

*I am really impressed with that piece of machinery*  
Astronaut C. Gordon Fullerton,  
March 25, 1982.

**CANADA**  
TODAY / D'AUJOURD'HUI

## Canada in the Air

In 1908 James Fraser, a Maritimer, designed a plane that would flap its wings like a bird. It was an idea that never got off the ground.

In the next seventy-three years, however, a great many Canadian ideas did, and so did a great many Canadians.

In 1909 John A.D. McCurdy, in conjunction with a couple of other Canadians and a couple of Americans, flew his Silver Dart a mile and a half in Cape Breton.

In 1922 W.R. Turnbull, of New Brunswick,

invented the variable pitch propellor, and just last March the Canadian-built Space Shuttle Remote Manipulator System—the long, flexible arm—reached out from NASA's Columbia Space Shuttle. In the air, as in so many places, Canadians and Americans have often achieved together.

In this issue of CANADA TODAY/D'AUJOURD'HUI we look at past and present aerial achievements and the people and organizations that made them possible.

## Alouette and Music from the Stars

Canada, with essential help from NASA, the U.S. National Aeronautics and Space Administration, was the third country in the world to have a satellite in space. It was called Alouette I and it went up in 1962, circled in orbit 1,000 kilometres above the earth, charted the ionosphere from the top down and sent data home for ten years. Since then eight other satellites have gone up, and five more will be added by 1986.

Here's the score and the schedule:

Isis I went up in 1969, Isis II in 1971. The latter took pictures of the aurora borealis, a jaunty halo over the polar cap.

Telesat Canada set the specifications for Anik I in 1972, followed by Anik II and Anik III, the first domestic communications satellites. From the ground the Aniks appear stationary since they are 22,300 miles (35,900 kilometres) above the equator and move at the same pace as the earth revolves.

Hermes, which has a Superhigh Frequency

Band enabling it to avoid transmission interference from other satellites, went up in 1976 for a two-year run and performed for almost four.

Anik B went up in 1978, Anik D is scheduled to go up this August, Anik D2 is scheduled for 1984 and three Anik Cs will be launched between now and 1985.

## The Space Shuttle Remote Manipulator System

Spar Ltd. of Toronto delivered the first space arm to NASA on February 11, 1981. It has three more in the works.

The first one reached out successfully during the third flight of the Columbia shuttle last March. In future flights it will place satellites, a space telescope and scientific experimental packages into orbital positions. (This careful language is necessary. The arm is designed to avoid giving the object any additional motion or spin when it lets go.) It was developed at Canada's National Research Council and it faintly resembles two telephone poles, end to end. It is fifty feet long, joined to form shoulder, elbow and wrist. On earth it would buckle under its own weight if it tried to reach up, but in the near vacuum of space it can move 65,000 pounds, the equivalent of a loaded tractor trailer, and place it daintily and

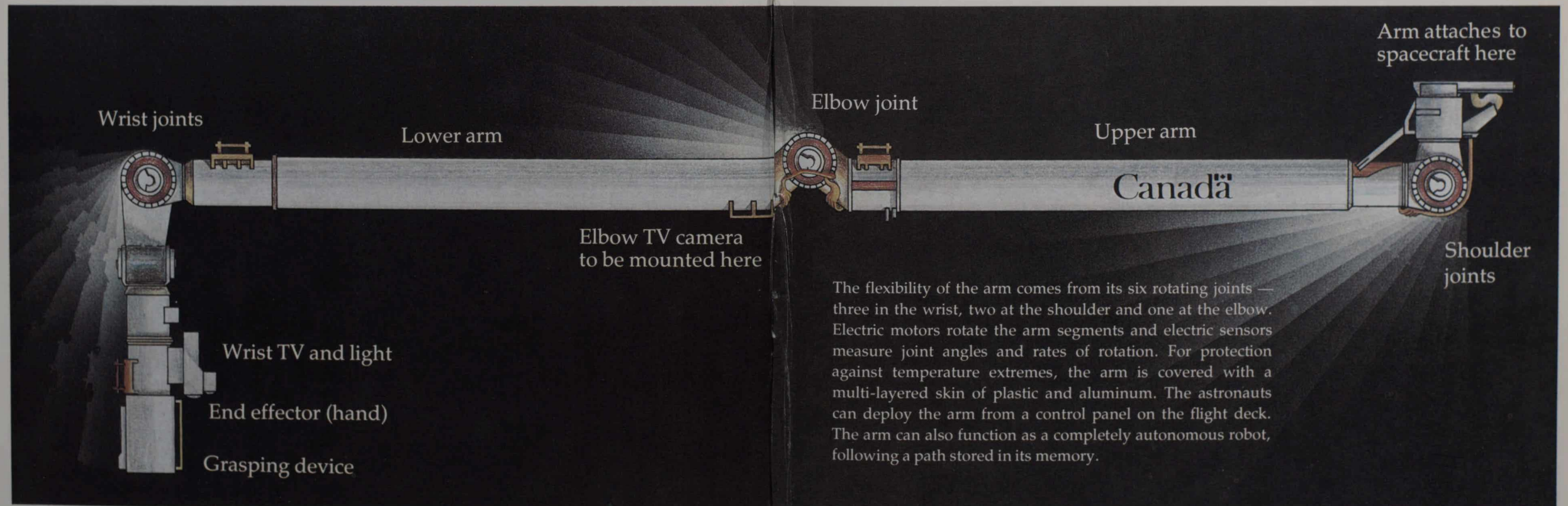
precisely into appropriate position.

It has TV eyes at elbow and wrist and is made of a lightweight carbon composite, with the joints and some other parts made of stainless steel and aluminum.

It can pick up payloads from the cargo bay and put them in their proper places, and it can retrieve satellites or payload packages, including photographic film. It can rescue occupants of disabled spacecraft, assemble structures in space and replace parts in malfunctioning satellites.

It can even inspect the ceramic tiles on its own ship's belly. It can, in fact, reach any point that is within the circle described by its own length. It could scratch its own armpit if it had one. Its wrist can turn completely around, as well as move up and down and sideways. It has a grasping device made of snare wires which take hold easily of the special projections that will be on all future satellites and payloads. It has another substitute hand which can grasp older satellites that lack the projections.

It has 300 wires which are the equivalent of the nerves that run up and down the human arm, relaying information among sensors, motor drives and heating units. The heating units keep the joints from freezing when the shadow of the earth or the spaceship falls on the arm. It has insulation and highly reflective surfaces to keep it from overheating in the sunlight. It cost Canada about \$100 million, and it is called, with perhaps justifiable Canadian pride, "Canadarm."



The flexibility of the arm comes from its six rotating joints — three in the wrist, two at the shoulder and one at the elbow. Electric motors rotate the arm segments and electric sensors measure joint angles and rates of rotation. For protection against temperature extremes, the arm is covered with a multi-layered skin of plastic and aluminum. The astronauts can deploy the arm from a control panel on the flight deck. The arm can also function as a completely autonomous robot, following a path stored in its memory.

Cover Photo:  
Astronauts Joe Engle and Richard Truly took this photo during the testing of the Canadarm on its first flight in November.



*Grant McConachie.*

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## Bush Tale

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Canadian bush pilots really did fly serum to sick children in isolated northern communities. They did all the things you ever saw them do in old movies and they're doing them still.

One of the most celebrated in his youth was Grant McConachie.

In 1932, when he was twenty-three, he made a daring rescue of two brothers named Sens who had been badly burned when a stove exploded in their cabin 150 miles north of Edmonton.

The only way to reach them was by plane, and in the north there were no runways. Planes landed on lakes, with the wheels on the frozen surface in the winter and on pontoons in the water in the summer.

In the fall the ice was too thin for wheels and too thick for pontoons. It was now October and there was no logical place to land at all.

McConachie figured a way. He took off in his blue Fokker monoplane and landed on the narrow beach of a lake near the stricken men's cabin. The Fokker had no brakes but it did have an anchor on the end of a rope. He brought the Fokker down, one wheel in the water, one on the beach. He threw over the anchor, which was supposed to catch on the ground but didn't, and rolled to a

stop at the end of the beach. The brothers were bandaged and loaded aboard the plane, and McConachie tied the tail of his plane to a tree stump until he built up sufficient power to take off from the short runway. A trapper cut the rope with an ax and the plane took off. It immediately began to vibrate frightfully.

McConachie later described the long flight home: "The shuddering continued. It increased when I put on more power, diminishing as I pulled the throttle back, but I couldn't figure out what it was. The engine seemed to be working all right. Chris couldn't find any damage to the fuselage. However, we were able to gain some altitude and continue the flight."

He made a dead stick landing in Edmonton, stepped out and found that the propeller had split down the middle while chopping through bushes on take-off. The only thing that held it together during the long voyage home was the thin metal binding.

The Sens brothers survived and went back to their cabin in the woods.

McConachie's air company, United Air Transport, inaugurated the first airmail service to the Yukon in 1937, and he went on to become president of Canadian Pacific Airlines.

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## The Best Map by a Dam Site

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The basic information for a road map comes from the sky. So does the planning map for the pipeline from Saskatchewan to New Brunswick. So has the best map ever made of the Republic of Indonesia. So, pretty soon, will the most precise map ever made of the world.

Northway-Gestalt Corporation of Toronto has five aircraft equipped with twin television cameras. The cameras take stereoscopic pictures of the ground below. The Gestalt Photo Mapper then eliminates the distortions caused by terrain relief and perspective, produces an orthophoto map on film and stores precise bits of information about ground elevations—700,000 bits for each small section of the photograph—on magnetic tape. The GPM can then be used to make a three-dimensional Digital Elevation Model and maps. These can be used, for example, to pick a site for a hydro-electric power dam.

The map coordinates and the proposed height of the dam are read into the computer, which calculates the total volume of water that will be stored by the dam, and from this, the dam's electrical power potential can be determined.

Northway-Gestalt aircraft fly some 70,000 kilometres a year. Since 1946 they have surveyed the terrain in sixty countries. Similar advanced equipment will soon be used to map the world from the Columbia Space Shuttle.

## The \$200 Million Dollar Challenge

In January, 1976 the gigantic Canadair plant in Montreal was about to close down.

It had had a long and productive life: it had manufactured fighters and transports; the Argus, which served as the workhorse of the Canadian Forces' patrol and search and rescue missions for over twenty years; and the CL-215, the water bomber which had put out forest fires in Canada, France, Spain, Venezuela, Greece and Yugoslavia.

But by the early 1970s it did not have enough customers (Arguses and water bombers last almost forever). It was costing \$5,000 a day just to heat the 2.7 million square foot (225,000 sq. m.) facility on the outskirts of Montreal, and 10,000 people had been laid off.

The parent company, General Dynamics Corp., of St. Louis, was glad to sell it to the Canadian government for \$37 million.

The government wasn't sure what to do with it. The suggestion was made to simply tear the building down and redevelop the land, but that would have meant the loss of more than 6,000 jobs and a significant part of Canada's high technology capability.

F.R. Kearns, Canadair's president, had more ambitious plans—he wished to build a brand new executive jet and sell it to corporations around the world.

He found a man with very similar ideas in Bill Lear, the designer of the Lear Jet, which still dominated the field after fifteen years. He had since designed a jet to take its place but had been unable to interest any of the large manufacturers of corporate jets, since they were doing well with their established models.

Canadair's chief engineer, Harry Halton, who had returned to the company after a near fatal illness, was delighted with Lear's basic design. He and his associates modified it to make it more appealing to buyers, broadening the body from 88 to 106 inches. This change necessitated others: the tail was redesigned to a T-tail configuration, the engine's thrust was increased and new lightweight interior construction materials were introduced to keep the overall weight down.

The new design was clearly superior—quieter, faster, more comfortable. It would be the first executive jet aircraft specifically designed for long-range missions (including international flights) at Mach 0.8. It would be powered with two high by-pass ratio turbofan engines, Avco Lycoming ALF502's, or, as an option, General Electric C434-1A's. Key parts were the advanced transonic wing and an advanced airfoil which increased both speed and fuel efficiency. Several wing designs were tested before the final one was selected.

The Company hired Jim Taylor and his associates as their driving sales force. The Taylor group picked the name Challenger for the new plane. They also invited the pilots of business jets all over the world to a seminar to suggest specific features they'd like to see in the new plane. By its specifications it was already the plane of the future.

Production was set in motion. It would take 8,000 people to build the plane. The tail assembly would be designed and built in Vancouver, the landing gear in Ajax, Ontario, the engines in Bridgeport, Connecticut.

The company built a plywood mockup and took it on tour all over the United States. Orders came in at an increasing clip and soon there were over seventy-five. There were delays in production but the orders held up. The company



*The Challenger.*

went to triple shifts, seven days a week. There were problems: in particular, the plane was now 3,000 pounds overweight. Substitutions were made—woven graphite fibre was used instead of metal, at half the weight and sixty per cent of the cost. The first plane came off the line three months behind schedule, but it was an impressive beauty.

Finally the plane was ready for testing. First there were high-speed runway tests, then chief test pilot Doug Atkins took off. It flew beautifully, and, to the relief of all, no significant modifications were needed. Atkins said it was the "best damn airplane this company has ever built." On August 11, 1980, after eighteen months of test flying, the Canadian government certified it, and U.S. government certification soon followed.

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## Dan Cooper

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Dan Cooper is, quite possibly, the best known mythical Canadian Hero in the world.

He is, however, almost unknown in Canada or in the United States.

He was created twenty-eight years ago by Albert Weinberg, a Belgian cartoonist, who, inspired by a film on supersonic aircraft, drew a comic strip starring Canadian Forces pilot Cooper as a kindhearted, chivalrous defender of widows, orphans and democracy. The strip has been translated into seventeen languages and sold in twenty-four countries, including Greece, Turkey, Mexico and Brazil. Nine million cartoon albums have been sold, and it is the most popular strip in West Germany.

Cooper is ambidextrous and he flies all the planes the Canadian Forces have, Huey helicopters, Hercules transports, CF-104 Starfighters and CF-101 Voodoo fighters. He was the first Canadian pilot to fly the CF-18 Hornet, since their actual delivery will not begin until late this year. Weinberg, who lives in Brussels, visits Canadian Forces bases in Europe and Canada to keep up-to-the-minute with equipment and tactics, but the main emphasis in the strip is "on the characters, their feelings and the individual traits."

He writes a new basic scenario each year, and draws in ink on plates and then turns his drawings over to a team of assistants who add details and colour.



# DAN COOPER

## Search and Rescue

In a country as large and sparsely populated as Canada, the rescue of people in remote areas is a particular challenge.

The national Search and Rescue organization responds to more than 9,000 distress calls a year. In an emergency, the movements of Canadian Forces aircraft and helicopters and Transport Canada's Coast Guard vessels are coordinated at four centres across Canada, in Halifax, N.S., Trenton, Ont., Edmonton, Alta., and Victoria, B.C.

One of the most spectacular SAR operations was the great MV *Prinsendam* rescue.

On October 4, 1980, the Dutch luxury liner caught fire off the coast of Alaska. It had 510 passengers aboard, many elderly.

The supertanker MV *Williamsburg*, which was nearby, responded immediately to the ship's distress signals and approached as close as it could.

That was not very close; and strong winds, high seas, low cloud ceilings and poor visibility made direct rescue efforts impossible.

Meanwhile, the U.S. Coast Guard, the U.S. Air Force and two Canadian flying units, the 442 Transport and Rescue Squadron and the 407

Maritime Patrol Squadron, from the Canadian Forces Base, Comox, British Columbia, had also responded. Among the first planes on the scene were Canadian Labrador helicopters and Buffalo transports from the 442 and an Argus patrol craft from the 407. The Argus acted as an overall coordinator and stood by to help rescue any rescuers who got into trouble.

Labrador 303 landed a medical team aboard the tanker and hoisted thirty-one survivors from a lifeboat and carried them to the *Williamsburg*. It then found another lifeboat lost in the fog and hoisted nine more before running low on fuel. After waiting until a Coast Guard cutter arrived, it went to Yakutat, Alaska, to refuel.

In all, helicopters carried fifty-nine other passengers to the Alaskan mainland.

The Buffalos of the 442 operated a shuttle service between shore bases and staging areas, carrying medics, firefighters, supplies, fresh helicopter crews and rescued passengers.

The *Williamsburg* docked at Valdez, Alaska, with the rescued passengers aboard.

The successful rescue ranks with all-time lifesaving feats, though the number rescued is not the greatest in which Canadian Forces have participated. Forty-two years ago HMCS *St. Laurent*, with Harry DeWolf in command, rescued 850 persons from the *Arandora*.

## Short Haulers

The de Havilland Canada aircraft specialize in short hauls. Some of them also take off and land on surprisingly short runways.

### Twin Otters

The technology for de Havilland Canada's STOL planes (short take-off and landing) was first developed in 1946. It was used to design economical and effective bush planes. The first, the Beaver, was followed by the Otter, the Caribou, and the Buffalo.

The 300 Twin Otter, DHC-6, is the most popular. Among other things it can land with skis or floats as well as wheels. It can use oversize low pressure tires to land on soft ground or rough, unprepared landing strips.

Beavers and Twin Otters, some more than thirty years old, are now flying in eighty different countries, as float planes on the Amazon, at ski resorts in the Alps, among the fiords of Norway, over the peaks of the Himalayas, as commuters in Texas, at oil rigs in Arabia and North Africa and a great many other places.

Both the Canadian Forces and the Alaska National Guard use Twin Otters for search and rescue missions and other humanitarian projects.



*Dash 7 over Toronto.*

## Dash Away All

The de Havilland Dash 7, which was introduced in 1979, carries fifty passengers, has four 1100 shp PT6A turboprop engines, cruises at 213 knots and has a range of 1,400 nautical miles. It can take off from a 2,260 foot runway.

The Dash 8 will begin production in 1984. The company has over 100 orders for it already. It will have two PT7A-2R turboprop engines, will carry up to thirty-six passengers, and will be able to fly 570 nautical miles with a full load.

The Dash 7 is currently flying short haul commuter service across the United States.

- Ransome Airlines (an Allegheny commuter) uses Dash 7's between Washington, D.C., and Philadelphia.
- Henson Airlines flies them from Washington to towns and cities in Virginia and Maryland.
- Golden West has flown them from Los Angeles to small nearby airports.
- Air Pacific uses them out of San Francisco.
- Rocky Mountain Airways developed its own STOLport near the community of Avon for flights from Denver.

## Pratt & Whitney Power

The Twin Otters, the Dash 7 and the Dash 8 are all powered by fuel-efficient turbo-prop engines, built by Pratt & Whitney Aircraft of Canada, Ltd. The company has delivered more than 18,000 engines around the world.

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## Captain Foster's Mustang

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It took Captain Wayne "Butch" Foster, of the 440 Transport, ten years and \$8,000 to build his model plane.

It is a model with a difference. It is a two-thirds replica of a P-51 Mustang and the only one in the world that can actually be flown. Captain Foster bought Mustang drawings from the French Designer Marcel Jurca and plans from the Falconair Company of Edmonton in 1965 while stationed at RCAF Station, Gimli, Manitoba. He built it in the basements of his various homes as he and his family moved from post to post. In May, 1976 he test flew it at Moose Jaw, Saskatchewan. It has a 200-horsepower in-line Ranger Cornell engine built about 1944, which he bought second-hand from Fairchild Aircraft in Edmonton. It cruises at 265 km/h and has a top speed of 386 km/h. Captain Foster, who regularly flies a Twin Otter on the job, flies his Mustang on weekends.

## The Defenders

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The United States and Canada have coordinated their defence research, development and production since World War II. The U.S./Canadian Defence Development Sharing Agreement and Defence Production Sharing Arrangement are the cornerstones for a policy calling for the maintenance of a long-term balance in the defence trade between the two countries. The program has resulted in billions of dollars of procurement contracts in both countries.

## The Hornets Are Coming

The Canadian Forces will receive their first Hornet next October.

The last one will be delivered in 1989, at which time Canada will have nine Hornet squadrons.

The McDonnell Douglas CF-18 Hornet won the Forces' New Fighter Aircraft Competition in April, 1980 after 1,120 days of evaluation, re-evaluation, contract negotiations and speculation.

Each squadron will have twelve planes and eighteen pilots. The first squadron planes will replace CF-101 Voodoos, the Forces' oldest fighter now in service. After that the CF-104 Starfighters will be phased out.

Major General Paul Manson, Canadian Forces Chief of Air Doctrine and Operations, says the Hornet is "the most modern fighter in the world—a fighter with twice the radius of action of today's aircraft, twice the climb of a CF-104." The new plane is 16.80 metres long (56 feet) and 12.21 metres wide (40.7 feet). It has GE F404 low by-pass turbojet engines and is armed with an M-61 20mm cannon and Sidewinder and Sparrow missiles.

## Some Shuteye for the Argus

Canada's basic patrol and search and rescue plane for more than twenty years, the Argus, was replaced in 1981 by the CP-140 Aurora.

The Argus, named after the 100-eyed guardian of Greek mythology, went on routine patrols lasting up to twenty-four hours over Canada's three bordering oceans, looking for alien submarines and ships in distress. The four-engine planes were built by Canadair in the late 1950s and early 1960s, and they carried fourteen-man crews. The last Argus flight is scheduled for late July.

Defence Minister Gilles Lamontagne accepted the first of eighteen CP Auroras from Lockheed at CFB Greenwood last May.

## First Women Take Off

The Canadian Forces' first three women pilots earned their wings after fifteen months of inten-



Canadian Forces — Air Command CF-18 Hornet.

sive training in February, 1981. They are part of a five-year experiment begun in the Forces in 1979 to assess the performances of women in roles that traditionally have been assigned to men.

Captain Nora Bottomley, of Union Bay, B.C., and Captain Leah Mosher, of Sydney, N.S., are now flying DHC-5 Buffalo and C-130 Hercules aircraft, respectively, out of CFB Trenton, Ontario.

Captain Deanna Brasseur, of Ottawa, is a flight instructor at No. 2 Canadian Forces Flying Training School at CFB Moose Jaw, where all three received their advanced training.

The first female flight navigators in the history of the Forces, Second Lieutenants Karen Martin of Windsor, Ont., and Lynn Paddick of London, Ont., received their wings last October.

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## First Came the Dart

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In 1908 Dr. Alexander Graham Bell, the head of the Smithsonian Institution in Washington, the inventor of the telephone, a proud native of Nova Scotia and an aeroplane enthusiast, formed the Aerial Experiment Association.

It was exclusive. Dr. Bell and his family put up the money. The other members were John McCurdy and Casey Baldwin, two young engineers just out of the University of Toronto; Glenn Curtiss, a motorcycle manufacturer; and Lieutenant Selfridge of the U.S. Army.

Selfridge designed the AEA's first plane, which was built by Curtiss. It had a red silk covering and was called the *Red Wing*. It took off from a frozen lake near Hammondsport, New York, on March 12, 1908, with Casey Baldwin at the controls. He was the first Canadian to fly.

Baldwin designed the second plane, *White Wing*, which flew 279 feet on May 18, 1908. On May 23 McCurdy flew it 600 feet before making a crash landing. The AEA's third plane, the *June Bug*, flew 5,090 feet in its first flight, two miles in its second.

McCurdy designed the fourth plane, the *Silver Dart*, tested it at Hammondsport and then on February 23, 1909, made the first flight in Canada, over Lac Bras d'Or, near Baddeck, Nova Scotia.

After that the AEA disbanded. Selfridge, who had been transferred earlier, was killed September 17, 1908, while acting as an observer on a flight with Orville Wright. He was the first air fatality.

McCurdy and Baldwin founded the Canadian Aerodrome Company and built two good planes, *Baddeck I* and *Baddeck II*, but went out of business for lack of customers.

Glenn Curtiss became a famous designer and manufacturer of planes.

### Early Canadian Birds

In 1909 or so, W.W. Gibson, of British Columbia, began attaching badgers in willow wand baskets to elaborate kites. When the badgers came back to earth they sat for about two minutes with their eyes closed before recovering sufficiently to head for the nearest badger hole. In 1911 Gibson built the *Twin Plane* with the world's first air-cooled





*Billy Bishop in 1917.*

aviation engine. It flew 200 feet.

In 1914 Jean-Marie Landry left Quebec to study under Louis Bleriot in France. He came home and in 1918 gave a spectacular exhibition of aerial acrobatics at the inauguration of the Quebec Bridge—upside down flying, loop-the-loops and falling leaf rolls. M. Landry was ranked as one of the top ten aerial acrobats in the world.

In 1922 W.R. Turnbull, of New Brunswick, invented the variable pitch propellor, making flying much more efficient. The pilot could alter the blades' pitch, governing the size of the bite the

propellor took out of the air. He could use different pitches for taking off, climbing, diving or moving fast in a straight line.

In 1940 Wing Commander W.R. Franks of the Royal Canadian Air Force designed a water suit to prevent pilots from blacking out while diving or turning. The suit had an inner lining full of water. Under G stress the water flowed to the lower part of the suit, increasing pressure on the legs and lower body, preventing blood vessels from distending or, to put it another way, it kept the blood from rushing from the pilot's head to his feet.



*Lieutenant A. Whitten Brown (left) and Captain John Alcock (third from left) with their Vickers Vimy plane in Lester's Field, Newfoundland, before taking off for Europe.*

## Aces High

In the first World War Canada had more aces than a pinochle deck.

The top man among all allied flyers was Captain Billy Bishop, of Owen Sound, Ontario, who shot down seventy-two planes.

He was decorated so often that when King George V presented him with a Distinguished Flying Cross he said, "You now have V.C., D.S.O., M.C. and D.F.C. after your name. If you distinguish yourself again we shall have to give you something to put in front of your name. Perhaps we could call you Arch Bishop."

William George Barker, of Dauphin, Manitoba, was the Canadian air force's number two ace with fifty planes downed. He was a more skillful airman than Billy, but Billy was a better marksman.

A third Canadian, Raymond Collishaw, shot down sixty planes, but he flew with the British Navy. His RNAS B Flight, consisting of five Sopwith Triplanes, all painted black and all piloted by Canadians, shot down a total of eighty-seven planes in one two-month period.

Some other aces worth mentioning were Major D.R. Maclaren, forty-eight planes; Captain W.G. Claxon, thirty-seven; Captain F.R. McCall, thirty-seven; Captain Frank G. Quigley, thirty-four; Major A.P. Carter, thirty-one; Captain J.L.M. White, thirty-one; and Major A.E. McKeever, thirty.

The adventures of Billy Bishop have been wonderfully celebrated in a hit musical, *Billy Bishop Goes to War*, which played across Canada in 1979, then ran on Broadway.

Writer, composer, director John Gray played the piano in the production and Eric Peterson acted all eighteen roles, including that of a Sopwith Camel.

## Avro

In the 1950s A.V. Roe Canada Ltd. (Avro) built the first commercial jet plane in North America. It was praised by engineers and test pilots, but its developers failed to find airlines at home or abroad who were willing to order it. Avro also built the Arrow, a supersonic interceptor, but after spending \$500 million and six years on its development, the Canadian government decided it was too expensive and dumped it in 1959.

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## The Great Atlantic Air Race

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Strictly speaking, Canada was not involved.

Newfoundland and its future Premier were, but in 1919 Newfoundland was still a separate, self-governing colony and Joey Smallwood was a

newspaper reporter.

The aviators and planes were British and American. The race was sponsored by Lord Northcliffe, the publisher of the *London Mail*, and Newfoundland supplied the weather and the take-off point.

Two Brit teams eventually got off: Harry Hawker and Mackenzie Grieve were one, Jack Alcock and Teddy Whitten-Brown the other. The three American crews were all members of the U.S. Navy's first Seaplane Division, headed by John Towers.

Lord Northcliffe said the contest was open to anyone except "enemy fliers" and was to be from "any point in North America to any point in Europe." The award was 10,000 pounds from the *Mail*, another 1,000 donated by an anonymous British businessman, and another 2,000 put up by the Ardath Tobacco company.

The U.S. announced early that its people were not competing for the money, just for the glory.

Joey Smallwood interviewed the fliers, who began arriving in early March, and helped them find take-off fields that were fairly flat and not too rocky.

The U.S. Navy NC's, which were sturdy but slow, planned to make two stops in the Azores and then wing it for Portugal. The British intended to fly non-stop to Ireland.

Each day the pilots made their plans, and each day fog and low visibility kept them in place.

Finally Hawker and Grieve took off on May 18 in their single Sopwith, the *Atlantic*, and crashed halfway across into the sea. They were picked up by a Danish tramp steamer.

The U.S. seaplanes took off together on May 16, and two, NC 1 and NC 3, got lost, landed in the sea to get their bearings and were battered by the waves and unable to rise again. The crews survived unscathed.

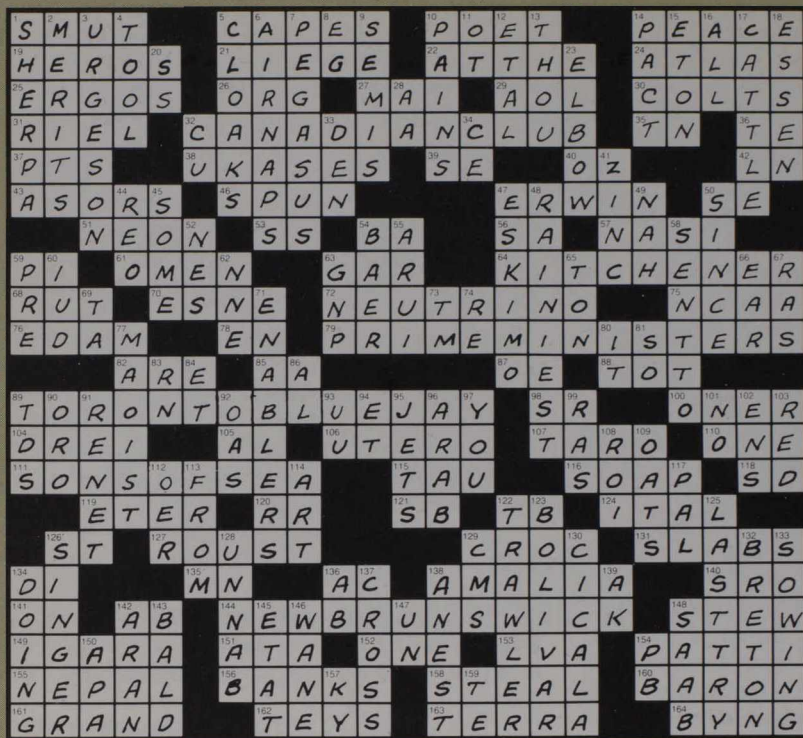
NC 4, commanded by Albert "Putty" Read, got lost too, went into a dive and almost crashed into the sea, but made it to the Azores. On May 20th it flew to Ponto Delgada, another point in the Azores, and on May 27 to Lisbon, Portugal. *The New York Times* announced in a banner headline, "NC 4 Wins First Ocean Flight of America."

The race was not quite over, however.

Alcock and Brown took off on June 14, flew nonstop for fifteen hours, landed nose first in an Irish bog, and were awarded the prize money. The Americans all became Admirals. Alcock and Brown were knighted.

Lord Northcliffe went crazy—on one occasion he sent one of his subordinates a telegram saying, "Be very cautious in dealings with B.P. (Baden Powell). I have reason to believe he is not the inventor of the idea of Boy Scouts."

Joey Smallwood became the architect of Newfoundland's confederation with Canada and the province's first Premier. He is now 81 years old, hale and hearty and very active on his farm in St. John's.



Solution to  
**The Tricky  
 But Fair  
 International  
 But Mostly  
 Canadian  
 Crossword Puzzle**

**Correction:** The November, 1981 issue on Niagara contained two errors on page eight. The photograph is of the Rainbow Bridge, not the Peace Bridge. The suspension bridge within the wall of the gorge has been replaced by the Lewiston-Queenston Bridge.

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# CANADA

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