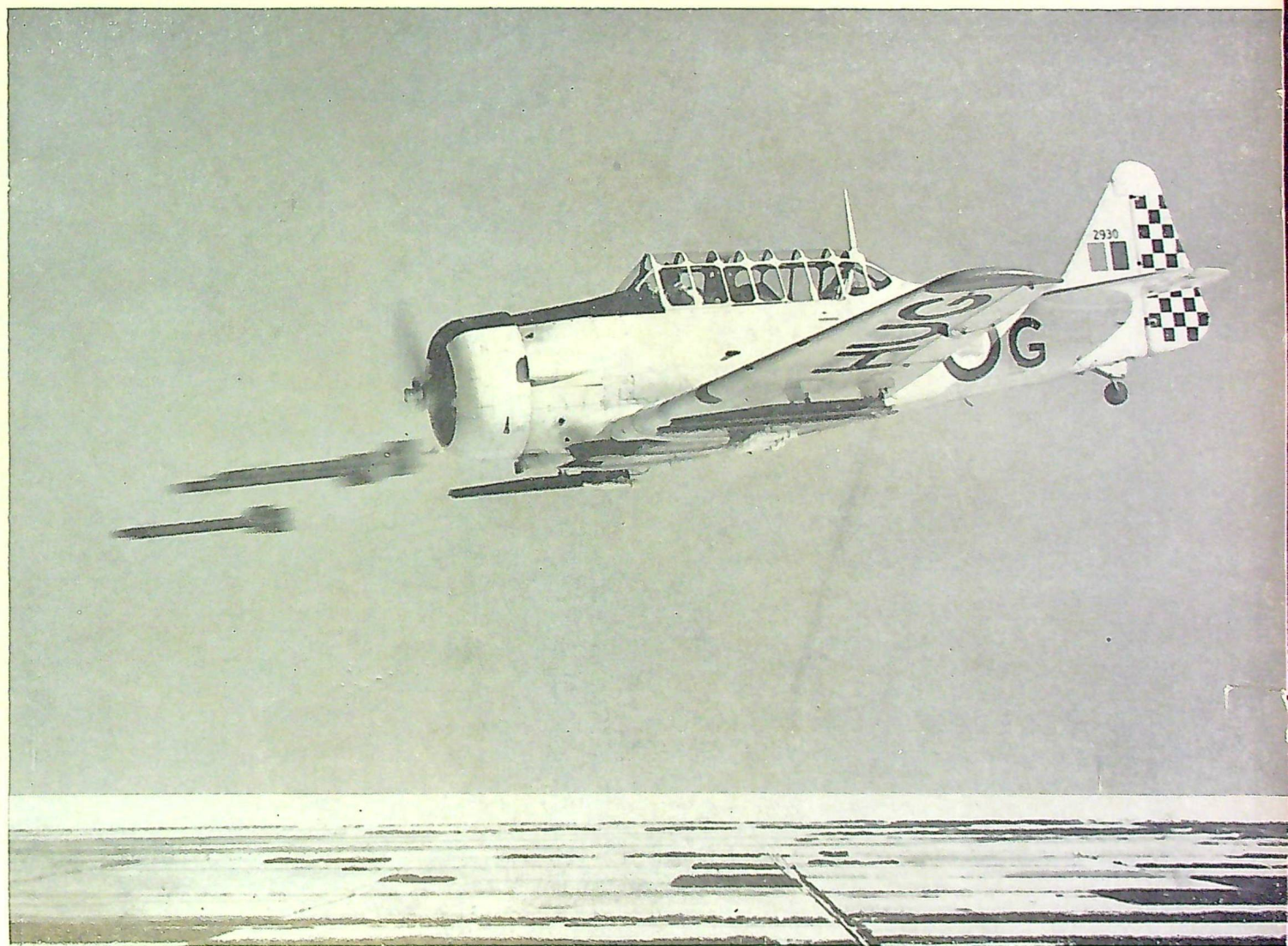


The **ROUNDDEL**

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ROYAL CANADIAN AIR FORCE



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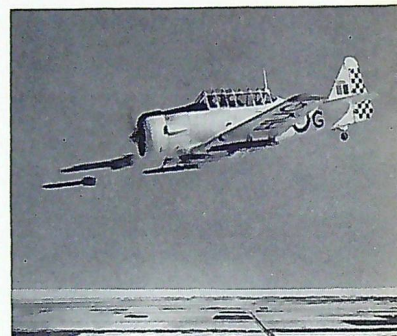
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This Month's Cover



An instructor fires off all four rockets from a Harvard during gunnery exercises at No. 1 Air Gunnery School, MacDonald, Man. (Photograph by W.O.2 D. E. Sankey, Directorate of Public Relations, A.F.H.Q.)

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

SGT. SHATTERPROOF DOES IT AGAIN

For several days I had been aware that all was not well with the editorial outlook. More than once I had caught myself contemplating the manuscripts in my basket without a shudder. For three mornings in a row, while weaving my way through the legions of young women who boil and seethe in the outer offices, I had been shocked to realize that I felt like prancing. And worst of all, a suspicion had been growing on me that perhaps mankind had, after all, progressed just a little since the days of *pithecanthropus erectus* and that the discovery of nuclear fission might therefore not prove to be an unmixed blessing. It was these last two thoughts — so utterly foreign to an editor and so palpably the product of a disordered mind — that sent me scuttling off to the M.O.

He heard me out patiently. Then:

“Your case is not unique,” he said. “An Air Vice-Marshal, three Group Captains, a clutch of Wing Commanders, and a gaggle of Squadron Leaders have visited me during the past week. Their symptoms have all approximated your own. Two of the Group Captains frankly confessed to having experienced an emotion not unlike brotherly



affection towards the boys in the field. The most surprising case, though, was that of Corporal Bodyblow. Hard citizen though he is, the poor chap was on the verge of a nervous breakdown when he got here. He'd actually heard himself suggesting that the Brass wasn't as black as it was painted.”

I clutched at the desk for support.

“Yes,” he went on. “But there's nothing I can do about it. Medical science has yet to learn how to prevent Spring Fever.”

“Spring Fever!” I cried. “You mean the expansion of the spirit? A young man's fancy, and all that?”

“Precisely—” his eyes flickered to my hair-line “— in the case of a young man, that is.”

I cantered back to Victoria Island, pausing beneath the budding trees on Wellington Street to aim a couple of cuckoo-calls at the Parliament Buildings. As I caracoled into the office, however, a monolithic figure turned from the window and transfixed me with a gaze of intense distaste.

“So, Sir, we frolic! We frisk! While ‘The Roundel’ staggers on to its inevitable Waterloo, we hum ditties from ‘Oklahoma’. May one ask why?”

Lightly I vaulted into the editorial chair.

“Because, Shatterproof, we feel the sap rising in the sear and withered soul. We love our fellow-man — and woman,” I added, glancing up (and, I fear, down) at Claudette, who had just twinkled in with a letter. Then I told him of my visit to the M.O.

The old wardog advanced towards me. I was uncomfortably reminded of a dinosaur moving in to admonish its young with a ten-ton tail.

“If, Sir, you will endeavour to control your osmotic processes for one moment, you will realize

that this is a season, not for jubilation, but for redoubled watchfulness. The April issue of 'The Roundel' must trumpet forth a warning note. Otherwise we shall yet see the boys in the field gagging over their bowls of woolly lousewort* and lemming's bile, content in the thought that by so doing they are bringing happiness to the Brass. We shall see the Brass, on the other hand, trying doggedly to force chicken down our airmen's throats three times a day. It will kill them with kindness. It will abolish all the hardships of Service life — including 'The Roundel'. It—"

"Just a moment, Sergeant," I interrupted, not without heat, "'The Roundel'—"

He waved me into silence with his pipe-stem.

"Consider also, Sir, what would happen were the epidemic to spread to the sphere of international politics."

I surged to my feet, Utopian clichés bubbling

from my lips. But Shatterproof seemed not to hear them. He continued:

"The result would be economic chaos. What of the thousands who toil to bring peace to the world? What of the thousands who toil to bring war? What, too, of the radio news-analysts and the newspaper columnists — many of them, no doubt, good family men? Would you see all these people deprived of their living? But if they mean nothing to you, Sir, then at least think of yourself. I observed your glances when that young lady came in here. Should she also fall a victim to the virus, what then?"

I blushed. "My dear Shatterproof, you really think she might?"

"I think, Sir, only of what the poet has said concerning crabbed age and youth . . ."

By the time I had recovered my poise, he was gone. But he had done it again. He had restored the *status quo*.

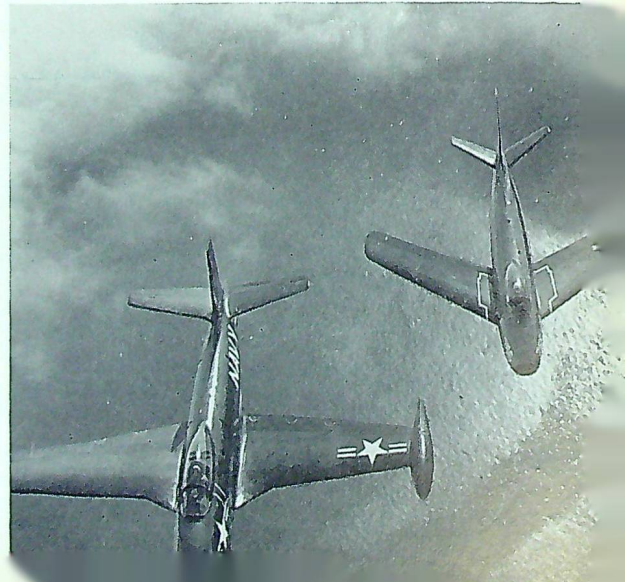
Snarling, I settled down to work.

*See Sgt. Shatterproof's polemic against arctic dietary in 'The Roundel' for March 1950.

Two New U.S.N. Aircraft

THE NORTH AMERICAN XA2J-1, which is the first twin-engined turbo-prop carrier-based attack bomber, has a maximum take-off gross weight of more than 26 tons. It carries 20 mm. armament and carries a bomb-load of 10,000 lbs. Powered by two Allison T-40 turbo-prop engines, its speed exceeds 400 m.p.h.

The North American swept-wing FJ-2 Fury, the U.S. Navy's latest carrier-based jet fighter, is shown with its predecessor, the FJ-1. The FJ-2 is in the 650 m.p.h. class, carries four 20 mm. cannons, and is powered by a General Electric J-47 engine. Its service ceiling exceeds 45,000 ft.



A Cellular Concept of Air Strategy

PART 2: THE STRATEGIC OFFENSIVE

By Wing Commander H. R. Foottit,
Director of Development "A", A.F.H.Q.

WHEN THE Allied war machine rolled over the heartland of Germany in the spring of 1945, there followed in its wake trained crews of investigators. Scouring through the rubble of the Ruhr, Hamburg, and other keypoints of Hitler's Reichland, they sought to piece together the story of the German collapse. With the dawn of peace the world found out that the Allied bombing attacks of 1944 and '45 had forced Albert Speer, the German production wizard, to report to Hitler: "The final collapse of the German economy can therefore be counted on with certainty within four to eight weeks. After this collapse even military continuation of the war will be impossible." And later von Rundsted said of the disastrous Ardennes offensive in December '44: "The root of the whole trouble was air power, air power."

To these statements, and dozens of others, the western world added the writings of Major Alexander de Seversky, the theories of U.S. General Billy Mitchell, and the books of the almost forgotten Italian air strategist, Douhet. The result was the strategic bombing theory. In essence, the radical proponents of this theory proclaimed that the enemy's heartland, the source of his war materiel, could be pulverized by air power and air power alone. And once the heartland was dead, the enemy was vanquished. But the enemy's heartland is a piece of land with a block of air over it, a strategic cell. Since the army is the only Service that can capture the land, the complete domination of the enemy's strategic cell* is an army-air force task. From a cellular concept of

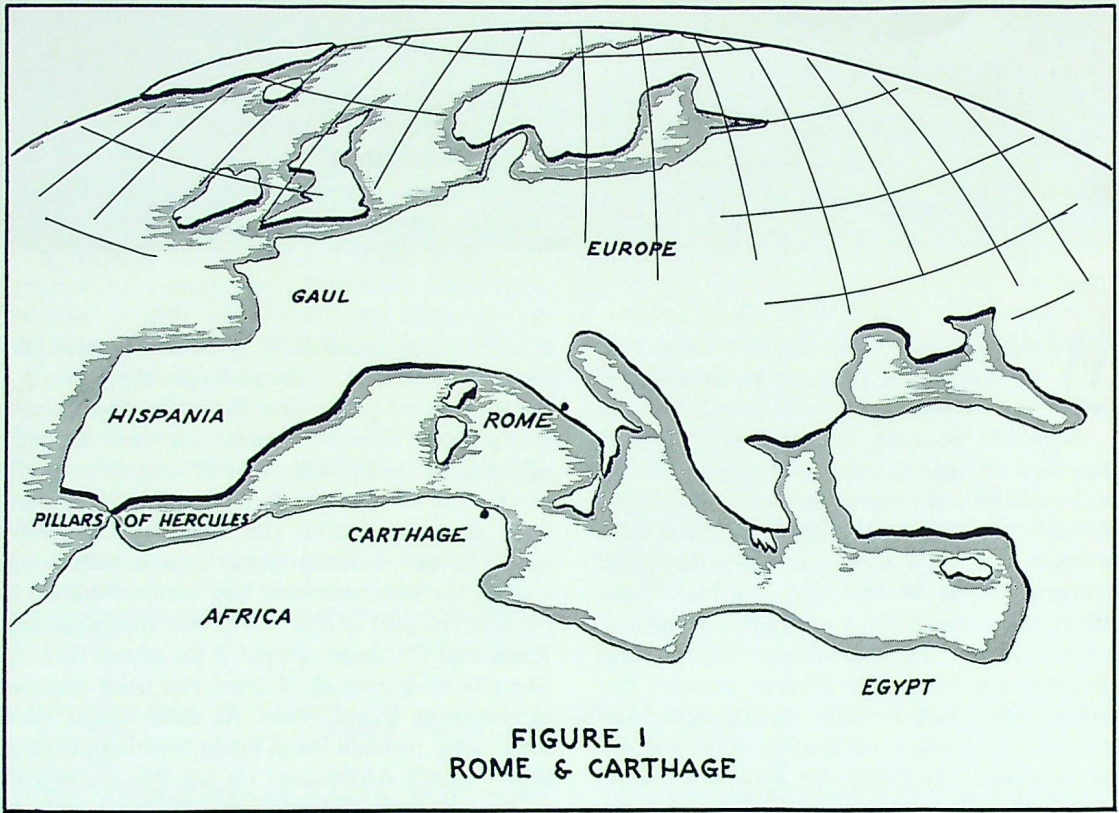
strategy, this domination is a co-ordinated, co-operative offensive — the strategic offensive.

Although air power and the atomic bomb have precipitated a new interest in the strategic offensive, actually this form of attack is as old as the art of warfare itself. In the second and third centuries before the birth of Christ, for example, the civilized world was a thin fringe around the blue waters of the Mediterranean. In the western part of this world two young nations, Rome and Carthage, grappled for power (Fig. 1). The resulting contest of arms has been recorded as the three Punic Wars. At their height these wars raged through Italy, Spain, Southern France, Sicily, North Africa, and on the Mediterranean, on a vast scale. They were unlimited wars of annihilation, an early equivalent to the global wars of the 20th Century.

In the second of these wars Carthage decided to pierce the heart of Rome's power by invading the Roman homeland. The Carthaginian brothers, Hannibal and Hasdrubal, executed a pincer movement: Hasdrubal with his army pressed southward down the Italian peninsula to trap the Romans against Hannibal and his troops who were holding a part of the Italian boot. By skilful manoeuvring, the Roman general, Claudius Nero, defeated and slew Hasdrubal, then turned and forced Hannibal into retreat. The strategic cell of Rome was saved.

Three years later the Roman general Scipio struck back. Driving his legions triumphantly through Spain, he landed on the north coast of Africa. In the battle of Zama (202 B.C.) he annihilated the Carthaginian army. The strategic cell of Carthage lay before him undefended. The

*See Part I of this series in the March issue of "The Roundel."



impending sack of the heart of the nation was sufficient to bring the Carthaginians to terms, just as surely as it brought the Japanese to terms some twenty-two centuries later.

From the birth of civilization, through the days of Rome and Carthage, to our modern world, in unlimited warfare one belligerent nation has always attempted to dominate the strategic cell of the other. Before the days of air power, armies pressed forward from one battle-ground to the next. Eventually one army brought the strategic heartland of the enemy under control by invasion, or by the threat of invasion. The coming of air power did not change this basic concept of dominating the enemy's strategic cell. Air power just added another weapon to the arsenal of the nation that sought to accomplish it.

However, the rise of modern air power, along with that of modern land and sea power, has precipitated new problems. The spears, swords, and ships of the Romans were ridiculously simple to manufacture in a limited area, compared to the present-day tanks, trucks, guns, bombers, fighters, battleships, destroyers, and the millions of other manufactured goods that a modern force requires in order to do battle, and which in their turn demand a widespread industrial capacity. As a result of this increase in complexity of modern arms, strategic cells have mushroomed from city-states, such as Rome and Carthage, to vast areas of the earth.

Consequently, in the world to-day there are only four major strategic cells. These cells embrace the strategic targets in any war of to-morrow and



supply the life-blood of modern military might. They are located in:

North America
Western Europe
Russia
East Asia (see Fig. 2)

The largest and most powerful of these cells is the U.S.-Canadian cell in North America. This vital heartland has already tipped the scales of victory in the last two global wars. And it is continually expanding. Even Canadian industry, which appeared to reach its zenith in the Second World War, has been growing steadily. As the Rt. Hon. C. D. Howe pointed out recently, this expansion has been progressing at a rate of three billion dollars annually since 1945, and last year it hit a peak of nearly five billion.

The second most powerful cell, the birth-place of industry and mass production, is that of Western Europe, which includes the United Kingdom. Steel production, which has long been used as an index of industrial capacity, demonstrates the potency of this cell: in 1950 the per capita steel production in Britain alone was more than twice that of the U.S.S.R. As the blast furnaces of the "Happy Valley" of the Ruhr light up again, and factories rise from bombed-out embers, Western Europe will again reach the eminence in industrialism that it enjoyed at the turn of this century. No small wonder, then, that the nations of the west are anxious to keep this cell under their control. The job of the R.C.A.F. squadrons and the Canadian Army's 27th Brigade Group in Europe is truly, as Defence Minister Claxton said recently, "the defence of Canada."

The third most powerful strategic cell is that of Russia. Western nations have always considered the U.S.S.R. as an industrial infant, at least until the MIG-15 aircraft and Soviet tanks showed their prowess in Korea. Actually Russia has a record of science and industry that dates back to the early 18th century and the reign of Peter the Great. The Russian Academy of Science opened in 1726. The first university opened in Moscow in 1755. Although the build-up of the Soviet strategic cell has lagged behind North America and Western Europe, Stalin's "Five-Year Plans", which commenced in 1928, have

sparked a startling expansion in Russia's heavy industry.

The last and most backward strategic cell on the globe to-day is that of East Asia. Backed by the rapid rise of science and industry in the Meiji Period, from 1868 to 1912, Japan attempted to spread the new industrial gospel to the hordes of East Asians. This cell was to become their East Asian Co-operative Sphere. In Japan itself the movement was highly successful. Cheap Japanese goods flooded western markets. But the great dam on the Yalu River, well-known to United Nations pilots that fly North Korea's "MIG Alley", bears mute testimony to the futile Japanese attempts to build up this vast heartland.

From these four great strategic cells flows the materiel that feeds the fighting forces, whether they be engaged in limited wars, such as the Korean war, or unlimited wars, such as the Second World War. In any unlimited global war of tomorrow these cells are clearly defined. The plans must therefore be blueprinted for the attack against the enemy's strategic cell, whether it be contained in Western Europe, Russia, or East Asia. For the strategic cell is the Achilles' heel of warring nations.

To be ready to launch the strategic offensive, the strategist must mould his forces around some fundamental concept. In this way he ensures that the proper forces are built up in peace-time ready to strike back at any nation that dares to light the torch of global war. If he fails to think in terms of a basic concept, history shows that he runs a grave risk of preparing his forces for the *next war* along the same lines as those in use during the dying days of the *last war*. As Marshal of the R.A.F. the Lord Tedder put it: "If our military thought draws its conclusions solely from the lush days of the last phase of the war and directs its policy for the future on that basis, then we certainly shall not be prepared for the lean days which we should undoubtedly have to face at the outset, were another war to eventuate. This is true not only of tactics but also of overall defence policy."

A cellular concept, however, forms a foundation for thought in forging any future forces. From

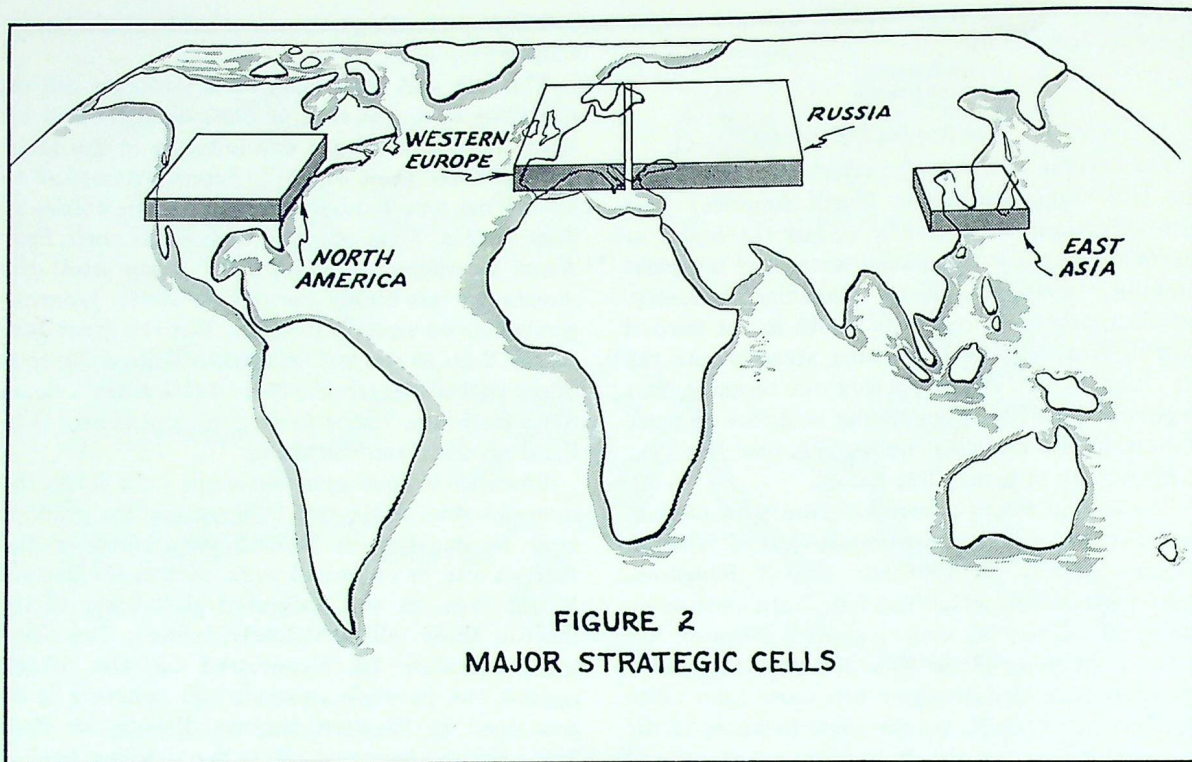


FIGURE 2
MAJOR STRATEGIC CELLS

this concept the enemy's heartland is visualized as a cell, with a land base and an air cap. The rôle of both air power and land power is to dominate this strategic cell. One of the missions of air power, then, is to pierce the cell and smash the enemy's industrial strength.

To bore into the cell, the offensive tool of air power (the manned or unmanned bomber) will be pitting itself against an air defence system designed to resist its penetration. From the air or ground an early-warning detection system will herald the bomber's approach. In some places a screen of anti-aircraft missiles or gun-fire will be thrown up. In others, a ground control interception system will vector fighters on to the intruder. In the future, however, the greatest resistance will come from guided missiles. In the book, "Modern Arms and Free Men," Dr. Vannevar Bush has pointed out that "the future enemy of the high-flying bomber is the guided missile."

Already the U.S. Army's "Nike" missile is starting in production and troops are being trained to assemble and fire it. At the Swiss National Air Display in Zurich a few months ago the well-known Swiss armament manufacturer, Oerlikon, exhibited a complete anti-aircraft missile system that included a mobile launcher and trailer-mounted radar.

Air forces, then, must be designed to penetrate the cell and combat the enemy's defence system. With this in mind, air bases which ring the strategic cell of any future enemy must be constructed well in advance of the offensive. These bases must be spotted so that they match the range of the bomber designed specifically for this mission. The aircraft that pierce the cell must have a protective screen of other aircraft, or must contain equipment to beat off fighters and missiles. A bombing target-system must be established and kept constantly up to date from accurate intel-

ligence. Navigation aids must be developed to steer the offensive unerringly to the target area. And, in the end, atomic and high-explosive bombs must be loosed accurately and in any weather on to key targets.

The destructive power of an atomic warhead dropped on a concentrated target is well established. But the bomb cannot be relied on to work miracles. The industry of the enemy may be widely dispersed or even pressed underground. A bombing crew, harassed by the enemy's defensive system, or a missile diverted by the same system, may not produce the precise results expected. P. M. S. Blackett, British Nobel prize-winning scientist, has therefore estimated that the number of atomic bombs required in a war with Russia "would run into thousands." It may even be in the hundreds of thousands.

Air power, therefore, must not forget its primary partner in the strategic offensive, land power. It must never again be accused, as it was recently in the U.S. Congress, of taking more than three years in the last war to work with land power, owing to the air force's "concentration on, and near-hypnotism with, air-to-air combat and the heavy-bombardment mission."

If the strategic offensive is to be unleashed in all its fury, then all the resources of air and land power must be thrown into the assault. In particular the airborne divisions, such as the famed British 1st, the U.S. 82nd, and the Canadian Army's "Mobile Striking Force," must be nursed to full maturity. At present this force is a relatively new weapon, and the nations of the west have only achieved the skill of neophytes in wielding it. In addition, the air and land forces must develop the specialized equipment, such as assault helicopters and transports, airborne tanks and artillery, that is vital materiel for the airborne army.

For this army is the tool that can drive wedges into the sparsely settled parts of the enemy's strategic cell, reinforce restive satellites, destroy vital targets that have eluded the bombers and

missiles, divert thousands of enemy troops from the front lines to protection of the rear, and keep the front-line soldier inefficient and tense as he looks over his shoulder awaiting the bayonet in the back. As opportunity presents itself, air-heads, supported by air power alone, will become what many beach-heads were to the troops of the Second World War.

And over the horizon lies the long-range ground-to-ground guided missile, similar to the U.S.A.F.'s short-range "Matador" pilotless bomber. This, too, must be fed into the assault on the strategic cell. In the last war the army and the air tactical group held a daily conference to discuss the joint fire-support plan. At this conference the targets in the tactical cell, directly in front of the advance troops, were pin-pointed for destruction or neutralization by the best possible air or artillery weapon. Is it not possible that in a future war a similar conference will decide the fire-support for the strategic offensive — bombers or fighter-bombers, airborne or paratroops, guided or unguided missiles? In this way each strategic target will be attacked by the most efficient weapon . . . until, in the end, as the productive power of the enemy's cell crumbles, the front-line army, backed by tactical air power, will mop up the last remnants of resistance.

This, then, is the strategic offensive from a cellular concept. In maintaining a sound peacetime economy, western nations may not be able to perfect every weapon in the arsenal for the strategic assault. Nevertheless, they must have a clear picture of the form of the attack and at least keep the fires of research and development burning. In every phase, marching hand in hand with science, equipment must be prototyped and produced, and techniques tried and polished, even on a limited scale. If we fail to do this we will be found guilty of what Marshal of the R.A.F. Sir John Slessor has called "busying ourselves preparing for the last war." That, in our atomic age, would be fatal.

R.C.A.F. Sport Panorama

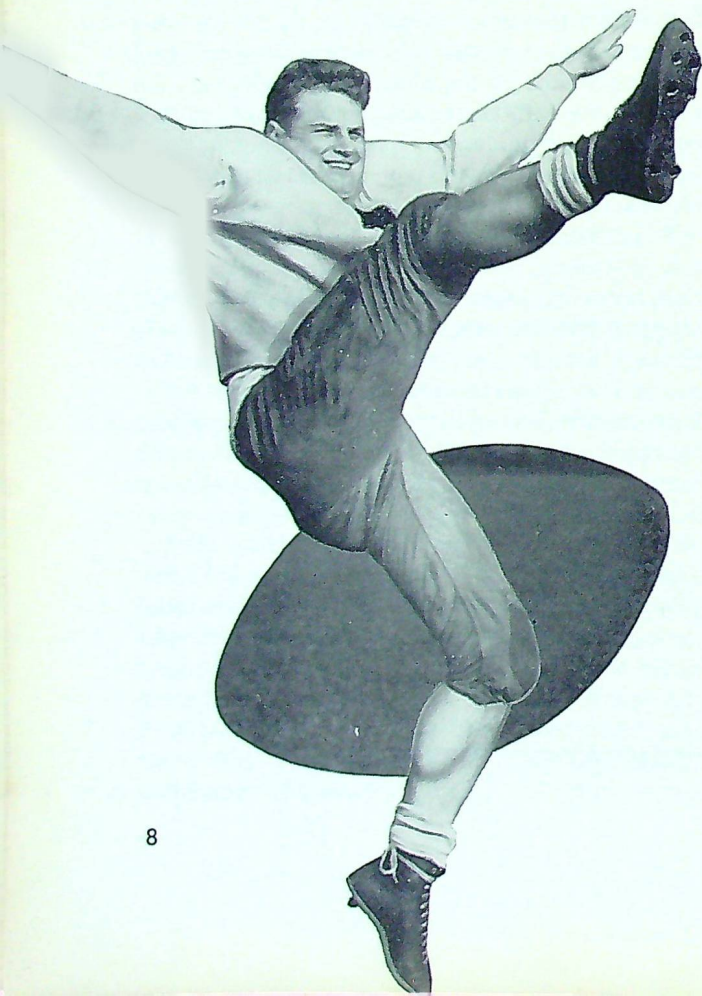
Football (Part Two: 1939-1951)

Early Second World War Years

In 1939 the two-year reign of the Toronto Argonauts as kingpins of the Canadian grid came to an end. Bytown's Rough Riders, suddenly tiring of rough treatment at the hands of the enemy from muddy York, arose to smite their erstwhile masters into football oblivion. At the

forefront of the Rider attack was a new Ottawa, Tony Golab¹, Sarnia's rookie star of 1938 who was already living up to the expectations of his former coach. His running, plunging, kicking, and defensive play sparked Ottawa to its first Eastern championship since 1926. The victims in that final were his old Sarnia teammates, who scored only one point to Ottawa's 23.

Golab



Then came the snowy final against Winnipeg. (Bringing the snow East with them yearly was part of the West's strategy.) Scoring a single point with but forty-eight seconds of play remaining, the Bombers won 8-7 and took home their second Grey Cup. In so doing they avenged a 24-1 beating administered to Winnipeg by the same Ottawa team on which Air Vice-Marshal James had played in 1926. Halfback Golab, who in one season had stamped himself as the best two-way footballer ever to represent the Capital, played only eight minutes, being forced out with an ankle injury. Future airmen with the Blue Bombers were outside wing Ches McCance,² halfback Johnny Lake,³ and inside wing Martin Platz,⁴ who, as an air gunner in 1943, became a prisoner of war.

Eastern Canadian football followed somewhat the same pattern in 1940. The Rough Riders swept aside all resistance in the Big Four and annexed the Eastern title by downing a gallant Balmy Beach squad, led by Bobby Porter,⁵ in a two-game, total-point series, 8-2 and 12-5. The first game was played entirely in a driving snow storm. That ended the season's grid activities, as Winnipeg did not travel East to defend its title. The Riders were thereby proclaimed Dominion champions. Other members of that team of particular interest to readers were Paul McGarry,⁶

¹See end of article for all numbered footnotes.

Coach Art Massucci drilling his Tigers, 1940. Mike Ozarko (left) hits blocking machine, while Jake Gaudaur (right of rear group) awaits his turn.

inside; "Soggy" Norton⁷ and "Pooch" Taylor,⁸ snaps; "Truck" Langley,⁹ middle; A.C.2 Bob Hazel,¹⁰ half; and Tony McCarthy¹¹ and LAC Elwood McFall,¹² outsides. LAC McFall was lost over the Atlantic in 1941, while ferrying a Hudson bomber to England.

The 1940 season was replete with interesting grid episodes involving players destined to join the flying Service. Toronto's Argonauts, the honourable opposition in the Big Four during Ottawa's regime, blew hot and cold all season. On a mid-November afternoon, Stukus,¹³ Coulter,¹⁴ West¹⁵ & Co., were handed the most humiliating defeat ever suffered by an Argonaut team — a 41-6 lacing by Ottawa at Lansdowne Park. In that game Golab carried the ball 21 times for an unbelievable average gain of nearly 12 yards a crack. A week later (after a severe tongue-lashing from Coach Hayman¹⁶) the Argos showed what stern stuff they were made of by bouncing back to beat the Riders, 11-9. They were led by a little 150-lb. halfback who played the game of his life — a dancing, dodging wraith named Coulter, who threaded his way for yardage through as many as six and seven Riders on a single run. The following week-end the Argos did a turnabout; this time it was the Hamilton Tigers' turn to howl, when they inflicted a 5-0 shutout on the Scullers. Snap Doug Turner¹⁷ and middle Mike Ozarko¹⁸ showed the way for the Tigers, in this, their first Toronto victory since 1936. This pair made the holes on offense and tackled like fiends on defense. Turner's favourite target? — Coulter. Two years later the latter two were teammates at R.C.A.F. Station Uplands.

The year 1940 saw the return of Camp Borden to the senior O.R.F.U. Most of the backfield load for this Army-Air Force team was carried by LAC Eddie Thompson,¹⁹ who, in his prime, had few peers as a running back. His effectiveness stemmed from that little extra burst of speed and drive which he always held in reserve. He preferred to knife through tacklers rather than run



McCance

around them. The Borden ace displayed this style in an exhibition game with the Hamilton Tigers, when he intercepted a Tiger pass on his own goal-line and ran 85 yards before being downed. The impassable obstacle was Jake Gaudaur.²⁰ Both were to play with the R.C.A.F. Hurricanes of 1942.

In a scheduled game against the Hamilton Alerts, the Borden Fliers found themselves up against the kicking talent of Walter²¹ and Oddie Gibb,²² whose brother had played for the first senior team to represent Borden 15 years before. However, the brother act refused to let sentiment stand in its way, and proceeded to score all the

Porter



Rough Riders v. Argonauts, 1941.
Golab scores a touchdown.



points in an 8-0 Hamilton win. Walter kicked two placements and Oddie added two singles. If Squadron Leader Gibb happened to see the game, he no doubt looked on with rather mixed feelings.

The following season saw the Riders capture league honours again, but only after the Argos had given them a terrific playoff battle. Dropping the first game 16-8, the Riders had to fight hard to take the second, 10-1, and win the round by one point.

Then came the challenge of the Hamilton Wildcats, O.R.F.U. champions. The 'Cats threw a scare into the power-packed Riders by holding them to seven points. But that was enough for an Ottawa win, as the Rider defense, led by such stalwarts as Golab, Paul McGarry (whom Ted Reeve²³ considered one of the best defensive linemen ever), and Tony McCarthy, a rib-rattling tackler, held Hamilton to two singles. Two of the Cats' best performers that day were middle Walter Gibb and outside Dick Groom.²⁴

Meanwhile, in the Western final, Winnipeg did battle with Regina's Roughriders, reputedly the greatest "home-brew" team the West had ever produced. Much of Regina's ball-toting was done by Ken Charlton²⁵ and Norm Geller.²⁶ Both players were better-than-average kickers too, Geller kicking particularly well in the playoffs. Winnipeg won in a close series, winning the last two games 18-12 and 8-2, after losing the first, 8-6.

The clash of the Rough Riders and the Blue Bombers in '41 was perhaps the most thrilling final of all. Early in the game Golab punted high and short to the left. He then proceeded to show one and all how to make the best of a bad break. Racing up to recover his own kick after one bounce, he sidestepped a defender and ran forty yards to score. Thereafter the lead changed hands several times before the teams were tied 15-all. Then late in the game, place-kicking expert Ches McCance lowered the boom at Ottawa's 38-yard line, and Winnipeg's three winning points sailed between the posts. Other Blue Bombers of particular interest in that game were linemen Rube Ludwig²⁷ and "Chick" Chikowsky,²⁸ and halfback Cliff McFadyen.²⁹ New faces with Ottawa were Flying Officer Doug Turner at snap and Johnny

Fripp³⁰ at flying wing, a real "find" who had plunged well for Ottawa all season.

Golab was his typical all-round self that day. More than once he plunged on first down, ran the ends on second down, and then, if necessary, dropped back to kick. It was this type of play that won him the Jeff Russell trophy, still awarded annually to the Big Four player who best combines football ability with good sportsmanship. It also won for him the title of Canada's outstanding athlete for 1941.

As the West's player crop of 1938 to 1941 has already been covered, it might be of interest to review Eastern grid circuits of those years and so bring ourselves up to date on new players (not yet mentioned in Part Two) with "also-ran" teams. To the 1940 Argonauts had come A.C.2 Doug Annan³¹ and, by way of Ottawa, A.C.2 George Sprague,³² both key linemen. The following season the Toronto team recruited more line strength in the persons of Bob Cosgrove,³³ ex-Calgary Bronk, "Hi" Living,³⁴ and George Oliphant.³⁵ Ex-Tiger

Fripp



Fred Kijek³⁶ also arrived to take up punting chores. Hamilton had welcomed to the Tiger fold inside Charley Szumlinski³⁷ and halfback Bernie Moroz.³⁸ In 1939 engineer Herb Westman³⁹ graduated from the McGill Redmen to the Montreal Royals. He and Noseworthy⁴⁰ gave that team the most consistent kicking in the country. Finally, the Montreal line received badly-needed assistance from middle wings Bennie Steck⁴¹ and Don Durno⁴² in 1940 and '41, respectively.

New faces who made their presence felt in the Ontario Union were Balmy Beach's Doug Smylie,⁴⁴ Cece Foderingham,⁴⁴ Jack Alexander,⁴⁵ Ross Giles,⁴⁶ and Ross Goodwin.⁴⁷

The Intercollegiate Union had been disbanded after the 1939 season, when the Western Mustangs were league champions.

Service Teams: 1942-44

In 1942 many civilian clubs suspended operations, and Service teams began to spring up in grid centres across the nation. Two of the East's Service teams, the R.C.A.F. Hurricanes and H.M.C.S. "York" Bulldogs, were in the O.R.F.U. The Hurricanes, after scuttling the Navy during the regular schedule, eliminated Beaches in the playoffs and advanced to the Eastern final.

Before going any further, a few words about the Hurricane team. A look at the official lineup will reveal that the Air Force squad was Rough Rider, Argonaut, Tiger, Royal, Bulldog, Balmy Beach, Westmount, Mustang, Varsity Blue, and Rough-rider, all rolled into one. Additional talent was provided by rookie half Jack Parry⁴⁸ (to whom the scribes later referred as the East's most sensational running back), and LAC Ed Poscavage,⁴⁹ an all-American end from Ohio State University. Most of the players were air-crew under training. Their coach was Flying Officer Lew Hayman, an administrative officer at No. 1 I.T.S. In short, the Hurricanes had top-notch running, plunging, passing, kicking, line-play, and coaching.

The other Eastern finalists were the Uplands Fliers, champions of the Ottawa City League, coached by Dave Sprague,⁵⁰ Ottawa's former line



Hurricanes, 1942. Front row (l. to r.): Thompson, Prince, Scott, West, Stukus, Buckmaster. Back row (l. to r.): Crowe, Foderingham, Langley, Durno, Evans, Oliphant, McGarry, Sarvis, —?.

star. Six players with Canadian senior grid experience comprised the nucleus of this team. They were Pilot Officer Tony Golab, Flt. Lt. Doug Annan, Pilot Officer Doug Turner, Flying Officers George Sprague and Bobby Coulter, and LAC "Ike" Norris.⁵¹ Three Fliers were former American College footballers: Sgt. Irv Grissom,⁵² a guard (inside) from Texas A. & M.; Sgt. Jack Justice,⁵³ a guard from Rollins College, Florida (brother of North Carolina's famed "Choo-Choo" Justice⁵⁴ of post-war years, who had been rejected by the R.C.A.F. for being too young); and Sgt. Marty Binion,⁵⁵ a halfback from Southern California. Other players included Sgt. Buddy Hellyer,⁵⁶ A.C.2 Thain Simon,⁵⁷ Pilot Officer Bob Pentland⁵⁸ (three hockeyists who had readily taken to the grid game), and corporals Allan⁵⁹ and Larry Fink.⁶⁰

On 28 November 1942, gridiron history was made when the Hurricanes and Fliers clashed at Varsity Stadium in the Eastern final. Never before had two senior R.C.A.F. football teams opposed each other. Wing Cdr. Dave Harding made the official kick-off, and the game got under way.

What followed was a rugged, fast-moving exhibition of football. The Hurricanes drew first blood when LAC Fred Kijek scored a major on a pass from A.C.2 Stukus. Flt. Lt. Eddie Thompson scored another touchdown on a runback of a short kick, straight-arming Flying Officer Coulter aside beautifully. The Fliers countered with a

The 1942 Hurricane line. Left to right: Poscavage, Ozarko, Langley, McGarry, Gaudaur, Evans, Burton.

CANADIAN RUGBY UNION EXECUTIVE FOR 1942

OFFICERS

Honorary President
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OFFICIALS FOR TO-DAY'S GAME

Referee: Frank Commins
Umpire: Lieut. E. Grant
Head Linesman: Ralph Adams

TO-DAY'S SCORE

BOMBERS				Final Score
1st Or.	2nd Or.	3rd Or.	4th Or.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HURRICANES				Final Score
1st Or.	2nd Or.	3rd Or.	4th Or.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

R.C.A.F. BOMBERS

2. McPHEE
6. CREASY
7. JOHNSTON
10. BOIVIN (R.C.A.F.)
11. SHELEY
12. AHOFF
13. BRANIGAN (R.C.A.F.)
15. MATHERS
16. SHORE
17. MOOREHOUSE (Army)
18. FROUBISTER
20. LAVITT (R.C.A.F.)
23. FINNISON
24. McCANCE (Team Capt.)
25. CHARLTON (R.C.A.F.)
26. WILSON (Navy)
28. McFADYEN (R.C.A.F.)
29. LUDWIG (R.C.A.F.)
30. CHIKOWSKI (R.C.A.F.)
31. FRITZ (R.C.A.F.)
32. ROSEBOROUGH
33. MANNERS (Army)
34. LAKE (R.C.A.F.)
35. MUGUL
36. LEAR

Acting Manager: F/O BILL COCKBURN
Coach: REG THRELFALL

Ass't Coach: BERT WARWICK

R.C.A.F. HURRICANES

50. THOMPSON } Co-Captains
51. STUKUS
52. GAUDAUR
53. McGARRY
54. OZARKO
55. KIJEK
56. ALEXANDER
57. CROWE
58. POSCAVAGE
59. PARTRIDGE
60. EVANS
61. BURTON
62. TAYLOR
63. FODERINGHAM
64. OLIPHANT
66. WEST
68. DURNO
69. SARVIS
70. POPLOWSKY
71. PRINCE
72. REYNOLDS
73. KENNEDY
74. BUCKMASTER
76. RICHMAN
77. PARRY
79. LANGLEY

Manager:
Squadron Leader "SPIKE" JACKSON
Coach: F/O LEW HAYMAN

Photograph of official programme.



Uplands Fliers' half-line. Left to right: Coach Sprague, Pentland, Golab, Simon, Coulter, Hellyer.

touchdown by A.C.2 Simon, who, taking a lateral from quarterback Coulter, shifted around Pilot Officer Alexander, A.C.2 Crowe,⁶¹ and A.C.2 Stukus to cross the line standing up. A field goal by Golab, a safety touch, and two singles, completed Upland's scoring. The Hurricanes shot down the Fliers in the game's dying moments when A.C.2 Parry took Stukus' pass in full stride on the Fliers' twenty to go all the way.

With but five "name" players (Flying Officer Sprague had been hospitalized just before the game), and only six substitutes, the Fliers had put up a great battle. At times they had actually dominated the play, but were victimized by Mister Fumble, at the mention of whose name Sqn. Ldr. Golab still blushes slightly. The best man on the field that afternoon was Pilot Officer Doug Turner, who covered miles of territory and tackled everything in sight in the best game of his career to date. Golab and Coulter, who played the entire game, were their reliable selves, the latter shading Stukus at the pivot spot. The pick of the Hurricanes were A.C.2 Parry, A.C.2 Stukus, Flt. Lt. Thompson, and the entire Hurricane line. A.C.2 Poplowsky⁶² was the team's plunging workhorse.

The stage was set for the Dominion final between the Hurricanes and the Winnipeg (R.C.A.F.)

Bombers, a combined Service-civilian team. The game hadn't been long under way when the Hurricanes fumbled on their own 12-yard line, A.C.2 Ludwig recovering for the Bombers. Flt. Lt. Thompson then made a timely interception of a Bomber pass to run for a 64-yard gain. Cpl. Kijek kicked for a single point, A.C.2 Branigan⁶³ being rouged.

After a sustained Winnipeg drive to the Hurricane 22-yard line, featured by a 35-yard plunge by McCance, A.C.2 Richman⁶⁴ intercepted a touchdown pass to ease the pressure once more. Shortly after, Kijek kicked another single, A.C.2 Ken Charlton being the victim.

Early in the third quarter Winnipeg scored a major after recovering another Hurricane fumble at midfield. A varied pass attack, aided by interference and rough play penalties, had put the Bombers ten yards out. From there quarterback Wayne Sheley⁶⁵ passed to Bill Boivin⁶⁶ for an unconverted touchdown.

Enter A.C.2 Don Crowe. Bursting through a big hole in the Winnipeg line made by A.C.2 Art Evans,⁶⁷ Crowe dashed forty yards to put the Hurks in a scoring position. A.C.2 "Pop" Poplowsky then plunged over the line to make it 7-5 for the Hurricanes.

The final count was 8-5, the R.C.A.F. Hurricanes won the Grey Cup (something no other Service team had been able to do), and Flying Officer Hayman's perfect record in the Dominion final remained intact. Hurricane standouts were A.C.2's Evans and Durno, middles, and Sgt. Jim Partridge,⁶⁸ Cpl. Eddie Burton,⁶⁹ and A.C.2 Jack Buckmaster,⁷⁰ outside wings. Crafty A.C.2 Stukus was, as usual, outstanding at quarterback, and was ably assisted by Thompson, Crowe, and Poplowsky. LAC John Lake, A.C.2 Charlton, and McCance, were the pick of the losers.

In 1943 the Hurricanes again carried the R.C.A.F. colours against such stiff opposition as H.M.C.S. "York" Bulldogs, and the Hamilton Flying Wildcats. The resistance offered by the latter team proved a little too stout, however, and the Hurks were eliminated. Outstanding newcomers with the '43 Hurricanes were Sgt. Doug Pyzer and LAC Doug Smylie, halfbacks, and LAC

Bob Cosgrove, middle wing. One of this team's better efforts during the season was a 9-9 tie with the powerful Wildcats. Another seasonal highlight was the kicking of Cpl. Kijek in a game against the Toronto Indians. Punting on a treacherous muddy field with rain slanting in his face, he averaged 50 yards per kick — a kicking performance said to be one of the best in ten years.

The 1943 Eastern final brought together the powerful Hamilton Flying Wildcats and R.C.A.F. Station Lachine, a Cinderella team if ever there was one. Quarterbacked by Cpl. Johnny Fripp, 1941 "rookie of the year" in the Eastern Union, the Quebec Rugby Football Union champions boasted only three other players with senior experience;

Kijek



but they almost pulled the upset of the half-century. Holding the 'Cats and Joe Krol⁷¹ to a single point in the first half, the airmen took a 6-1 lead in the third quarter on a 65-yard touchdown dash by Sgt. Art Libman⁷² off a 'Cat fumble. But in the final minutes the Lachine line, outweighed twenty pounds per man, wilted under the strain; and the 'Cats, led by passer Mel Lawson,⁷³ pounded 85 yards for a major, converted by Krol with the minute flag up. The final score — 'Cats 7, Lachine 6.

Outstanding in a losing cause was Cpl. Fripp, whose plunging from the quarterback spot kept the airmen in the game. He received valuable assistance from Sgt. Bennie Steck, Cpl. Joey Richman, Cpl. Fred Lamoureux,⁷⁴ and LAC Eric Fleet.⁷⁵ The 'Cat line-up shows who represented the R.C.A.F. for the winners.

After the scrappy show put on by Lachine's underdogs, the Dominion final was almost anticlimactic. The Wildcats went on to defeat the Winnipeg (R.C.A.F.) Bombers, 23-14. The surprising play of the game was provided by LAC Walter Gibb. Kicking off for the 'Cats to start the third quarter, he raced downfield to recover the ball on Winnipeg's 15-yard line. Krol then kicked a routine placement. Flying Officer Art Stollery,⁷⁶ Pilot Officer Jimmy Smith,⁷⁷ and Sgt. Dick Groom were other shining lights with Hamilton.

R.C.A.F. personnel who had not played with the Bombers the previous year were Sgt. Dave Greenberg,⁷⁸ quarterback; Cpl. Don Durno, outside; A.C.2's Norm Geller and Brian Quinn,⁷⁹ halfbacks; and A.C.2 Ernie Ahoff,⁸⁰ inside.

In 1944, Hurricane headquarters were established at Camp Borden. Five players comprised the backbone of this team: player-coach Flt. Lt. Mike Ozarko, Flying Officer Jake Gaudaur, Sgts. Fred Kijek and Doug Pyzer, and LAC Bobby Porter, team quarterback. Despite the efforts of this quintet, the airmen were again clawed out of the picture by the Wildcats. This was the signal for an unheralded Montreal-St. Hyacinthe Navy team to come forward and challenge Hamilton for Eastern honours. The game was close, ending 7-6, and the Navy won it. Winnipeg did not challenge,

and the Navy was added to the list of Service Grey Cup teams.

Other R.C.A.F. teams in the O.R.F.U. of '44 were the Hagersville Flying Tigers and the St. Thomas Hornets. Four backfielders with the Tigers were Flying Officer Bobby Coulter, playing in his last season at quarterback before retiring, Flying Officer Jimmy Smith, Sgt. Joey Richman, and LAC Doug Smylie. With the Hornets were LAC's Ray Mullins^{s1} and Ross Goodwin. LAC Ches McCance was stationed at St. Thomas at the time, but did not play.

The Early Post-War Years: 1945-1947.

In 1945 the Big Four resumed normal operations. Many of its former stars who, being overseas, had been away from football for two or three seasons, couldn't resist another crack at the game; and old familiar faces began to reappear on greenswards all over the country.

That year, much to the distress of other teams, was the beginning of an Argo era. The Scullers were Canadian grid kings for three consecutive years, 1945, '46, and '47, duplicating a Queen's record of more than two decades before. Victory through air power was the keynote of this grid monopoly, and two former airmen, Doug and Rod Smylie, were naturally adapted to this type of strategy. Each accepted a goodly share of those long passes thrown by the redoubtable Mr. Krol. The two became grid rivals a year later, when Doug joined the Montreal Alouettes, a new power in the Big Four (coached by our old friend Hayman). They were reunited with the Ottawa Trojans in 1947.

Eastern finalists against the Argonauts in 1945 and '46 were the Toronto Beaches, who in both years had eliminated the Toronto Indians, and name players like Stukus, Pyzer, Crowe, Kijek, Gaudaur, Durno, and McGarry. Paced by Bobby Porter, the left-handed passing and left-footed kicking veteran, Bob Cosgrove, mighty centre secondary man, Johnny Lake, a giant 225-lb. plunger, and (in '46) Doug Turner, the Beaches gave the Scullers a terrific argument; but they lost, 14-2 and 22-12. After both battles the most

OCTOBER 23rd, 1943

FLYING WILDCATS

No.	Player	No.	Player
1	O'BREZA, BILL	15	PETERSON, PAUL
2	STOLLERY, F/O A. R.C.A.F., Hagersville	16	REMIGIS, EDDIE
3	SMITH, DOUG.	17	WITHERS, A.
4	SMITH, P/O JIM R.C.A.F., Hagersville	18	TRAVELE, LOUIE
5	KROL, JOE	19	COUSINS, ART
6	LAWSON, MEL	20	FUMIO, JIMMIE
7	HICKEY, RED	21	SANTUCCI, PAT
8	MICCINOVICH, P.	22	CAPPELLI, JAKE
9	CROWE, SGT. M. R.C.A.F., Guelph	23	McDONALD, PETE
10	IRWIN, DON	24	BROWN, BOOTS
11	ZVONKIN, ABE	25	JONES, HARRY
12	GROOM, SGT. R. R.C.A.F., Hagersville	26	GIBB, L.A.C. W. R.C.A.F., Hagersville
14	SIMPSON, JIMMY "Captain"	28	BURKHART, L.A.C. J. R.C.A.F., Guelph
		30	LANGFORD, F/O AL R.C.A.F., Hagersville
		31	GIBB, L.A.C. ODDIE R.C.A.F., Ancaster
		32	MANOREK, RUDY

R.C.A.F. — "HURRICANES"

No.	Player	No.	Player
50	COSGROVE	63	HOOPER
51	BURNS	64	HERON
52	BOOTH	65	ALEXANDER
53	SMYLIE	65	GOODWIN
54	BARBER	67	HENRY
55	KIJEK	68	PRINCE
56	BANCROFT	69	ROSE
57	LAWSON	70	PYZER
58	OZARKO	73	YOUNG
59	McGARRY	75	MAYNARD
60	WILLIAMS	76	WEST
61	LOVE	77	BUCKMASTER
62	GLENN		
	Manager		Coach
	S/L. W. E. JACKSON		ROSS TRIMBLE

Photograph of official programme.

disappointed man in Varsity Stadium was Porter, who admitted that he would rather beat the Argos than any six other teams. Porter's passing, kicking, and field generalship were undoubtedly the main reasons behind Balmy Beach's two consecutive league championships.

For the umpteenth time the Winnipeg Blue Bombers came out of the West to contest their

right to the Grey Cup — but to no avail. They lost 35-0 in '45, despite the efforts of Lloyd Boivin⁸² (whose plunging had been their biggest single threat all season), the veteran McCance, Geller, Shore,⁸³ McFadyen, and Ludwig; and in '46 they lost 28-6, when Geller, Shore, Chikowsky and Ahoff ran out of steam.

In 1947 the title-hungry Canadian capital won its first O.R.F.U. title in 45 years, when the Ottawa Trojans beat the Hamilton Wildcats in a sudden-death affair, 15-3. Doug Smylie was the Big Trojan gun, scoring two touchdowns. Other Trojans much to the fore were Rod Smylie, ex-air gunner and prisoner of war, Johnny Fripp, and Mike Ozarko. Ex-R.C.A.F. players with the 'Cats were ace passer Mel Lawson and brother Gord.⁸⁴

But in the Eastern final with the Argos, the Trojans just didn't have it. That could have been the fault of Stukus, Pyzer, Hazel, Turner, and Foderingham, all important cogs in a potent Argo machine. The score was: Argos 22, Trojans 1.

The Canadian final of 1947 was the closest of all the post-war classics. After leading 9-1 at half-time, the Bombers lost to the Argos, 10-9, in the final few seconds. Both hero and goat of the contest was Bomber halfback Bob Sandberg.⁸⁵ The shining light in a Winnipeg line that was tremendous in defeat was Ernie Ahoff.

Post-war football was becoming more streamlined each year, with its deceptive quick-opening plays and its lightning end sweeps engineered by wide pitch-outs. Instead of going for yardage by bits and pieces, quarterbacks now went more often for the big gain, all of which had great spectator appeal. But there was still room for a solid line-smasher, a dependable man to carry the ball over on third down from the opposition's five-yard line. Such a man was Tony Golab. After receiving leg and back injuries from flak as a fighter-pilot, he essayed a comeback at his old position on the Rough Rider backfield. Wisely starting the '45 season mainly in a defensive rôle, he gradually rounded into form, and by 1946 was hitting the line much like the Golab of old. In 1947 he kept doing it the hard way — smashing into the line from a direct snap, with everyone



Rough Riders v. Tigers, 1946. Left to right: Fripp (52), Golab (72), Groom (centre), McCarthy (65).

in the park, including the opposition, knowing who would be carrying the ball. A Hamilton sportswriter, in his own unusual way, caught the Golab spirit on the field that year when he wrote of him: "He strikes me as the kind of honest competitor who, if the quarterback called the signal, would plunge headlong into the open hearth furnace at the main plant of the Steel Company."

Other Riders back at the old stand in '45 and '46 were ex-flying instructor Mike Ozarko, ex-air gunner Tony McCarthy, and ex-navigator and ex-p.o.w. "Soggy" Norton. Also back for one more season with his old team was Johnny Fripp, from the Montreal Hornets. New Riders were middle Bennie Steck, inside Fred Lamoureux, and halves Brian Quinn and Ken Charlton. While with Ottawa, Charlton developed into a high-scoring half with a habit of exploding for large gains at unexpected moments, either as a pass-receiver or as a runner from scrimmage. In the final game of the '46 season against Hamilton he scored no less than four touchdowns.

Among those who returned to the Big Four for another season or two were Gord Noseworthy, Eric Fleet, Joey Richman, and Dave Greenberg of Montreal, and Wing Cdr. Doug Annan, Dick Groom, Jimmy Smith, and Walter Gibb of the Tigers. A new Tiger halfback in '45 was Sqn. Ldr. Jack Watts.⁸⁶ Ex-p.o.w. "Ike" Norris completes the list of known "returnees" to the O.R.F.U.

In the Intercollegiate loop, Jack Parry was a freshman sensation, first at Queen's and later at Western, where he was intermediate scoring leader with 14 touchdowns. In the meantime, Mel Lawson, before re-joining the Wildcats, was doing most of the forward-passing for Toronto Varsity.

The Western Conference's only known post-war returnee, other than the Winnipeggers previously referred to, was "Pop" Poplowsky, whose plunging was one of the few bright spots in Regina's offensive.

The Last Four Years

By mid-autumn of 1948 it had become apparent that the Toronto Argonauts were not going to make it four championships in a row. After a relatively unsuccessful season they joined Hamilton by the wayside. During the schedule, however, Toronto and Ottawa had staged four of those "knock-'em-down-and-drag-'em-out" affairs which had typified Argo-Rider rivalry for more than thirty years.

In the midst of each of these gems of grid savagery a private family battle raged. Argo Rod Smylie and Rider Doug Smylie, as close off the field as brothers could be, played no favourites when in action against each other. Family ties were forgotten when Rod set himself to make a jolting tackle on big brother, or when Doug extended a business-like stiff-arm into the clean-cut features of Smylie minor. Early in one game Doug took a hand-off from the Rider quarterback and seemed headed for open territory. With startling suddenness an Argo appeared out of nowhere to throw him for a loss. A somewhat dazed Smylie inquired in the huddle about what had hit him. Flt. Lt. Golab smilingly informed him: "That, Douglas, was your little brother." "I'll have to watch that kid," moaned Doug, "or he'll get hurt." It was admittedly the hardest tackle he had ever taken.

In the meantime Flt. Lt. Golab was having his best post-war season, and, in point of scoring, his best season of all. His 46 points placed him third in the Big Four. Most of these points came on devastating excursions through the line that were



Fritz

very reminiscent of his pre-Service play. He carried over this scoring habit to the playoffs against the Alouettes, getting four touchdowns in the two-game series. One of these touchdowns was the result of his quick thinking, though from a Montreal viewpoint it was sheer larceny. Joey Pal⁸⁷ of the Alouettes had just taken an Ottawa punt behind his own goal-line. Surrounded by tacklers, he decided to concede a rouge, and accordingly leaned down to place two or three fingers lightly on the ball, which rested on the ground. Golab, refusing to recognize pal Joey's caressing gesture as constituting "possession of the ball" within the strict meaning of the rules, dived on the pigskin and really took possession of it. His rule interpretation was correct, and, with the convert, six points were added to Ottawa's total. This represented the margin of victory, as the Riders won the round, 34-28, despite the



amazing kicking of Fred Kijek, who averaged 52 yards per punt.

After disposing of the Hamilton Tigers and Jake Gaudaur, 19-0, aided by Flt. Lt. Golab's two touchdowns, the Riders took on the unbeaten Calgary Stampeders. The Westerners, opportunists par excellence, made the fewer mistakes, and won, 12-7. Showing the way defensively for Calgary was outside wing "Chick" Chikowsky, whose tackling made life miserable for Ottawa's ball-carriers. He was accompanied in this effort by Rube Ludwig. Flt. Lt. Golab was the big Rider threat, gaining an average of close to six yards each time he took the ball. It was Calgary's first Grey Cup victory, and the fourth for the West.

Ottawa and Montreal again met in the Big Four playoffs of the following season. However, the enforced absence of Golab on account of a mid-season injury seriously hampered the Riders on both attack and defense, and the Als won in rather convincing fashion.

The Stampeders, like young Lochinvar, rode out of the West again, fresh from a one-point decision over the Saskatchewan Roughriders and Ken Charlton. But they couldn't quite cope with the Hayman jinx and the varied Alouette offensive which had buried Hamilton's Tigers, 40-0. The score was 28-15. Seven of the Alouettes' total came off the reliable toe of Ches McCance, the East's second-highest scorer that season, who had never played a better game; and the long, lofty spirals of Fred Kijek had Calgary's halfbacks running (in reverse) time and again. Backing up the centre of the Stampeders' line that day was a new Calgarian, Doug Turner.

The season of 1950 marked the end of the grid-iron trail for two of Canada's football greats — Flt. Lt. Golab of the Ottawa Rough Riders, and Ches McCance of the Montreal Alouettes. The veteran Rider star saw little action that year, being shelved with a knee injury. When the Riders packed up their equipment at the season's end, Golab did likewise; but this time the sweater bearing the big "72" was put away for good.

McCance ended his career on a humorously dramatic note. The occasion was the final scheduled game between the Alouettes and the Argos on a

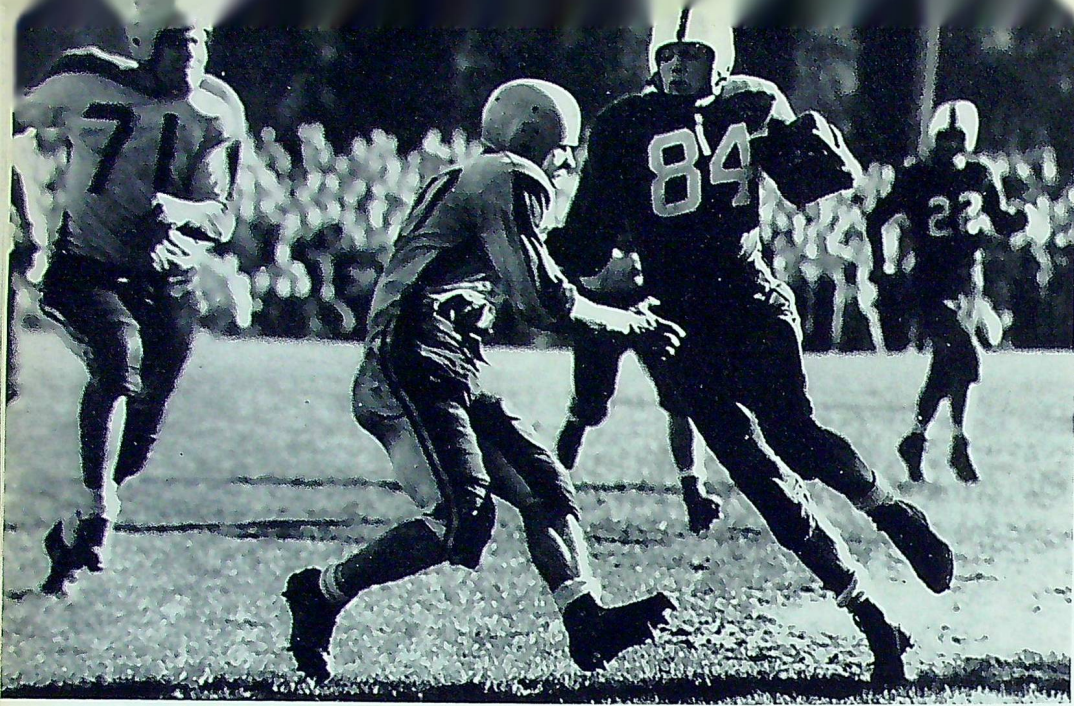
slippery field at Toronto. Late in the game, Montreal's quarterback, Filchock,⁸⁸ realizing that the veteran flying wing was playing his last game before retiring, thought it would be a fitting gesture to give him the ball on just one more running play. Uncle Chester, subsequently taking a hand-off on the Argo 15-yard line, huffed and puffed and got up such a big head of steam, that even when he slipped and fell on the 10-yard line, he skidded toboggan-like the rest of the way for the winning touchdown — on his ample tummy.

It was Argos versus Tiger-Cats that year in the Big Four play-offs. Gaudaur, Kijek, Gord Lawson, and the rest of the Cats played hard and well, but there was no stopping the Scullers, who took the round, 35-19. After a 43-13 tune-up with Balmy Beach, featuring a 65-yard run by Rod Smylie⁸⁹ for one of his touchdowns, the Argos advanced to the Canadian final.

Victors in the West were Winnipeg's Blue Bombers, who had taken the odd game in three from the Edmonton Eskimos. Bill Stukus flashed his old passing form during the series, and teammates Pyzer and Durno also starred in defeat.

East and West met in the mud and slush of a swamp later identified as Varsity Stadium. As for the football game (which is what the programme called it), the Argos eventually mushed through, 13-0, and preserved their unbeaten record in Grey Cup competition.

Last season, teams of the Big Four and the Western Conference were so closely matched that unprecedented triple ties were recorded in both leagues. The team that didn't make it in the Big Four was Montreal. But despite their lowly standing, the Als, in a final scheduled meeting, gave the Argonauts their toughest game in years. Two Argonauts, Don Durno and Doug Smylie, will attest to that. Before the game, lineman Durno was commenting on his good fortune with regard to injuries. He proudly proclaimed that in twelve seasons of football, hockey, and lacrosse, he had never so much as had his teeth loosened. At the five-minute mark of the first quarter he came to the bench — minus his front teeth. Shortly after, Doug Smylie left the field, blood streaming down his face. His helmeted head had collided with an



Rough Riders v. Argonauts, 1948. Rod Smylie about to tackle his brother Doug.

errant elbow, the helmet had caved in, and a nasty scalp wound had resulted. The helmet had to be pried from his head before first aid could be given.

The Argos and the Tiger-Cats then got down to serious business to decide who would meet the Rough Riders (who had drawn a bye) in the league final.

Dropping the first game of the series by 17 points, the Scullers, given up for lost in the second game, made a thrilling comeback attempt. Late in the final quarter they had converted that deficit to a four-point lead, but they lost the round, 31-28, by virtue of an eleventh-hour Tiger-Cat touchdown. As it had been all season, the running of Doug Pyzer was a feature of a terrific Argonaut attack. In point of scoring, he and Smylie major had a most productive season, both finishing well up with the league-leaders.

A dog-tired Hamilton team, which had played too many games in too few days, then ran up against Ottawa, and the result was as expected. With team captain Jake Gaudaur and many of his teammates duplicating their previous efforts by playing almost complete games, the Cats were simply outlasted, and it was Ottawa on the round by two touchdowns.

As the college season drew to a close, ex-wireless air gunner Alec Lawson,⁹⁰ of Toronto Varsity, received the Johnny Copp Memorial Trophy as the most valuable member of his team. He had quarterbacked the Blues to the Intercollegiate championship.

Meanwhile the West was staging a little drama of its own. In the deciding game of a three-game series between the Saskatchewan Roughriders of Regina and the Edmonton Eskimos, the issue was in doubt until the final whistle. Saskatchewan finally won, 19-18, and prepared to journey eastwards for the first time in fifteen years. For one Eskimo, quarterback Bill Stukus, playing in his fourteenth and possibly his last season, it was a particularly tough game to lose.

After Ottawa had convincingly nudged Sarnia out of the Eastern picture, it was Rough Rider versus Roughrider in the big game. Making fewer mistakes than in 1948, Ottawa won its first Grey Cup in actual competition since 1926. The score was 21-14. For halfback Ken Charlton of the losers, who in his ninth season had compiled a respectable 4½-yard ground-gaining average and scored 37 points, it was perhaps the last scrimmage.

The same could probably be said for middle wing Bennie Steck of Ottawa.

Unfortunately space does not permit the mention of individual all-star awards. So many positions on league, section, and all-Canadian "dream teams" have been won by players referred to herein that it would not be feasible to outline them in detail. Suffice it to say that performers like Ault, Burton, Charlton, Cosgrove, Coulter, Durno, Fritz, Gaudaur, Golab, Harding, McCance, McCarthy, McGarry, McGill, Noseworthy, Parry,

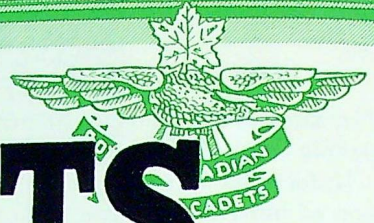
Porter, Pyzer, Smylie, Sprague, Steck, Stevens, Thompson, Turner, West, and Westman, have won various all-star ratings. (Golab won so many that a spot came to be automatically reserved for him.) It doesn't take much imagination to picture the power and versatility of a team manned by these athletes. Such a line-up would undoubtedly gladden the heart of the most exacting coach; and we would like to see the team that could beat it.

(End of "Football")

FOOTNOTES

- ¹Sqn. Ldr. A. C. Golab (A.F.H.Q.).
- ²LAC Chester W. McCance (released).
- ³LAC John W. Lake (released).
- ⁴Flying Officer Martin Platz (released).
- ⁵LAC Robert A. Porter (released).
- ⁶LAC Paul McGarry (released).
- ⁷Flying Officer Carl B. Norton (released).
- ⁸Flying Officer John R. Taylor (released).
- ⁹Pilot Officer Lloyd G. Langley (deceased).
- ¹⁰Flt. Lt. Robert L. Hazel (released).
- ¹¹Flying Officer O. McCarthy (released).
- ¹²Sgt. Elwood McFall (deceased).
- ¹³Flying Officer William Stukus (released).
- ¹⁴Flying Officer Joseph Coulter (released).
- ¹⁵Flt. Sgt. Arthur P. West (released).
- ¹⁶Flt. Lt. Lewis Edward Hayman (released).
- ¹⁷Flying Officer S. Douglas Turner, D.F.C., (released).
- ¹⁸Flt. Lt. Mike Ozarko (released).
- ¹⁹Flt. Lt. Edward Thompson (deceased).
- ²⁰Flying Officer Jacob G. Gaudaur (released).
- ²¹Cpl. Walter H. Gibb (released).
- ²²LAC Adolph W. Gibb (released).
- ²³Non-R.C.A.F.
- ²⁴Sgt. Richard Groom (released).
- ²⁵Pilot Officer Kenneth Charlton (released).
- ²⁶LAC Norman Geller (released).
- ²⁷Cpl. Ruben Ludwig (released).
- ²⁸LAC Walter Chikowsky (released).
- ²⁹LAC Cliff A. McFadyen (released).
- ³⁰Sgt. John D. Frupp (released).
- ³¹Group Capt. Douglas B. Annan, D.F.C., A.F.C., (Reserve Group H.Q.; Hamilton).
- ³²Flt. Lt. George L. Sprague (released).
- ³³LAC Robert H. Cosgrove (released).
- ³⁴Flt. Lt. Charles Henry Living (deceased).
- ³⁵Flying Officer George S. Oliphant (deceased).
- ³⁶Sgt. Frederick Kijek (released).
- ³⁷Pilot Officer Charles L. Szumlinski (deceased).
- ³⁸Flying Officer Bernard Moroz (released).
- ³⁹Flt. Lt. Herbert Westman (released).
- ⁴⁰Flt. Lt. Gordon C. Noseworthy (released).
- ⁴¹Sgt. Bennie Steck (released).
- ⁴²Cpl. Donald Ross Durno (released).
- ⁴³Sgt. Douglas J. Smylie (released).
- ⁴⁴Flt. Lt. William Cecil Foderingham, D.F.C., (released).
- ⁴⁵Flt. Lt. John Alexander (released).
- ⁴⁶Flying Officer Ross J. Giles (released).
- ⁴⁷LAC W. Ross Goodwin (released).
- ⁴⁸Flying Officer Jack C. Parry (released).
- ⁴⁹Flying Officer Edmund W. Poscavage (retired to transfer to U.S.A.F.).
- ⁵⁰Non-R.C.A.F.
- ⁵¹Flying Officer William Norris (Aux.).
- ⁵²Sgt. Ervin Earl Grissom (deceased).
- ⁵³Flying Officer Jack F. P. Justice (released).
- ⁵⁴Non-R.C.A.F.
- ⁵⁵Flying Officer Martin Binion (retired to transfer to U.S.A.F.).
- ⁵⁶Sgt. Vincent Hellyer (released).
- ⁵⁷Flying Officer A. Thain Simon (released).
- ⁵⁸Flt. Lt. Robert T. Pentland (released).
- ⁵⁹Sgt. Allan M. Fink (A.F.H.Q.).
- ⁶⁰Flt. Sgt. Lawrence E. Fink (R.C.A.F. Stn. Rockcliffe).
- ⁶¹Flying Officer Donald B. Crowe (released).
- ⁶²LAC John Poplowsky (released).
- ⁶³Pilot Officer A. J. Branigan (released).
- ⁶⁴Flt. Sgt. Joey Richman (released).
- ⁶⁵Non-R.C.A.F.
- ⁶⁶Canadian Army officer in Second World War.
- ⁶⁷Flying Officer Arthur Evans (released).
- ⁶⁸Flt. Lt. James A. Partridge, D.F.C., (released).
- ⁶⁹Flt. Sgt. Edward Burton (deceased).
- ⁷⁰Flying Officer John Buckmaster (deceased).
- ⁷¹Non-R.C.A.F.
- ⁷²Sgt. Arthur Libman (released).
- ⁷³A.C.1 Melbourne P. Lawson (released).
- ⁷⁴Cpl. J. C. Lamoureux (released).
- ⁷⁵LAC Eric G. Fleet (released).
- ⁷⁶Flying Officer Arthur W. Stollery (released).
- ⁷⁷Flying Officer James Smith (released).
- ⁷⁸LAC David Alec Greenberg (released).
- ⁷⁹Sgt. Brian Quinn (released).
- ⁸⁰LAC Ernest Ahoff (released).
- ⁸¹LAC Ray Mullins (released).
- ⁸²LAC Lloyd Edward Boivin (released).
- ⁸³LAC Nathan Shore (released).
- ⁸⁴LAC Gordon Lawson (released).
- ⁸⁵Non-R.C.A.F.
- ⁸⁶Wing Cdr. John Herbert Watts, D.S.O., D.F.C. and Bar, (A.F.H.Q.).
- ⁸⁷Non-R.C.A.F.
- ⁸⁸Non-R.C.A.F.
- ⁸⁹Flt. Sgt. R. I. Smylie (released).
- ⁹⁰Sgt. Alec S. Lawson (released).

The ROYAL CANADIAN AIR CADETS



By Arthur Macdonald, Air Cadet League of Canada

THE AIR TRADITION

The following item was written by Flying Officer F. W. Baril, a former Air Cadet of No. 211 (Ottawa Kiwanis) Air Cadet Squadron:

A mighty Canso roared down the runway and soared skyward —

Now hold on! Who ever called it a mighty Canso, and who ever heard of a Canso soaring? Lumbering Cansos, yes — staggering through the air . . .

But not to our passengers on this cold clear Saturday morning. No; the Canso was a thing of beauty, and they were thrilled with the thrill of their first flight. The runway flashed past, the earth fell away, they were airborne for the first time.

Our passengers were cadets of the Royal Canadian Air Cadet squadrons in Ottawa — No. 51 (Optimist), No. 211 (Kiwanis), and French-speaking lads from No. 141 (Dollard).

We climbed to 5,000 feet and were circling Kingsmere Lake when the captain of the aircraft, Flying Officer Louis MacDonald, asked me to step down from the co-pilot's seat so that the cadets could come up front, one by one, and sit in the driver's seat. All were to be shown the controls of the aircraft and their effect on the path of flight. As I watched the first lad's eager face and told him to climb up to the co-pilot's seat, I remembered that it was not many years ago that I was an Air Cadet myself.

It then occurred to me that Louis MacDonald was also a former Air Cadet. He and I were cadet corporals in No. 86 (Ottawa Boys' Club) Squadron in 1942. So here were captain and co-pilot, both former Air Cadets, flying Air Cadets over our home town. I wondered how many of these lads would be in our place some day, and I said as much to one of our crewmen. He smiled. "I've got a 17-year-old son who's an Air Cadet in the Ottawa Kiwanis Squadron. He gets his senior matric. this year and hopes to win an Air Cadet League Scholarship to Royal Roads or R.M.C. But I'll be darned if I'll say "Sir" to my own son at home!"

Tradition in the Navy and the Army, unlike tradition in the Air Force, is centuries old. Many men in the Navy and Army can boast of fathers, grandfathers, and ancestors galore who were in the same Service as themselves. But ours is a younger Service with a younger tradition, and the most that any of us can claim is that his father was flying in the First World War, or that his brother fought in the Battle of Britain, or that his son is an Air Cadet.

HERE AND THERE

During the past month we have received an unusually large number of news items from squadrons and committees across the country. Several of these summarize the past year's activities of the squadrons concerned, while others deal with specific items which might be of interest to other units. While space does not permit us to publish all the material received, the following items may be considered typical.

Hamilton

Four years ago Flying Officer Don Roberts, sports officer of No. 2 (Hamilton) Wing, thought it would be a good idea to have a swimming meet among the Hamilton squadrons. The first one was a huge success and Mr. M. Banker Bates donated a trophy for the event. Then Flying Officer Roberts got the idea of inviting squadrons from other towns to participate.

He sent out letters and entry forms to a dozen squadrons, and the response was so good that the Hamilton Branch of the League decided to rent the municipal pool and purchase a number of medals. Dr. W. W. McBain, then Chairman of the Ontario Committee, donated a fine trophy. Five outside squadrons entered the competition in 1949, with Guelph emerging as the winner. The following year two more cities came in, and Hamilton wrested the trophy from Guelph.



The "Air Cadet Flyers" of No. 58 Squadron, Kingston. Back row (l. to r.): H. Mullen (coach and squadron instructor), J. McGlowin, H. Grieve (captain), G. Ellerbeck, S. Campbell, S. Smith, W. Raymond, G. Murray, J. Wright, Sqn. Ldr. L. W. Haunts (C.O.). Front row (l. to r.): F. Redden, L. Raybould, R. Wilson, R. Byron, B. Billings, R. Fulton, T. Frood, D. Gow.

The last competition, held in 1951, saw a considerable increase in the number of cadets participating, and Hamilton again won the McBain Trophy. Flying Officer Roberts is now busily arranging for a bigger and better meet this spring and has already invited several additional squadrons to compete.

Regina

One of the most successful events sponsored by No. 11 Regina (Wing) during recent months was a "Parents' Night" held on February 18th in the Regina armouries. Despite the fact that the weather was cold, the 200 programmes printed for the occasion disappeared in short order, and the parents and guests were highly pleased with the excellent show arranged for them.

Highlight of the evening was a wings parade during which W.O.2 Gorrie, Flt. Sgt. Langhelt, Sgt. Dobrowolski, and Cpl. Thompson received their wings from Major R. Loney, of Moose Jaw, honorary patron of the Saskatchewan Provincial Committee.

The cadets earned praise for their marching and discipline from Major Loney in a brief address

after the wings presentation. Mr. S. T. Malach welcomed guests and parents and invited them to visit the various lecture rooms. The precision drill team, under command of Flt. Lt. J. Walker, then put on a snappy display, after which cadets and guests alike enjoyed refreshments at the garrison canteen.

The parents were particularly interested in the various exhibitions of training equipment and also in a series of colour-photograph slides covering the summer camp, which were supplied by the honorary padre, Canon Crowther.

The evening closed with an impromptu model aircraft contest on the floor of the armouries.

Edmundston

One of the year's most successful squadrons in eastern Canada has been No. 313 Edmundston Squadron. The following report on this fine unit was sent to us by Flt. Lt. A. Stothart, the Commanding Officer:

No. 313 Squadron enrolled 127 cadets during the 1950-51 training year and had a strength of 103 cadets as of 31 January. A full training year of drill and lectures was carried out. Attendance was good except for a short time in January, when hockey proved to be stronger attraction.



Officers of the recently formed No. 548 (Optimist) Squadron, Carleton Place, Ont. Left to right: Flying Officer G. W. MacDonald, Adjutant; C. B. Stewart, Sec'y-Treas.; Flt. Lt. L. J. Hurrell, C.O.; W. C. Godfrey, Chairman; Flying Officer W. G. Simpson, Equip't. Officer.

Regular parade nights were Friday of each week from 1900 to 2100 hrs. at the Edmundston High School building. Special drill nights were often held on Tuesday evenings. We had a very good precision drill team and a proficient rifle drill team. The squadron was extremely active on the shooting range and entered two teams in the D.C.R.A. shoot, two teams in the Air Commodore Wait Competition, and a team of 30 boys in the Strathcona Trust Competition. Besides this we had some twenty or thirty boys registered with Dominion Marksmen.

Our Flt. Sgt. Steeves was one of the N.B. cadets chosen for the exchange visit to the U.S.A. W.O.2 Tighe and Sgt. G. Dickie were members of the international Drill Team. W.O.2 Tighe was chosen captain of this team.

During the year, at least 5 of our cadets joined the R.C.A.F. in ground trades and 3 ex-cadets got their pilot's wings with the permanent Air Force.

Twenty-six cadets, one officer, and three instructors attended summer camp at R.C.A.F. Station, Greenwood.

The following trophies and awards were won by the squadron during 1950-51:

- Proficiency Award for best squadron in N.B. (except Saint John, N.B.)
- Strathcona Award for most proficient school squadron in N.B.
- The Air Commodore Wait trophy for the best rifle team in Maritime Group.
- Strathcona Trust Shield, for team of four cadets making highest score in annual rifle competition.
- Strathcona Award for best Air Cadet from N.B. at summer camp, won by LAC Volpe.
- Cash awards were won by W.O.2 Mills for best shot and by LAC Lawson as second best shot.
- St. John Civilian Rifle Association Cup for best rifle shot in N.B., won by W.O.2 M. Mills.

On the entertainment side, the Edmundston Rotary Club treated the squadron to a social evening, a sleigh ride and toboggan party, and a trip to Grand Falls to take in a night baseball game. Some basketball was played and four teams received coaching in curling.

The annual inspection was carried out by Group Capt. N. S. A. Anderson, A.F.C., C.O. of R.C.A.F. Station Greenwood. An estimated 700 townspeople were on hand, although the weather was extremely cold and threatening.

West Vancouver

No. 525 (Lions) Squadron, West Vancouver, is a comparatively new unit but is already making a name for itself as one of the most proficient units on the coast. Here's what Flt. Lt. K. L. Morton, Commanding Officer, has to say about this unit's first year of operations:

No. 525 Lions Squadron, West Vancouver, was authorized by N.W.A.C. on 1 Dec. 1950. The first squadron parade was held at St. Christopher's Church Hall on 19 January 1951. Squadron strength as of 31 January 1951 was 85 cadets, three officers, and six instructors.

During the past year the squadron followed the syllabus of training as laid down by the R.C.A.F. We participated in the annual May Day parade in West Vancouver, with cadets forming the guard of honour for the May Queen. One cadet, Sgt. Bruce Montgomery, won his wings by means of a flying scholarship. He was also successful in being chosen to represent Canada in the United Kingdom exchange visit.

I feel that we had a most successful Annual Inspection, which was held at the West Vancouver High School on 1

Flt. Sgt. M. Vanstone, No. 177 (T.C.A.) Squadron, receives Air Cadet flying badge from his mother at wings parade in Winnipeg.



June 1951. A party and dance was arranged for the boys after the inspection by Wing Cdr. F. F. Lambert, D.S.O., D.F.C. The cadets and their guests were treated to refreshments prepared and served by the mother's auxiliary. The dance, held in the high-school gym, was open to the public. Proceeds from it went into the squadron fund.

Nineteen cadets, two officers, and one instructor attended summer camp, and two more attended the Reserve Air Force Camp.

We have a most successful N.C.O. course under way, with Mr. W. Green as the instructor. In addition, one night a week is set aside for rifle-range shooting.

In November the squadron took part in the Remembrance Day services held at the Memorial Arch in West Vancouver, and the year was finished off with a big Christmas party on Dec. 10th.

Winnipeg

When news of the death of King George VI reached Canada, most Air Cadet squadrons were

able to arrange impressive memorial parades. The following is a brief news report of a memorial parade held in Winnipeg:

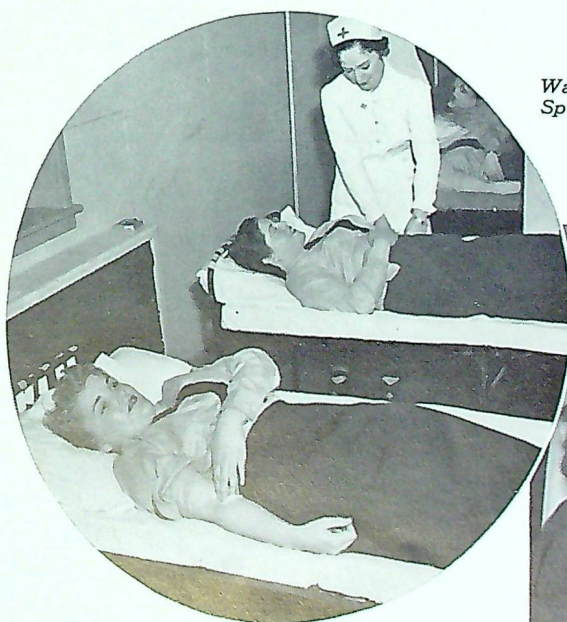
On the regular parade night of No. 177 (T.C.A.) Squadron, 6 February 1952, all ranks were saddened by the news of the death of His Majesty King George VI. The usual inspection was dispensed with, and a memorial parade was held. Flt. Lt. A. J. Clarke, the Officer Commanding, addressed the squadron. He then read a short passage of scripture, and concluded by saying: "With deep respect and loyalty, we honour the ascension to the throne of Her Majesty Queen Elizabeth II. It is considered appropriate at this time to exact from each cadet the Air Cadet Pledge, as a token of love and affection for the Royal Family, and for all that the British Commonwealth of Nations "represents." While the squadron's officers stood at the salute, the cadets repeated the pledge, for the first time using the words "honouring my Queen."

Blood Donors of St. Johns, P.Q.

THE MOBILE RED CROSS Blood Donor Clinic's recent visit to R.C.A.F. Station St. Johns on January 18th was something of a triumph both for the Clinic and the Station. Despite the fact that 132 would-be donors were turned away because they were afflicted either with excessive youth or with a slightly anaemic condition, 545 bottles of

blood were obtained. Even then, with 97 donors still untapped, all that stopped the flow was lack of bottles. The bulk of the day's donations came from 350 Manning Depot trainees, 60 of whom were airwomen. Flying Officer R. F. Ranson, the Station's blood clinic director, has given a total of 19 donations.

A.W.2's Katterhagen (left) and MacGregor resting after donation.



Waiting to donate. Front row (l. to r.): A.C.2's Robinson, Spurrell, Rose, J. Smith. Back row (l. to r.): A.C.2's Rodgers and Taylor.



ROYAL CANADIAN AIR FORCE

Association



(All correspondence relating to this section of "The Roundel," as well as notices of change of address, should be sent to the General Secretary, R.C.A.F. Association, 424 Metcalfe St., Ottawa, Ont. This does not apply to letters to the editor or to general contributions to the magazine. Readers are reminded that any views expressed in this section are the views of the R.C.A.F. Association, and that they do not necessarily reflect the official opinions of the R.C.A.F.)

HER MAJESTY QUEEN ELIZABETH II,
BUCKINGHAM PALACE,
LONDON, ENGLAND.

OTTAWA, ONT.

WE, THE MEMBERS OF THE ROYAL CANADIAN AIR FORCE ASSOCIATION, EXPRESS OUR PROFOUND SORROW IN THE DEATH OF THE KING YOUR FATHER. HE WAS A GREAT AND GOOD KING. TO YOUR MAJESTY WE CONVEY OUR SENTIMENTS OF UNCEASING LOYALTY AND DEVOTION TO THE THRONE AND TO YOUR MAJESTY'S PERSON.

A. L. MORFEE (PRESIDENT)
R.C.A.F. ASSOCIATION.

THE PRESIDENT,
ROYAL CANADIAN AIR FORCE ASSOCIATION,
OTTAWA.

BUCKINGHAM PALACE, LONDON

I THANK YOU AND ALL THE MEMBERS OF THE ROYAL CANADIAN AIR FORCE ASSOCIATION FOR YOUR KIND MESSAGE OF SYMPATHY.

ELIZABETH R.



INTERNATIONAL DEFENCE INFORMATION COMMITTEE

Creation of a joint international defence information committee was among the specific proposals for furthering co-operation between the Air Force Association of the United States and the R.C.A.F. Association, which were made during a courtesy visit of R.C.A.F.A. officials to Washington.

National President Air Vice-Marshal A. L. Morfee, C.B., C.B.E., (ret.), Executive Assistant L. H. Jenkins, and Ass't General Secretary R. S. McCartney, returned calls made by Robert Johnson of New York City, while he was President of the A.F.A., to the Second National Convention of the R.C.A.F.A., and by Ralph Whitener, Organizational Director, during the Ottawa Air Force Annual Reunion. During these visits preliminary conversations were held on extending co-operation.

The Canadian visitors were royally entertained. They were given a special briefing at the Pentagon by Col. Parrish, special assistant to the Deputy Chief of the Air Staff, they were guests at a cocktail party at which they met senior officers of the U.S.A.F. and other distinguished guests, including members of the A.F.A. staff, and they were taken on several drives around the city. In spite of a full social agenda, considerable discussion took place on problems of common interest.

On the organization side, problems of the two Associations were strangely similar. On the objective side, however, A.F.A. is devoting its energy, resources, and almost exclusive attention to winning the battle to ensure air priority for the defence effort of the U.S.A.—a policy already accepted in Canada.

Expressing the view that N.A.T.O. too was underplaying the value of air power, the Canadian delegation proposed that joint effort might be given to public education of the necessity of air power as the primary means of defence for Western Nations. While agreeing in principle, the A.F.A. officials left for future discussion (possibly by the proposed International Defence Information Committee) the determination of means whereby such a policy might be put into effect.

To further co-operation between the two Associations, the Americans specifically proposed:

Recognition of Membership.—Members of either of the two Associations shall be recognized by the other Association and any of its units, at all meetings, functions, and events not expressly restricted to the membership of the respective Association.

Unit Relationship.—Both of the Associations shall make available to each other a roster of their local units for distribution to the respective units for the purpose of establishing and maintaining an active relationship between the units of the two Associations.

Exchange of Publications.—The R.C.A.F. Association shall make available to the A.F.A. on a complimentary basis sufficient copies of "The Roundel" for the distribution of one copy to each A.F.A. Squadron, and in turn the A.F.A. shall make available to R.C.A.F.A. on a complimentary basis sufficient copies of the magazine "Air Force" for the distribution of one copy to each R.C.A.F.A. Wing.

International Defence Information Committee.—Each of the two Associations shall establish a committee consisting of three members from each Association, whose duty it shall be to disseminate information concerning defence matters in their respective countries, and to reply to enquiries from either of the Associations concerning defence matters of the respective country. Each of the committees shall have a chairman, but there shall be no joint chairman of the committees, except during actual meetings, at which time the president of the Association of the country in which the meeting is held shall preside as chairman.

In detailed discussion, certain difficulties regarding the implementation of specific points arose which will require to be ironed out before being submitted to the respective national executives for approval.

AIR MARSHAL EDWARDS

Air Marshal H. E. Edwards, C.B., (ret.), A.O.C.-in-C. of the R.C.A.F. Overseas for a goodly portion of the war, had his card in the Association cancelled by death. His funeral, with full military honours, took place in Ottawa on February 29th.

PUBLIC RELATIONS AT ITS BEST

Still another project of concrete service to the R.C.A.F. has been instituted. The first farewell party for R.C.A.F. personnel proceeding overseas was given on February 13th by No. 250 (Saint John) Wing for No. 441 Squadron. The idea originated with the Saint John Wing, and won for it the current public relations prize. Other Wings have since emulated the New Brunswickers. Representatives of Quebec Group were on hand



No. 412 (Windsor) Wing was host to several United States A.F.A. executives recently. Front row (l. to r.): T. Simpson (R.C.A.F.A.), F. W. Ward (A.F.A.), J. B. Rosenthal (Nat. Sec'y, A.F.A.), J. Straubel (Executive Director, A.F.A.), W. R. Donaldson (R.C.A.F.A.), G. A. Andrei (A.F.A.), J. Hoffman (R.C.A.F.A.). Second row (l. to r.): F. Miller (A.F.A.), G. Mushinski (A.F.A.), A. Lewis (A.F.A.), L. Van Luven (R.C.A.F.A.). Back row (l. to r.): R. Whitener (Org. Director, A.F.A.), L. Birch (A.F.A.), M. Worshill (A.F.A.), W. Amos (A.F.A.)

for the farewell to No. 441 Squadron from Montreal, and No. 100 (Bluenose) Wing put on a party for a smaller group leaving from Halifax. No. 101 (Atlantic) Wing is expecting to participate in future projects.

R.C.A.F. personnel were high in praise for the Saint John Wing's effort, which, in view of the lack of previous experience in such affairs among all concerned, worked out remarkably well, thanks to co-operation between the R.C.A.F., the Wing, National H.Q., and the shipping company—not to mention the departing airmen themselves. "It certainly," remarked an R.C.A.F. embarkation officer, "gave a tremendous boost to the

morale of airmen and their dependents leaving Canada."

GROUP CONVENTIONS

In preparation for the National Convention, Group meetings have been held. The first two were Ontario and Alberta. Although Ottawa had not received detailed reports at the time of submission of copy for this issue of "The Roundel," the results of elections had been forwarded, and the formal list appears under "Executive Changes." Elections revealed that two of our most active Air Vice-Marshals had stepped down from Group presidency: Air Vice-Marshal G. E. Brookes in

Ontario and Air Vice-Marshal K. M. Guthrie in Alberta. They were succeeded by H. C. Beaupré of Kingston and T. C. Segsworth of Lethbridge, respectively.

Group Conventions were held earlier than usual this year so that a resolutions committee could give consideration to the wording and content of their reports before the latter's presentation on the floor of the National Convention. From all indications, however, resolutions will be fewer in number than in previous years.

In a preliminary report from Alberta Group by the retiring president, he states that all Wings have increased their membership and that the total paid-up members for all Wings might well be doubled before the end of the fiscal year. Six resolutions were passed.

"OPERATION LIBRARY"

Collection of 15,000 pocket books by Lethbridge Wing was not an unmixed blessing. A number of Wings have now taken it for granted that "Operation Library" requirements have been met, and have discontinued any effort to obtain fiction book contributions. National Headquarters would like to impress on all members that we anticipate that this will be a continuing effort for some time, with the need growing as the R.C.A.F. overseas continues to expand.

No. 406 (North Bay) Wing. Flt. Lt. R. Joy (left) and Flt. Lt. F. Malone, C.O. and Adj., respectively, of No. 547 R.C.A.C. Squadron, watch Kern Desjardins measuring cadets for uniforms. No. 547 Squadron is sponsored by the North Bay Wing.



No. 404 (Kitchener-Waterloo) Wing. President A. J. Snetsinger receives \$600-cheque from H. C. Beaupré. The money, which was earned by a Christmas raffle, will be used for No. 80 Squadron of the R.C.A.C.

OF THIS AND THAT

National Executive Council approved, and advertisements were sent out for, a field organizer to join the permanent staff of headquarters. It is hoped that this will meet a long-felt need.

* * *

A national competition was announced for a painting of a Canadian scene to be presented to Queen Elizabeth II. The competition is open to anyone who is eligible to join the Association, i.e. any serving or ex-member of the R.C.A.F. and any ex-member of Her Majesty's Air Forces. It is hoped that the paintings will be on view at the Third National Convention and that possibly some of the better entries may be sent on an exhibition tour. All entries must reach National Headquarters before 15 May, 1952.

* * *

Discussions were held both with the Royal Canadian Flying Clubs Association and with the Air Industries and Transport Association of Canada. In the case of the former Association, it was decided to approach problems on an explora-



No. 403 (Sarnia) Wing held a "capping ceremony" after arrival of first large shipment of R.C.A.F.A. caps. Front row (l. to r.): D. Harding, C. Phippen, A. Thomas, Mrs. S. McAllister, D. Macklin, H. Kearn. Back row (l. to r.): H. Hurst, Bud Barr, J. Crosby, L. Hicks, R. Stinson, F. Miller, A. Elliott, N. Aboud, F. Maher, H. Beckett, P. James.

tory basis related to particular localities. Flying clubs are organized in some localities where the R.C.A.F.A. has no Wings, and it was thought that a nucleus of ex-R.C.A.F. flying club members might be approached to try to stimulate sufficient interest to form a Wing. Conversely, in certain places where the R.C.A.F.A. has strong Wings, the flying clubs may be inadequately supported, and R.C.A.F.A. assistance would be a great help. It was decided to choose localities to illustrate these two situations and to discuss further co-operation in the light of the experience thus gained.

The Air Industries and Transport Association represents the manufacturing and commercial side of the aviation picture. A.I.T.A. agreed to write to a selected list of its members suggesting that they join the R.C.A.F.A., if they are eligible,

and/or that they assist in forming an industrial committee such as proposed by the R.C.A.F.A.

* * *

Permission was received from Dr. Arnold F. Jones, a Montreal surgeon and a member of No. 306 (Maple Leaf) Wing, for "Dinghy" to return to active duty in assisting the Association in its efforts for recruiting for the Service itself and for the Ground Observer Corps volunteers. "Dinghy" is an honorary member of No. 306 Wing and a veteran of No. 422 and No. 401 Squadrons overseas. He is an extremely well-trained nine-year-old cocker spaniel, and the only four-footed member of the R.C.A.F. Association. Although pressure of work does not permit Dr. Jones to fill many engagements as impresario for the bilingual Dinghy at present, it is hoped that shortly he will have more time to meet the demands.

EXECUTIVE CHANGES

Ontario Group

President: H. C. Beaupré (416)
 1st Vice-President: Harry W. Sayers (417)
 2nd Vice-President: John D. Godwin (418)
 Treasurer: T. G. Holley (410)
 Secretary: T. K. Whitney (416)
 Northern Ontario Representative on Group Executive: Ralph Christie (406)

Alberta Group

President: T. C. Segsworth (702)
 Vice-President (North): W. D. Ferris (700)
 Vice-President (South): B. E. Crane (703)
 Vice-President (Central): C. N. Hannah (704)
 Hon. Secretary: F. A. Sutherland (702)
 Hon. Treasurer: N. F. Callaway (701)
 Legal Adviser: R. D. White, Q.C. (700)

No. 102 (Colchester) Wing, Truro

President: G. M. Gillespie
 1st Vice-President: D. T. O'Brien
 2nd Vice-President: I. Logan Barnhill
 Secretary: I. W. Blondon
 Treasurer: Ronald Joyce
 Executive Members: Dr. C. H. Smith
 Kenneth Quigley
 Vincent Phinney
 J. A. MacDonald
 J. A. Murray
 E. L. Wilson
 Jack Chisholm
 Ronald MacKinnon

No. 100 (Bluenose) Wing, Halifax

President: Miss Margaret MacDonald
 Vice-President: Miss Mildred Rogers
 Secretary: Miss Rhoda Wilkie
 Treasurer: Miss Eleanor Cameron
 Executive Members: Mrs. Ruth Draper
 Miss Marjorie Davidson
 Miss Hilda Thompson
 Miss Ruth Vogler

No. 405 (Porcupine) Wing, Timmins

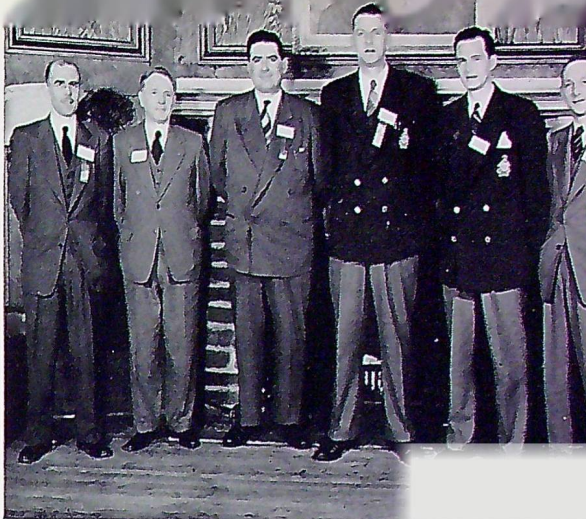
President: R. T. Sullivan
 Vice-President: G. M. Godfrey
 Secretary: M. Fay
 Treasurer: E. Finchen
 Executive Members: G. Tennyson
 D. Simpson
 C. J. Sebastien
 L. O. Cooper

No. 305 (City of Montreal) Wing

President: N. Mozel
 1st Vice-President: R. W. L. Ascah
 2nd Vice-President: G. L. Brady
 Secretary: Miss J. Gower-Rees
 Treasurer: M. Boucher
 Assistant Treasurer: H. T. Cochrane

No. 701 (Calgary) Wing

President: James O. Taylor
 Vice-President: Henry Keentgas
 Secretary: William T. Wish



Newly elected officials of the Ontario Group. Left to right: H. Sayers, T. G. Holley, H. Beaupré, R. Christie, T. K. Whitney, J. Godwin.

Treasurer: Mrs. Iris Porter
 W.D. Representative: Mrs. Jessie M. Jack
 Entertainment: Willis C. Duckworth
 Membership: Ray Clarke
 Finance: Charles Cooper

No. 104 (Privateer) Wing, Liverpool

President: Mike Campbell
 Vice-President: Jack Rudolph
 Secretary-Treasurer: Murray Anthony
 Executive Members: Herbert Innes
 Lynn Anthony
 Max Parks
 Dick Gardner
 Mel Allan
 Harvey Kempton

No. 402 (Sudbury) Wing

President: Roy H. Bain
 1st Vice-President: R. J. O'Connor
 2nd Vice-President: W. V. Urie
 3rd Vice-President: J. Ritch
 Secretary: John R. McCullough
 Treasurer: M. Werbiski
 Corresponding Secretary: D. D. MacKenzie
 Executive Members: D. Thyne
 M. Brownlee
 O. Boucher

No. 420 (Oshawa) Wing

President: Gilbert L. Murdoch
 Treasurer: Kenneth L. Miller
 Secretary: Ralph H. Jordan
 Executive Members: George Beard
 Albert Burr
 Tom Murphy
 Harold Ramshaw
 Sam Sklar

Yah, Spoil-Sports!

No person shall enter or attempt to enter any aircraft in flight or leave or attempt to leave any aircraft in flight except for the purpose of making a parachute descent, or give upon any aircraft in flight any gymnastic or other like exhibition.

("The Canada Gazette," 13 June 1951)

Personnel Movements

Officers: July

S/L G. C. Fisher, D.F.C.—R.C.A.F. Stn. Lachine to 426 (T.) Sqn., Dorval.

Officers: December

A/C J. G. Kerr, C.B.E., A.F.C.—C.J.S. London to T.A.G.H.Q., Edmonton.

W/C E. E. Smith, M.B.E.—C.J.S. London to A.M.C.H.Q., Ottawa.

Officers: January

S/L R. M. Beer—M.G.H.Q., Halifax, to A.F.H.Q.

W/C J. F. M. Bell, D.F.C., A.F.C.—2 P.S.U. (O.), London, to A.F.H.Q.

S/L J. W. Bellis, A.F.C.—404 (M.R.) Sqn., Greenwood, to 2 (M.) O.T.U., Greenwood.

S/L J. H. C. Boby—C.J.S. Washington to A.F.H.Q.

S/L A. L. Brown, D.F.C., A.F.C.—C.J.A.T.C., Rivers, to A.F.H.Q.

G/C A. M. Cameron, A.F.C.—A.M.C.H.Q., Ottawa, to A.F.H.Q.

S/L T. L. Doolittle—A.M.C.H.Q., Ottawa, to A.F.H.Q.

S/L H. G. Edwards—1 (F.) O.T.U., Chatham, to A.D.C.H.Q., St. Hubert.

S/L R. B. Edwards—1 F.I.S., Trenton, to 2 A.F.S., Macdonald.

S/L R. D. H. Ellis—A.F.H.Q. to A.D.C.H.Q., St. Hubert.

S/L J. M. Enstone, M.B.E.—T.C.H.Q., Trenton, to 2 P.S.U. (O.), London.

W/C C. F. Fincham—A.M.C.H.Q., Ottawa, to A.F.H.Q.

S/L J. R. Fraser—1 T.T.S., Aylmer, to R.C.A.F. Stn. Saskatoon.

S/L H. J. Galen—1 F.I.S., Trenton, to 1 A.F.S., Saskatoon.

S/L K. W. Hampson—R.C.A.F. Stn. Winnipeg to T.A.G.H.Q., Edmonton.

S/L J. Hudson, D.F.C.—R.C.A.F. Stn. Calgary to R.C.A.F. Stn. Winnipeg.

S/L K. E. Johnston, D.F.C.—1 T.T.S., Aylmer, to 14 T.G.H.Q., Winnipeg.

W/C E. L. Kenny—A.F.H.Q. to A.M.C.H.Q., Ottawa.

S/L W. J. S. Kettles—A.F.H.Q. to T.A.G.H.Q., Edmonton.

S/L C. C. Lee—T.A.G.H.Q., Edmonton, to 1 F.I.S., Trenton.

S/L M. C. McArthur—R.C.A.F. Stn. Camp Borden to A.F.H.Q.

S/L G. B. Murray, D.F.C.—3 A.W.O.T.U., North Bay, to R.C.A.F. Stn. Calgary.

W/C W. M. Murray—A.F.H.Q. to 1 S.D., Weston.

S/L J. H. Riva—C.J.A.T.C., Rivers, to T.A.G.H.Q., Edmonton.

S/L J. G. Showler, A.F.C.—A.F.H.Q. to R.C.A.F. Stn. Goose Bay.

S/L R. H. Strouts—14 T.G.H.Q., Winnipeg, to T.C.H.Q., Trenton.

W/C W. H. Swetman, D.S.O., D.F.C.—C.J.S. London to A.F.H.Q.

S/L D. V. Thomas—A.A.S., Trenton, to T.C.C. & R. Flt., Trenton.

G/C R. S. Turnbull, D.F.C., A.F.C., D.F.M.—A.F.H.Q. to R.C.A.F. Stn. Saskatoon.

S/L L. E. Vail—A.M.C.H.Q., Ottawa, to A.F.H.Q.

S/L D. B. Wurtele—C.J.S. London to C.E. & P.E., Rockcliffe.

Officers: February

S/L W. G. Richmond—123 "R." U., Sea Island, to 121 C. Flt., Sea Island.

Warrant Officers: December

WO2 A. E. Reinholdt—R.C.A.F. Stn. London to C.J.A.T.C., Rivers.

Warrant Officers: January

WO2 H. Brennan—1 A.N.S., Summerside, to R.C.A.F. Stn. Summerside.

WO2 K. C. Bridges—1 F.T.S., Centralia, to R.C.A.F. Stn. Centralia.

WO2 S. G. Cable—C.F.S., Trenton, to R.C.A.F. Stn. Trenton.

WO2 R. E. Collis—1 F.T.S., Centralia, to R.C.A.F. Stn. Centralia.

WO2 J. T. Gates—1 F.T.S., Centralia, to R.C.A.F. Stn. Centralia.

WO1 G. F. G. Gayton, B.E.M.—1 A.G.S., Macdonald, to 2 A.N.S., Winnipeg.

WO1 S. W. Harding—438 (F.) Sqn., St. Hubert, to 104 C. Flt., St. Hubert.

WO1 S. Heap—2 T.T.S., Camp Borden, to R.C.A.F. Stn. Centralia.

WO2 G. R. Hibberd—1 A.N.S., Summerside, to R.C.A.F. Stn. Summerside.

WO2 R. Inglis—1 S.D., Weston, to 11 S.D., Calgary.

WO1 R. H. Kempster—A.A.S., Trenton, to R.C.A.F. Stn. Trenton.

WO1 J. Kerr—11 S.D., Calgary, to 1 S.D., Weston.

WO2 A. Macauley—R.C.A.F. Stn. Lachine to F.W.H.Q., U.K.

WO2 T. A. Prest—C.J.S. Washington to R.C.A.F. Stn. Edmonton.

WO2 G. H. Smith—1 A.N.S., Summerside, to R.C.A.F. Stn. Summerside.

WO2 C. C. Staples—1 F.T.S., Centralia, to R.C.A.F. Stn. Centralia.

WO2 A. R. V. Trigg—122 M.S., Patricia Bay, to R.C.A.F. Stn. Sea Island.

WO2 G. K. Wright—M.G.H.Q., Halifax, to 441 (F.) Sqn., St. Hubert.

KEY TO ABBREVIATIONS

A.A.S. — Air Armament School
 A.D.C.H.Q. — Air Defence Command H.Q.
 A.F.S. — Advanced Flying School
 A.G.S. — Air Gunnery School
 A.M.C.H.Q. — Air Materiel Command H.Q.
 A.N.S. — Air Navigation School
 A.W.O.T.U. — All-Weather Operational Training Unit
 C.E. & P.E. — Central Experimental & Proving Establishment
 C.Fit. — Communication Flight
 C.F.S. — Central Flying School
 C.J.A.T.C. — Canada Joint Air Training Centre
 C.J.S. — Canadian Joint Staff
 (F.) — Fighter
 F.I.S. — Flying Instructors' School
 F.T.S. — Flying Training School
 F.W.H.Q. — Fighter Wing H.Q.

(M) — Maritime
 M.G.H.Q. — Maritime Group H.Q.
 (M.R.) — Maritime Reconnaissance
 M.S. — Marine Squadron
 O.T.U. — Operational Training Unit
 P.S.U.(O) — Personnel Selection Unit (Officers)
 "R" U. — Rescue Unit
 S.D. — Supply Depot
 (T.) — Transport
 T.A.G.H.Q. — Tactical Air Group H.Q.
 T.C.C. & R. Flt. — Training Command Communications & Rescue Flight
 T.C.H.Q. — Training Command H.Q.
 T.G.H.Q. — Training Group H.Q.
 T.T.S. — Technical Training School

The Suggestion Box

THE UNDERMENTIONED PERSONNEL have been thanked by the Chief of the Air Staff for original suggestions which have been adopted by the R.C.A.F.

Flight Lieutenant N. H. Jeffries, of A.F.H.Q., designed a new type of civilian pay list which will eliminate many hours' needless typing each month. It has hitherto been necessary to retype certain information on the statement-of-pay slips that must be attached to the cheques of all civilian employees. By the use of the revised civilian pay list, the typist need merely tear off an attached carbon-copy form along a perforated line. (This suggestion has been adopted by all three Services.)

Flt. Lt. N. H. Jeffries.



Sgt. A. J. Botting.



Sergeant A. J. Botting, of No. 410 (F.) Squadron, was associated with Flying Officer A. L. Perry in designing the adapter which enables the G.S.A.P. camera to photograph simultaneously both the moving graticule and the target aircraft in the Vampire Mk.4B G.G.S. installation. (We wish to extend to him our apologies for the omission of his photograph from the March issue.)

The Old Men's Parachute Course

By Flying Officer J. E. Palmer,

Public Relations Officer, No. 14 Training Group, Winnipeg

*Sgt. Willson's very smart —
He caught me with my feet apart!*

(The Old Men's Parasong)

DURING THE LAST MONTH of 1951 five R.C.A.F. staff officers of the Canadian Joint Air Training Centre, Rivers, Man., were subjected to a two-week Parachute Qualifying Course. It was their own fault entirely. At one time or another they had all expressed a desire to take "the big step." There had been two earlier courses of a similar nature: the first in 1948, the second in 1950.

Having been assigned to cover the trials and tribulations of the five officers above referred to, I dropped over to Rivers and introduced myself to Major Holmes, who was in charge of the course. Major Holmes is a qualified jumpmaster who has graduated from both the British and the American parachute schools. From him I received an outline of the normal four-week parachute course.

The first week is devoted to ground training and basic drill. Students are introduced to the indoor trainers and become familiar with door and exit positions with the help of mock aircraft. From practice with the flight trainers (arrangements of ropes, pulleys, and tackle, suspended from the hanger roof) they learn the many tricks of steering a 'chute and preparing to land. The flight trainers, by the way, are usually referred to by the trainees as "torture racks." Finally, they are instructed in the art of tumbling and rolling by the use of landing benches — a series of steps varying from one foot to six feet in height. It is during this initial week that stiffness and soreness make their first — but not their last — appearance.

The second week is spent in advanced ground training and is broken down into three parts:

Exit (correct ways of leaving an aircraft)

Flight drill (manoeuvring the parachute in the air)

Landing

During this period the students learn the seven words of command used in aircraft:

1. "Get ready!" (Given when the red light goes on and each aircraft is two minutes from the D.Z., or drop-zone. Each man grabs his snap-fastener in his left hand and keeps his eye on the cable (or static line) overhead.)
2. "Stand up!" (The men stand up, right feet forward, ready to hook up.)
3. "Hook up!" (Snap-fasteners are securely hooked to cable.)
4. "Check equipment!" (Each jumper checks front of his own gear and the back of the man in front of him. The last man in the "stick" of jumpers turns round and is checked by the second last. When everyone is sure that gear is in order, they tap each other on the bottom.)
5. "Sound off for equipment check!" (If there are, say, ten men in the stick, the last one yells out "Number Ten, O.K.!"; the next man, "Number Nine, O.K.!"; and so on.)
6. "Fifteen seconds to D.Z.— close it up" (All shuffle towards the door. Number One takes position in the door, or a foot away from it, and waits for the green light. When it flashes, the stick leader and all the jumpers yell:
7. "Go!"

Major D. E. Holmes, O.C. Airborne School.



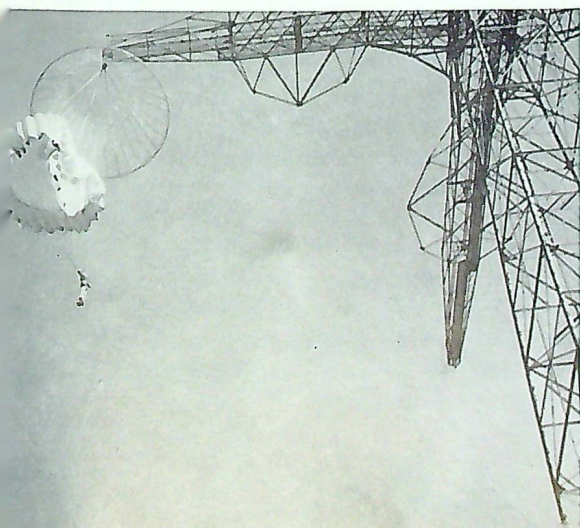
After memorizing the foregoing thoroughly, the trainees go through a procedure known as "tap-out." Each man is "tapped out" individually by the dispatcher. Next comes "slow mass," where each man takes the door position and then kicks out. Finally comes the "fast mass," where no door position is maintained. The jumpers just angle out into space independently at the rate of approximately two per second.

The second week also includes advanced flight and landing drills on the slides and landing swings, and introduces the students to the mock tower, which is an exit trainer elevated 35 feet above the ground. In the mock tower the men are hooked by their harness to a system of guide wires, so that when they leap out of the door they fall 12 feet before their downward drop is arrested by overhead risers. They then slide down the guide wires 50 feet to the end of the run. Here they are unhooked and drop about a foot to the ground. Each trainee does five to eight jumps, until all his mistakes are corrected.

For the third week the entire course moves over to Camp Shilo, where the high jump tower is located and the first free flights take place.

This tower stands 256 feet high from the ground to the top of the arm girders. Four arms set at right angles protrude 60 feet out from the tower. Number one, two and three arms point south, east, and north, respectively. These arms are "free" arms, on which the parachute is released at

Jumping from the high jump tower.



A practice jump from the 35-ft. mock tower.

a height of 250 feet and descends freely to the ground. The 'chutist is suspended approximately 20 feet beneath the canopy, so that he gets a flight drop of around 230 feet. Number four arm, pointing west, is known as the "control arm." On this arm the parachute is controlled in its ascent and descent by eight guide cables to which it is attached by means of "skates." Huge electric motors heave the 'chute and 'chutist aloft.

Students receive a minimum of one ride in the "chair," in order to familiarize them with the height of the tower and the sensation of seeing the ground rising towards them. On the suspended harness, each trainee receives a minimum of two rides or as many as are needed to correct his faults. On the free arm he does five to eight descents for flight and landing training. For the first three he is coached by instructors on the ground using P.A. systems. The fourth and fifth jumps he does on his own. The first jump is done with no extra equipment carried. On the second jump, a reserve 'chute pack is added; on the third, a small pack; on the fourth, a rifle valise; and on the fifth jump the trainee carries a 25-pound general-purpose valise. Any wind over ten m.p.h. rules these jumps out.

For the fourth week the course returns to C.J.A.T.C. for five jumps from aircraft — four by day and one by night. Two of the jumps are made



Front row (l. to r.): Lt. R. G. Boss (trainee), Major M. A. Graham (trainee), Capt. W. Snell (chief instructor), Flying Officer L. W. Beasleigh (trainee), Capt. R. M. Jalbert (trainee). Back row (l. to r.): Sgt. P. Ghostkeeper (instructor), Capt. D. L. Hannah (trainee), Flying Officer D. L. Osborne (trainee), Flt. Lt. A. R. Moulden (trainee), Sgt. J. B. Willson (instructor).

without extra equipment from 1200 feet. One jump is made from 1000 feet with full combat equipment, and one with combat equipment and a chest pack simulating a radio, ammunition, supplies, etc. The night jump, without extra equipment, takes place from 1200 feet.

Having absorbed the above information, I asked if I might interview Wing Commander W. B. Hodgson, D.F.C., who was the senior Air Force officer on the Old Men's Course. I found him in bed, recuperating from a knee injury incurred by his first two jumps. He told me, however, that he had enjoyed the course immensely until the injury. "The training is terrific and the instructors are the best. Seems odd, though. I've flown for 19 years, in civilian life and the Service, and always avoided the thought of jumping. From a pilot's point of view, the experience is invaluable. I was

very stiff, of course, for the first four days, but the soreness soon vanished. That first step out is quite a thrill."

Going down the list, I found that the officer next in rank was Squadron Leader B. G. Stibbards, the Protestant Chaplain of C.J.A.T.C. I located him in his office in the chapel. From him I learned that "It's safer to take the jump course than spend a week-end in your home." Apparently, at the end of the first week of the course he was so stiff and sore he could hardly move. He was sitting in a hot bath, reviewing the past week's tortures and thinking of the Ladies' Guild Bazaar which he was to open that day. Then the 'phone rang. He leaped out of the tub to answer it, missed the top step of the stairs, and (since he had no 'chute on) went head-first through the wall at the bottom. The result — a broken rib, and bruises from hip to

knee. He was strapped up and obtained permission to continue the course, but two days later he tore the stomach muscles on his right side. That, for the time being, was the end of it.

Determined to find some Air Force officer who was still on the course, I went back to Major Holmes' office. He said my best bet now was to wait until 1800 hours, when the first of the night jumps would take place. He proceeded to give me a few more facts.

The "Old Men," he said, were good students. Since the normal course intakes vary between 40 and 50, students on these special courses (in this instance there were only nine — five Air Force and four Army) receive much more individual tuition and guidance. That is why they can pack four weeks' training into two. The average age of a normal course is 20. The average age of this course was 33.

Captain W. Snell, who heads the instructional team of Sgt. P. Ghostkeeper and Sgt. J. B. Willson, explained that these N.C.O.'s are specially chosen for their skill in handling senior officers. They can finish a difficult request with a 'Sir' that brings out all that is best in their students. No punishments are withheld. Officers receive a fine of ten push-ups for infractions of school rules, such as standing with hands in pockets, hands on hips, or not doing immediately what is requested of them. Major Holmes pointed out that this is really doing them a favour: it helps to condition them for the more arduous training. If anyone receives more push-ups than he can handle at one time, they are recorded and he must pay them off before he graduates. One student incurred eighty.

If a 'chute is pulled inadvertently, a \$1.00 fine is imposed for repacking. These fines go into the "Instructors' Benevolent Fund," which serves (one suspects) a very noble cause . . .

The hour came for me to attend the briefing for the Old Men's night jump. The D.Z. was drawn on the blackboard. Our three remaining serviceable Air Force officers and the four Army officers watched intently as the flare positions were pointed out. The instructor, Sgt. Ghostkeeper, said he had "asked the O.C. in heaven for moonlight, but clouds on the horizon were obscuring it." Flying

Officer L. W. Beasleigh, who is a navigator and who claims that before taking this course he used to get dizzy eating a three-decker sandwich, enquired: "How do we know when we are going to hit the ground?" But Captain Snell was ready for that one. "Don't worry about landing in the dark. It'll be driven home to you to-night."

We left the briefing room and went to the area in the hangar where the men dress for the jump. At 2230 hours, after several delays on account of the wind, the men began to put on their gear. One chap, I noticed, rejected a 'chute numbered 1313 in favour of one numbered 777. "Superstitions are very prevalent amongst jumpers," Major Holmes told me. "Some of them like a certain pal to check their 'chute, or insist on wearing a certain piece of clothing each jump, or carry a good luck charm."

When they were all ready, the wait began. A certain amount of tension was apparent. One jumper played softly on a mouth organ. I asked him what the tune was. "I Got the Jump Jump Blues," he said. Some wrestled. Some sang. Another man knelt on his hands and knees, his face about six inches from the floor, just resting. "If your harness fits right, you should look like

Sqn. Ldr. B. G. Stibbards.



a dog riding a football,” one instructor commented. This man’s harness must have fitted perfectly.

At last the men moved off to board the awaiting Dakotas. Minutes later we were airborne and heading for the D.Z.

Before the red light showed, the jumpmaster yelled, “Is everybody happy?”, to which all answered “Yes!” Then: “Is everybody going to jump?” Again all yelled “Yes!” I thought about this. “What,” I asked the jumpmaster, “if somebody is not happy and isn’t going to jump? Does he say ‘no’?” The jumpmaster looked shocked. “They know they aren’t allowed to say ‘no!’” A fine thing!

After they had checked their equipment, however, everything became very serious. “When they step out of that door,” the jumpmaster explained to me, “they count—‘one thousand’, ‘two thousand’, ‘three thousand’. At ‘four thousand’, if nothing has happened, they must pull their reserve ‘chutes. From this height of 1200 feet, they’ll be on the ground in 45 seconds.”

We droned on . . .

“Get ready!”

“Stand up!”

“Hook up!”

“Check equipment!”

“Sound off for equipment check!”



Wing Cdr. W. B. Hodgson.

“Fifteen seconds to D.Z.— close it up!”

“GO!”

After that it was not very long before, after a cold jump and a successful landing, another batch of “Umbrella-Crested Sky Larks” had won their wings.

85 Years Ago

Quotes from Russian press: No alliance is possible for Russia except one with the United States of America. Where are the allies of Russia in Europe? Nowhere. Then let us seek them in America, and conclude a holy alliance with it.

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

The Texan Wing Failures

Prepared by Central Experimental and Proving Establishment

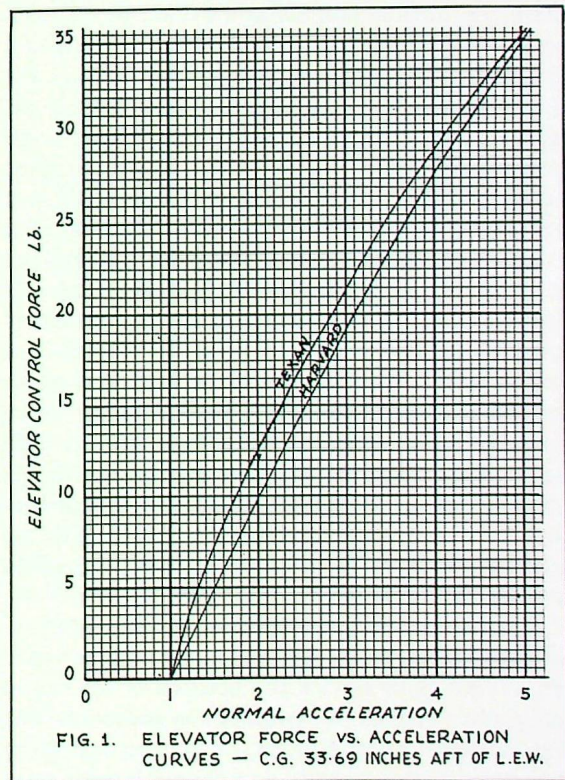
IN THE EARLY FALL of 1951, two Texan aircraft were involved in separate flying accidents. Preliminary investigation of the crashes by the Accident Investigation Branch at A.F.H.Q. confirmed the lurid newspaper headlines that structural failure had occurred. One wing of each aircraft had come off.

But aircraft wings do not fail unless either the wing strength does not meet the structural design requirements for all normal flight manoeuvres, or the wing is subjected to greater than design loads. The Texan, having been designed and constructed during the period 1938-1940, can be considered a relatively modern aircraft. Thus, it might be assumed that the design requirements were attained in the construction of the wings. The validity of such an assumption was checked by sending a Texan wing to the National Aeronautical Establishment, where it was mounted on the static test rig in the Structures Laboratory.

The loading applied to the wing on the rig conformed as closely as possible to actual flight conditions, and the wing failed at 125% of ultimate load factor, or the equivalent of 11.3 g. It was apparent that the wing structure exceeded the design requirements, and a further investigation was conducted into the possibility of inadvertently applying g (acceleration loads) in excess of those for which the structure was designed.

Central Experimental and Proving Establishment, at Rockcliffe, was brought into the investigation upon receipt of a directive to determine the handling characteristics of the Texan T-6D as compared with those of the Harvard 2. A Texan aircraft was delivered to C.E.P.E. from Training Command, and the necessary engineering and flying programme began.

The flight investigation was confined to a qualitative and quantitative assessment of the longitudinal static and manoeuvre stability, because manoeuvres in the looping plane apply the stresses to the aircraft structure that are most likely to cause a wing failure. The location of the centre of gravity has a major effect on the longitudinal stability, and the static stability determines the initial manoeuvre characteristics. The aircraft was weighed, and its C.G. position was found to be

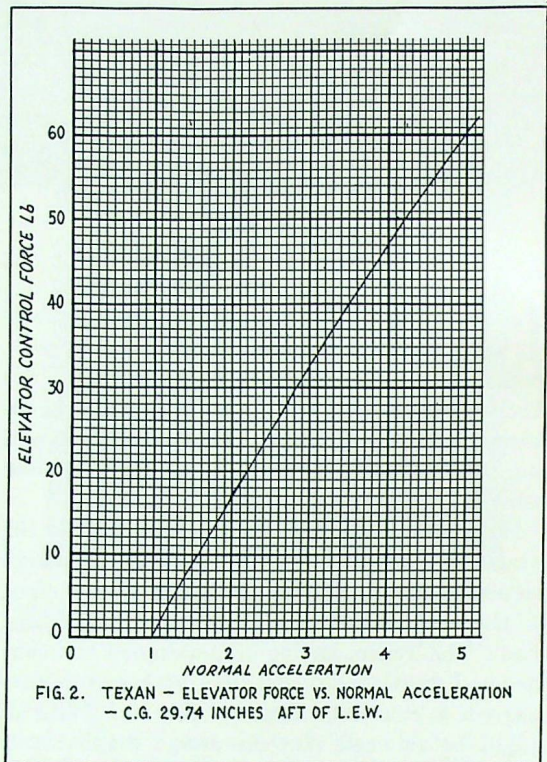


34 inches aft of the leading edge of the centre-section of the wing when two pilots were carried. (Hereafter C.G. positions will be expressed as inches aft of the leading edge of the wing centre-section, abbreviated to "L.E.W.").

The recommended aft C.G. limit for the Harvard 2 is 33.26 inches aft of L.E.W., and for the Texan 33.75 inches. It will be noted that the C.G. position of the Texan weighed at C.E.P.E. was .25 inches behind the recommended aft limit. This is just a figure, and the reader may well ask: "Why be concerned over the C.G. being on or slightly behind the aft limit?" It is hoped the following paragraphs on the theory of aircraft longitudinal stability and control, while of necessity over-simplifying the matter, will answer that question.

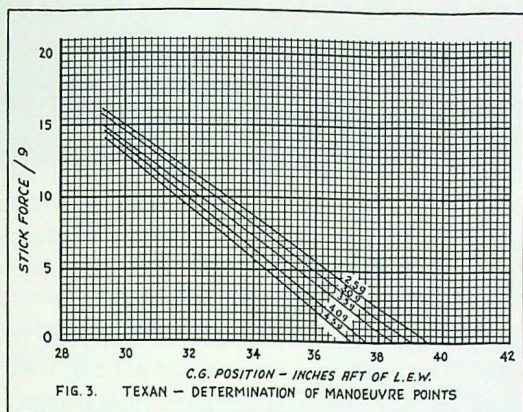
Suppose your aircraft is flying along, straight and level, and you have it trimmed to fly hands-off. It is often rather convenient to be able to look at a map without grabbing violently for the stick because the aircraft hits a disturbance, such as an up-gust, and has its own ideas about where it's going. The up-gust immediately increases the angle of attack. This increases the lift and the aircraft starts to rise above its old flight level, and it also begins to slow down. There are three stability terms used to describe the aircraft's next reaction. If it noses down into the up-gust so that it maintains constant speed, it is termed "statically stable." If, on the other hand, it noses up still further towards the stall, it is termed "statically unstable." If your aircraft acts like a docile cow and just continues to fly at the new speed and rate of climb, it is termed "neutrally stable." The longitudinally stable aircraft will maintain the speed for which it is trimmed, and the forces that a pilot must exert on the stick to change that speed are a measure of the stability — i.e. the greater the stick force required, the more stable the aircraft.

Certain stability considerations must be incorporated in the design of an aircraft, but once an aircraft is in service the position of the centre of gravity mainly determines the stability. The "stick-fixed" neutral point, or the neutral point when the pilot does not allow the stick or elevator



to move, is the C.G. position which just makes the aircraft neutrally stable. The "stick-free," or hands-off, neutral point is the C.G. position for neutral stability for hands-off flying, and this usually occurs at a more forward C.G. position than for the stick-fixed case. It is a nuisance flying an aircraft with the C.G. behind the stick-free neutral point, but it is dangerous to fly when the stick-fixed neutral point is exceeded. Imagine one's embarrassment if the nose kept getting higher and higher and there was insufficient stick travel to prevent it.

Now we have one other C.G. position which is of interest. This is the stick-free manoeuvre point, or the C.G. position for which no additional stick force is required to accelerate the aircraft in the looping plane. It is not difficult to see why this is important, because at this point the aircraft, once started, will continue to tighten the turn, or pull-up, until the structure fails.



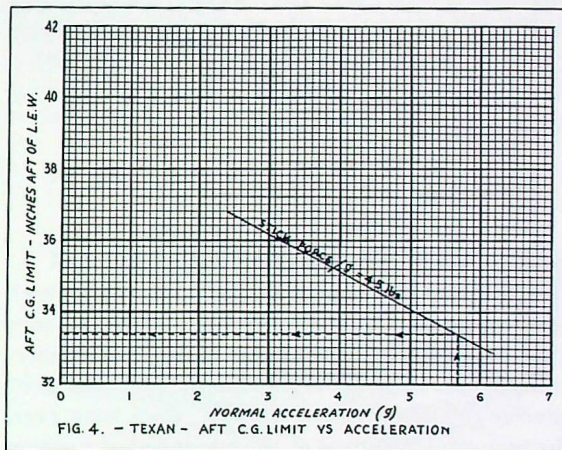
Armed with a little knowledge of stability and being a little cynical of the importance sometimes attached to the C.G. position, C.E.P.E. immediately suspected an aft C.G. as the cause of the wing failures. As mentioned previously, the C.G. was found to be behind the recommended limit. It was also thought necessary to check this limit in view of the discrepancy between the limits specified for the Texan and the Harvard.

The test instrumentation of the aircraft was very simple, involving the installation of an indicator for showing the pilot's pull on the stick and a normal accelerometer for showing the g applied. The stick force was measured, for a number of values of g, at two C.G. positions for the Texan and at one for the Harvard, and the curves of Figures 1 and 2 were plotted.

All the important information concerning the aircraft's stability in manoeuvring flight is given in those two curves. However, to see what is happening more clearly, the slope of the curves, or stick force per g, is measured at both C.G. positions and plotted for various values of g as shown in Figure 3. The point where the curve crosses the zero axis gives the manoeuvre point for that g, and, as we can see, the manoeuvre point moves forward as g is increased.

Tests on literally hundreds of pilots have shown that, to ensure safe handling of an aircraft such as the Texan, a minimum of 4.5 lbs. is required for each additional g. The 4.5-lbs.-per-g points from Figure 3 are plotted in Figure 4. At 5.67 g, the limit load factor of the aircraft, the aft C.G. limit that will ensure stick forces of 4.5 lbs per g is 33.4 inches aft of L.E.W. Since this is a minimum, the aft C.G. was recommended as 33.26 inches, the same as for the Harvard.

What, you may ask, did actually happen to the two Texans which shed a wing? With a C.G. of 35 inches aft of the L.E.W., a normal acceleration of 4 g gives less than the minimum stick force per g. Under these conditions, it is just too easy to get five or six g in a pull-up after a loop, and the stick



forces per g may be reduced to a negligible amount, or may be reversed so that the aircraft tightens up on itself until destructive stresses are set up in the airframe. The pilot will actually lose consciousness before the wing comes off, and thus has no chance of bailing out. The Harvard and Texan are identical in this respect and must be flown with the C.G. within the specified limits — and flown carefully when the rear limit is approached.

Maintenance of Technical Equipment in the R.C.A.F.

By Group Captain J. A. Verner,
Director of Maintenance Services, A.F.H.Q.

(This article is the fourth in our series on logistics. The first three appeared last year in our April, May, and July-August issues, respectively. The author of the present article, who has been Director of Maintenance Services since August 1950, was first assigned to maintenance duties at the beginning of the Second World War, after attending the R.A.F. School of Aeronautical Engineering. Before that he had served as an Army Co-op. pilot and a flying instructor. During the war he was closely associated with the maintenance work involved in the B.C.A.T.P., was C.O. of No. 9 Repair Depot, and served as an engineering officer with the R.C.A.F. Bomber Group overseas. After the war he was attached for a time to Air Materiel Command, and then posted to R.C.A.F. Station Goose Bay as C.O. It was at Goose Bay that he developed the Penguin Family, some of whose members have found their way into the following pages.—EDITOR)

THE SCOPE OF THE MAINTENANCE TASK

IN HOW MANY households has it been said with justification that the young son is a born mechanic? While this may or may not be understating a parental hope, it reflects a condition to be coveted by any nation. To-day, more than ever, the technical resources at the command of a nation are vital to its defence. The import of maintaining the technical effectiveness of its defence resources in use is obvious, and success in this purpose depends substantially on the availability of able engineers and technicians. The engineers must exercise with technical and administrative competence the necessary organizational control and technical direction that maintenance processes demand. The technicians must be well trained in a trade field suited to their abilities and talents; they must be equipped with the tools and provided with the facilities and services required for the performance of their duties; and their duties must be assigned to them within an efficiently operated and soundly directed organization.

An air force particularly is sensitive to the technical climate to which it is exposed. The aeroplane, its chief and basic tool, is symbolic of the complex technical problems which must be met, and in the R.C.A.F., as elsewhere, the maintenance processes that are required consistently to restore technical equipment to a condition of readiness for operation have become an undertaking of no mean proportion.

Canada has, since the establishment of the R.C.A.F. in 1924, built her air forces, from approximately five per cent of the country's military potential, to a force representing a good third of its military strength and costing a like proportion of its defence budget to operate.

Maintenance of the technical equipment of this force, which includes, in addition to aeroplanes, such items as vehicles, motorized apparatus, construction equipment and marine craft, preoccupies a large percentage of air force manpower. Well over fifty per cent of the Service personnel in the R.C.A.F. are assigned to this task alone. Almost

one-half are engineers and technicians whose main duties contribute directly to the maintenance of aeroplanes and associated technical equipment. No other group within the R.C.A.F. encompasses such a diversified range of trades and branches which involve such high qualifications of technical skill and ability. The principles, policies, and practices which apply to the maintenance of aeroplanes (involving, as they do, the major portion of the work, and being typical of air force maintenance processes) will consequently undergo analysis here.

* * *

The life-history of technical equipment can be subdivided into three fields, to each of which distinct functions of maintenance have an application:

The Production Field — which is broadly applied to include research and design, development and test stages, and which terminates when the equipment, satisfactorily manufactured, is delivered for use.

The Use Field — which involves those maintenance processes required during the period the equipment is being operationally committed in performing its function.

The Renewal Field — which provides for the technical conditioning of equipment beyond the capacity of Service organizations primarily concerned with operational use of the equipment.

PRODUCTION OF EQUIPMENT

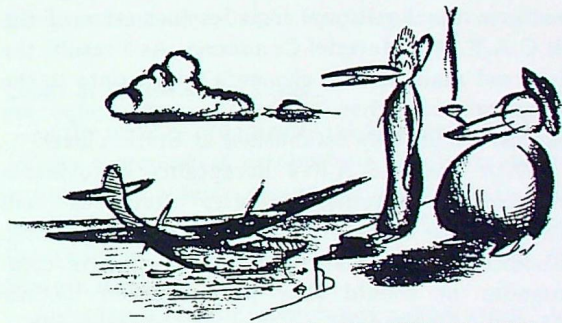
Maintenance Design Features

The recent accent which has been placed upon the value of comprehensive research studies on technical military problems reinforces the conviction that technical excellence is essential to defence. Certainly the design of equipment (and hence the characteristics of the operational performance secured) are critical to the usefulness of equipment with which armed services are equipped. Design processes, however, must take into consideration desirable maintenance features. Maintenance-minded design authorities who introduce, early in the construction stage of new equipment, those maintenance features so essential to the efficient operation of the equipment, are a boon to the user. Nevertheless, proposed maintenance features which are detrimental to operational performance must normally be avoided, particularly if the maintenance objection can be otherwise, although not as conveniently, circumvented. Obviously those operational features, which, by

rendering necessary maintenance impossible, render their own potency ineffectual, must be rejected.

Quality During Manufacture

The provisions of both material and process specifications, when carefully prepared and properly observed, guarantee an acceptable quality for the product. Adequate attention to their preparation and their observance during manufacture often circumvents unnecessary maintenance of the equipment concerned after it has been taken into use, and may well eliminate otherwise necessary modification. Costly and inefficient maintenance can easily result from either the use of inferior manufacturing materials or the application of poor shop practices. It would be shortsighted at the beginning of an otherwise promising career for a well designed piece of equipment, to condemn it to a life of disfavour as a result of malfabrication.



"BUT HOW ON EARTH DO THEY GET THE PROPELLERS INTO THE WATER?"

USE OF EQUIPMENT

Field Maintenance a Function of Command

A campaign commander in the course of his undertakings must be confident that sustained operational effort can at all times be promised. The maintenance processes which are critical to the preparation of the equipment upon which he depends for the accomplishment of operations for which he is responsible, become one of his prime concerns. He must, therefore, have a degree of control over these processes sufficient to permit

complete co-ordination of effort during the use of the equipment.

Method of Organization

What constitutes the portion of maintenance requiring such control? What authorities would be appropriate throughout the operational command organizations to exercise it? The significance of operational command in relation to the control of logistics supporting services might profitably bear scrutiny. The Chief of the Air Staff at his level may very well be considered an operational commander. Air Materiel Command would be, as indeed it is, his main logistics formation, part of which provides the maintenance requirements appropriate to that level.

Prior to the close of the last war, R.C.A.F. logistics organizations, such as repair depots, had been assigned to and controlled by the geographic commands for which they were established. To secure better control and to realize economy of effort, however, they were later grouped together to form the functional logistics formation of the R.C.A.F. Air Materiel Command. As a result, the internal maintenance elements appropriate to the functions of other commands and groups are almost exclusively established at Station level.

With the R.C.A.F.'s acceptance of overseas theatre obligations, logistics functions will naturally be needed to serve such an undertaking. Should they be controlled by the theatre commander or should they be controlled by Air Materiel Command?

One may very well then ask where operational command is to end and independent functional control of maintenance support is to begin. Indeed this is a good question. It is clear, however, that in effect technical organizations must be staged and integrated at various levels throughout the Service structure, ensuring at the same time that technical problems are processed by technically experienced personnel. The means by which such stages should be controlled proposes a challenging exercise in management, and the point at which a maintenance stage should best terminate and the next stage commence, calls for a fair feat of technical perception.

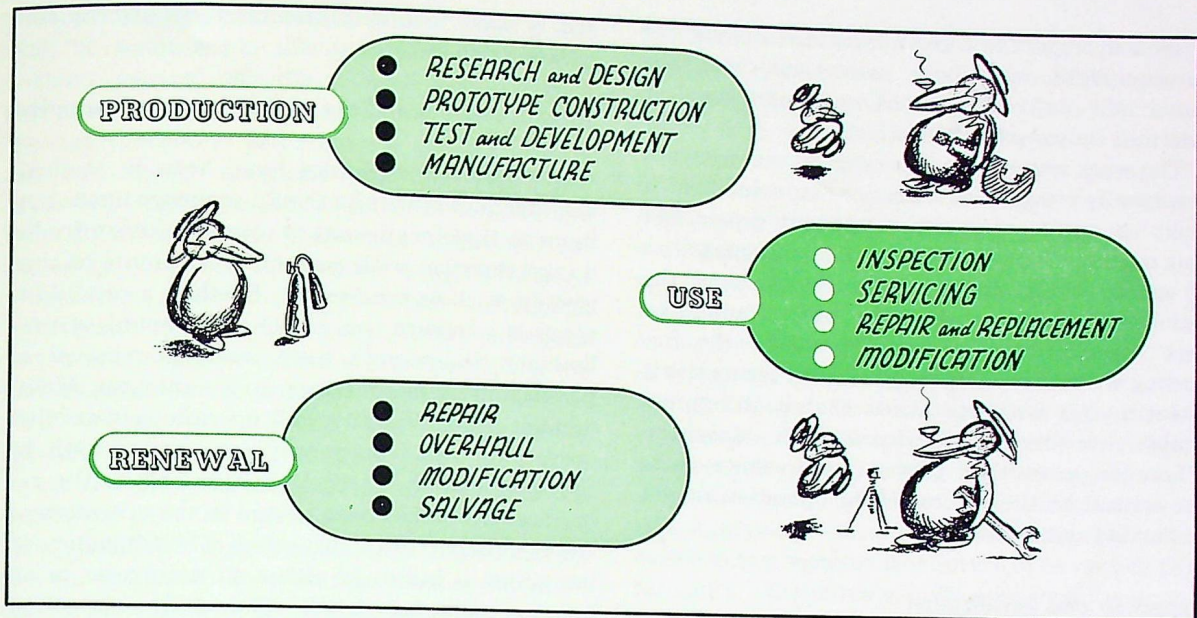
To Centralize or Not

In examining the question of control, it would be profitable to study the merits of squadron maintenance on the one hand, and central maintenance on the other. No subject in this general field could create a more lively discussion. In no discussion have the underlying principles been more elusive, or misunderstood and misrepresented. Where two or more squadrons are based at a Station there is a choice of methods for accomplishing the maintenance of their equipment. Individual squadrons may undertake their own complete maintenance, or a centrally established maintenance organization (with pooled facilities, manpower, and tools) may undertake, under Station sponsorship, the maintenance arisings of all squadrons involved.

It is axiomatic that grouping like resources under centralized control promotes economy of effort. Deploying these resources under decentralized control promotes flexibility of effort. The advantage of one system, unfortunately, is the disadvantage of the other. Obviously, centralization makes good economic sense but it does not always make good tactical or even strategical sense, for flexibility is a fundamental principle of operation, the merits of which are not to be underestimated. Moreover, the psychological effect of decentralizing responsibility together with authority, so that pride of self-contained individual effort is preserved, is by no means unimportant.

On the other hand, the boundaries of economy cannot be violated, for resources — manpower, tools, facilities, materials, and equipment — are not available, as is well known, in unlimited quantities. Moreover, the limits of practicability, as dictated by somewhat inflexible technical postulates, cannot always provide for the mobility sometimes demanded: while a spark plug need not be sent to a depot for repair, a squadron would not undertake engine overhaul. A realistic approach based upon an analytical appreciation of the circumstances is essential. Resources may be frugally conserved, yet at the same time diligently deployed.

In the R.C.A.F., examples of both systems are plentiful, and in some instances compromises have



been successfully introduced. The centralized system is quite adaptable to training establishments. Training activities involved are static, represent a steady work-load that is easily predicted, and are exposed to precise planning. Canada's flying training programme during the last war was instrumental in developing the centralized system to a marked degree.

Such undertakings as tactical fighter operations are ideally suited to exploit the virtues of squadron maintenance effectively. Not only is it of prime importance that such units be as mobile and flexible as possible, but the very nature of such undertakings takes good profit from the sound team spirit the system promotes. Advanced operational training, and operations involving heavy bomber and transport aircraft, almost invariably exhibit within their maintenance organizations major examples of both systems.

We have analyzed some implications of alternative systems of organization as they apply to maintenance at Station level, and have been able to draw some conclusions. The analysis may be carried further, of course, to contemplate the application which the principles have at other levels — internally within squadrons, or at the air force-

wide logistics level to which reference has already been made. Some of the principles are analogous.

Limits of Maintenance Tasks

In the wake of organizational arrangement there follows a problem of establishing the limits of the maintenance which should be assigned to the establishments created. How should this range be determined? Let us look at that involved at Station level.

Aeroplanes require continuous preparation* to ensure that they can undertake flying assignments and remain safely airborne until the assignment is completed. To accomplish this purpose an organized system of maintenance has been developed which consists essentially of maintenance operations that must be carried out at predetermined and predictable intervals, or under certain established technical conditions. The maintenance operations involved are contained in technical orders, notable among which is the "Maintenance Schedule." This document de-

*The main steps involved in the maintenance of R.C.A.F. technical equipment are:

Safety — Inspect — Rectify — Secure — Test — Stow

scribes, in respect to a given type of aeroplane, the between-flight and daily inspections, and the minor and major inspections to be performed at intervals indicated by the schedule.

The work involved in this range of maintenance is normally assigned to a Station. It includes such tasks as engine changes, component repair and unit modification, and does not demand quantities of special tools, use of special facilities, or the services of skilled technicians which cannot be kept continually employed. Moreover, the frequency with which this range of work recurs ties it so intimately with operations that it is impracticable to divorce it from such activities. Wherever possible, of course, maintenance tasks not critical to the success of the operation should be carried out elsewhere.

Inspection and Rectification

It has been said with some truth that the discovery of a technical defect is a maintenance success. We must always inquire, however: At what cost? Over-inspection costs unnecessary man-hours. Indeed, it may create the very condition it seeks to prevent. Under-inspection fails to guarantee serviceable equipment. A complete failure is unacceptable; a partial failure (at best) undesirable.

Inspection of equipment can be accomplished by using either a preventative or a corrective system. The preventative system involves a premeditated examination of the equipment in order to reveal potential or concealed faults and to rectify them, and thus forestall failure. The corrective system, as the word infers, undertakes rectification only when symptoms dictate.

The very nature of air force undertakings recommends the adoption of maintenance on a preventative basis. The intensive training required for personnel who are new to the customary handling of equipment, and the hazardous conditions encountered in conducting air operations, are examples of conditions which advocate this system. But it must not be thought that preventative maintenance is practiced exclusively. Under favourable circumstances it is quite acceptable,

and in some instances preferable, to use the corrective method.

Sequence and Periodicity of Maintenance Inspection Items

Maintenance schedules have been mentioned. Maintenance schedules should sequence inspection items so that technicians of complementary trades do not interfere with each other at points of congestion, such as the cockpit. Further, a careful inspection sequence can reduce the amount of preliminary disassembly work, such as removal of panels and outer coverings, to a minimum. Maintenance schedules must call up various inspection operations with a frequency appropriate both to the nature of the inspection item and to the experience which has been gained in the operation of the equipment to be inspected. The frequency of inspection is indicated either on a calendar or an hours-of-operation basis. The daily inspection contained in the maintenance schedule is a good example of the calendar method. Technical equipment in storage is inspected and preserved as necessary on the same basis. The minor and major inspection system is based upon hours of operation, and for particular types of equipment the periods of operation allowable between such inspections are specifically laid down.

Component Repair

The rectification of faults discovered in components can be carried out either by repair or by replacement of the component concerned. The nature of the component, the tools and skills required and/or available, together with the economics of procuring and maintaining a supply line of replacement parts, are factors that assist in determining which practice would be appropriate in individual cases. Components varying in size and complication (up to that of, say, an aero-engine) can often more easily and more quickly be replaced in an aeroplane — thus freeing the aeroplane for use — than be repaired in position.

RENEWAL OF EQUIPMENT

Equipment, to oversimplify the statement, has one prime object: the performance of its function.

It must therefore be in a state of readiness for this task. It should not lie idle or become unemployed without reason. We have seen that complex equipment requires an equally complex maintenance procedure. Maintenance tasks, requiring not only special facilities, tools, and skills, but involving lengthy periods of time to complete, are best allocated to establishments specifically assigned to carry out such tasks. A well-conceived programme to undertake major repair or overhaul, or extensive modification of equipment, can return to the field equipment with a new operational life and modified to the latest version — and can return it promptly. While the manufacturing capacity of the country might be large, the return to use of equipment which would otherwise remain damaged, worn or unmodified, might very well supplement new supply sufficiently to spell success for an operation. Renewal agencies are able to play a decisive rôle in performing this range of work.

Much of it can be, and is, undertaken by civilian contractors, particularly where large and steady programmes are involved, and where repair capacity suited to the type of work is readily available. Nevertheless, Service technical organizations, notably repair depots, provide a flexible repair capacity which can be committed swiftly and decisively to accomplish aspects of maintenance work that no other agency is equipped or prepared to undertake. Included in the maintenance tasks assigned to such Service organizations are the following:—

- Prototyping or installing urgently-needed operational modifications.
- Effecting repairs to equipment by despatch of mobile parties to the site or by "fly-in" of the equipment.
- Undertaking overhaul and repair programmes which cannot be accomplished practicably by industry.
- Undertaking emergency repairs to, or manufacture of, components in short supply.
- Preserving and holding major equipment in a state of technical readiness for issue.
- Conducting salvage operations, and recovering components.

KEY FACTORS

Statistical Analysis

We have examined some of the maintenance factors appropriate to the three main fields into

which we have divided technical equipment processes. We have seen that the maintenance of technical equipment within the R.C.A.F. is an undertaking of considerable proportion and deserves attention appropriate to its stature. It would be remiss to conclude the discussion without mentioning some key factors.

It is clear that the same research and study and the same attention to detail should be given to maintenance problems as is being given to the important field of initial research, design, and development of technical equipment. As a tool to accomplishment in this undertaking a well-organized statistical system plays a decisive part. Serviceability can no longer be measured by a simple percentage which to-day would be meaningless. Analysis of cause and measurement of effect each erects a signpost to a future of improved performance. Yesterday's difficulties can be translated into to-morrow's successes.

Once occurrences can be predicted and anticipated, the adoption of preconceived schemes to provide for their automatic attention becomes a simple matter. Analytical attention is thus free to focus upon those unpredictable events which pre-occupation with the predictable too frequently neglects.

Trained Technical Personnel

We have seen that technological progress, coupled with the demands of national security, has developed highly specialized and complex defence equipment. This equipment must feature design characteristics permitting efficient maintenance; it must be maintained by highly developed processes capable of serving operations with prompt efficiency and quality of product; and, when beyond a condition for operational use, it must be conditioned and returned to service with optimum despatch.

The key to the accomplishment of these objectives is the competent engineer and the trained and skilled technician. Only by the skilful employment and mature technical direction of properly trained manpower can the attention so necessary to guarantee sustained and successful operational effort be given. Although the crafts-

man has all but succumbed to the concepts of modern production engineering, his place in the art of making two pieces which *don't* fit, fit, is still acclaimed in many fields. A member of the armed forces who has a deep insight into the characteristics of restoring equipment to a condition of efficient operation is invaluable to the operations commander.

The country's potential to provide suitable technical personnel for assignments such as we have just reviewed, is undoubtedly its most precious resource. There is no substitute for people. The essential ingredients are native attributes plus training and experience. Those who are adept, therefore, must be given, first, the finest technical training possible, and then, abundant opportunity for acquiring experience. By continuously exercising their abilities, they should be ready with practiced vigour and inspired determination to meet the challenge of whatever tasks may befall them.

The future? We should not expect that achievements such as telecommunication by complex electronic devices, supersonic flight in aviation, and the release of nuclear energy by atomic fission, will introduce revolutionary changes in our present maintenance principles and practices. They are, perhaps, the exceptions which prove the rule that there is nothing so ordinary as the spectacular, nothing so necessary as the unexpected. We can conclude that the validity of principles established through the tests of time are not likely to be easily upset, and we can go forward confident in the knowledge that the future will not disappoint us with assignments beyond our normal human capacity.



Letters to the Editor

4 March, 1951.

Dear Sir:

What has happened to the February issue of "The Roundel"? Are you, by chance, having trouble with Sgt. Shatterproof— Could it be that he is outraged at the prospect of too many girls in the field swamping his boys?

If you think it would be of comfort to him, please advise him that one of his boys at least is carrying on in traditional fashion. I refer, of course, to Mr. Jones. Spring came early for the old boy this year and he has been strictly "of the field" for several months past— called up on night patrol, he says. It's all super-secret stuff, naturally. For security reasons he keeps all movements dark; but he returns, mission after mission, with chunks of his person clean gone. We can but admire such staunch devotion to duty.

Miss Mary Mark (R.C.A.F.A.)

(Our sternest critic is delighted to learn that ex-A.C.2 Jones is still upholding the tradition of all that is finest in life.— As regards the February issue, we did not receive our own copies until March 5th. The February issue, which should go to the printers on the last day of December, is usually one or two weeks late in appearing, since it is impossible to hold the December meeting of the Editorial Committee until after both Christmas and New Year leave periods are over.—EDITOR)

One For Diogenes

NOT LONG AGO there occurred in Ottawa an episode that would have made the cynical old Greek douse his lamp and squirm in his tub.

Cpl. L. J. Healey, of Air Materiel Command, who has a wife and three children, arrived home one day in a state of some gloom. He had lost his wallet, which contained, in addition to important personal documents, ninety dollars. Cpl. Healey, being a realist, immediately peeled off and attacked the problem of revising his budget. Before he had reached his objective, however, he was intercepted by a call from L.A.C. R. A. Park, who had stumbled upon the wallet, with its contents still intact, while strolling along one of the city's more frequented streets.

That the wallet should have been found by a fellow-member of the Service was, in itself, remarkable; but it was even more remarkable that the finder should have been merely spending a brief embarkation leave in Ottawa before proceeding overseas.

Baby, It's Cold Inside

"Do not tamper with the heaters"
Says the sign upon the wall,
Do not tamper with the damper,
Or there'll be no heat at all.
Though it's cold upon the outside
And it's not so hot within —
Do not tamper with the damper,
For to tamper is a sin.

Do not touch the many switches,
Do not fool around with knobs,
Do not change the calibration —
Muffle up your frozen sobs!
Do not kick it, do not bash it,
Do not lift it from the floor.
Just be careful how you treat it
And it might warm up some more.

When you go to shave for breakfast,
And you walk the cold cold floor,
And you hear the north wind whistling
Through the windows and the door —
You recall your happy dreamings
Of some sultry tropic isle,
While your blankets, spread beneath you,
Serve as carpets for the while.

"Do not tamper with the heaters" —
How the message rings out true!
Makes you wonder . . . When they made them,
Did they ever think of you?
No, they didn't. You would wager
That their thoughts were far away,
Far, oh very far, from Whitehorse
And the temperature to-day.

"Do not tamper with the heaters" —
Words of wisdom for us all.
Lift your palsied hand, my hearty,
Give the engineers a call.
They will try their best to help you
Live to see another day —
Winter cannot last forever,
And the Spring is on its way!

(Cpl. W. F. Kervin, in the "Kee Bird,"
R.C.A.F. Stn., Whitehorse)

The
ROUNDDEL