BA



HAWKER SIDDELEY GROUP

ALL MATERIAL IN THIS MAGAZINE MAY BE REPRODUCED. ACKNOWLEDGMENT OF THE SOURCE WOULD BE APPRECIATED. PUBLISHED PHOTOGRAPHS AVAILABLE

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FERGUSON & BRUCE FOWLER GAS TURBINE ENGINEERII

AVRO VIEWS

Because of the influx of new employees, the circulation and readership (we hope) of our magazine is being correspondingly increased. We also hope that among these hundreds of new employees there may be several new contributors. For these and all such we will lay out the red carpet.

"Aircraft and Airport" quoted our Norm Currey's article on the F86-A. Our item on Jim Floyd's cottage was used by Lotta Dempsey in the "Globe and Mail." The write-up on Gordon Lamb's steamer was carried in the Owen Sound, Cornwall, Ont., and Halifax newspapers.

Our prize this month goes to Al Ponman, who has been doing an excellent job in his Talespin cartoons. Bouquets also should go to the illustration and printing departments for their steady progress in producing an artistic magazine.

COVER

Sir Roy Dobson, our genial president, is seen inspecting the CF-100 with our top management on his latest visit to the plant from England.

Photo by Verne Morse.



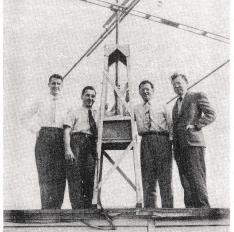
INCREASED RESPONSIBILITY

 D^{uring} the past few months the responsibilities of Avro Canada have increased tremendously. Our factory, where our superlative aircraft and their engines are to be turned out at an accelerated pace in considerable numbers, is now recognized as a vital link in the chain of Western Defense.

The democracies have suddenly realized that our aerial defences are inadequate to meet what is now an open threat to peace. In addition there is an important strategic consideration. Although in recent years the effectiveness of weapons against aerial targets has increased only slightly, the effectiveness of airborne weapons against targets on the ground has been multiplied by hundreds. A great trust is therefore to be placed in the Orenda-powered CF-100 fighter, which has been specifically designed to protect our northern approaches.

We are also going ahead with the Jetliner program. This first jet transport in North America was intended for peacetime traffic but its military possibilities will only become apparent with study. While we have already established our reputation with our aircraft and engines, we are not going to rest on our laurels. Other interesting projects are being planned which will enhance that reputation.

Undoubtedly the emphasis here will be on defense production for the next few years. We are proud that our country has entrusted us with such a great responsibility and we are determined to do this job well.



SOME AVRO "HAMS" WITH THE ANTENNA OF BOB WOOD'S TRANSMITTER AT MALTON. LEFT TO RIGHT: JOHN PILE, BOB WOOD, IRV LISS AND BERT BEASLEY

You probably wouldn't

spot one of the radio amateurs around Avro Canada unless you started talking to him, but just mention the word "radio" and you'd be left behind in a trail of QSL's, VE3RTM's and CW's. Sounds like a code? That's just what it is, an international code that makes it possible for a Canadian to talk to someone on the other side of the world whether he be Chinese, Australian or Russian. Ron Porter, for example, of Avro Canada's Engine Section, used it several years ago when he was in Hong Kong and Singapore in

There are now something like 100,000 of these amateurs (hams, they call themselves) in various parts of the world. They have their own international organization, the Amateur Radio Relay League. which has contributed toward

making radio contact with

fellow amateurs in most

countries of the far east.

by Boyd Ferris

and which is constantly working to protect the interest of the ham.

One service which hams provide is that of relaying messages which can not reach their required destination directly. Fred Lake, the radio operator for Flight Test, was one of those who did just that in 1927 for the Byrd polar expedition, relaying their messages to the United States when they were frozen in for the winter. Emergencies, too, have always found the hams standing by to provide communications when earthquakes or hurricanes have disrupted telegraphs and telephone services. In both the Winnipeg flood and the recent train strike they helped greatly to reduce the confusion.

Recognizing their importance, both the United Nations and the Red Cross have moved to organize the hams for disaster work of this sort. In Canada, the job of coordinating this work has been given a boost by the Air Force Amateur Radio System which has been formed to help the hams maintain contact with one another.

Control and licensing of amateur radio is maintained in this country by the Department of Transport which insists on a certain standard of proficiency before the amateur may broadcast. The ham's equipment may have cost him anything from a few dollars to several thousand but chances are that regardless of its cost, he's always tearing it down and rebuilding it, trying something new. Microphones being more expensive and complicated to install, it's likely that he uses a key and transmits by morse code, and anyway he can usually get better distance that way.

Once he goes on the air he never knows just what to expect. Weather or conditions in the upper air which have kept him from making contact with a friend several miles away may suddenly bring in a station from Mexico or Sweden. Anything from meteor trails to the northern lights may affect his reception, sun spots may cause stations to fade, and he has to be ready at a moment's notice to deal with angry neighbours who insist that he is causing a blizzard on their television screens.

You'll find that the

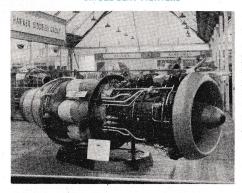
amateur radio enthusiast tend to develop many side interests. Some of them like Bob Wood, of our Radio, Electrical and Instrument Test Section, make their own television sets, others concentrate on building mobile transmitters to fit into their cars, still others become interested in sound recorders or electric organs. Bert Beasley, of the Loft Section, has been spending most of his spare time lately in making a radio control unit for a friend's model plane - apparently it's one aspect of radio that offers plenty of opportunity for the hams since the Department of Transport has ruled that anyone flying a radio-controlled model is actually broadcasting and therefore the broadcasting must be supervised by a licensed ham.

It's an absorbing hobby - and a time-consuming one. If you're going to take it up your wife really needs to be an understanding woman.

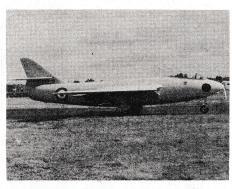




THE GLOSTER METEOR 8. MOST ADVANCED OF SINGLE SEAT FIGHTERS



THE AVRO ORENDA, SOON TO POWER OUR OWN CF-100 FIGHTERS



THE HAWKER 1081 SWEPT WING VERSION OF THE SEA HAWK

SIDDELEY PRODUCTS AT THE

HAWKER

S.B. A. C. Show

SOCIETY OF BRITISH AIRCRAFT CONSTRUCTORS



THE AVRO MANCHESTER ASHTON, TO BE USED TO COLLECT INFORMATION ABOUT THE PERFORMANCE OF MULTIJET AIRCRAFT PARTICULARILY AT HIGH ALTITUDES



THE HAWKER SEA FURY AND ITS POSSIBLE ARMAMENT



THE ARMSTRONG WHITWORTH APOLLO FIRST TRANSPORT TO BE FITTED WITH AXIAL FLOW TURBINES, THE ARMSTRONG SIDDELEY MAMBAS



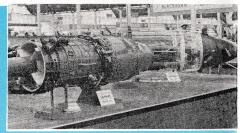
THE ROYAL NAVY'S WESTLAND WYVERN, POWERED BY AN ARMSTRONG SIDDELEY PYTHON



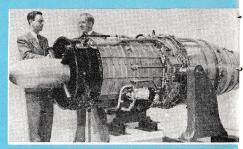
THE AVON-POWERED GLOSTER METEOR TAKES OFF



THE AWA APOLLO IN FLIGHT



THE ARMSTRONG SIDDELEY SAPPHIRE TURBO JET AND PYTHON TURBO PROP ENGINES



CLOSER VIEW OF THE SAPPHIRE, WHOSE THRUST IS SAID TO BE 7200 LBS., 1000 LBS. MORE THAN ANY PREVIOUSLY ANNOUNCED TYPE TEST FIGURE



THE AVRO MANCHESTER ATHENA



THE AVRO MANCHESTER 707 B RESEARCH AIRCRAF DESIGNED TO FIND BY DIRECT EXPERIENCE THE HANDLING QUALITIES OF THE DELTA-WINGED AIRCRAFT AT LOW AND MEDIUM SPEEDS

CRAZY WITH JET HEAT

by Marc Dowding

The toil was o'er, Machines had ceased, And Cecil Sogg was very pleased To get away from Jets.

Along the road
Beside the trees,
Cecil drove his car with ease
On his way home from Jets.

A flashing amber light
And Cecil froze with fright.
He thought "Who has the right to stop me
Getting home from Jets?"

Stopped there in the tie-up He said, "Gee, what a fry-up. I never thought t'would be so hard" To get away from Jets!"

With pounding heart And stifled sob, He cursed the day he joined the mob Whose only life was Jets. Then "something snapped,"
With one great bound
Our Cecil, standing firmly on the ground
Addressed the motley - thus-----

"You fools, you toiling sweating clan, Who give your souls to work on Jets! This miracle of modern age, This wonder of world history's page, The fastest thing on earth you say And yet you sit there, going grey, On your way home from Jets."

His voice rose to a higher key
And then, with streaming face said he-"Our cars," you say "are very fast",
Well I say -- "Try and get them past this spot
At more than just a crawling speed."
You poor blind fools, why what you need
Is Jets".

"He's nuts" said some,
And they were right
For Cecil passed away that night An indirect victim of the Jets.

Bouquets

Our Fernand Desrochers, S.E.I.C., has been awarded the Ernest Marceau Prize of the Engineering Institute for a paper entitled "Etude d'un Moteur Turbo - reacteur pour la Propulsion d'un Avion".

Mr. Desrochers was born and educated in Montreal. He attended Mount Saint Louis College and the Ecole Polytechnique where he graduated in 1949.

Fernand worked as draughtsman in the summer of 1948 at Avro Canada before assuming permanent post in the spring of 1949. He is now a designer of fuel systems in the Gas Turbine Engineering Division.



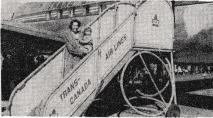
E. S. MacDonald, of Department 7042, is to be commended for his honesty in returning to the Police Office a wallet containing \$70.00, the property of an employee of the Pigott Construction Company. Incidentally there are still a number of unclaimed articles in our Lost and Found Department.

TORONTO FLYING CLUB SHOW





ALSO THRILLED TO THE CORE WITH THE CF-100'S PERFORMANCE. BRIAN INSISTS ON GETTING THE PUKKA GEN ON THE FIGHTER FROM OUR ROLLS ROYCE REPRESENTATIVE. BRUCE TAYLOR



A LITTLE DISAPPOINTED IN THE NON-APPEARANCE OF THE JETLINER, BRIAN HAD A QUICK LOOK AT THE TCA NORTH STAR.HE WAS STILL DISAPPOINTED



LOOK AT THAT SMILE AVRO CANADA'S GEORGE COLLINGE FLASHED BRIAN JUST BEFORE HE PUT ON THOSE WONDERFUL AEROBATICS



AMONG THE OTHER AVRO CANADA YOUNGSTERS PRESENT WERE CONNIE AND RAYMOND WITH THEIR POP, OUR CHIEF TEST PILOT, DON ROGERS.



BRIAN JOINS A GROUP OF OTHER YOUNG AIR ENTHUSIASTS SHOOTING DOWN IMAGINARY ENEMIES IN THE SKIES.



SO TAKEN WAS BRIAN WITH THE SHOW THAT HE INVESTIGATED THOSE FLYING LESSONS ADVERTISED.



WHEN JETLINER MEETS HELICOPTER

NEWS ITEM - London - The Ministry of Civil Aviation forecast that within the next few years 500-mile-an-hour jet airliners and inter-city helicopter services would be in regular operation.

by Bob Huggett

100-minute journeys between Union Station, Toronto, and Grand Central, New York.

Sounds somewhat fantastic, perhaps, but recent aviation developments make this sort of schedule feasible within the near future. America's only jet transport, the sleek Canadian-built and designed Avro Canada Jetliner, has already set the pace for air travel in the 1950's with a specimen trip

from Malton, Ontario, to Idlewild, New York, in just under an hour.

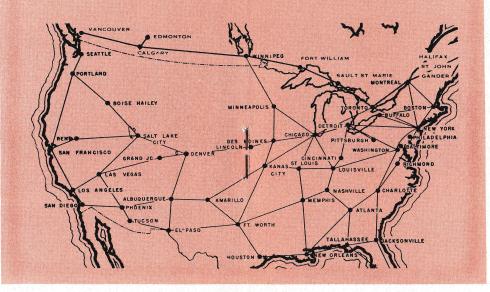
Operational schedules at average speeds in excess of 400 m.p.h. may soon be the order of the day between most cities in North America. But these jet-powered airliners can only pick up and discharge their passengers and freight at carefully-constructed and expensive airfields, all of which are necessarily several miles outside their respective city centres. Thus the time-saving 60-minute flight between Malton and Idlewild becomes a $2\frac{1}{2}$ hour journey due to relatively slow surface transportation between airport terminal and city centre at each end of the route. Time wasted by these surface holdups can be slashed by helicopter link-ups with air liner services.

Rotating-wing aircraft, although comparatively slow, can safely operate in adverse weather conditions and need no special landing grounds. Any strong unobstructed surface a little larger than their rotor discs can be used as a helidrome. In Toronto, the Post Office has already used a small piece of open ground near the waterfront to rush mail by helicopter to Malton Airport in 17 minutes, a 200 per cent saving on the average time taken by road.

In Europe, documents were flown by helicopter from a bombed site near St. Paul's in London to an outlying airfield where they were quickly transferred to a jet aircraft and zipped across the English Channel to an airfield on the outskirts of Paris. Here the procedure was reversed, the documents being passed to another helicopter, in which they were flown right into the heart of Paris, the whole operation being completed in a fraction of any previous record time. So the foundations for future operations have been well and truly laid.

Passenger/Cargo helicopters, fitted with twin engines for safety and maximum load capacity, could whisk passengers landing at any airport direct to their ultimate destinations in a matter of minutes.

SOME NORTH AMERICAN AIR ROUTES SUITABLE FOR JET AIRCRAFT OPERATION



JOURNEY CITY CENTRE TO CITY CENTRE	TIME TAKEN FOR JOURNEY				MINIMUM
	1 EXPRESS BUS	2 _{TRAIN}	3 EXISTING AIRLINE & CAR	4 JET CUM HELICOPTER	TIME SAVED (Over 3)
TORONTO - NEW YORK	17 Hr.	12 Hr.	210 Min.	100 Min.	110 Min.
TORONTO - CHICAGO	16½ Hr.	9 Hr.	170 Min.	113 Min.	57 Min.
TORONTO - MONTREAL	111/4 Hr.	6¼ Hr.	205 Min.	99 Min.	106 Min.
NEW YORK - MONTREAL	121/4 Hr.	91/2 Hr.	205 Min.	101 Min.	104 Min.
NEW YORK - DETROIT	-	- 1	230 Min.	116 Min.	114 Min.
WINNIPEG - CALGARY	li/a Days	30 Hr.	230 Min.	154 Min.	76 Min.
CALGARY - VANCOUVER	2 Days	34 Hr.	185 Min.	123 Min.	62 Min.
DETROIT - WASHINGTON		1	184 Min.	97 Min.	87 M in.
SAULT ST. MARIE - WINNIPEG		29 Hr.	300 Min. (app.)	155 Min.	145 Min.

Two or three helicopters, each holding 10 to 16 passengers, would await airliner arrivals, thus achieving maximum efficiency in the final dispersal of passengers. Conversely, pas-

sengers, mail and other freight could be flown to the airport with minimum waste of time to connect with airliner departures.

To utilize and exploit the

enormous time-saving, safety, smoothness and other advantageous features of commercial Jetliner flight the frustrating surface bottlenecks at both ends of the journey must be avoided. As townships and cities expand, increasing ground traffic congestion is bound to accentuate the problem. Helicopter feeder services provide the answer. Inter-city jet flight, with helicopter terminal connections, can transform a long and wearying journey into a short and pleasant trip, with more of that abstract but invaluable asset - TIME - available at each end of the route. Time to spend at the right place, moreover, not frittered away in traffic holdups. Compare the accompanying standard times for surface, existing airline and Jetliner-cumhelicopter routes.

These few examples are representative of most journeys between large cities several hundred miles apart, or between cities separated by natural geographic obstacles. Whenever it is important to complete a journey in the shortest possible time, yet in perfect comfort and safety, the jet-cum-helicopter tie up offers unrivalled advantages. In fact, jet and helicopter aircraft each possess distinctive characteristics which fit them for a variety of tasks outside this sphere, but here is one classic example where the "hare and tortoise" of modern aviation can combine to form an unbeatable team.

FISHING PARTY

A very unorthodox fishing party spent two days at Brausoleil Island, the weekend of September 19. We say unorthodox because at least some of the activities indulged in were definitely at variance with the finer points of the sport.

Carl Lindow, tiring of fishing in the approved manner, grabbed a beer bottle (empty, of course) and frantically chased a pike in a boat, motor power courtesy of Norm Egan. The chase was successful and Mr. "Pike" was clubbed on the head by the beer bottle, and brought back by Carl. Peter White went in for a dip (voluntary or otherwise), completely clothed, not once, but twice. Jim Flanagan developed a new technique of casting, requiring the use of both hands and making it very necessary for the other occupants of the boat to lie flat on their stomachs. In spite of the rather chilly weather, the party was a great success and one and all are impatient for a repeat.

JACKPOT

Bob Warren, of the Gas Turbine Division, literally hit

the jackpot twice last month, the Toronto "Telegram" jackpot contest that is. He won \$10.00 for having his photograph of the old Queen's Wharf Lighthouse accepted, and on a one in a million chance, his step parents, Mr. and Mrs. John H. Adams, won \$350.00 the same night for guessing the identity of the jigsaw photograph, which happened to be his. The "Telegram" still thinks Mr. Adams identified the lighthouse because he is assistant superintendent of the Canadian International Trade Fair which has a warehouse just behind it. It was also said that Mr. Adams remembers his father tying their boat to Queen's Wharf beside the lighthouse when he was a

KAY LUFF

Not satisfied with the euphonious surname of Luff, our personable associate editor has now taken on the name of Rumble. She and Ray, one of our draftsmen in Aircraft Design, were married in Weston September 23rd. We thank the heavens she'll be back to help with the next News. Even her wedding couldn't tear her away, we like to say to ourselves.



TYPICAL PERHAPS OF THE MANY CORN AND WEINER ROASTS THROUGHOUT THE PLANT WAS THE ONE FOR COST ACCOUNTING AT THE NEW HOME OF ARNOLD AND LUCIE RICHARDS AT ORANGEVILLE. TWO ACRES OF CORN ON THE PROPERTY GOING UNUSED SUPPLIED THE OCCASION. LEFT: BESS REID AL WALSH, AND ELINOR DAVIE SEEM TO HAVE LATCHED ON TO SOMETHING TO DRINK. CENTRE IS A GENERAL SCENE AND IN THE RIGHT PHOTOGRAPH ARE JOE TURNER, AB DOAK AND WALTER KOHN.

PHOTOS BY PETE ROGERS



Recalled ACTIVE SERVICE

ALL OUR AVAILABLE WARTIME LANCASTERS ARE BEING RECONDITIONED BY AVRO CANADA FOR THE R. C. A. F. HERE IS A BEFORE AND AFTER SHOT



A NUMBER OF THE BIG AIRCRAFT WERE PULLED 15 MILES BY ROAD TO DEHAVILLAND WHERE THE WORK IS TO BE DONE. OUR FACILITIES, BECAUSE OF ACCELERATED FIGHTER AND ENGINE PROGRAM. ARE VERY LIMITED.



FOUR TELEPHONE AND THREE POWER COMPANIES
HAD TO BE CONSULTED FOR THE REMOVAL.
RIGHTS OF WAY HAD TO BE OBTAINED AS WELL AS
SERVICES OF A SQUAD OF ESCORT POLICE.
OCCURRENTALLY THE LANKS RECARD.



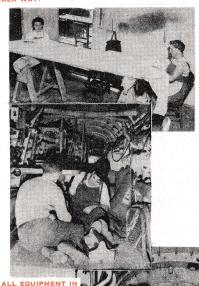
EN ROUTE FROM AVRO CANADA TO DEHAVILLAND BRIDGES HAD TO BE WIDENED A DETOUR MADE AROUND RAIL-WAY OVERPASS AND ROADS BUILT.

THE ROLLS ROYCE
ENGINES AFTER
BEING COMPLETELY
OVERHAULED.
ARE FITTED BY US.



OUR AIRCRAFT BAYS ARE NOW FILLED WITH THESE LANCASTERS BEING RECONDITIONED

WOMEN PLAY THEIR PART IN RECONDITIONING THE LANCASTERS AND THERE WILL BE MORE OF THEM EMPLOYED WHEN THE PROGRAM REALLY GETS UNDER WAY.



ALL EQUIPMENT IN THE MASSIVE AIR CRAFT IS CAREFUL-LY CHECKED.

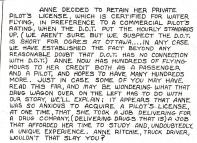
SOMETIMES THE WORKERS HAVE TO WORK IN VERY CLOSE QUARTERS.



DUE LARGELY TO HER AVID INTEREST IN FLYING, ANNE WAS ABLE TO SOLO AFTER A MINIMUM OF INSTRUCTION AND WENT ON TO TRIKE HER LIMITED COMMERCIAL PLOT'S RATING. AT THAT TIME, ANNE WAS ONE OF FOUR WOMEN IN THE TORONTO AREA TO ATTAIN THIS DISTINCTION. IF YOU THINK THAT A COMMERCIAL PILOT'S LICENSE IS A CINCH COURSE, YOU JUST TRY MEMORIZING THE RUBAIYAT OF OMAR KHAYYAM BACKWARDS AND YOU SHOULD HAVE A ROUGH IDEA HOW TOUT THE REQUIREMENTS AREA

ANNE'S DESIRE TO FIX, AND BE AROUND PEOPLE WHO FIX, LED HER TO THE DOMINION SKYWAYS LIMITED, MALTON, THE TOKONTO FIX'ING CLUB AT DEHAVILLAND, THE TOKONTO FIX'ING CLUB AT DEHAVILLAND, THE TECHNICAL DIVISION OF THE HOTOGRAPHIC SURVEY COMPANY, LIMITED, WHERE (NOW.... OF THE TOLD THIS IN THE STRICTEST CONFIDENCE SO DON'T YOU DARE BREATHE YOU WE WERE TOLD THIS OF THE SUBSETS TO STILL A MOST DET STILLA AND THE SUBSETS THE PRESENT TIME, IS STILL A MONG THOSE PEOPLE WHOSE, AND IS STILL A MONG THOSE PEOPLE WHOSE, AND IS STILL A MONG THE THE AVAILABLE THE STILL SO NO THE FIRST LIES IN THE AVAITON INDUSTRY. SHE IS ONE OF THE FEW AT A.V. ROE WHO OPERATES THAT TRICKY I.B.M. MACHINE AND, AMONG OTHER WORTHWHILE CHORES, TYPES THE ENTRE ISSUE OF THIS MAGRIZINE.





SCHOOL FOR

Three weeks varied between a northern British Columbia bush shelter and an Eskimo igloo in the Arctic, with supper dependent upon catching something edible is proof enough to RCAF officers that there is no royal road to learning--especially in northland survival techniques. As one of the more than 250 officers and men graduated from the Air Force's School of Survival facetiously put it: "If you're still alive at the end of the course you know you've passed."

The School of Survival operates at Fort Nelson, in northern Eritish Columbia, and at Cambridge Bay, 200 miles inside the Arctic Circle on southern Victoria Island. It's designed for the men who fly over the Northland, so they may learn the art of surviving if they are forced down. Graduates hope they never have to practice what they learn, but they realize their training may mean the difference between life and death.

The course is necessarily rigorous, for survival techniques cannot be learned successfully in a classroom. Conditions facing a crew forced down in the Barrens or the Far Arctic would likely be severe, and the school is operated on the principle of duplicating such circumstances.

Students are under the guidance of RCAF officers with years of Arctic experience, aided by northern-bred Indians. Since the school began operations about a year ago there have been no serious consequences to any student, although many find their uniforms sagging badly about the middle on returning to their home station. Some well-padded students have lost as much as 16 pounds.

"A lot of people, even today, bring up bogies in their own minds about the North and the Arctic, bogies that actually don't exist," said Flight Lieut. S. E. Alexander, Arctic survival specialist at Air Force Headquarters, Ottawa. "There's nothing really mysterious about the North. Survival is merely a question of knowing just what the dangers are, and how to recognize them, and how to take advantage of the resources offered by the country. It's a matter of using common sense plus various techniques. Our boys have the common sense—our job is to teach them the techniques."

In charge of the School itself is Flying Officer R. J. Goodey, of Chilliwack, B.C., who speaks several Eskimo dialects and who has 15 years experience in the Yukon and the Arctic. Goodey is assisted by Flying Officer J. B. Prescott, of Toronto and by several Indian guides and Eskimos.

The Air Force training follows the principle of adapting oneself to Arctic conditions, and taking full advantage of the North Country's resources

"It's like learning to box", says F/L Alexander. "One thing you learn is to roll with your opponent's punches, instead of standing up and taking them on the chin, and relying on brute force to withstand them and beat him down. The North country isn't any bed of roses for a party travelling overland, under emergency conditions, even if they're experienced. A party living off the country must adapt itself to local conditions, and must know how to get full value from everything

a vailable, especially in the way of food. Try to bulldoze your way through and you'll find yourself in a jam. You have to know how to make the North work for you, and all the courage and determination in the world won't help you unless you know how."

Survival training at the school is based on a manual which was produced by Alexander and Goodey, and which contains a wealth of advice to those who find themselves afoot in the Northland. Arctic authorities say hundreds of lives might have been saved had such a manual been available to such parties as the Franklin Expedition of the middle 19th century, which perished largely through lack of know-how in northern survival techniques. Hundreds of northern explorers died in the past, they say, because they tried to fight a knock-down battle with the North instead of making it work for them.

The manual covers northern geography, emergency navigation for ground parties, mosquitoes and flies, general care of the body in the North, building of shelters, hunting, travel, natives, care of firearms, food and clothing under Arctic conditions, and means of living off the country.

Included is what might be termed the world's most unusual cook-book, which gives detailed information concerning available foodstuffs in the North. About 30 different types of edible plant life found

in the Arctic and sub-Arctic are listed, and the book tells how to recognize them and how to prepare them for eating. More than 50 different types of animal life and sea foods are included, ranging from whales to Arctic mice.

The "cookbook" may never catch on with Canadian housewives, who would shudder at the thought of serving hubby a stew of boiled mice and lousewort. This repulsively-named item, in case you're interested, is described as the most tasty food plant found in the North. You eat the root. The book doesn't worry too much about fastidious appetites, its main purpose being to provide information about plant and animal life which will sustain life.

Other books have mentioned that such forms of plant life as lichen, seaweed, Alpine Fleece flower, and willow shoots can be eaten, but few, if any, have given complete instructions concerning their preparation into a tasty (?) dish. The same goes for such items as bats, snakes, sea cucumbers, and walruses, included in the RCAF manual.

The "cookbook" covers not only edible forms of food-stuffs but lists poisonous types as well, warning against such plants as the water hemlock and Baneberry, and giving a full description of these and other dangerous plants.

Some sea foods, it states, are unwholesome at certain

times of the year, and must be avoided. All salt water fish except the shark may be eaten raw, whereas many types of northern fresh water fish contain parasites that will sicken the eater unless the fish is well cooked. Raw fish, it says, is tastiest if frozen and cut into thin slices.

The manual advises the flyer finding himself living off the country not to be discouraged by the bare appearance of northern vegetation. Food is often hidden, and must be sought out. It states that for years people have thought the North to be a land of plenty, as far as wild forms of foodstuffs are concerned. It never was, says the manual, and during recent years game animals have been killed at an alarming rate. Finding food material, and preparing it for consumption is where the know-how comes in.

The instruction manual advises against eating snow in its natural state. This will cause dehydration of the body instead of relieving thirst, it cautions, and it explains that snow must be thawed first in the palm of the hand, and can be eaten when melted to a slush. About one quart of water a day is needed by a person active in the Arctic.

Students learn that even during an Arctic winter they must guard against getting too warm, as well as freezing to death. Working up a perspiration during cold weather, they are told, can be as deadly as falling through the ice. They

learn not to apply snow to a frozen ear or nose, and how to make snow-goggles to ward off snow-blindness. They learn how to snare small game and how to fish using Eskimo methods.

Survival students are given three days theory and then, in groups of 20, desert their well-heated classrooms for the bush near Fort Nelson, where they begin to put into practice what they have learned from books and lectures, living and working under the watchful eye of skilled instructors. Each man is dressed in suitable bush clothing and takes with him a sleeping bag, together with an emergency kit containing iron rations and items normally carried in the emergency kit of an aircraft flying over the north. A limited number of firearms is issued to be used collectively.

The emergency rations are sufficient to keep a man alive, but according to the school's instructors "they leave an awful empty feeling in your middle if they're not supplemented by something

AROUND AVRO



SIR FRANK WHITTLE, FATHER OF THE JET ENGINE, MAKES A POINT AT A NEWS CONFERENCE ON HIS RECENT VISIT HERE

else". Getting hold of "something else" and building shelters takes up most of their time.

After a week or 10 days at Fort Nelson the trainees are flown to Cambridge Bay, where they remain for the remainder of the course. The routine is similar to that at Fort Nelson, except that Arctic conditions prevail in place of those of the northern bush land. Having learned how to build a bush shelter, the students now learn how to build igloos, and what's more, they sleep in them. Students live in the open during the entire course.

Some of the things they learn just don't seem to make sense to the uninitiated, such as the question of pyjamas and sleeping bags. According to Survival School instructors the two just don't go together, at least not in the Arctic. You sleep warmest in the raw, they say, but admit that they sometimes have a hard time getting students to prove it to themselves, especially when the temperature stands at 50 below zero.



THE FIVE FAMOUS FLIERS OF THE R.C.A.F. VISITED AVRO CANADA RECENTLY TO HAVE A CLOSER LOOK AT THE CF 100 WHICH THEY HOPE TO FLY SOME DAY HERE THEY ARE WITH BILL WATERTON. BRUCE WARREN AND DICK SMITH

During their three-week course the students learn a lot. They look upon the course, probably the toughest in the RCAF, neither as a lark nor as a bind, say the instructors, but as a unique opportunity of learning valuable techniques and gaining experience that may possibly enable them some day to save their own lives and those of others.

The Air Force isn't making secret what it is finding about surviving in the Far North. Much of the material in the Survival School manual is contained in the RCAF's Directory of Hinterland Airdromes. Several of the Directory's six volumes have been completed and are available to civilian flyers through the King's Printer.

Each year the RCAF is doing more flying in the Far North, and the Service feels that survival instruction is important to those doing the flying. Survival training is like a parachute - - no flyer ever wants to have to use it, but if you do have to, it's nice to have it handy.



AND STILL THE NEW EMPLOYEES TO AVRO CANADA COME TO HELP IN OUR ACCELERATED PRODUCTION PROGRAM, HERE ARE SOME OF THE MORE RECENT ARRIVALS BEING SIGNED UP

Did You Know?

Avro Canada's staff handles approximately 15,000 calls daily. Of this figure approximately 11,500 are internal calls and 3,500 outside calls. In comparison, this service is equivalent to that of the town of Islington.

Colin Johnson, of Management Control, has never been late for work in seven years.

Harry MacDougall, Aircraft Engineering, has travelled the equivalent of ten times around the world during the past ten years, commuting between his home in Burlington, and this plant.

The mailing department handles approximately 13,000 pieces of outgoing mail per month, which represents only a small proportion of the incoming and inter-departmental mail which is sorted and distributed throughout the plant by this department.

Some employees travel daily to this plant from such distant places as Barrie, Orangeville, Shelburne, and Hamilton.

Some 2,000 Avro Manchester employees are whisked away from their plant every night in five minutes flat by 40 buses.