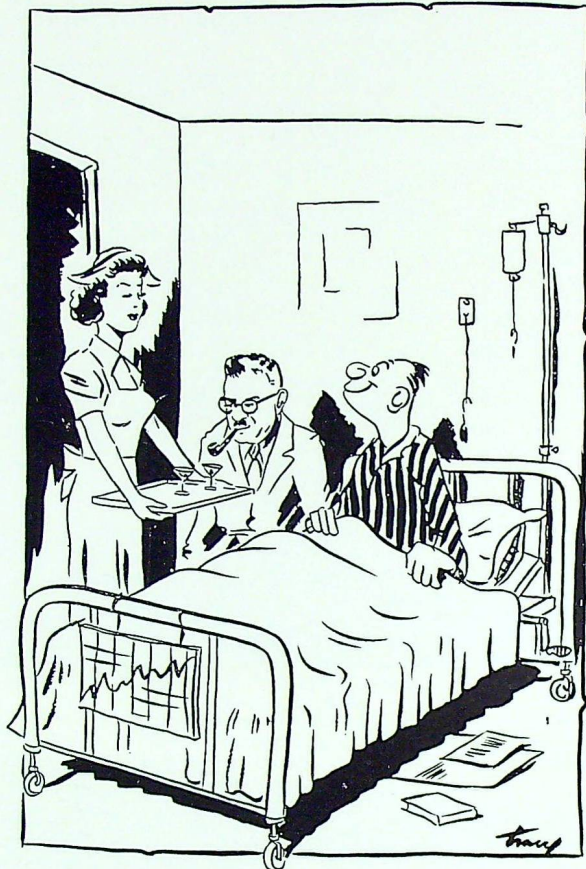
The Manitoba and North-western Ontario Group took a very serious view of R.C.A.F.A. conventions, said Dufferin Roblin of Winnipeg. "In order to mark properly the first one held last year, we arranged the biggest flood that the Red River has had for about 100 years. The truth is, however, that it got a little too big for us and we had to stay at home and look after it. Therefore we are glad to be here to-day, particularly because we want to say 'thanks' to those people who helped us during that time."

* * *

Stephen Jones, of Mount Forest, Ontario, was another delegate who arranged to make two important events coincide. On the Saturday of the Convention he took unto himself a wife.

* * *

The National President, telling of a visit to Ernie Hall of Charleswood, Man., said: "I went to see him in hospital and he pushed the button to summon the nurse. She put her head in at the door and said: 'What do you want — a couple of glasses?' We hope that Ernie is improving and will be with us on future occasions."



Did Nick Carrie of Winnipeg ever find that Kebab and Turkish coffee he was looking for?

* * *

When is a man too old to be a jet pilot? Wing Commander Macdonald, referring to problems in operating Reserve squadrons, said; "It will be more difficult every year as our pilots pass the age of 29 and become — as jet pilots — virtually useless."

Lt. Col. Robert Johnson said that, at Republic Aviation (makers of the Thunderjet) the chief pilot of the flight test section is a grandfather, well in his forties. "He is doing a bang-up job and can match any of the younger pilots."

Archie Snetsinger, of Kitchener, Ont., suggested opening up the age limit in view of the recent accomplishment of Air Vice-Marshal A. T. N. Cowley, C.B.E. (ret'd.), a member of R.C.A.F.A., who, at 62, became the oldest known jet pilot in the world.

Air Vice-Marshal Guthrie said that a personnel staff officer had told him that for aircrew "old age sets in at 25, has definitely caught up with you at 29, you're burnt out from 30 to 39, and from then on it's a matter of straight senile decay." He observed: "It's a bit discouraging for a fellow of 35, but he has to realize that he is now an old man."

THE ADDRESSES

Air Vice-Marshal A. L. Morfee, C.B., C.B.E.

"Last year delegates were welcomed to our First National Convention by our Grand President, Air Chief Marshal Breadner. It is my privilege to welcome you to our Second National Convention, and to thank you all for your attendance here to-day. The changes and developments in our Association will, I believe, be unfolded before you during our deliberations. There are some points on which I wish to report, and I am going to take the liberty also of expressing a few personal observations which go beyond the scope of a report from your Executive.

Administration and Public Relations

"During the past year I have visited many Wings — a few in Ontario, all those west of the Great Lakes, and most of those in the Maritimes. The number of our Wings and our membership is increasing. We now have seventy-five chartered Wings throughout Canada, an increase of twenty since March 31st of last year. We now are represented by Wings in Prince Edward Island and in our new province of Newfoundland. Rather diffidently, I suggest congratulations are especially due the Maritime Group, which, under able and enthusiastic leadership, has increased its Wings since the last Convention a year ago from nine to eighteen. Our total membership has now reached well over 10,000, an increase of about thirty percent during the past year.

"There have not been any major changes in the organization since last year. You are aware of the changes in the Executive Officers of the Groups as a result of your Conventions held in March, and I would like to take this opportunity to express my sincere thanks to Wing Commander Bert Aslin, Past President of the Maritime Group; Wing Commander Bob Morrow, Past President of the Quebec Group; Flight Lieutenant Ken Gildner, of Northern Ontario, who has rejoined the R.C.A.F.; Group Captain Bill Hanna, Past President of Manitoba-Northern Ontario Group and Air Vice-Marshal George Howsam, Past President of the Alberta Group, all of whom have

untiringly given their time to the Association since its organization.

"Our relations with the R.C.A.F. have continued to be most cordial, and the support we have received from Air Marshal Curtis and his officers is most gratefully acknowledged. As in the past, we are indebted to the Reserve Air Force, Navy, and Army units, and the various other veterans' organizations in the country. I would like also to mention the excellent co-operation we have received from the Radio and Press. They have been most co-operative and have given us a great deal of valuable publicity.

"Speaking of publicity, I have been pleased to see in newspaper cuttings that a number of our Wings turned out on last Remembrance Day wearing the insignia of the Association. I hope all members will endeavour to provide themselves with the appropriate items. We have a display here, and there will be an opportunity later for you to express your ideas in this regard.

Aims and Objects

"The backbone of our organization is the Wing. It is through the Wing that we can foster the spirit of fellowship among those who served in the R.C.A.F. The Wing must be active, meet regularly and (if at all possible) have quarters, permanent or temporary. What has been achieved by some Wings can be done elsewhere. There are often difficulties, it is too true, but I feel they can be surmounted if the leadership is found.

"Much can be done in support of the R.C.A.F., the Reserve, and the Air Cadets. Generally the support of the public must be sought and publicity be obtained through the sponsoring of local public projects. There is a vast opportunity for service in the support of Air Cadet squadrons, and we already have, to my knowledge, at least fourteen Air Cadet squadrons sponsored or supported by R.C.A.F. Association Wings. In this regard you will be interested to learn that the Executive, being sure of your support, offered to sponsor a trophy to be competed for on a national scale by Air Cadet squadrons. I had the privilege of announcing this award at the Annual Meeting of the Air Cadet League in March. It was welcomed



Counting votes. Left (front to back): Miss Devost, B. E. Crane, R. C. Mason, F. Spelliscy. Right (front to back): H. W. R. Sayers, Miss C. Lascelles, P. F. Connell, J. H. Giguère.

enthusiastically. We have appointed a committee under the chairmanship of Air Vice-Marshal Brookes to work out the basis on which the trophy will be awarded and the form which it shall take.

"There is also the question of participation, either independently or in co-operation with local R.C.A.F. units, in the activities of Air Force Day and Battle of Britain Sunday. Too often the chance to perpetuate the glorious traditions of the R.C.A.F. on Battle of Britain Sunday is neglected. Some Wings have made a wonderful showing in this direction, and there is no doubt that all Wings could at least contribute a modest effort.

"Then there is the demand for our help and co-operation in the matter of civil defence. From my own knowledge, leadership by a responsible group is welcomed. And last but not least is our latest plan to co-operate with the R.C.A.F. in the recruiting drive.

"All these activities I commend to you.

Air Power

"The international situation is critical. We cannot feel that the outlook is better now than a year ago. We are, in fact, at war. Precariously, the fighting war is being kept within limited bounds. National security has become the most urgent consideration. In conformity with the aims of our Association, representations were made concerning the seeming inadequacy of Canada's air arm. Some of these representations were in the

form of resolutions passed at the last National Convention, others have been made by your Executive in the assurance that we were expressing the views of our membership as a whole.

"It is, I am sure, a matter of great satisfaction to the members of the Association that so much is being done in Canada to implement the course of action we have advocated. Emphasis is on air power. We are witnessing a build-up of the R.C.A.F., the Reserve, the Air Cadets, and the aircraft industry in Canada. The introduction of women into the R.C.A.F. (now being effected) has long been advocated.

"While we cannot claim responsibility, we did have our say towards this greater concentration on 'air' in the build-up of Canada's defence forces. Our views have largely prevailed under the test of public support and the democratic system of our legislature. To the extent that we can influence the public, we shall be effective. It therefore rests with us to continue to propound sound principles concerning air power, to do it well, and with a serious realization of our responsibility.

"Let us not, however, lose sight of an overall concept. Defence is a matter for the three sister Services. Steps have been taken to provide meetings between representatives of the Army Defence Associations, the Naval Officers' Associations, and our Association, with a view to subscribing to a unified policy, especially where we find ourselves on common ground.

"Nevertheless, we are convinced that the air arm of the Western World should spearhead our efforts, not only to win a decision should all-out war prove inevitable, but what is more important still, to ensure that we are so impressively prepared with those arms that *can* deter an aggressor, that war can be avoided at no sacrifice to our way of life.

National Registration

"Since our last Convention we have seen the question of compulsory service in reserve forces come to public attention. I was asked to make statements on this issue, but refused, since, regardless of my personal views, I felt that any expression of opinion would be interpreted as the feelings of the Association. I had no mandate to



Maritime delegates. Front row (left to right): G. E. Daine, Zoel Clavette, J. B. Estey, B. B. Stead, C. Y. Swanton, P. F. Connell, G. M. Mulholland, E. B. Fitzgerald. Centre row (left to right): Miss Hilda M. Thompson, J. J. Pottier, H. B. Jewett, W. A. Gilbert, G. M. Gillespie, G. A. Hart, S. M. McLinnis, P. E. Burden, Robert Cumming. Back row (left to right): E. R. Crocker, Malcolm S. Brooks, C. A. Dingwall, J. A. MacDonald, A. F. Wigglesworth, J. M. Lutes, R. Grouchy.

speak for the Association one way or the other. I have no hesitation, however, in expressing to you, as members of the Association, my own thoughts on this subject, and I look forward to hearing yours. Might I point out firstly that, in the minds of the public, in the write-ups in the Press, and even in debates in the House of Commons, 'compulsory military service' and 'compulsory military service in the reserve forces' has been confused. In so far as the Air Force is concerned, it seems evident to me (and it must to you too) that to build up our Reserve units we do not need compulsory training. What we want are more Reserve units. We have ample volunteers, but our volunteers, for lack of R.C.A.F. Reserve units, are joining the Army Reserve in considerable numbers in their anxiety to serve.

"As to compulsory military service with our regular forces, we must remember that not only

the demands of the armed services must be met, but the demands of the supporting economy of the country — industry and agriculture — must also be met.

"We have controls established to ensure the efficient utilization of certain commodities — steel is one. The power is available to extend such controls to other commodities. Surely the commodity that is in shortest supply, especially under the present conditions of our expanding economy, is man-power. Why not some control for the efficient utilization of our man-power? I would suggest that what we may have to come to is, not compulsory reserve training, not compulsory military service, but compulsory selective service for the armed forces, for industry, and for agriculture, and that we should be preparing now for this necessity by a survey of our man-power by national registration.

Conclusion

"In these trying times, when we are in fact at war on a limited scale, it is the duty of all members to think seriously of the needs of defence. A heavy responsibility rests with citizens privileged as you are with special knowledge to use your influence in contact with the public, and through your Wings, via the medium of our Convention, to see that sane responsible resolutions are forthcoming. Such resolutions must not be inspired by selfish or sectional demands, but by a conscientious patriotic desire to see that the defence of Canada, and Canada's contribution to the defence of democracy under United Nations and regional pacts, receive due and proper consideration in all their phases. We appreciate that defence must be a

co-operative effort by the three Services. However, if a successful decision must be sought with Russia, we are convinced that it must be attained by air power supported by surface forces, and not by surface forces supported by air power. We cannot subscribe to a wall-of-flesh strategy."

Hon. Brooke Claxton, Minister of National Defence

"Unfortunately I could not be with you last night. I had to be on the floor of the House of Commons to answer questions on National Defence Estimates. I hope to-day I will be able to answer more questions, because in accounting for \$1,879-million, the figure available for defence for 1951-52, it is only right and proper that the people

Quebec delegates. Front row (left to right): G. R. Ellis, R. E. Meyer, Mrs. A. M. Hodgson, J. René Gauthier, Miss M. T. Jamieson, W. J. Campbell, Back row (left to right): G. G. Harrison, J. L. Grenier, C. H. Link, Patrick Haberlin.



The Roundel

should, through their representatives, have a full explanation of everything — and I can assure you that it is my intention to explain everything possible.

“Perhaps the easiest way to proceed is for you to imagine that behind me there is a map of Canada. Up here we have Siberia, Alaska and the Rocky Mountains. Then, of course, on this side there is Northern Europe, Spitzbergen, Greenland, Labrador, the St. Lawrence Gulf, and the industrial heartland of the North American Continent. I think it is a good thing to keep that map in mind, because the primary object of our national defence is the immediate defence of Canada and of North America against direct attack.

“The possibility of that attack is, of course, increasing year by year with the increase in the range and effectiveness of offensive weapons. We don't know exactly how many aircraft the Russians have, but we do know that they have a considerable number with performance comparable to the B-29.

“We assume they have the atom bomb, and have some evidence to support that assumption. We do not think that they have very many of them, probably a relatively small stock-pile. But if you are going to get bombed by an atom bomb, it does not matter very much whether you are hit by one or two. One is usually enough.

“However, the number of aircraft and the possible number of bombs affects the selection of targets. Even if they have only a few bombs it is virtually certain that a number will be used against North America, but how many of those might be used against Canada is a matter of estimation. However, any attack would almost certainly be across Canada.

“I understand that people going out on long-range bombing missions have alternative targets, so that, if by reason of weather or any other obstacle they cannot get through to their primary target, they can drop their eggs on the nearer alternative target; and if you get hit by an atom bomb, the question of whether you are a primary or an alternative target is quite academic.

“It is obvious that there are two most likely lines of attack. The first is from the north-west,

from the airfields we know the Russians have in Siberia, either across the Aleutians and down the west coast to strike at targets on the west coast, or across Alaska, down approximately the route of the North-West Highway, east of Edmonton, and so on into the industrial centres. The other route would be from North Europe across Spitzbergen, Iceland, Greenland, Labrador, and so on down.

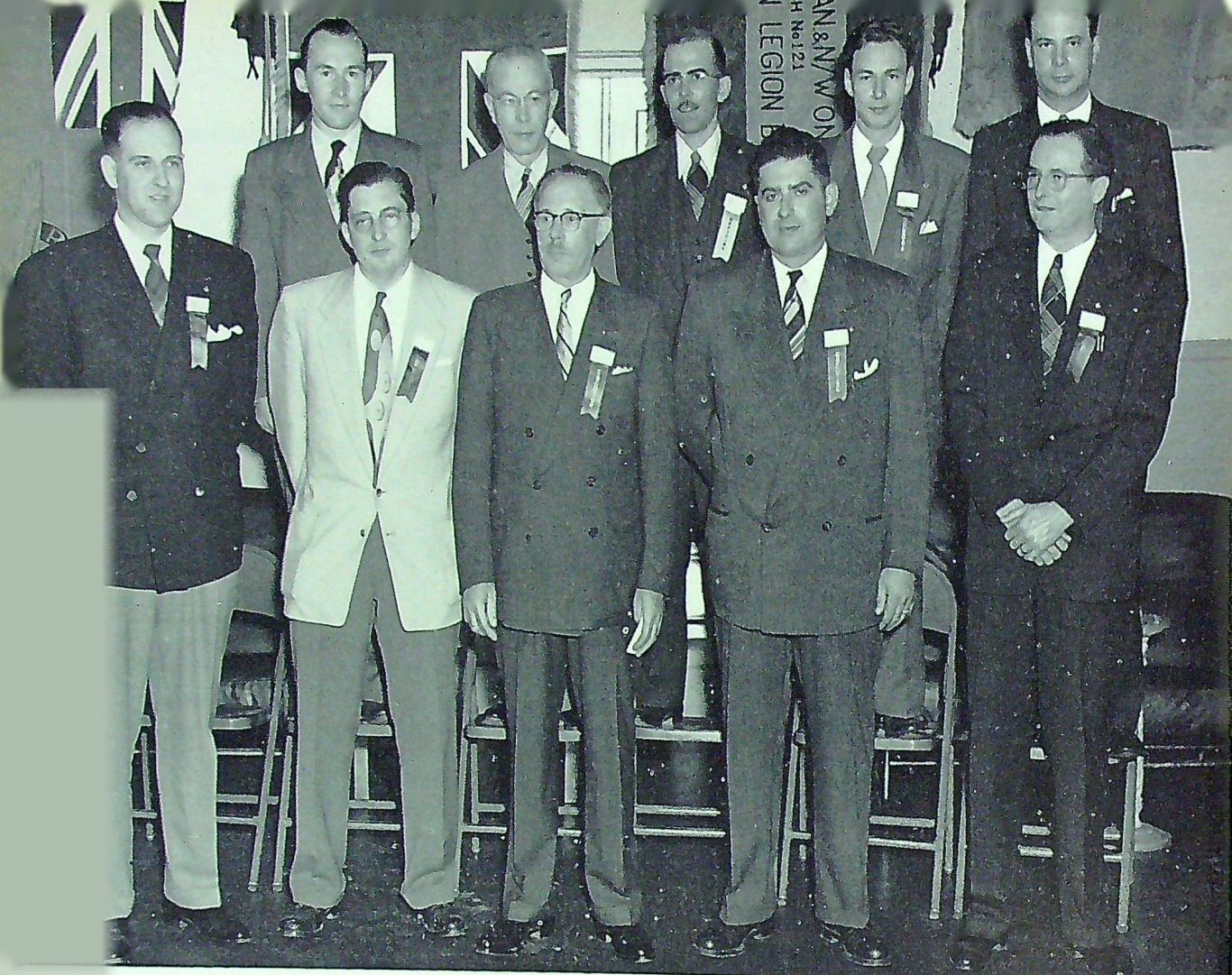
“The possibility of attack over the top seems less likely because the distances are very great, the weather is bad, flying conditions are extremely difficult, navigation is hazardous, and the objectives can be attained better by either of the other routes.

“To meet the possibility of attack, we have worked out with the United States a plan which is now being pressed forward. It is quite impossible to make the 7,000,000 square miles of North America impregnable. It could not be done even with the very limited areas of Britain or Germany, and what has to be done is to select routes and possible targets and give them as much protection as we can afford to give.

“It has been stated publicly in the United States that there are only two or three dozen really vital targets in North America. Therefore, if there are only that many in North America, you can see that there are not a great number in Canada. I cannot, of course, give you the list that has been worked out.

“Our object is to work with our American friends to effect a chain of defences which will cover these and at the same time afford the Americans maximum coverage of the industrial areas and the vital targets in the United States.

“To this end we have worked out a plan involving close co-ordination of the team of the three factors involved: radar, communications, and fighters. In the way of radar, we are engaged with the United States on building a chain of the largest and most powerful and most complicated sets. I remember telling you last year that each one of them costs at least \$3,000,000. I visited one of the first of these to be put in operation in the United States, and it cost \$6,000,000. It takes several hundred men to operate it.



Ontario delegates. Front row (left to right): W. G. Farndale, W. A. Ballard, Air Vice-Marshal G. E. Brookes, Ralph M. Christie, Morgan Brown. Back row (left to right): L. G. Greer, W. J. Roulston, Harry W. R. Sayers, W. V. Kearns, R. E. Apps.

"The installations, however, are useless without a network of communications; and with our American friends we are at work on that too. We have most of the fixed communications needed, but these will have to be extended with micro-wave and other facilities of that kind.

"Finally, there is the fighter interceptor. We are building the F-86E at Canadair Limited and the CF-100, or Canuck, at A. V. Roe. The production on the F-86E is coming along very well. We produced the first of this type at the same time as the North American Aviation Company produced the first of the same type for the Americans.

That was in last January, and we did it although designs, blueprints, some master tooling and much equipment had to come from the United States. This was quite a feat of really first-class production. We will be into production at the maximum planned rate this summer.

"I remember that when I was here last year, I said we were spending \$40,000,000 on aircraft in 1950-51. This year we plan to spend, if we can get the equipment from the United States, about eight times as much.

"To meet our expanded programme, we are going to have to get more basic trainers. We are

The Roundel

borrowing from the United States one hundred T-6's, the modern equivalent of the Harvard. We will be producing Harvards in large numbers, we hope, by the end of the year, and will repay the United States the one hundred we got in kind. We will also be acquiring T-33 trainers, which are the two-seater equivalent of the Shooting Star, and will be adapting our own two-seater CF-100 for training purposes. Altogether the programme involves the acquisition by, or construction in, Canada of over 3,000 aircraft.

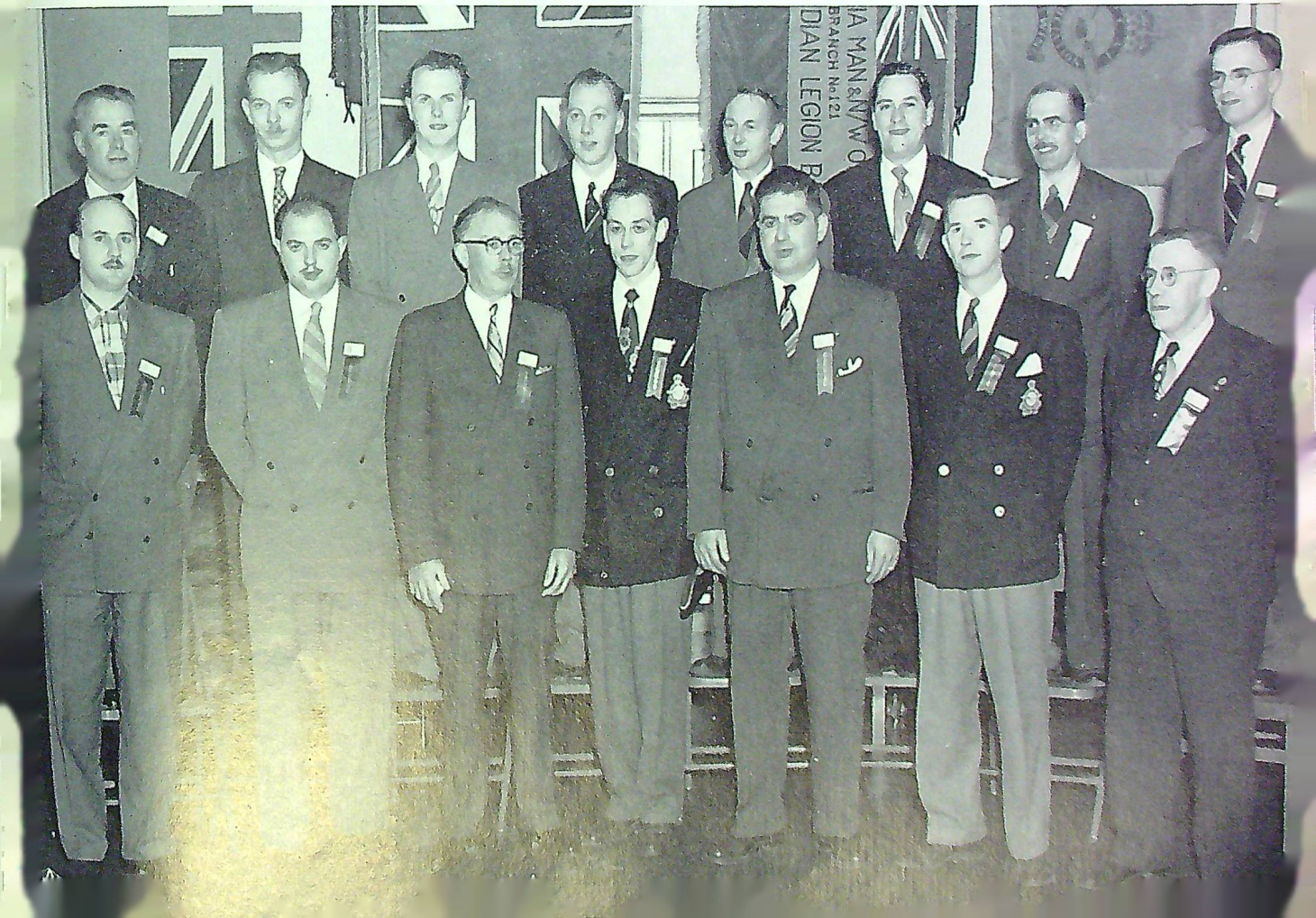
"We will also at the same time be building up the accommodation necessary to do both this and the equally necessary job of air training. Last year I spoke about our having in training a total of

1,308 aircrew. Our present plans call for the production — which is quite a different thing from 'having in training' — of over 3000 aircrew a year, of whom some 1,400 will be for the North Atlantic Treaty Nations, including Britain, and the balance for ourselves.

"To accomplish this job we have to reactivate seven schools. Flying training schools will be established at Gimli (later it will become an advanced training school), Claresholme, Penhold and Moose Jaw. Advanced schools will be at Portage la Prairie and Saskatoon, and a gunnery school at Macdonald, Manitoba. A navigation school will open at Stevenson Field, Winnipeg.

"We are building a very large gunnery

More Ontario delegates. Front row (left to right): C. W. Hockridge, H. E. Kelly, Air Vice-Marshal G. E. Brookes, Evan Callas, Ralph M. Christie, George O. Ball, E. J. Bateson. Back row (left to right): E. B. Turland, J. C. Taylor, L. N. Baldock, A. J. Stansbury, John D. Godwin, V. P. Lawrence, Harry W. R. Sayers, A. V. Webster.





And still more Ontario delegates. Front row (left to right): Michael Werbiski, John T. Kendall, W. H. Cutten, John A. T. Simpson, Air Vice-Marshal G. E. Brookes, Miss E. M. Moles, Ralph M. Christie, A. J. Snetsinger, E. D. Hainer, F. J. Ellis. Back row (left to right): Henry C. Keam, D. A. Hall, Earl P. Dagenais, George V. Tennyson, J. A. Douglas, Stephen Jones, John A. Collyer, George G. Dawber, Harry W. R. Sayers.

range at the northern limits of Saskatchewan and Alberta, for which many millions have been provided. That will begin by having an area of over 1000 square miles.

"Interested parties in the neighbourhood of the 56 war-time schools across the country have made representations to have each and every one opened. Most schools, however, are being established on the prairies because of better weather for flying and more suitable terrain for forced landings. Eastern Canada receives the benefits of expenditures for equipment; British Columbia and the Maritimes are the natural spheres of interest of the Navy; the non-industrial West is getting the advantages of the schools. As far as possible, the "burdens and advantages" of the defence programme are being distributed to all parts of Canada.

"The total amount of construction required may be gathered when I tell you that last year I mentioned that our construction plans involved an expenditure of \$90-million, and I think there was a considerable gasp at that figure. Our plans

require for construction some \$330-million, much of which will actually be spent this year.

"I have mentioned the rôle of the Air Force in the defence of Canada, but in addition we have the rôle of building up our forces to help in carrying out any undertakings made by Canada under the North Atlantic Treaty or the United Nations Charter. In connection with the Charter of the United Nations, we are, as you know, supplying the airlift of No. 426 Squadron's twelve North Stars to Japan.

"They have done a really magnificent job, showing that the R.C.A.F. (as regards aircrew, groundcrew, and aircraft) is able to carry out a very difficult undertaking efficiently, expeditiously and safely. They have had no losses of aircraft in this very difficult operation. During this period they have flown the 13,000-mile round trip without any difficulties except those inherent in the nature of the weather itself. They have carried a good deal more personnel and freight than the same squadron did during its whole service overseas in the Second World War.

"In connection with the North Atlantic Treaty, we have agreed to contribute eleven squadrons to the integrated force. The first of these is now at Odiham, England, completing operational training. It will be followed by others this year, and then the build-up will be steady.

"We are also contributing to the North Atlantic Treaty the training of the aircrews I have mentioned, and of course an Army brigade group, and a great deal of equipment. We have either transferred, or agreed to transfer, equipment for three divisions, as well as a good deal of other equipment.

"Now, to complete the picture, the rôle of the Navy is, of course, the defence of our own coasts, mine sweeping and anti-submarine escort work, just as in the Second World War. To do this job, we are building up the fleet to a total of 100 vessels, including a number of the latest anti-submarine vessels, mine sweepers, destroyers re-equipped as anti-submarine vessels, frigates, and small boats, all refitted, rearmed and re-equipped.

"The programme this year has \$1,879-million available to meet it. That is four times as much as the figure I announced to you this time last year, namely \$425-million. It is one which will stretch the resources of our country. It makes the expenditures of Canada on defence nearly 50% of the national budget, 12% of the national income, 9% of the gross national production, about \$136 per capita.

"When comparisons are made of defence expenditures between different countries — and I do not like making them, because it is impossible to be fair, nor do I think it makes for unity or increases each other's activities — it can be said with complete accuracy to-day that, among the North Atlantic Treaty or the British Commonwealth nations, Canada is spending at a rate second only to that of the United States, on any basis of comparison.

"This is involving a great build-up of manpower. In 1947, we had in the three armed services 33,000 men — 7,000 in the Navy, 14,000 in the Army, and 12,000 in the Air Force. Now we have 75,000 men, of which 11,000 are in the Navy, 35,000 in the Army, and 25,000 in the Air Force. We will be

building these up to a total of more than 115,000 by 1954. We have taken in 28,000 in the last ten months, and at the current rate we should reach the target I just mentioned in 1952.

"At the present time, the R.C.A.F. has been recruiting more than 1,000 a month, and it is getting the men it needs as aircrew to keep the schools occupied as fast as we can develop the schools and provide the aircraft for them.

"In addition to the 75,000 we now have on strength full-time for the Navy, Army and Air Force, we have 33,000 civilians in the Department, about half of whom are what we call prevailing-rate employees. They work in the dockyards and shops, and so on, on the same basis as other employees work for other employers at hourly rates; and to a considerable degree they are tradesmen. The other half are civil servants.

"The policy is to do as much as we can by civilians, reserving for the active forces as much as we can of the job of actual Service administration, training and operations, so that in the event of war we would have as many men fully equipped, fit, and of an age to carry on the duties of their rank in an appropriate way either in the field, in the air, at sea, or in administration, for at least the first year of the war. On that account, we are continuing the policy of retiring Service personnel at an earlier age than in civilian life.

"In addition we have in the reserve forces of the three Services a total of about 56,000, so that altogether there is something of the magnitude of 160,000 engaged full-time or part time on the business of our national defence to-day.

"In recruiting for the new 27th Canadian Infantry Brigade, we are using the method of selecting a number of reserve Army units, each to raise part of the force. In that way it will spread the geographical interest. It will develop interest on the part of the unit, and after the scheme has been in effect three or four years, it should provide each unit with a very considerable proportion of its total mobilization establishments of fully trained and experienced soldiers. All units entered most heartily into this plan, and to-day we have taken on strength over 5,000 and have had over 9,000 applications.

"We have already in sight more than the strength of the original brigade, but we do not want to stop there. We want all the men we can get for the Army as well as for the Navy and Air Force. In that way, we will accomplish our targets much earlier and make our contribution to security that much greater.

"We are getting out a White Paper describing this and giving figures on the cost to-day. It will be revised in the light of discussion going on in Parliament, and then printed, and it will be sent to all members of your association.

"Now, the object of all this is to preserve peace. We believe, as do the other N.A.T.O. nations, that if we can build our strength so as to make it clear that aggression does not pay, we will by that very fact prevent aggression. Our slogan is 'trained united strength will prevent aggression.'

"In bringing on this trained united strength, particularly as regards the Air Force, you — the men and women who formerly served in the Air Force — can play a very great part.

"We will begin recruiting for the R.C.A.F. W.D.'s in a very short time, and in that we count confidently on the support of both the men and women who served before. We anticipate no difficulty whatever in getting the number we want. Already there have been enquiries and applications from right across Canada, indicating a very healthy interest in this important work. Later, if it appears desirable, we may extend the opportunity to serve full-time to women in the C.W.A.C. and W.R.E.N.S. At the present time, however, we are beginning with the Air Force for the special reason that women are needed particularly in connection with the operation of radar, plotting, radio communications and work of that kind, which requires considerable training and skills; and we want to have as many women engaged in it as possible. It is of extreme importance, and we want them available at the time when the equipment will be ready for them to operate.

"We are also beginning the recruitment of a limited number of women in connection with the reserve units of Navy, Army, and Air Force. That will begin this summer, and in this connection we are not setting up separate establishments,

separate formations, or separate overheads, but women will be used in the three reserve forces in jobs which men are now doing or should be doing. In that way we will not be adding to overhead in any sense whatever, but providing for the greatest possible amount of team work.

"I have taken longer than I thought I would, but I feel that you are entitled to have just as full and frank a picture of what we are doing and plan to do as it is possible to give, because this is still your Air Force."

Air Vice-Marshal Douglas M. Smith, C.B.E.

Air Vice-Marshal Smith, Air Member for Technical Services, spoke on the R.C.A.F. aircraft programme, first dealing with the CF-100 (Canuck).

"At the moment," he said, "the programme of the Air Force is a very full one indeed. But the speed with which we are attempting to accomplish the build-up is not being dictated, as is usually the case in the armed forces of this country, by financial resources, but by the physical ability of Canadian and American industries to produce the goods required."

Air Vice-Marshal Smith said he recently returned from a visit to S.H.A.P.E. in Paris and General Norstad's H.Q. in Germany. He also had discussions with the R.A.F. The whole tenor of conversations was "We like the Canadian programme very much, but can you not get here any more quickly?"

"The maximum effort of which we are capable," he said, "is going into building up, first of all the Regular Air Force, and secondly the Reserve. For a period of at least two years we will not have by any means all the resources necessary to accomplish the task. If there are shortcomings in what you and other people think we should be doing, it is largely a matter of production capability, recruiting capability and training capability in the service."

In speaking of aircraft production, "The programme on the CF-100," he said, "is going very well indeed at A. V. Roe Company, Toronto. Sometimes we are inclined to become impatient about



Manitoba and North-Western Ontario delegates. Front row (left to right): Nichol Carrie, R. S. Godfrey, Miss E. B. Halliday, Dufferin Roblin, M. J. Rothschild. Back row (left to right): W. E. C. Morris, Terry Penton, J. J. Thornton.

the period that elapses between the date when the prototypes first fly and the date when the Air Force has any of them to fly. However, I can assure you that the progress the company is making is quite good. They are bending every effort to get into production at the earliest possible date, and it is expected that some will be in the Air Force before the end of the year.

“Problems of making an aircraft — which is primarily a flying vehicle — into a fighting vehicle, with its armament, radar, and all the associated complexities that make it a modern fighting machine, are stupendous, and as time goes on these problems become worse and worse.

“Complexity of equipment is going up and up. CF-100 radar equipment costs more — a good deal more — than the whole Spitfire did in the last war. At no time in history has the rate of change and the rate of development in aircraft equipment been faster than today. No matter

Dufferin Roblin delivering report of the Manitoba group.



what decision we make to-day, two weeks from now — while it is not necessarily obsolete — it is not as good as the new idea somebody has. It is very difficult from the Air Force standpoint to settle on a programme and dig in our heels and say that this is what we are going to have, when the minute we have done that somebody comes along and tells us that there is something better around the corner.

“However, in the CF-100, we think the R.C.A.F. has an aircraft designed to meet the peculiar Canadian requirements, and I do not see a better aircraft or a better fighting vehicle on the horizon yet. Its production programme is largely dictated by engine availability, as is nearly every aircraft programme in the world to-day.

“Transition from the reciprocating engine to the jet aircraft has been a major change in the industrial complex of Canada. Very little of the equipment which is suitable to make the automobile or normal civilian consumer goods, and very little of the equipment of the aircraft industry of the last war — the capital equipment which these firms had — is suitable for manufacture of jet engines.

“The big task in getting jet engines into major production is the capital tooling required. Most of the lathes, for instance, which are employed in making the reciprocating engine have only a small capacity, and could not turn out the large diameters required in the casings of jet engines. Nobody had the specialized equipment with which to make the blades for the compressors or turbines. All such equipment is special equipment. The time delay in getting into production is largely occasioned by the requirement of first building the basic machine tools needed before such production can commence.

“The Orenda engine has been flying in the Lancaster, and it has been flying in the F-86. Within a matter of a few weeks it will be flying in the CF-100. So far it promises to be an exceptionally good engine. Aircraft production of the CF-100 is entirely geared to the engine production.

“The F-86E, the day interceptor and supplement to the all-weather CF-100, is being manufactured by Canadair Limited. We believe it also to be a winner. This aircraft was picked for pro-

duction in Canada to meet Canadian requirements about four years ago, and that decision appears to have been a sound one indeed.”

Air Vice-Marshal Smith said that, on his recent tour of the continent and the U.K., one of the questions which concerned him was whether or not the F-86E was suitable to meet their requirements. “I need not have had any doubts. They were most enthusiastic about the aircraft, wanted them, and wanted them manned by Canadians. We are getting delivery of these aircraft to the R.C.A.F. to-day, and they will be coming off in ever-increasing numbers.”

“The Lancaster,” Air Vice-Marshal Smith stated, “is being trimmed and dolled up as our maritime aircraft for the immediate future. Development in radar and anti-submarine weapons is proceeding at such a pace, however, that the day is already foreseen when the Lancaster will not be up to the job of carrying the equipment, which is all very weighty and very bulky. We are consulting with the U.S. Navy at the moment to arrive at a successor to the Lancaster as a maritime aircraft.

“As for programmes not in the operational sphere, the Harvard will be in large-scale production in the Fort William Plant of the Canadian Car and Foundry Company. The engine also is to be produced in this country, something Canada has never done before. This programme we are undertaking on both the Harvard and its engine will result in Canada’s becoming the only source of the Harvard in the world. The Americans and Canadians have combined their requirements into a single facility, and our responsibility and task in peace and war is to supply Harvards for the North American Continent.

“With the arrival of aircraft such as the F-86, we feel a need for some intermediate step in the training programme between the Harvard and the F-86 itself. The F-86, being a single-seater fighter, provides no opportunity for dual instruction, and we are looking around for a dual jet trainer. Among those available is the U.S.A. T-33, the training version of the Lockheed “Shooting Star,” for which we have placed orders.



Saskatchewan delegates. Seated (left to right): J. Cyril Malone, Floyd M. Spelliscy. Standing (left to right): J. D. Clarke, R. J. Burnham, F. R. Siddall.



Wing Cdr. J. D. Syme, M.B.E., noted R.C.A.F. wizard, baffles delegates in the Officers' Mess.

"Other aircraft of last-war vintage still in use are the Mitchell and the Dakota. The Mitchell is to be employed in Advanced Flying Units and in O.T.U. training of twin and multi-engine pilots. More are to be taken into service to make up present deficiencies. A few more Dakotas are being obtained for transport work and to assist in the training programme, particularly in navigation schools.

"The aircraft programme has not completely absorbed the capacity of Canadian economy as far as the manufacture of aircraft is concerned, but it is coming fairly close to it at the moment. Consideration is being given to re-opening some of the facilities closed down at the end of the war.

"Quality of the work being turned out by Canadian companies is absolutely superlative, whether in new design or reconditioning of old equipment. Not only the quality of Canadian products, but the way in which the R.C.A.F. looks after its equipment, receives very favourable comment.

"I think the stature of the R.C.A.F. went up a great deal over the show they put up in the Korean airlift with the Canadian-built North Star. That record is a credit not only to the R.C.A.F. but to the industry in Canada, and we recognize it as such."

"We are quite confident," concluded Air Vice-Marshal Smith, "that, given a little time, we will be able to carry out our aircraft programme."

**Major-General F. F. Worthington, C.B., M.C., M.M.,
Civil Defence Co-ordinator**

The whole object of civil defence is to minimize the effects of disaster upon the civilian population. It must be accepted that, in any war, some bombers will get through. "If the figures given to me are correct," said Major-General Worthington, "then only 10% of the bombers attacking Britain were brought down. Therefore, as long as there are bombs and aircraft to carry them, there will be a need for civil defence."

Civil defence has become an integral part of defence in the United States and Great Britain, and Europe is beginning to accept it as such;

but Canada has yet to do so, for it is still something new. The fact that we are going to be attacked at all seems to be the very thing that nobody can accept.

The Civil Defence Organization has been making a study of Canadian centres of population in relation to the effects of atomic bombing attacks. "We have to face up to cold facts and face up to them right now," said the speaker.

Analysis of Ottawa showed that an atomic bomb dropped at night at any central place with no warning and no preparation would mean a death-roll of about 60,000 within the first five minutes, and 50,000 injured. Ten per cent of the injured would die within 24 hours if they did not receive immediate medical attention, and 40% more within the next week if they did not receive surgical attention.

If there were a five-minute warning, through an observer corps or other warning system, and the people knew where to go (even if to their own limited basements, with no other shelter) the death-roll would drop to 40,000, and injuries would be proportionately less. If, on the other hand, we were fully trained in civil defence — with proper organization for warning, with shelters to go to, with first aid for casualties, and with a citizenry who knew what to do, when to do it, and how to do it — the loss of life would be further reduced to 7,000.

Figures had been worked out for all of the larger Canadian cities; and they were staggering. If the hypothetical bomb dropped on Ottawa came between 10 p.m. and 6 a.m., when people were in their homes, the death-roll would be 60,000, but if it dropped in the middle of the day it would be much higher, because people would be on the streets and in offices.

Civil defence, the General continued, requires organization and training just as much, if not more, than do military forces. People cannot be picked off the street and told they are to be civil defence workers. The organization has to stem down to the roots of society. It starts with the individual and works up to the community and into each level of government. Democracy is only the mirror, he said, that reflects the will of the people. No level

of government — federal, provincial, or municipal — is relieved from responsibility of giving leadership and direction, and above all of providing a policy for organization and training.

Civil defence organization and planning is proceeding at all levels of government. The federal government has accepted certain responsibilities. Briefly stated, they are:

- to provide guidance in organization,
- to co-ordinate between provinces, and with the United States and the United Kingdom,
- to train leaders and instructors in conjunction with provincial authorities,
- to provide certain training aids and equipment, and

- to furnish certain equipments and materials of special nature — in the field of medicine those would be radiation detection devices and stockpiles of medical supplies.

Each province has set up a Civil Defence Organization according to its immediate needs. Among the provincial responsibilities is a co-ordination of effort within the province and municipalities, suitable organization in each province to meet the requirements of training, etc.

The municipality or group of municipalities represents the operational unit of civil defence, and it is there that the success or failure in minimizing the effect of attack will occur.

Alberta delegates. Front row (left to right): J. J. Stewart, B. E. Crane, Air Vice-Marshal K. M. Guthrie, H. G. Osborne, R. H. Gould, Back row (left to right): C. R. Dixon, C. H. Wallace, F. J. Anderson.



Civil defence, however, will only be as good as the willingness of the people to participate on a voluntary basis, he said. It is self-preservation of the individual and the community. What is needed more than anything else is not money, but time — the time which thousands of people must be prepared to give voluntarily in training, instruction, and in carrying out the various basic requirements. A certain amount of money is necessary, and this will come in due course. It *must* come, and the people must become conscious of what is needed.

Resources will be found in every community to meet disaster. There will be shortcomings, many of which will have to be supplemented; but until each community has made an assessment on which it has based the probable requirements, it will not be known what additional resources will be required.

For several months, General Worthington said, he has been trying to get an assessment made across the country by provinces and municipalities. Any centre of population could make an estimate by simply looking at one of the many pamphlets published relative to the effects of an atomic air burst. It does not require an expert. For example, the structural damage will be great, roads will be clogged with *débris*. A vast quantity of heavy engineering machinery will be necessary. Any engineer or construction man will know what one bulldozer can do and how long it will take. If clearing is needed over a distance of two to three miles, the number of bulldozers can be estimated with no difficulty. The same applies to other types of equipment. Such equipment is everywhere. Some is owned by the municipality, but most of it by contractors. The thing to know is where it is and when it can be brought in. "But," he added, "I cannot get people to tabulate it."

In dealing with casualties, the same pattern follows. Assuming that 50,000 persons have been wounded in Ottawa, it must also be assumed that of the 400 doctors 50% are dead, and that of the 2600 hospital beds 1300 have been destroyed. That leaves 1300 beds for 50,000 injured. The hospitals in any of our larger communities will probably be destroyed with the exception of those on the fringe. There will, however, be hospitals in adjacent com-

munities; and the number of emergency beds can be worked out now. If the emergency beds within a reasonable distance (say 100 miles) are not in sufficient numbers to handle this staggering number of casualties, then a survey must be made of the buildings capable of being turned into emergency hospitals, and an estimate of what will be necessary to equip the hospitals on an emergency basis. That means beds, bedding, and the many other articles necessary. Again a survey will show how much is lacking, and then pleas for providing what is necessary can be made. It is no use starting to find out after the bomb is dropped.

In preventing higher casualties, a warning system was important. The R.C.A.F. is developing a warning system, and what will be needed more than anything else are ground observers. "That to my mind is fundamental. It is something right down your alley — to get behind the R.C.A.F. plan for ground observers. And we need a lot of them." While radar is important, a lot of information about enemy aircraft must come from people on the ground.

The civil defence doctrine, the General emphasized, must be preached so that people will take an interest and get into the Civil Defence Organization. Economically the nation cannot supply all defence workers needed by paying them, for Canada needs at the very minimum 250,000 men and women.

"There is nothing in it for anybody. But if we will take the word out to the people and convince them, we will get a Civil Defence Organization. What worries us more than anything else is the tremendous apathy of the people. We've got to get that broken down, and it is men and women like yourselves who can do it. We can only survive if every agency gets to work. It is a straightforward patriotism which requires voluntary time, and the only wages will be continuance of the freedom and liberty we at present enjoy. This idea must be sold to the public, and servicemen and ex-servicemen are the only ones who can really sell it."

Air Vice-Marshal Guthrie, in thanking General Worthington, stated that Mayor La Guardia had once told him that one bomb dropped in New York harbour, even if it didn't splash a ferry boat,

would result in an estimated 100,000 dead in the resultant panic. The General, he said, had given an active rôle for R.C.A.F.A. Wings — to help to organize civil defence in their communities, and to assist in creating the Air Observer Corps.

Lt. Col. Robert S. Johnson, President of the U.S.A.F. Association

Lt. Col. Robert S. Johnson brought greetings from the United States Air Force Association, with which the Canadian counterpart has much in common. Colonel Johnson, now a representative of Republic Aircraft, has a distinguished record in the Second World War, having been officially credited with 28 enemy aircraft shot down.

In his opening remarks, he mentioned that President Morfee, in introducing him and listing his medals, had forgotten to mention "two beer mugs he got in Piccadilly Circus." Then, referring to the fact that he was that evening speaking in place of the Minister of National Defence, he recalled that this was the second occasion on which he had been called upon to replace another speaker. On that occasion it had been Arthur Godfrey, but everyone was very serious throughout his talk. "Now that I am called upon to replace the Minister of National Defence," he foreboded, "I expect everyone will laugh."

In connection with the Association's discussions on Reserve training, he said that, in certain cities in the United States, reservists had gone on their own to nearby industry and said they wanted training to be useful in case of war and all-out emergency. Classes were arranged two nights a week, and they were learning something worth while. The companies were eager to help them and furnished instructors. He hoped this suggestion might be helpful in Canada.

Back in 1925, or 1930, he said, young men like Doolittle, Curtis, Spatz, and Arnold, had started pounding the drums for aviation. Many people were reluctant to accept anything new, and it became apparent they would have a fight trying to sell this new weapon with all its possibilities and potentialities to the American people. Several organizations were started in the hope that they would

become the grass-roots for public support. In these organizations they failed to see the important point that, if you restrict your membership to purely Service personnel, you will live only so long as the people who are now members. You won't bring in young blood, and you won't get all the power in the force that you might have. Many of those earlier organizations had died off for this very reason.

The American Air Force Association started in February 1946, with Air Force members — Air Force present and Air Force past. "But we came to realize," Col. Johnson said, "that if we were going to keep alive, we had to widen our views. We now have the 'active members,' who are the Air Force veterans; the 'Service members,' who are those now in the Air Force on active duty; the 'associate members,' those business men who have never been connected with the military, but who are deeply interested in pushing air power; and only recently we have added one of our most important groups of members, the R.O.T.C., similar to your Air Cadets except that they are college boys, who are our vital source of young blood for future years of air power."

"We have declared all along," he went on, "that we must remain free and independent. We will not dictate to the Air Force nor will we allow them to dictate to us." For the first three years of the Association's existence, the Air Force did not know quite how to take them, but now they have accepted the Association, and they work arm in arm very closely.

"We cannot be satisfied with the second best air force," he said. "If we have got to fight, we will not be able to meet the Russians man for man, but we can sure play hell with their back lines by air! We were only 2,500,000 in the United States Air Force. With our population of 150 million people, we therefore have 147,500,000 people to tell about aviation and air power."

Col. Johnson told of a visit to a Senator when the Air Force appropriation was to be cut, and of how the Senator's attitude revealed how little some of the people in the government knew about aviation. The American and Canadian Air Force Associations have much in common, he said, and

on behalf of his Association he offered all the co-operation and help they could give. "We have a big job ahead," he concluded, "and it is going to take us all to put it across. The R.C.A.F. and the United States Air Force worked together before. They still are working together. And they will keep on doing it."

FROM THE GROUP REPORTS

Maritime Group: C. Y. Swanton

The Maritime Group had the greatest rate of increase in Canada, from 9 to 18 Wings; and membership rose from 689 to 1,459. The total Group membership, including members-at-large, is 1,673.

The R.C.A.F. has co-operated in every way possible. "Nothing is too much to ask of them. The Atlantic and Bluenose Wings in Halifax have been provided with quarters by the Air Force and they have asked me to express their appreciation."

"The Fredericton Wing has had a phenomenal growth. It has 306 paid-up members." The Saint John Wing has the largest paid-up membership in Canada.

"Many of the Wings are now getting their own accommodation. One of our Wings has started to organize blood donors in co-operation with the Red Cross."

Several Air Cadet squadrons are now being sponsored. The national drill team of the cadets is to be drawn from the Maritimes this year.

Some Wings are arranging visits with nearby Wings. "We are fortunate in the Maritimes in having our National President residing in Nova Scotia, and quite often we are honoured with his presence at functions. In June, the R.C.A.F. Central Band is coming to the Maritimes to give concerts under sponsorship of some of our Wings."

Last September, on Battle of Britain Sunday, Saint John Wing presented a plaque, in honour of fallen comrades from the municipality and county of Saint John, which was placed in the County Court House, the unveiling being done by the National President.

Quebec Group: J. René Gauthier

Wings have increased during the past year from 7 to 9, and Wing membership has grown from 375 to 862. Total membership, including members-at-large, is 1,411.

"In his address," said Mr. Gauthier, "the President mentioned that every Wing should make a modest effort. We are quite willing to do it, but give us the opportunity. We want a place where we can meet in peace and not with pipers downstairs, which is our situation in Montreal. It is even more important in large centres than in small communities, because in the small places the missus bakes a cake and brings it along to the meeting. There, everybody can meet in somebody's house, whereas in Montreal you cannot do that. We need places. If you want recruits, if you want cadets, give us somewhere for the Association to meet."

"We had two important functions during the year. There was a presentation of the charter to Montreal East by Air Commodore Ripley, and the joint Wing dinner attended by Air Chief Marshal Breadner, the Hon. Brooke Claxton, and our noble president Air Vice-Marshal Morfee."

"It was mentioned that our relations with the R.C.A.F. have always been good. That is true, except that they do not give us a place to meet!"

Mr. Gauthier also expressed regrets of Air Vice-Marshal McEwen, who was in hospital and therefore unable to attend.

Ontario Group: Air Vice-Marshal G. E. Brookes, C.B., O.B.E.

Wings increased from 26 to 31 and Wing membership from 1,923 to 2,924. Total membership of the Group, including members-at-large, is 4,385.

"The main bother of our Group," said the Air Vice-Marshal, "has been this question of accommodation. I am happy to report that something like five or six of our Wings have got excellent accommodation. I feel personally that they have obtained accommodation because their executives have given real leadership and they have not let obstacles stop them from going ahead. Other

Wings presently are exploring the possibilities. We have the same problem as everyone else, but we are making progress on it."

The speaker read a telegram from the Air Cadet League outlining Wing activity in connection with cadet squadrons. No. 416 (Kingston) Wing, 400 (Guelph), 402 (Sudbury), and 425 (Goderich), were all sponsoring cadet squadrons. Wings at New Liskeard, North Bay, Leamington, Peterborough, New Market and Richmond Hill were actively interested in new cadet units. Many other Wings were assisting local service organizations in cadet work, notably Oshawa and Ottawa.

"So you see that throughout the Group of 31 Wings we have four actively sponsoring and eight or nine that are getting into it. We are doing something active and hope to do better."

Manitoba-Northwestern Ontario Group: Dufferin Roblin

Wing membership increased from 532 to 640 in the three Wings. Total Group membership, including members-at-large, is 791.

In both western and eastern Canada, Wings have assisted No. 500 (Winnipeg) Wing financially for the Red River Valley flood relief. "I want them to know that their contribution was very valuable and helped some of our members who were very badly hit indeed. Therefore we much appreciate the comradely gesture we received from across the country."

The Winnipeg Wing is looking after an Air Cadet squadron, and Wings generally are in a sound and healthy position. "I should like particularly to mention No. 501 (Lakehead) Wing, which raised some three or four thousand dollars last year and sponsored a \$2,800-scholarship to Royal Roads, a really magnificent effort. The Winnipeg Wing has been most active and effective in helping to organize Reserve Air Force units."

As for accommodation problems, he said: "We are skating on thin ice, but we are getting by so far. We feel we could do better, and it is a handicap not to have more reliable accommodation. We have to go from one place to another."

The group was concerned about Air Force personnel joining Army Reserve units.

"I think our biggest problem is a programme for Wings already operating. Our members have a sincere desire to get closer to the actual work that the permanent Air Force is doing these days. We think one of the best ways to cultivate that relationship is to have qualified men from the permanent force come out and speak to us on the latest developments. We have made excellent use of the men in our locality, but we are hoping that some programme can be arranged from Headquarters to send to all Wings a succession of speakers who are experts in their own particular subjects. It would be a great attraction, and would help a lot in firming-up an attractive programme that would increase the activities of the Wings and make them more useful to the permanent force in promoting the Air Force idea.

"We can report progress from the Manitoba-Northwestern Group."

Saskatchewan Group: Floyd Spelliscy

Membership of the four Wings increased from 246 to 327. Total Group membership, including members-at-large, is 527.

"I regret the necessity of reporting a comparatively negative year," said Mr. Spelliscy. "There have been no additions to our established Wings. In fact, a considerable amount of time has been spent in keeping the established ones active."

Inability to instil enthusiasm for the Association curtailed activities. One reason was lack of accommodation; another, lack of a definite programme for Wings to follow.

"We hope to have a better report next year."

Alberta Group:

Air Vice-Marshal K. M. Guthrie, C.B., C.B.E.

Wing increased from 3 to 5 and membership from 406 to 635. Total Group membership, including members-at-large, is 855.

"We have had our share of ups-and-downs in regard to membership," admitted the Air Vice-Marshal. "However, we are gaining a bit of altitude and the ups are on the ascendency."

Wing membership is on a more solid footing and members are becoming really interested in Association work. Each Wing has a keen and energetic executive. Enthusiasm is high in the newest Wing at Medicine Hat.

Members of the Group executive live 350 miles apart and it is difficult to get a quorum. The help and co-operation of Air Vice-Marshal Dunlap, A.O.C. North-West Air Command, has been invaluable.

Greatest detriment to membership is lack of permanent accommodation. Rapid growth of industry, plus recent restrictions on non-essential construction, and the vast new programme of defence construction, have increased difficulties. In Edmonton, particularly, cost of accommodation is fantastic, without relief in sight.

"We are charity wards in most cases as regards accommodation, and we give thanks to the Air Force, Canadian Legion and others, for helping us out." However, in most cases it is hoped that Wings will have accommodation by the end of the summer, if not of their own, at least of more permanent character than they now have.

The Alberta Group is continuing to sponsor Air Cadet squadrons, provide instructors, donate funds for flying training scholarships and trophies, and to participate in the annual Air Cadet Week drive for financial support by publicly advocating the value of Air Cadet training. Officials of the Association in a number of cases are also officials of the Alberta committee of the Air Cadet League.

Work continues in close co-operation with regional officers of the R.C.A.F. Benevolent Fund. Each Wing operates as a welfare committee.

Alberta members take keen interest in recruitment for the Air Force. Recruiting committees have been set up and are working in the R.C.A.F. recruiting centres. "Our aim is to have every member carry with him or her the R.C.A.F. booklet on terms of service and act as an individual recruiting unit in outlying districts. We feel that our members-at-large can help a lot by collecting names of potential recruits and sending them into the nearest recruiting centre, after which a mobile team goes out." No. 703 (Red Deer) Wing is operating an R.C.A.F. recruiting centre in that

city, on behalf of the main recruiting centre in Calgary. It is a going concern.

In public relations, it is felt that Wings are doing their best job by sponsoring Air Force speakers at service clubs and other meetings, by members constantly advocating the increase of Canada's air power, and by supporting the Air Cadets, Active Reserve Air Force units, flying clubs, Air Force Day, and everything and anything to do with the air age.

The Red Deer Wing sponsored the opening of Air Cadet Week by putting on a show at Penhold. They hoped for 1,500 persons and got 5,000 with the biggest traffic block ever seen on No. 2 Highway stretching from Red Deer to Penhold, a distance of ten miles.

With large expansion of Air Force training in the Prairies, assistance will be given in providing off-duty airmen and airwomen with recreation facilities and with direction in respect to lodgings, meals, transportation services, and so on.

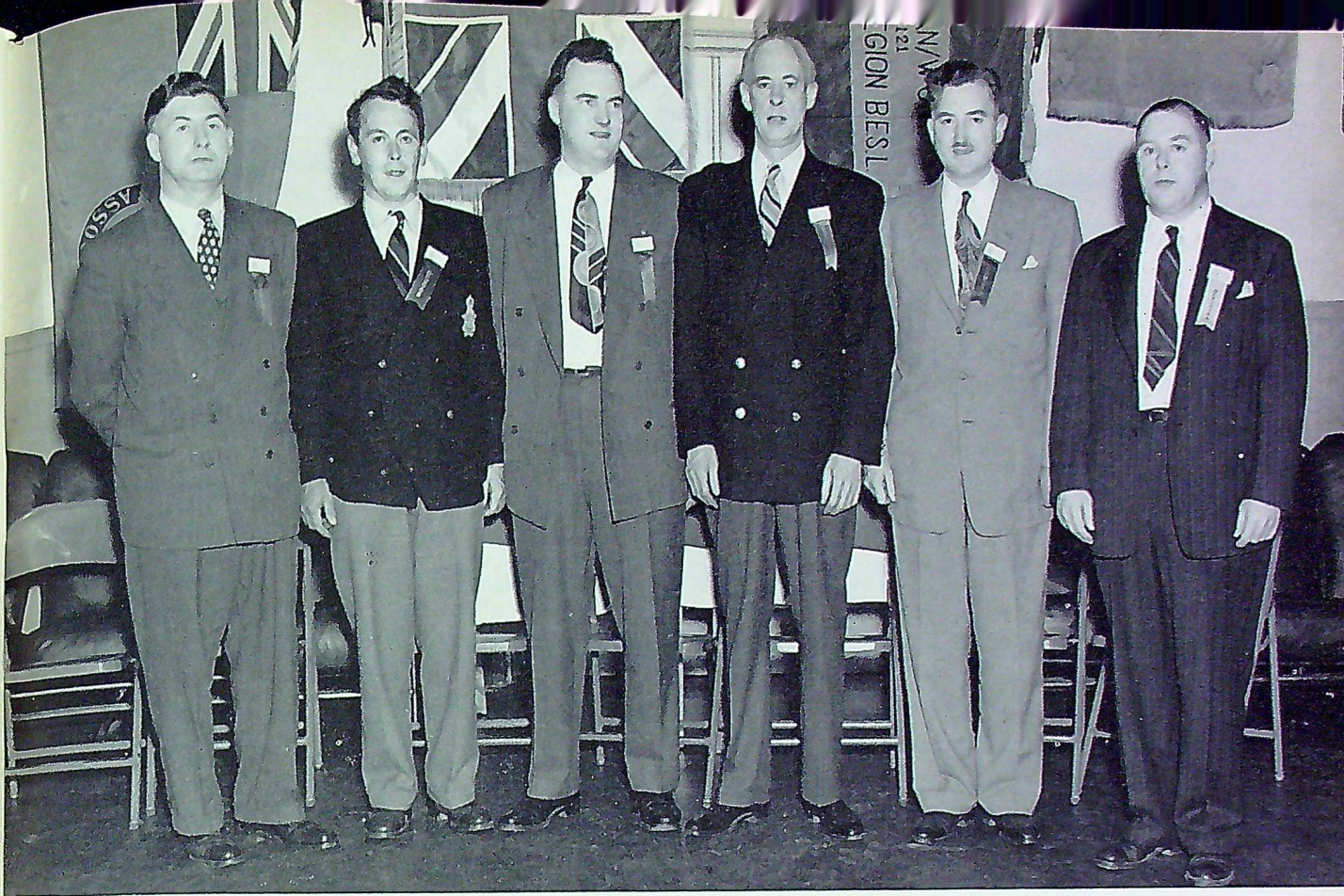
British Columbia Group: J. H. Norton, M.B.E.

Wings increased from 3 to 5 and membership from 400 to 520. Total membership of the Group, including members-at-large, is 784.

Largely through efforts of the Group President, Air Cdre. Duncan Bell-Irving, O.B.E., M.C., E.D., a Reserve centre was established in Vancouver. While it had been hoped that the building the Government purchased for this purpose would provide accommodation for the Vancouver Wing, the kind of quarters looked for and expected have not been forthcoming. Problems of accommodation are exercising Victoria and other Wings, but is it believed that matters will gradually smooth out within the year.

In November, the National President visited all Wings. While he was in Vancouver, the Minister of National Defence and the Chief of the Air Staff were also there, and the Minister was given an honorary membership in No. 802 (Vancouver) Wing.

The two new Wings are No. 803 (Rocky Mountain) Wing at Cranbrook and No. 804 (Prisoners of War) Wing at Vancouver. The latter,



B.C. delegates. Left to right: H. W. Fullard, N. J. Hill, J. E. Murphy, J. H. Norton, G. W. Cross, and R. G. Mason.

probably unique as comprising only former P.O.W.'s as members, has a substantial enrolment and is going strong.

"While we had some loss in paid-up membership, we are not unduly concerned. We feel that those who joined the Association, thinking of it originally only in terms of a good time without responsibility, have in many cases dropped out; and although our Wings are down in numbers, we have a nucleus of really excellent chaps who are taking the objectives of the Association seriously. We have reached bed-rock and have a good foundation on which to build."

Wings seem to want more definite objectives to get their teeth into. "Operation Recruiting" is one of the first concrete objectives given them. Vancouver Wing is sponsoring No. 1 Air Cadet Wing. For eight vacancies, eleven instructors have been made available by the Wing. The Wing has supplied uniforms for cadet instructors. "Instructors are having quite a problem in

getting fitted out these days. They have no uniform allowance and the price of a uniform is high."

Close liaison is maintained with the R.C.A.F. and many conferences take place with No. 12 Group on how the Association could be of service to the Reserve.

Wings have made a formal written offer to the Civil Defence Co-ordinator placing personnel at his service. Their offer has been accepted with gratitude.

"We have an excellent committee on publicity, and are now issuing a monthly news bulletin in the Vancouver Wing. I think that publicity . . . will help us very materially in the future."

Vancouver Wing has also been doing considerable work on educating employers to be more lenient in granting leave for Reserve training.

"Our executive feels that there are at least ten or twelve centres in B.C. which are capable of supporting Wings. We have the usual difficulties in organization—wide geographical distances and

financing. We have restrictions which perhaps other provinces do not have in raising money, as we are not allowed to resort to raffles and various other means which would be helpful.

"We also suffer from very definite restrictions in so far as liquor is concerned. All of which makes

life more difficult. We feel, however, that these difficulties are a challenge."

In the next twelve months it is hoped to show substantial increases in Wings and development in the province.

CONVENTION DIRECTORY

National Executive Council

Grand President:	Air Chief Marshal L. S. Breadner, C.B., D.S.C., Kirks Ferry, P.Q.
President:	Air Vice-Marshal A. L. Morfee, C.B., C.B.E., Granville Ferry, N.S.
1st Vice-President:	Air Vice-Marshal Adelard Raymond, C.B.E., 3509 Redpath Street, Montreal, P.Q.
2nd Vice-President:	R. S. Godfrey, 333 Tenth Street, Brandon, Man.
3rd Vice-President:	Paul E. Burden, D.F.C., 487 Charlotte St., Fredericton, N.B.
4th Vice-President: (Financial)	Air Vice-Marshal Kenneth G. Nairn, C.B., 1611 Drummond Drive, Vancouver, B.C.
Chairman:	J. Cyril Malone, K.C., 712 McCallum Hill Building, Regina, Sask.
Vice-Chairman:	Air Vice-Marshal K. M. Guthrie, C.B., C.B.E., 10041 — 148th St., Edmonton, Alta.
Legal Advisor:	G. G. Morrow, O.B.E., 26 King Street East, Toronto, Ont.
W. D. Representative: (National)	Mrs. E. A. Hall, 2385 Marine Drive, West Vancouver, B.C.
W. D. Representative: (Eastern)	Miss Ruth Vogler, 77 Allen Street, Halifax, N.S.
W. D. Representative: (Central)	Miss Lillian E. Smith, 269 Somerset West, Ottawa, Ontario.
W. D. Representative: (Western)	Miss Evelyn Halliday, Fort William, Ont.
Hon. R. C. Chaplain:	Rt. Rev. J. E. A. Charest, C.B.E., D.V.A. Hospital, Ste. Anne-de-Bellevue, P.Q.
Hon. Prot. Chaplain:	Rt. Rev. R. J. Renison, "Bishopstope," Schumacher, Ont.

Group Representatives

Maritime Group:	H. W. Aslin, Halifax, N.S. (Represented by E. B. Stead, 257 Princess Street, Saint John, N.B.) C. Y. Swanton, 94 Prince William Street, Saint John, N.B.
Quebec Group:	Air Vice-Marshal C. M. McEwen, C.B., D.F.C., M.C., (Represented by J. René Gauthier, 1800 MacGregor Ave., Montreal, Que.) C. H. Link, M.B.E., 244 St. James Street West, Montreal, P.Q.

Ontario Group:	Air Vice-Marshal G. E. Brookes, C.B., O.B.E., 128 Highbourne Road, Toronto 12, Ont. Ralph M. Christie, P.O. Box 7, North Bay, Ont.
Manitoba Group:	E. O. W. Hall (Represented by Dufferin Roblin, 235 Main Street, Winnipeg, Man.)
Saskatchewan Group:	J. Cyril Malone, K.C., 712 McCallum Hill Bldg., Regina, Sask.
Alberta Group:	Air Vice-Marshal K. M. Guthrie, C.B., C.B.E., 10041 — 148th Street, Edmonton, Alta.
British Columbia Group:	Air Cdre. A. D. Bell-Irving, O.B.E., M.C. (Represented by J. H. Norton, M.B.E., 640 West Hastings Street, Vancouver, B.C.)

Group Secretaries (Observers)

Maritime Group:	P. F. Connell, 30 Montgomery Crescent, Saint John, N.B.
Quebec Group:	Mrs. A. M. Hodgson, 1270 Regent Rd. Town of Mount Royal, Montreal 16 P.Q.
Ontario Group:	Harry W. R. Sayers, P.O. Box 478, Richmond Hill, Ont.
Manitoba Group:	J. J. Thornton, 131 Douglas Park Road, St. James, Man.
Saskatchewan Group:	Floyd M. Spelliscy, 2671 Garnet Street, Regina, Sask.
Alberta Group:	Bernard E. Crane, 4605 — 49th Street, Red Deer, Alta.
British Columbia Group:	R. G. Mason, 1021 West Hastings Street, Vancouver, B.C.

Delegates

100 (Bluenose) Wing: Halifax, N.S.	Miss Hilda M. Thompson, 77 Frederick St., Fairview, Halifax Co., N.S.
101 (Atlantic) Wing: Halifax, N.S.	H. B. Jewett, 88 Seaforth Street, Halifax, N.S.
102 (Colchester) Wing: Truro, N.S.	G. M. Gillespie, 140 Pleasant Street, Truro, N.S.
103 (Cabot) Wing: Sydney, N.S.	Claude A. Dingwall, 20 Hugh Street, Sydney, N.S.
104 (Privateer) Wing:	A. F. Wigglesworth, P.O. Box 403, Liverpool, N.S.
105 (Cumberland) Wing: Amherst, N.S.	Gordon A. Hart, 40 Rupert Street, Amherst, N.S.
106 (Kentville) Wing: Kentville, N.S.	(No delegate)

The Roundel

- | | | | |
|--|--|--|---|
| 107 (Morfee) Wing:
Annapolis Royal, N.S. | John A. MacDonald,
Smith's Cove, Digby County, N.S. | 251 (Madawaska) Wing:
Edmundston, N.B. | Zoel Clavette,
P.O. Box 67, Edmundston, N.B. |
| 108 (Yarmouth) Wing:
Yarmouth, N.S. | Joseph J. Pottier
Belleville, Yarmouth Co., N.S. | 252 (Fredericton) Wing:
Fredericton, N.B. | Paul E. Burden,
487 Charlotte St., Fredericton, N.B. |
| 109 (Bundy) Wing:
Dartmouth, N.S. | George E. Daine,
17 Boland Road, Dartmouth, N.S. | | Robert Cumming,
216 Brunswick St., Fredericton, N.B. |
| 200 (Summerside) Wing:
Summerside, P.E.I. | G. M. Mulholland,
12 Russell Street, Summerside, P.E.I. | 253 (Moncton) Wing:
Moncton, N.B. | J. B. Estey,
134 Parkhurst Drive, Fredericton, N.B. |
| 201 (Charlottetown) Wing:
Charlottetown, P.E.I. | S. M. McInnis,
70 Longworth Ave., Charlottetown, P.E.I. | 254 (Miramichi) Wing:
Chatham, N.B. | J. M. Lutes,
164 Butler Street, Moncton, N.B. |
| 250 (Saint John) Wing:
Saint John, N.B. | E. B. Fitzgerald,
P.O. Box 1045, Saint John, N.B. | 900 (Newfoundland) Wing:
St. John's Nfld. | E. R. Crocker,
Newcastle, N.B. |
| | W. A. Gilbert,
137 Paradise Row, Saint John, N.B. | 300 (Remembrance) Wing:
Granby, P.Q. | Robert Grouchy,
St. John's Newfoundland. |
| | Malcolm S. Brooks,
248 King Street East, Saint John, N.B. | | E. R. Meyer,
263 Denison Avenue, Granby, P.Q. |

Dress and Insignia Committee. Left to right: Garfield W. Cross, Floyd M. Spelliscy, A. F. Wigglesworth, R. H. Gould, A. J. Snetsinger, Nichol Carrie, G. G. Harrison, C. H. Link.



The Roundel

- 301 (Albatross) Wing: Montreal, P.Q. W. J. Campbell, 1192 Graham Blvd., Town of Mount Royal, Que.
- 302 (City of Quebec) Wing: Quebec, P.Q. Patrick Haberin, 313 Champlain Street, Quebec, P.Q.
- 303 (Sherbrooke) Wing: Sherbrooke, P.Q. (No delegate)
- 304 (Beaver) Wing: Montreal, P.Q. Miss M. T. Jamieson, 25 St. John Blvd., Chateauguay Stn., P.Q.
- 305 (Montreal) Wing: Montreal, P.Q. Bernard A. Gillies, 266 Wood Avenue, Montreal, P.Q.
- 306 (Maple Leaf) Wing: Montreal, P.Q. G. G. Harrison, 4516 Old Orchard Ave., Montreal, P.Q.
G. R. Ellis, 489 St. Germain St., Ville St. Laurent, P.Q.
- 307 (Eagle) Wing: Montreal, P.Q. (No delegate)
- 308 (St. Hyacinthe) Wing: St. Hyacinthe, P.Q. J. L. Grenier, 965 Laurier, St., St. Hyacinthe, P.Q.
- 400 (Guelph) Wing: Guelph, Ont. John T. Kendall, 421 Woolwich, Guelph, Ont.
- 401 (Kirkland Lake) Wing: Kirkland Lake, Ont. John A. T. Simpson, 40A Main Street, Kirkland Lake, Ont.
- 402 (Sudbury) Wing: Sudbury, Ont. Michael Werbiski, 638 Este Drive, Lockerby, Ont.
- 403 (Sarnia) Wing: Sarnia, Ont. Henry C. Keam, 214 Livingston Street, Point Edward, Ont.
- 404 (Kitchener-Waterloo) Wing: Waterloo, Ont. A. J. Snetsinger, 736 Avondale Avenue, Kitchener, Ont.
- 405 (Porcupine) Wing: Timmins, Ont. George V. Tennyson, 182 Elm Street North, Timmins, Ont.
- 406 (North Bay) Wing: North Bay, Ont. J. A. Douglas, 609 Second Avenue E., North Bay, Ont.
- 407 (Mount Forest) Wing: Mount Forest, Ont. Stephen Jones, P.O. Box 286, Mount Forest, Ont.
- 408 (Toronto) Wing: Toronto, Ont. F. J. Ellis, 2156 Queen Street East, Toronto, Ont.
George G. Dawber, 112½ Chester Avenue, Toronto 6, Ont.
John A. Collyer, 18 Ladykirk Avenue, Toronto, Ont.
- 409 (St. Catharines) Wing: St. Catharines, Ont. E. D. Hainer, 28 Sandown Street, St. Catharines, Ont.
- 410 (Ottawa District) Wing: Ottawa, Ont. D. A. Hall, 655 Melbourne Avenue, Ottawa, Ont.
Miss E. M. Moles, 282 Somerset St. W., Apt. 2, Ottawa, Ont.
Earl P. Dagenais, 325½ Clarence Street, Ottawa, Ont.
- 411 (Chatham) Wing: Chatham, Ont. C. W. Hockridge, 113½ King Street West, Chatham, Ont.
- 412 (Windsor) Wing: Windsor, Ont. J. C. Taylor, 1138 Lincoln Road, Windsor, Ont.
L. N. Baldock, 665 Bartlet Drive, Calvert's Corners, Ont.
- 413 (Air Force City) Wing: Trenton, Ont. E. B. Turland, 143 Stanley Street, Trenton, Ont.
- 414 (North Star) Wing: Cobalt, Ont. (No delegate)
- 415 (Prince Edward) Wing: Picton, Ont. E. J. Bateson, P.O. Box 213, Picton, Ont.
- 416 (Kingston) Wing: Kingston, Ont. A. J. Stansbury, 242 Park Street, Kingston, Ont.
Evan Callas, 156 Ordinance Street, Kingston, Ont.
- 417 (Richmond Hill) Wing: Richmond Hill, Ont. V. P. Lawrence, Ruggles Avenue, Box 461, Richmond Hill, Ont.
- 418 (Belleville) Wing: Belleville, Ont. John D. Godwin., 84 Golddale Road, Belleville, Ont.
- 419 (Oakville) Wing: Oakville, Ont. H. E. Kelly, P. O. Box 170, Clarkston, Ont.
- 420 (Oshawa) Wing: Oshawa, Ont. C. H. Jenkin, 24 King Street E., Oshawa, Ont.
- 421 (Newmarket) Wing: Newmarket, Ont. E. R. Apps, 103 Queen Street E., Newmarket, Ont.
- 422 (Leamington) Wing: Leamington, Ont. Morgan Brown, Leamington Hotel, Leamington, Ont.
- 423 (Chapleau) Wing: Chapleau, Ont. J. G. A. Burns, P.O. Box 165, Chapleau, Ont.
- 424 (Cornwall-Dist.) Wing: Cornwall, Ont. A. V. Webster, 426½ Second Street W., Cornwall, Ont.
- 425 (Huron) Wing: Goderich, Ont. W. G. Farndale, 50 Widder Street, Goderich, Ont.
- 426 (Brockville) Wing: Brockville, Ont. L. G. Greer, 285 King Street E., Brockville, Ont.
- 427 (London) Wing: London, Ont. W. A. Ballard, 405 Grey Street, London, Ont.
- 428 (Peterborough) Wing: Peterborough, Ont. George O. Ball, 207 Brock Street, Peterborough, Ont.
- 429 (St. Thomas) Wing: St. Thomas, Ont. W. J. Roulston, 33 Isabel Street, St. Thomas, Ont.
- 430 (Leeming Air Force) Wing: Toronto, Ont. W. V. Kearns, 298 Earls court Avenue, Toronto, Ont.
- 500 (Winnipeg) Wing: Winnipeg, Man. W. E. C. Morris, 87 Des Meurons St., Norwood, St. Boniface, Man.
Nichol Carrie, Crescent Creamery, Winnipeg, Man.
- 501 (Lakehead) Wing: Port Arthur, Ont. Miss E. B. Halliday, 1426 Murray Avenue, Fort William, Ont.
M. J. Rothschild, 411 N. Cumberland Street, Port Arthur, Ont.
- 502 (Brandon) Wing: Brandon, Man. Terry Penton, 931 — 5th Street, Brandon, Man.
- 600 (Regina) Wing: Regina, Sask. J. D. Clarke, 8 Nesbitt Apts., Regina, Sask.
- 601 (Moose Jaw) Wing: Moose Jaw, Sask. (No delegate)
- 602 (Saskatoon) Wing: Saskatoon, Sask. J. R. Burnham, 1205 Avenue D. North, Saskatoon, Sask.
- 603 (Yorkton) Wing: Yorkton, Sask. F. R. Siddall, 105 Laurier Avenue, Yorkton, Sask.
- 700 (Edmonton) Wing: Edmonton, Alta. C. H. Wallace, 9931 — 83rd Avenue, Edmonton, Alta.
R. H. Gould, 11315 — 58th Street, Edmonton, Alta.
- 701 (Calgary) Wing: Calgary, Alta. Harry G. Osborne, 105 — 26th Avenue W., Calgary, Alta.
- 702 (Lethbridge) Wing: Lethbridge, Alta. C. R. Dixon, 622 — 17th Street South, Lethbridge, Alta.
- 703 (Central Alberta) Wing: Red Deer, Alta. John J. Stewart, P.O. Box 340, Red Deer, Alta.
- 704 (Medicine Hat) Wing: Medicine Hat, Alta. F. T. Anderson, 27 — 7th St. W., Medicine Hat, Alta.
- 800 (Forbidden Plateau) Wing: Courtenay, B.C. H. W. Fullard, P.O. Box 240, Courtenay, B.C.
- 801 (Victoria) Wing: Victoria, B.C. N. J. Hill, 963 Dingley Dell, Victoria, B.C.
- 802 (Vancouver) Wing: Vancouver, B.C. James E. Murphy, 755 West 66th Avenue, Vancouver, B.C.
- 803 (Rocky Mountain) Wing: Cranbrook, B.C. (No delegate)
- 804 (Prisoners of War) Wing: Vancouver, B.C. Garfield W. Cross, 1175 — West 11th Avenue, Vancouver, B.C.

Romance in a Battery Box

Sqn. Ldr. H. C. FORBELL, A.F.C., of the Directorate of Ground Training at A.F.H.Q., had long brooded over a handsome brass-handled mahogany box which he had noticed in the shop-window of a second-hand furniture dealer. It was, he reflected, of just the size to make a fine sewing-box for his wife. Eventually the thoughtful officer took the plunge—and after a hard bout of bargaining, the box was his for \$1.50.

It contained one of those therapeutic battery assemblies that were formerly esteemed as the answer to most human ailments. Sqn. Ldr. Forbell ruthlessly ripped the ancient fetish from its hiding-place . . . pausing for a moment, however, to unfold and glance at a few time-yellowed pieces of newspaper that had been crumpled up and used as padding to hold the batteries in place.

They had apparently been torn from some New York journal of uncertain year, and they contained the usual assortment of items of popular interest . . . the escape of a fox from the Bronx Park Zoo, a traffic block on the Third Avenue "El," a eulogy of Ruppert beer, etc. But what caught and held

Sqn. Ldr. Forbell's attention were the two fragments that are reprinted below.

* * *

AERODROME TURNS IN FLIGHT Damages Front Controls and Right Wing in Sudden Descent

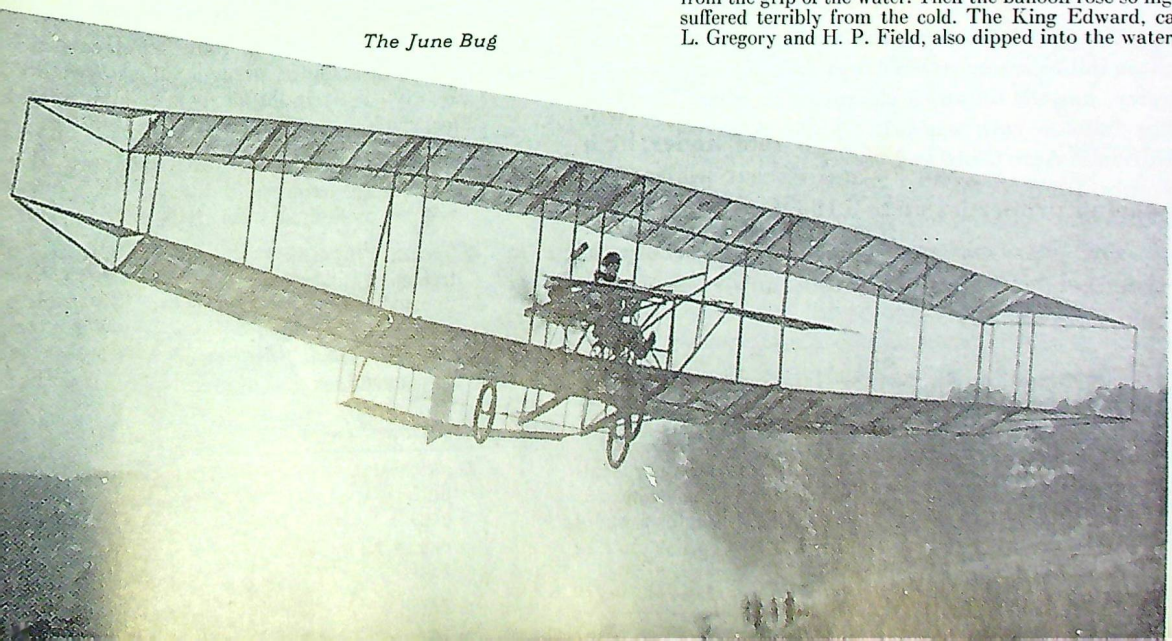
HAMMONDSPORT, N.Y., July 5.—Before a crowd of several thousand persons Glenn H. Curtiss made an ascension to-day in the aerodrome No. 3, the June Bug, and for the first time in the series of trials made a turn during the flight and faced directly toward the starting point.

After covering five-eighths of a mile it was necessary to fly over a vineyard, and fearing disaster, owing to the fact that he was flying low, Curtiss brought the machine down with a slight damage to the front controls and the right wing. Mr. Curtiss was uninjured. The flight and the manoeuvres were considered a great success, it being the first attempt to describe a circle. The members of the Aero Club committee, who left here to-night, expressed great satisfaction at the outcome of the trial. The aerodrome will be repaired to-night and experiments will . . .

* * *

. . . French balloon Ville de Dieppe, carrying A. E. Mueller and George Schoenack, was dragged in Lake Michigan for ten miles before its occupants succeeded in freeing the basket from the grip of the water. Then the balloon rose so high they suffered terribly from the cold. The King Edward, carrying L. Gregory and H. P. Field, also dipped into the water.

The June Bug



With word from the Illinois, which landed near Picton, Ont., reports of the nine balloons were completed. In the Fielding, which was victorious, were Captain Honeywell and C. J. Fielding. It traveled 100 miles further than any other balloon.

The King Edward, Canada's entry, landed at 3.30 this morning near Port Huron, Mich. The Chicago, carrying Charles A. Coey and G. L. Bumbaugh, landed at 9.30 a.m. in Perth county, Ontario. The United States, with Colonel A. P. Shirley, landed at 8.30 a.m. in Bruce county, Ont. The Columbia reached Clinton, Ont., last night, when Captain Peterson had his hard experience. The America reached earth in Carsonville, Mich., to-day. The Cincinnati, whose occupants, Leslie Haddock and George H. Ward, landed last night in Covert, Mich., came down so soon because they wished to send out life-savers to aid the Ville de Dieppe.

From accounts that have been received here it seems that the cold currents of air over the Great Lakes gave the aeronauts a problem upon which they had not speculated with sufficient foreknowledge. The balloons, wafted by a stiff breeze, traveled finely until they were over the lakes, and then the cold air contracted the gas to such an extent that the balloons dropped quickly toward the lakes, and several of the balloonists hastily donned life preservers. Of these, Schoeneck and Mueller had the most terrifying time. The Ville de Dieppe had been inflated to only 75 per cent of its capacity, and after it had traveled five miles across Lake Michigan it suddenly shot down like a stone. Sand, provisions, instruments and anchor were hurled overboard, but the balloon did not stop.

The basket was submerged and Schoeneck tried to leap into the water. Mueller, however, grabbed him and made him climb into the rigging. Each donned a life preserver. Mueller remained in the basket with the water above his waist. In that way the balloon dragged for ten miles, occasionally rising above the water and then settling down. Both men clung desperately to the rigging and suddenly the balloon shot upward to a height of 7,000 feet. The two pilots, whose hands had been cut by holding to the rigging, then became chilled to the bone. The sudden change had such an effect upon the ear drums of Schoeneck and Mueller that they screamed with pain. Mueller, despite his own misery, held the other man, who had become frantic. The balloon, however, did not remain long in such a high altitude and began to sink. At 8.50 it landed in Michigan. The men could not get in communication with Chicago until this morning.

* * *

Wing Cdr. F. H. Hitchins, the Air Historian, to whom we immediately referred Sqn. Ldr. Forbell's discovery, has the following comments to make:

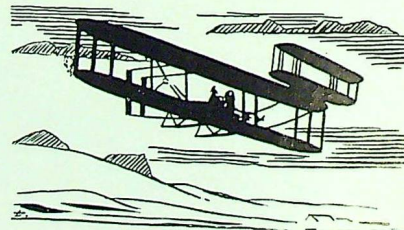
"The balloon race was held by the American Federation of Aero Clubs and started from Chicago on 4 July 1908. (This was the 'golden age' of balloon racing in America.) It was won by E. H. Hunnewell of St. Louis, one of the most famous aeronauts of the early 1900's. (The newspaper refers to him as Captain 'Honeywell', presumably a phonetic rendition of his name.) His companion was Dr. F. D. Fielding of San Antonio, Texas. Their balloon, 'Fielding,' landed at West Shefford, P.Q. (east of Montreal), 895 miles from the starting

point. This was a new American record, beating the previous record of 876 $\frac{3}{4}$ miles which had been set in 1907. It stood for two years. (Sorry I have no gen about the Canadian entry in the race. Canadian newspapers of that date would probably give details.)

"The 'aerodrome' story has several interesting points. The word 'aerodrome' is of antiquarian (or historical) significance. It was coined by Dr. Alexander Graham Bell to describe the aircraft which the members of his Aerial Experiment Association (McCurdy, Baldwin, Curtiss and Selfridge) designed and constructed at Hammondsport, N.Y. 'Aeroplane,' Bell argued, was incorrect. The secret of flight lay in the fact that they were *not* flat surfaces (planes), so he used the word 'aerodrome' (air runner). The machine 'June Bug' was the third design of the A.E.A., and was Glenn Curtiss's production.

"The flight mentioned in the paper was the sequel to an epoch-marking flight on the previous day (4 July 1908), in which Curtiss made a straight flight of more than one kilometre, in the presence of official witnesses, and thereby won the first leg on a trophy which had been offered by 'The Scientific American' magazine. Curtiss also won, by this flight, the Aero Club of America's license Number 1. The significance of the flight lies also in the fact that it was the first time that a flight had been made on a *pre-announced* date in the presence of *official* judges or witnesses. You might say it marked the public presentation of the aeroplane (or aerodrome) to the American world, at least. The flight is also of interest as marking another step in the evolution of flight from 'straight ahead' to turns and circles.

"The famous 'Silver Dart' was the fourth in the series of A.E.A. aircraft, following the 'June Bug'."



Drill Is So Bracing

By an Unknown Hand

(We don't know by whom or when this was written, but we feel that it gives articulation to certain emotions that have seethed in Service breasts ever since Caesar's legionaries sweated it out along the Roman roads.—EDITOR).

ALTHOUGH NOBODY could recall having put in an E. 42 for them, Command recently received fifteen hours of compulsory drill . . . and has the fresh graves to prove it! Even more recently, various readings from the King James version of C.A.P. 90 will be remembered as the least likely to outsell "Forever Amber". Republic Pictures are rumoured to have offered \$2.95 for the picture rights to it, but cancelled the deal because Boris Karloff wasn't available for the lead rôle.

Anyway, it seems that every spring somebody sees an airman moving slowly through an attention area on all fours, thoughtfully lipping the unlit butt of a cigarette, whereupon a general order goes out for a period of compulsory drill to smarten up all personnel.

All personnel take to the idea like a duck takes to buckshot. It is surprising, yet true, that after six years of war, drill has not caught the popular imagination as a substitute for beer. Corporals don't cry for it, and airmen can go for days, or even weeks, without it.

When the Command group assembled at the

lower parade ground for the first morning of this drill, I was interested to note in their actions fresh evidence that the gentleman who wrote C.A.P. 90 was something of a visionary, the Woodrow Wilson of the Standard Pause, so to speak. There occurred, for instance, the delightful one-act farce known as "calling out markers." Contrary to the expectations of the author of C.A.P. 90, there is rarely any general clamour of volunteers for the job, with airmen whistling shrilly at the sergeant-major and pointing to themselves, or any exhibition of that sort. On the contrary, when it becomes apparent that the sergeant-major is about to call out a marker, a mass of self-effacement takes place on the edge of the parade square, in which everyone attempts to look like a blade of grass or a slight rise in the ground. Also, everybody tries to stand behind everybody else. A few minutes' work with pencil and paper will prove that this movement is a physical impossibility, but none the less it is one which remains very popular with airmen.

A second purely fictional chapter of C.A.P. 90 is its account of "falling in" on the marker. This move never happens in real life. Because of the



unpopularity of the positions in the front rank and those of right markers, a flight would as soon fall in on a leper. Actually, the popular place for falling in is wherever anybody thinks the middle of the centre rank will be.

Some of the dirtiest fighting of the war took place in this area. And it is always a stirring sight to watch a couple of experts contesting the position . . . the clever footwork, the elbows flashing in and out of the ribs, to the accompaniment of the crunch of leather on bunions and the muttered curses of the vanquished. The rear rank is mustered with difficulty, composed of the lame and the halt, the mentally infirm, and a smattering of individuals who still believe in promotion.*

C.A.P. 90's plot thickens now, as we pick up our dressing. As we all know, this does not mean that everybody is given a jar of "Miracle Whip" as a reward for having graced the parade with his presence. To pick up dressing requires that you snap your right arm up smartly to the shoulder of the man next to you, while the man on your left snaps his right arm up smartly to your chin.

After a decent pause in memory of our last movement, the feet are rapidly shuffled. (This movement does not seem destined to replace the waltz or foxtrot as a popular dance form.) After the feet have been shuffled, they are dealt from the right to the left until everybody has three feet . . . two of his own and one between them in the position of "at ease."

Now we come to one of the most grisly chapters in the book, and one which I personally can never read without a shudder. It's the one where the flight commander sizes the flight in cold blood. The order for this terrible havoc is "tallest on the right, shortest on the left, in three ranks, size". My one reaction to this command is to sit right down on the asphalt and bawl, because I never know whether I'm tall or short and nobody ever tells me.

Then, after the front rank has numbered, I can never recall offhand whether my file is odd or even. On one occasion I whispered to the man next to



me "Am I odd?" " 'Queer' is the better word," he replied. Evidently he was trying to evade the question.

A great deal of a compulsory drill period is devoted to a ludicrous C.A.P. 90 pastime known as "mutual instruction". Mutual instruction occurs when somebody you never particularly liked before, but whom you now plan to throttle with his own oesophagus, calls you out of the ranks and generously gives you the flight. This affords you the opportunity of standing in front of upwards of twenty men and proving beyond doubt that you are a congenital idiot.

In the space of a few minutes you successively:

- smirk dismally at the flight in a futile attempt to win its sympathy,
- clear your throat noisily,
- screech the order to "quick march" from the position of standing easy, and
- thus establish yourself as a throwback to Neolithic Man, and one who, for his next trick, may be expected to show how to make fire by striking a chunk of flint against the side of his head.

This sort of thing, according to C.A.P. 90, is supposed to give us confidence in handling men. Even if we were interested in handling men, the theory is highly fallible. My own experience, after a period of mutual instruction, is that men cower at the very sight of me, especially those I have obliged to march through a large puddle eight times in line, five times in threes, and once in the usual formation that results from the order "At the halt, on the left, change your form, fall in!"

*Promotions:—mythical occurrences, characterized by the sudden appearance of magic hooks or crowns that enable the recipients to make others do their bidding. Very few such manifestations have been reported since 1944.

★ What's the Score?

FLT. LT. S. E. ALEXANDER, besides being the R.C.A.F.'s pundit on arctic survival, seems to have survived quite satisfactorily in Canada's less frigid latitudes too. Therefore, since many of our readers are probably getting back to nature sometime during the midsummer and fall months, we wandered into his office in search of a few seasonable ideas for our July-August questionnaire. The result of our visit appears below. Correct answers are shown on page 96. Outdoor men and camp-fire girls should score not less than 12.

1. The best way to escape from a grizzly bear is to:
- (a) Stand perfectly still.
 - (b) Climb a tree.
 - (c) Rush at it with a loud cry.
 - (d) Scream for help.



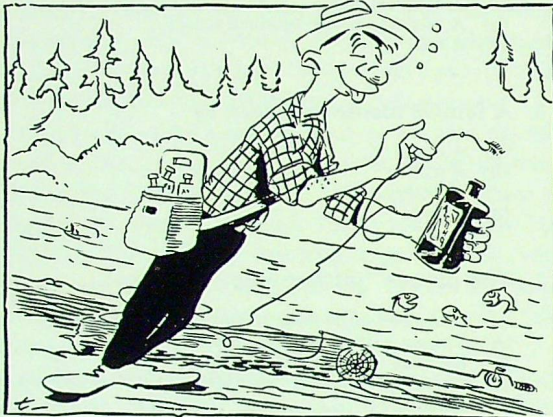
2. A grayling is:
- (a) An aged Eskimo.
 - (b) A small cougar.
 - (c) A member of the hemlock family.
 - (d) A fish.
3. A female moose is known as:
- (a) A doe.
 - (b) A mare.
 - (c) A wether.
 - (d) A cow.
4. The phrase "pit-lamping" refers to:
- (a) A method of cooking pheasant in a clay pit.
 - (b) Fishing with a light at night.
 - (c) Hunting with a light at night.
 - (d) Pursuing deer that have taken refuge in old mine-tunnels.
5. A lynx:
- (a) Can see perfectly in complete darkness.
 - (b) Has eyes that are luminous in the dark.
 - (c) Can't see a darned thing in the dark.
 - (d) Generally travels in the water at night.
6. By "traversing a canoe" is meant:
- (a) Paddling with one paddle only.
 - (b) Crossing rapids.
 - (c) Working along the shore against the current.
 - (d) Carrying it over a watershed.
7. The quickest way to get a fire going in a wet forest is:
- (a) To use one's shirt-tail as kindling.
 - (b) To ignite the powder from a cartridge.
 - (c) To use birch-bark as kindling.
 - (d) To shoot a deer and use its fat as oil.
8. A werewolf is:
- (a) A reformed wolf.
 - (b) Half wolf, half dog.
 - (c) A kind of timber wolf.
 - (d) A mythical monster.

9. The best way to escape from a black bear is:

- (a) To take to the water.
- (b) To climb a tree.
- (c) To hit it on the nose with a stick.
- (d) To run downhill.

10. A dry fly (in fishing) is one that:

- (a) Doesn't touch the water.
- (b) Lies on top of the water.
- (c) Is used only in the dry season.
- (d) Has to be soaked in alcohol before use.



11. The North Star:

- (a) Indicates True North.
- (b) Only indicates True North at midnight (standard time).
- (c) Is one of the stars in the Big Dipper.
- (d) Indicates Magnetic North.

12. Of the mosquito tribe, only:

- (a) The female stings.
- (b) The female bites.
- (c) The male bites.
- (d) The male stings.

13. A sockeye salmon is caught by sportsmen:

- (a) With a dry fly.
- (b) With a spear.
- (c) With a lure.
- (d) With none of the above.

14. A simple antiseptic for wounds is:

- (a) Gum from a pine-tree.
- (b) Salt and water.
- (c) Juice of the juniper berry.
- (d) Baking-soda and water.

15. To catch an inconnu:

- (a) Set a snare.
- (b) Send a ferret into its burrow.
- (c) Shoot it with a heavy-calibre rifle.
- (d) Use a gill-net.

16. The .30-30 rifle is so named because it uses a bullet of .30" calibre which was originally:

- (a) Loaded with 30 grains of black powder.
- (b) Introduced as a sporting calibre in 1930.
- (c) Packed in boxes containing 30 cartridges.
- (d) Thirty sixteenths of an inch in length.

17. The best type of boughs with which to make a bed in the bush are:

- (a) Hawthorn.
- (b) Spruce.
- (c) Hemlock.
- (d) Birch.

18. If hopelessly lost in the bush, the wisest procedure is:

- (a) To stay where you are and make smoke-signals.
- (b) To follow any creek or river down-stream.
- (c) Start a forest fire.
- (d) Follow a game-trail.

19. The porcupine is protected by law in the Yukon and North-West Territories because:

- (a) The skin of its under-belly is essential to the Indians for making gloves.
- (b) It is too dangerous to hunt.
- (c) Its favourite food is the dreaded water-moccasin snake.
- (d) It can be easily caught and killed for food by persons lost in the bush.

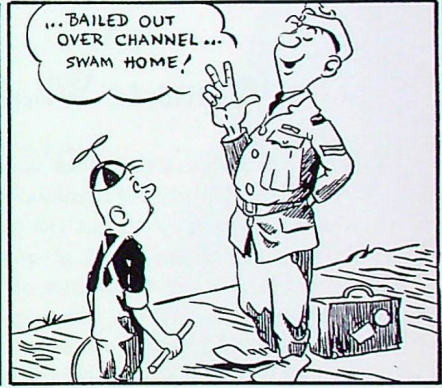
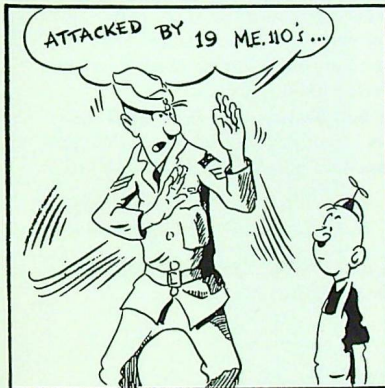
20. In the absence of the usual medicaments, the best "natural" treatment for poison-ivy rash is:

- (a) Skunk-oil.
- (b) Beetle's bile.
- (c) Spruce tea.
- (d) Mud.



The DIMMER VIEW.

by ray tracy



Giants in the Arctic

Winterizing of equipment for use in the Arctic must take into consideration the Paul Bunyan-like size of the men who have to operate it. Therefore, adequate spacing of handles, nuts, levers and pedals is just as important as figuring how to make the machines themselves efficient.

Parts Measured	Measurements in Inches	
	With Warm Weather Clothing	With Arctic Weather Clothing
Chest	37	61
Hips	37	64
Ankle	9	28
Head	23	38
Wrist	7½	21
Foot (length)	11	14
Foot (width)	3½	5
Breadth across shoulders	18	32
Thickness thru chest	10	17

(R. W. Beal in the "S.A.E. Journal": U.S.A.)



The Means to What Ends?

WHAT HOPES AND FEARS does the scientific method imply for mankind? I do not think this is the right way to put the question. Whatever this tool in the hand of man will produce depends entirely on the nature of the goals alive in this mankind. Once these goals exist, the scientific method furnishes means to realize them. Yet it cannot furnish the very goals. The scientific method itself would not have led anywhere, it would not even have been born without a passionate striving for clear understanding.

Perfections of means and confusion of goals seem — in my opinion — to characterize our age. If we desire sincerely and passionately the safety, the welfare and the free development of the talents of all men, we shall not be in want of the means to approach such a state. Even if only a small part of mankind strives for such goals, their superiority will prove itself in the long run.

(Albert Einstein)

Letters to the Editor

NO. 429 BADGE WANTED

Dear Sir:

I would like to know where I can obtain the badge (suitable for wearing on a blazer) of the old 429 (Bison) Squadron, of which I am a former member.

H. Robinson
3057 Contrecoeur St.,
Montreal 5, Quebec.

(Possibly some other reader can help Mr. Robinson. There is no central source of supply of such badges, but several military tailors will have them made upon request.—EDITOR)

PILOT OFFICER MAGEE

Dear Sir:

I want to thank you for the fine presentation of Pilot Officer Magee's poem "High Flight" in your April issue.

Many years ago (or does it just seem like that?), when I was still in school, I read the biography of John Gillespie Magee. In it was "High Flight". It is the only poem I can still recite.

P/O Magee was an amazing boy, and it was one of the more unfortunate accidents of war when he was killed. From the poetry he left, it seems to me that, had he lived, he would have been one of the world's finest poets.

A kind word also for Sgt. Shatterproof. Be of good cheer, friend. Your persistence may yet cure all the ills of the R.C.A.F.—and (who knows?) possible of the U.S.A.F. too.

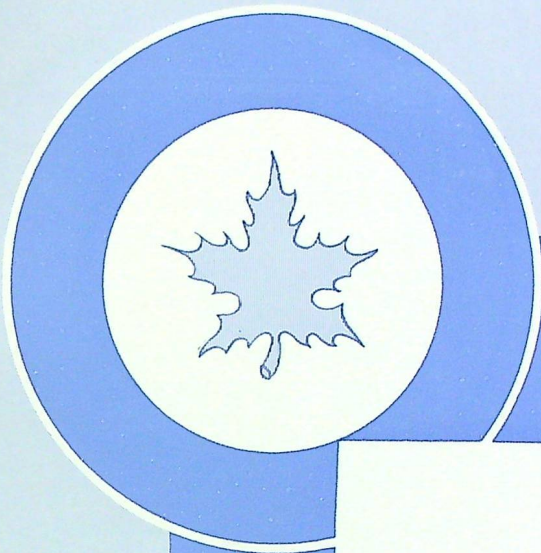
S/Sgt. Simon R. Steinreich, U.S.A.F.
Elmendorf Air Force Base, Alaska.

(Staff Sergeant Steinreich's greetings have been passed on to Sgt. Shatterproof.—EDITOR.)



Answers to "What's the Score?"

1: (b)	2: (d)	3: (d)	4: (c)
5: (c)	6: (c)	7: (c)	8: (d)
9: (c)	10: (b)	11: (a)	12: (b)
13: (d)	14: (b)	15: (d)	16: (a)
17: (b)	18: (a)	19: (d)	20: (d)



“THE ROUNDEL” MOVES

Readers are asked to note our new address:

**“The Roundel,”
Royal Canadian Air Force.
Victoria Island,
Ottawa, Ontario**

