

CANADA

TODAY / D'AUJOURD'HUI



Defence Is Spelled with a C



There are sound reasons for Canada to have a small regular armed force of 78,800 men and women. In a changing world, where force and violence shape events, there must be a balance of guns; and Canada, as a sovereign state, cannot simply abstain. Since its defence must always be a shared one, it must contribute its share. It does.

As a committed member of the North Atlantic Treaty Organization (NATO), it shares in the defence of Europe and the North Atlantic. As part of the North American Air Defence Command (NORAD), it shares in the defence of North America.

Canada assumes peace-keeping duties throughout the world.

Currently Canada is expressing these commitments by embarking on major reequipment programs, which include the purchase of tanks, patrol aircraft and fighter aircraft.

In this issue of CANADA TODAY/D'AUJOURD'HUI we consider Canada's past and present status as a military power.

A Sovereign Cure

Canada's military posture has always been determined by political considerations. The first prime minister, John A. Macdonald, established the edge of autonomy by refusing to send Canadian soldiers to the relief of Chinese Gordon, the British Empire builder, in 1884. A privately-recruited Canadian expedition, called the Nile Voyageurs, did go, but they were formally and factually a non-military force. The next year Macdonald began a distinct Canadian military tradition by raising a militia, which went west with a force of British regulars to put down Louis Riel's second rebellion.

Throughout the latter half of the nineteenth century the British were reluctant (as they had been in 1812) to become committed in North America; and the Canadians, following Macdonald's lead, were equally reluctant to dispatch troops to the hot spots of the British Empire. Prime Minister Wilfrid Laurier permitted voluntary contingents to go to the Boer War, as part of the British, not the Canadian army.

In World War I Canadian involvement in the Empire came to a historical crossroads. Conservative Prime Minister Robert Borden immediately committed Canada to full participation, and the passage of the Conscription Act of 1917 alienated Quebec from his party for generations.

Borden also took the opportunity to establish a new degree of sovereignty. The Canadian Army Corps fought in France as a unit, under a Canadian commander. In 1922 the perennial prime minister, William Lyon Mackenzie King, took autonomy a step farther by refusing Lloyd George's request that Canada send troops against Mustafa Kemal, the original young Turk.

At the Imperial Conference in 1937, Lieutenant-Colonel Kenneth Stuart, a future Canadian Chief of Staff, argued that the imperial interests defined by British Admiral Sir Herbert Richmond were actually the interests of the United Kingdom. Canada's interests were building transport and industry rather than military power. Between 1936 and 1938, Mackenzie King resisted several British requests for Royal Air Force training facilities in Canada; but when war broke out, Canada became a huge school for pilots and navigators under the Commonwealth Air Training Plan.

In 1939 Canada issued its own declaration of war a few days after Britain. It entered a new alliance with the US through the Ogdensburg Agreement and still maintained close cooperation with Great Britain. Ships of the Canadian Navy

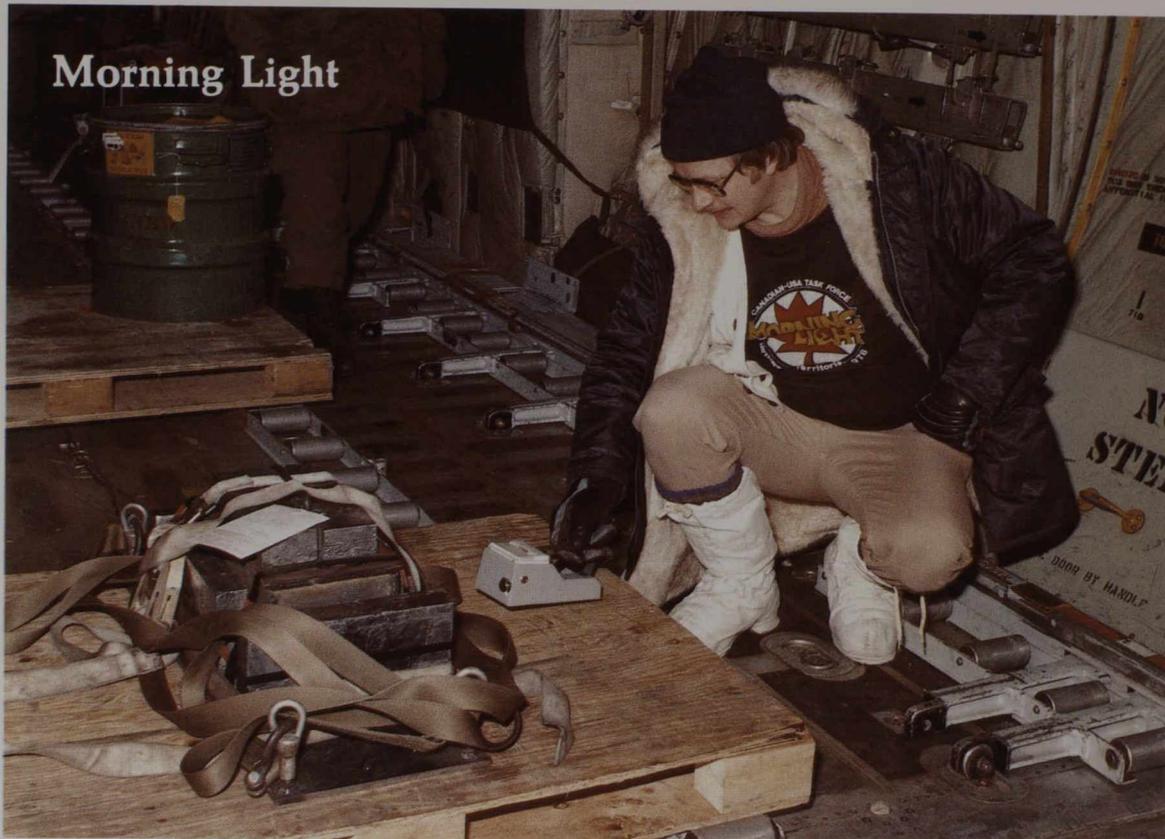
were frequently under British command; more than sixty per cent of Canadian airmen served in RAF squadrons, and a great many Britons served in the RCAF.

After the war Canada remained involved in joint military projects, though no longer primarily with Great Britain. It became a contributing member of NATO's common defence in 1949, a partner with the United States in the defence of North America, forming NORAD in 1958, and a regular contributor to the peace-keeping efforts of the United Nations.

Canada's Beartrap system makes it almost easy to land a helicopter on the deck of a rolling, pitching destroyer. The hovering 9.5-ton helicopter lowers a wire rope, which is attached to a heavier cable on the ship. The cable is pulled into the helicopter and locked into position. The apparatus on the deck then reels the helicopter in. When it touches the deck, it is centred in the six-foot square "Beartrap," and two parallel steel beams are fired pneumatically to secure it in place. The entire assembly then travels in a slot along the centre-line of the flight deck to the hangar.



Morning Light



The Soviet nuclear-powered surveillance satellite, *Cosmos 954*, disintegrated over northern Canada on January 24, 1978. The debris, ranging from pieces the size of pepper specks to one the size of a small wastebasket, was scattered in two areas in the Northwest Territories — one

near Great Slave Lake, the other around Wardens Grove, some two hundred miles to the northeast.

Canada and the United States immediately began a joint search (Operation Morning Light) for radioactive materials, using three US gamma-radiation detection devices and one late-model Canadian device, all mounted in Canadian CC130 Hercules aircraft. On January 27 the first radiation hot spot was detected in the McLeod Bay area by the Canadian gamma-ray spectrometer. The debris found in the McLeod Bay area consisted of tiny radioactive particles, and the subsequent analysis at the Whiteshell Nuclear Research Establishment at Pinawa, Manitoba, concluded that they came from the satellite's nuclear core. The larger chunks in the Wardens Grove area came from the rest of the satellite.

Late on January 28 two men in the Wardens Grove area found and touched a large piece of

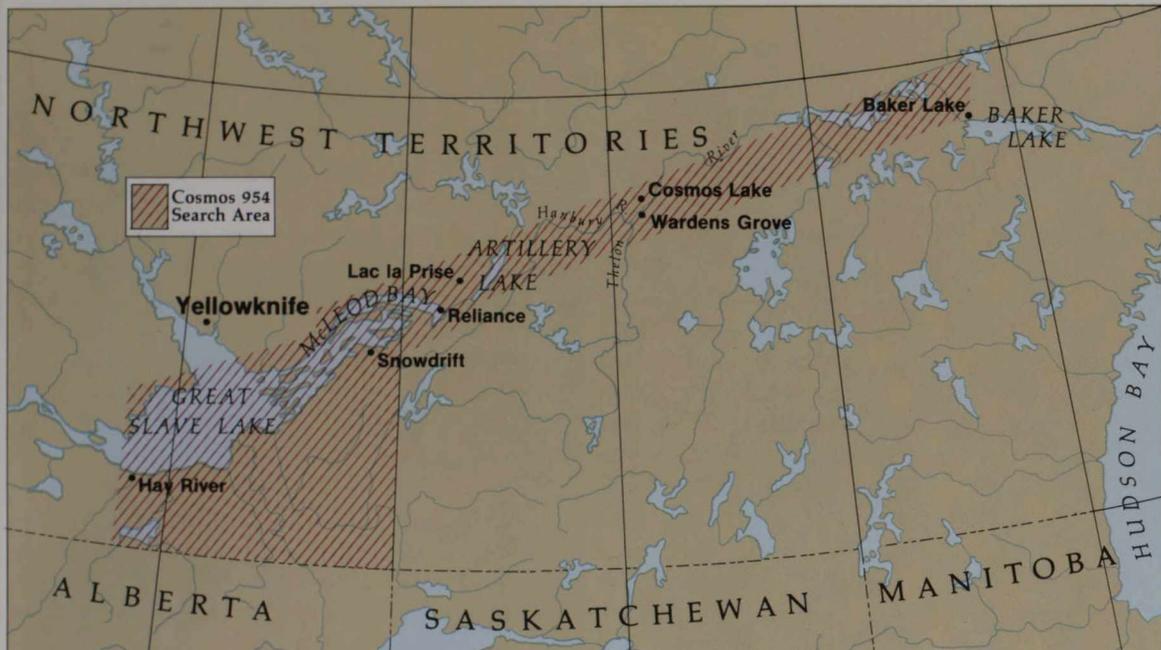
debris on the Thelon River ice. The men were flown to Yellowknife and Edmonton, where tests showed that they had not picked up any radiation.

In the first two weeks of the search 115 Americans and 250 Canadians were involved, and the planes spent over 700 hours in the air. Only one piece of debris, found on the McLeod Bay ice, was sufficiently radioactive to require special handling. It was removed to Edmonton, Alberta, in a special lead container.

On February 6 a bulldozer, which arrived by LAPES (Low Altitude Parachute Extraction System), began building an airstrip at Cosmos Lake, near Wardens Grove. On February 15 the first aircraft landed, bringing in twenty-one Canadians and Americans. An inflatable aircraft shelter, tents and snowmobiles arrived by parachute. On February 16 a Hercules carrying twenty thousand pounds of supplies landed.

Top: A half-ton lead container shielded small radioactive debris. Left: Larger fragments on the Thelon River had low radiation levels. Below: Hercules planes deliver supplies by LAPES drop.





After further monitoring flights, the team concluded that the particles scattered in a low-contamination area southeast of Great Slave Lake were so small that they could not all be removed. Tests showed that these did not add significantly to the natural radiation level in the area. To avoid the possibility of contamination among the native peoples, the villages of Snowdrift, Lac la Prieze, Artillery Lake and Hay River and established transportation routes were cleaned of all satellite

particles. Because many of the particles were too small to see, searchers simply removed any snow with above normal radiation levels.

The search involved a total of about 4,700 hours of flying time. The Department of National Defence, which coordinated it, has recently passed its responsibility to Canada's Atomic Energy Control Board, which will watch for long-term radiation effects on human life, the environment and the food chain.



Upper left: On February 15 the first heavy aircraft, a Buffalo, landed on the new ice strip near Camp Garland, headquarters of about 100 scientists and servicemen. Lower left: Snow walls sheltered tents at the Wardens Grove crash site. Below: A Nuclear Accident Support Team (NAST) member, wearing a protective suit, places a radioactive particle in a lead container.



Canada the Peace-Keeper

Canada has about 1,600 peace-keeping troops scattered around the world, more than any other nation. Each is identified by an acronym as part of a larger UN group (UNMOGIP, United Nations Military Observer Group India-Pakistan) and by another acronym as a Canadian unit (CCUNDOF, Canadian Contingent to the United Nations Disengagement Observer Force). Canadian peace-keepers have been in India and Pakistan since 1949, in Korea since 1953, in the Middle East since 1948 and in Cyprus since 1964. The smallest contingent, one major and one sergeant, is part of the United Nations Military Armistice Commission in Korea, and the largest is the 880-member group in Ismailia. Below are brief descriptions of where they are and what they are doing:

Middle East 1: 20 officers including 6 lent to the UN force in Damascus (Middle East 3). Headquartered in Jerusalem since May 1948: "To observe and maintain the cease-fire ordered by the Security Council, to assist in the supervision of the application and observance of the General Armistice Agreement between Egypt, Lebanon, Jordan, Syria and Israel."

Middle East 2: 880 Canadians, all ranks. Headquartered in Ismailia since October 1973: "To observe and maintain the cease-fire between Israel and Egypt by interposing troops between the parties concerned."

Middle East 3: 170 Canadians, all ranks. Headquartered in Damascus since May 1974: "To observe and maintain the cease-fire between Israel and Syria by interposing troops between the parties concerned."

Middle East 4: 91 Canadians, all ranks. Headquartered in Nagoura, Lebanon, since April 29, 1978: "To provide communications support to all deployed elements of the UN force and a communications centre."

Cyprus: 515 Canadians, all ranks. Headquartered in Nicosia since March 1964: "To use its best efforts to prevent a recurrence of fighting and, as necessary, to contribute to the maintenance and restoration of law and order and to assist in the return to normal conditions."

India-Pakistan: 8 officers, employed as observers and, occasionally, as staff. Headquartered in Rawalpindi, Pakistan, and Srinagar, India, since September 1949: "To supervise the observance of the Karachi Agreement by investigating alleged or suspected cease-fire violations on both sides of the cease-fire line."

Korea: Canada has a single representative, a major, on the Military Armistice Commission; he is assisted by a sergeant. Headquartered in Seoul, Canadians have been in Korea since 1947 and part of the current peace-keeping force since 1957: "To attempt to uphold the Korean Armistice Agreement."

A Peace-Keeping Highlight

"On October thirtieth [1956] after the government of Egypt declined to obey a British ultimatum to withdraw troops from a portion of Egyptian territory on twelve hours notice, the Royal Air Force bombed Egyptian airfields. Five days later British troops landed in Port Said as if nothing had changed since the days of the Khedive and Lord Cromer. About a thousand Egyptian soldiers and civilians were killed. The Soviet Union threatened to rain rockets on London and Paris. The Americans, at the climax of a presidential election campaign, were deter-

mined to push through a flat condemnation of the invasion of Egypt. . . . The Western Alliance was on the verge of dissolution. . . . In hindsight, it is easy to see the [Canadian proposed] United Nations Emergency Force, to which Canada contributed the commander, General E.L.M. Burns, and the largest number of troops, as a simple and obvious solution to the problem. But it met at first the solidly based skepticism of even the secretary-general, Dag Hammarskjold, himself."

William Kilbourn
The Making of the Nation



War and Peace-Keeping in Cyprus and Vietnam

[FROM AN INTERVIEW WITH A CANADIAN OFFICER]

Cyprus 1974: "Two Canadians were killed in those days, both by small arms; and nineteen were wounded, mostly by mortar fire. We were in the middle. It was by no means boring."

Cyprus 1966: "They had agreed to evacuate a position which was, in fact, over the cease-fire line. They did withdraw that afternoon but then reoccupied the place that night. The UN did get a little hardnosed and said, 'no way.' One of our companies was warned that they would occupy the position and we were set to go in, but at the last minute they withdrew and everything settled down again."

Vietnam 1966: (After the French left Vietnam in 1954, the UN set up an international commission. As time went by and the uneasy peace became an all-out war in the sixties, the mission became obsolete. Canada was also, briefly, part of the international team that monitored the aftermath of the peace agreement at Paris in 1973.)

"The ICC [International Control Commission] was on its last legs when I got over there, and that was my first experience with real frustration

— it was more than obvious we were just marking time. The terms of reference were real in 1954, but by 1966 they'd lost all relevance. The main job of the team was to inspect the harbour installations for war-like imports. The whole place was one massive, great military base. There were thousands of ships coming in and unloading weapons. Our team left the villa at nine o'clock every morning and drove down to the old French docks, a quarter of a mile from the new military docks. There was a white cross painted on the road, between the warehouses and about 60 or 70 feet from the edge of the quay. We could see about 150 feet of the actual docks and across the river where there was a school. There was room for only one ship and this was usually an old British tramp from Hong Kong, unloading food. We could only report what we could see from that cross. We'd go back in our vehicles, and as we drove we'd pass the big, new docks, jammed with ships, and we'd pass five-ton trucks loaded with 105 shells on the road, but we could not report a single thing we saw once we'd departed from that white cross."

NATO

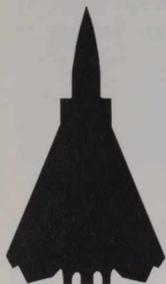
Eastern Canada, the United States and western Europe surround the same sea and are concerned in common defence. Canada has been part of the North Atlantic Treaty Organization since it began in 1949, and a significant part of Canada's military force (5,000 military personnel) is directly attached to NATO. A mechanized brigade group and an air group are stationed at Lahr and Baden-Soellingen, Germany, as part of NATO's Central Army Group and Fourth Allied Tactical Air Force, respectively.

The first will be equipped with 57 Leopard

tanks next winter. They replace the 30-year-old Centurions, which had long been obsolescent and were about to be obsolete. The new ones are manufactured by Krauss-Maffei of Munich. They are part of a purchase of 128 tanks at a cost of \$187 million and are generally considered to be better tanks than any other model now deployed. They can, for example, move along highways at 40 miles per hour.

The air group will get new equipment of a yet undetermined kind in 1983. The Department of National Defence is currently making a pans-

Contending Fighter Designs



F-14 Tomcat
Grumman



F-15 Eagle
McDonnell Douglas



F-16
General Dynamics



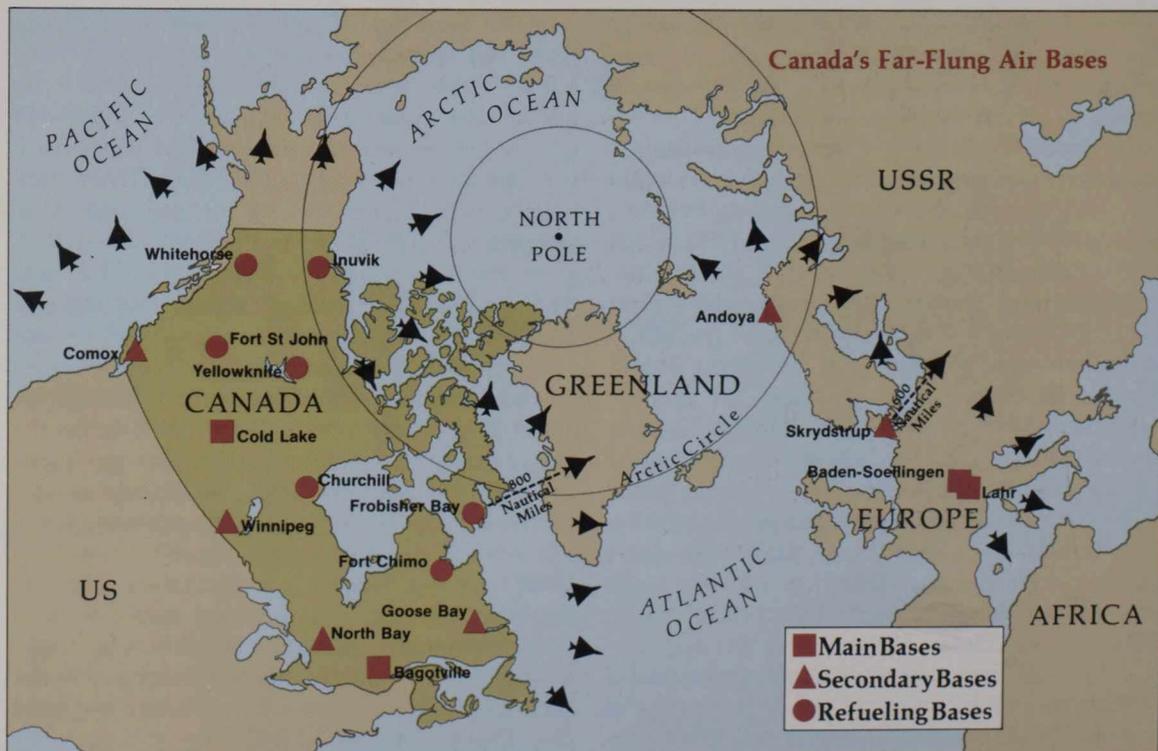
F-18 Hornet
McDonnell Douglas and Northrop



F-18L



Tornado
Panavia



taking choice among six fighter planes offered by five companies. The planes, which will be used both in NATO and in NORAD, may all be of a single design, or there may be separate choices, one for use in Europe and one as part of Canada's northern defence system.

The deciding factor may be cost: the Department of National Defence is authorized to spend \$2.34 billion to acquire 120 to 150 planes to be in service in 1983. The competing manufacturers include four American companies — Grumman, General Dynamics, Northrop and McDonnell Douglas — and a British, West German and Italian consortium, Panavia. The estimated costs now range from \$14 million to \$26 million for each plane.

A Current Bibliography

Cuthbertson, Brian. *Canadian Military Independence in the Age of the Superpowers*, Fitzhenry & Whiteside (Toronto), 1977. Cuthbertson examines Canada's current military situation and policies, arguing that "continental military solutions have been necessary in the past and may be necessary in the future, but they need not be the norm nor should they be."

Preston, Richard A. *The Defence of the Undefended Border: Planning for War in North America 1867-1939*, McGill-Queens University Press (Montreal), 1977. Preston considers the military plans and the planners who prepared for war, often as a training exercise, even though politicians and the public believed or said they believed in the undefended border.

Stacey, Charles P. *Canada and the Age of Conflict: A History of Canadian External Policies*, Volume 1: 1867-1921, Macmillan of Canada (Toronto), 1977. Stacey's general history emphasizes the domestic roots of Canada's foreign policy.

For more military history see the works of James G. Eays, John Mackey Hitsman and George F. G. Stanley as well as other books by Preston and Stacey.

Le Cadet militaire

Canada has three service academies, each of which now trains cadets to serve on land, on sea or in the air.

The Royal Military College at Kingston, Ontario, was founded in 1875 and was Canada's only school of higher military education until World War II.

Royal Roads at Esquimalt, near Victoria, British Columbia, was founded in 1942 as a naval academy. It became a combined naval and air force school in 1947 and a tri-service one in 1948.

The Collège militaire royal de Saint Jean, on the Richelieu River in southern Quebec, was founded in 1952 and is unique. All three provide bilingual training, but Saint Jean does it with a particular flair. Francophone and Anglophone students share rooms, and each is trained in the language of the other. Bilingualism overflows into all aspects of campus life; the language spoken on the parade square, in the gymnasium and in the administrative offices alternates from week to week. (In the forces, English is the operational language above the unit level, but the working language of a unit or base depends on the language of the majority of the personnel.)

About 78,800 Canadian regulars are now in military uniform. Since the forces are unified, precise breakdowns are impossible. There are several small commands and three large ones — Maritime Command with 10,000 regular force personnel, Mobile Command (land and tactical air) with 18,000 and Air Command with 23,000. There are also 19,100 men and women in the reserve and 16,600 in the supplementary reserve. (The latter are all former regulars or reservists.) The Canadian Rangers, an occasional group of 1,400, perform emergency tasks in the North. They are mostly hunters and trappers. Each year approximately 12,000 recruits are selected from about 30,000 applicants. In 1977, women made up 5.6 per cent of the regular forces.



NORAD

Formal defence cooperation between Canada and the United States began in 1940 when Prime Minister William Lyon Mackenzie King and President Franklin Delano Roosevelt met almost casually at Ogdensburg, New York, and set in motion the cooperative spirit, which resulted in the establishment of the Permanent Joint Board on Defence. The board, a civilian-military group, still considers the common problems of defending North America.

After World War II the emphasis shifted to

lines of continental defence against bombers from north of the continent. The first joint radar line, Pine Tree, was just above the border, near the 49th parallel. Canada next set up its own Mid-Canada Line along the 55th parallel. In 1957 the US added the more sophisticated Distant Early Warning (DEW) Line along the Arctic's edge.

In 1958 the two countries formed NORAD, North American Air Defence Command, a joint operation in which men and planes of both nations protect the continent from air attacks.

Winging It

When a Canadian patrol plane takes off, it is probably flying a multi-purpose mission. As a unit in Canada's own air command, it is patrolling Canadian waters looking for illegal foreign fishermen inside the 200-mile territorial limit. As part of NATO it watches for alien submarines. In a civilian capacity, it watches ice movements, notes pollution signs and helps rescue stranded air and seamen.

Canada is now replacing its old Argus planes with eighteen CP-140 long-range patrol aircraft

called Auroras. The system, which costs \$1 billion, is being built by Lockheed Aircraft Corporation.

The delivery of the first Aurora is scheduled for May 1980, the last for March 1981. The eighteen planes will be used by three squadrons. Each squadron will have a dozen crews of eleven members each. Two will be based at Greenwood, Nova Scotia; the other at Comox, British Columbia. The latter will have four planes.

Canadian Built Components of the Aurora

Canadair Ltd, Montreal, PQ

Outer wing box	Centre wing box
Aft fuselage	Nose & aft radome
Machined parts	Wing tips
Search stores rack	
Main electric load centre	

Enheat Ltd, Amherst, NS

Rudder	Elevator
Weapons bay doors	

Fleet Industries, Hamilton, Ont

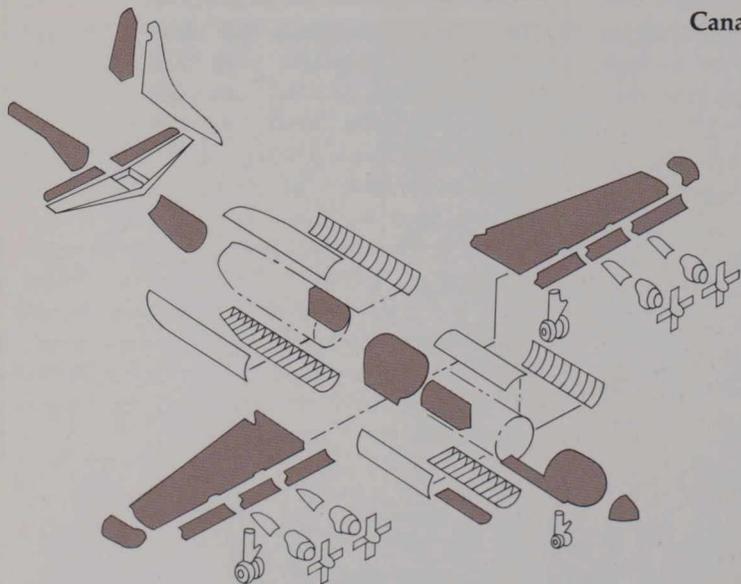
Flight station

IMP Aerospace Ltd, Dartmouth, NS

Wire harnesses

Bristol Aerospace Ltd, Winnipeg, Man

Wing components



The construction of the Aurora aircraft is a prime example of work under the 1963 Defence Production Sharing Agreement. Lockheed has agreed to subcontract \$414.6 million of the plane's construction in Canada. Between February 1975 and December 1981, it must place orders in Canada worth \$94 million and arrange for Canadian sales worth \$119.2 million. Between January 1982 and December 1993, it must place direct orders worth \$66 million and arrange other purchases worth \$135.4 million. In the picture above, the shaded components will be manufactured in Canada.

Defence Production Sharing



Each unit represents Can\$50 million in contracts placed

* Includes \$679 million for the Lockheed Auroras

Ships and Whales and Geostrophic Winds

The Canadian Armed Forces become involved in a number of things that have little or no military connection. Last summer a ten-member biology team from Acadia University went to the Arctic Ocean on *HMCS Preserver* to count whales and birds, note the habits of Arctic char, watch out for traces of industrial pollution and observe polar bears, musk-oxen and walrus.

The *Preserver* was accompanied by two helicopter-equipped destroyers, *HMCS Ottawa* and *HMCS Assiniboine*. They brought medical and dental services and supplies to northern settlements, conducted fisheries patrols for the Department of Fisheries and Environment, practiced Arctic operations, resupplied survival cairns and sea-lifted fuel.

Arctic exercises.

Other military men and women were assisting in research projects on underwater acoustics, hydrographics, the environment and geostrophic winds (those determined, in part, by the earth's rotation).





Canada's 128 new Leopard C1 tanks will arrive next winter. Until then, its NATO forces are using an earlier, similar model leased from West Germany. Here and on the cover, the Royal Canadian Dragoons are practicing for the 1977 NATO Canadian Army Trophy competition. They won, with the borrowed tanks, after only 16 weeks of practice. They finished 300 points ahead of the second place German Army team.

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