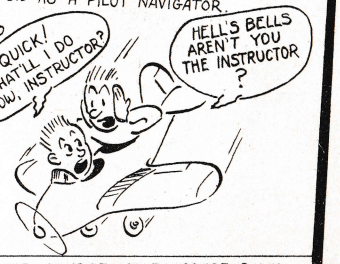
# Tale-Spin

by ALPonman


## S/L E. L. "Shan" Baudour, D.S.O., D.F.C.,

AS COMMANDING OFFICER OF THE R.C.A.F.'S EXPERIMENTAL PROVING ESTABLISHMENT AT OTTAWA IS THE R.C.A.F.'S TOP TEST PILOT. WITH S/L PAUL HARTMAN, D.F.C., A.F.C., HE CARRIED OUT THE INITIAL R.C.A.F. FLIGHT TESTS ON THE CF-100, AND TOOK IT TO WRIGHT FIELD FOR U.S.A.F. TESTS. WITH MORE THAN 3000 HOURS LOGGED FOR MILITARY FLYING (1150 OF THEM BEING OPERATIONAL) HE IS EXCEPTIONALLY WELL QUALIFIED TO DEMONSTRATE THE CF-100 TO OTHER DEMOCRATIC NATIONS AROUND THE WORLD. IN ALL, SHAN HAS FLOWN MORE THAN 80 DIFFERENT TYPES OF AIRCRAFT.

THIS QUIET-SPOKEN NOVA SCOTIAN JOINED THE R.A.F. IN 1938 AFTER LEARNING TO FLY NEAR HIS HOME AT STELLARTON. SHAN WON THE D.F.C. IN 1940 FOR OPERATIONAL FLIGHTS AROUND SCANDINAVIA, SOME OF WHICH HE DID AS A PILOT NAVIGATOR. HE WAS ONE OF THE FEW WHO KNEW BEFOREHAND ABOUT THE NORTH AFRICAN INVASION AS HE HAD TO PREPARE THE FIRST AERIAL RAID FOR IT. HE WON THE D.S.O. FOR THIS AND VARIOUS OTHER WORK ON THE MALTA CONVOY AND SUBMARINE STRIKES. AS A MATTER OF FACT IN 1940 HE WAS INVOLVED IN THE FIRST ACTION IN WHICH A SUBMARINE FOUGHT BACK. THIS HE CONSIDERS "UNFAIR" AND WE DARESAY THE COMMANDER WHO LOST OUT SHARED HIS OPINION. SHAN ALSO FERRIED BOMBERS ACROSS THE ATLANTIC AND SERVED SOME TIME AS AN INSTRUCTOR. HIS "SHAKIEST DO" WAS WHEN HE LANDED A HUDSON WITH THE CONTROL SURFACES SHOT AWAY ON A 2400 FOOT RUNWAY.




AFTER COMPLETING THE EMPIRE TEST PILOTS COURSE AT BOSCOMBE DOWN, ENGLAND, AND SERVING AS A FLIGHT COMMANDER THERE, SHAN RETURNED TO CANADA IN 1945 AND JOINED THE R.C.A.F. HE BROUGHT THE FIRST METEOR TO CANADA AND FLEW IT FROM COAST TO COAST....THE FIRST JET FLIGHT IN THIS COUNTRY. HE ALSO DID THE ORIGINAL FLYING OF THE NATIONAL RESEARCH COUNCIL'S FLYING WING. OTHER VARIED EXPERIENCE INCLUDED COMMANDING THE R.C.A.F. WINTER ESTABLISHMENT AT EDMONTON, A COURSE AT THE R.C.A.F. STAFF COLLEGE IN TORONTO, AND ACTING AS STAFF OFFICER TO THE AIR MEMBER FOR THE TECHNICAL SERVICES. HIS AMBITION: TO FLY AT 1000 MILES PER HOUR AND AT 80,000 FEET. HE FEELS THAT WHEN THIS IS ACCOMPLISHED, ALL THE BOGEYS OF FLYING WILL HAVE BEEN OVERCOME. FIGURATIVELY SPEAKING.....WHEN SHAN DOES FLY AT 1000 M.P.H. HE SHOULD BE ABLE TO MAKE THE TRIP FROM LONDON, ENGLAND, TO TORONTO IN LESS THAN NO TIME FLAT.....UPON LEAVING LONDON AT NOON HE WOULD ARRIVE IN TORONTO BEFORE NOON ON THE SAME DAY....THAT'S SAVING TIME OR IS OUR MENTAL ARITHMETIC NOT UP TO SCRATCH?




AVRO CANADA
# News
JANUARY 1951

## AVRO CANADA DEFENCE WORK
IN THIS ISSUE

JANUARY 1951 AVRO News No. 32

PRODUCED MONTHLY BY
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## AVRO VIEWS

In our hunt for personal anecdotes about people in the plant we are offering as additional prizes large photographs of our aircraft suitable for framing to the best submitted each month.

In other words you might not win the cash prize each month but you still will stand a chance for the photograph you want for your games room.

Rid Dowding's "How to Jeta Make Engine" was used by Peter Edson in his syndicated N.E.A. column in many U.S. newspapers. "American Aviation" of December also used this humor. Verse by Rid Dowding, L. Simmons and ourselves is to be translated and used in the Indonesian Air Force magazine, "Anzkasa." If you're interested, we might reprint some of these Indonesian versions sometime.

## COVER

Here is some of the machinery we are installing to manufacture the Orenda turbo jet, machinery unequalled elsewhere in the world. In the foreground is an American hydraulic tracer lathe specially built for us for contouring compressors. "Canadian Machinery" liked this shot by Verne Morse so well they are using it as this month's cover, too.



# SECURITY

Our stake in a quickly-expanding Avro Canada being high, all of us want to ensure that the plant carries out to the full its vital function as an arsenal of Canadian and western defence. Protection of our plant and of our design secrets from our country's enemies is becoming more and more important.

We hope that the lessons of the last war in this regard were well learned. A muffling blanket of security was imposed at the war's beginning by officials because they didn't know where security began and left off. Public morale suffered. As a result of the protests of the press, jealous of their freedom of expression, this policy was modified to more voluntary censorship. Breaches of security were probably far less under this policy than under a complete news black-out.

We believe that the basis of good security is the individual's conviction of its necessity. It follows that he will give any security program laid down his whole-hearted support. We should not overlook the possibility that some few employees at Avro Canada are not completely on our side. We will not only have to be careful ourselves but we will be asked to co-operate with certain security regulations. All of us realize that these are in the public interest. Traffic regulations, by comparison, are often a nuisance to an individual but are essential to public and community welfare. Let us look on these security regulations in the same light.


# AVRO CANADA'S DEFENCE WORK

BRUCE WARREN SHOWS OFF THE CF-100 TO THE HEADS OF THE FRENCH AND NORWEGIAN AIR FORCES, GENERAL C. LECHERES AND LIEUTENANT GENERAL B. OEN, ON THEIR RECENT PLANT VISIT. THE R.C.A.F.'S AIR MARSHALL CURTIS WAS QUOTED RECENTLY AS SAYING THAT OUR FIGHTER PROBABLY WILL BE SUPPLIED IN QUANTITY TO THE U. S. AND BRITISH AIR FORCES

Since the war in Korea, our orders for CF-100 fighters and Orenda engines from the RCAF have been considerably increased and the production program greatly accelerated. Much work is being done at Avro Canada on the overhaul and conversion of Lancaster aircraft for the RCAF. On the drawing boards are other military projects of an advanced type.

In addition to our strictly military program, we intend to proceed with the development of the Jetliner. Production facilities will, however, be understandably tight. Considerable interest has been shown in this aircraft, particularly among United States' airlines. It is possible that a military use might also be found for this extraordinary transport. If we receive the orders we expect, we will be able to produce the aircraft by widespread sub-contracting, the foundation for which has already been laid.

To meet our accelerated military production orders, we are planning to expand our present 1,000,000 square feet of floor space by some 600,000 square feet. Some 150 acres of property are being added to the more than 200 now owned. The present staff of 4,800 will be increased to about 10,000 in two years' time, when peak production is reached. You will be interested in some of the new facilities which will make our factory comparable to anything similar in the world.

Among the new buildings planned is a self-contained engine manufacturing unit. This will be physically independent of the present plant and about a mile away. It will have a separate boiler plant for heating, a separate sewage dispos-

al plant, and separate engine test houses. Facilities and land are available for doubling the presently-planned floor area of some 400,000 square feet without duplicating essential services. To establish the production technique and production layouts, gas turbine manufacturing is to be carried out first in a pilot plant located in one of the present aircraft assembly bays. Equipment here will later be transferred to the main engine production building. This equipment, incidentally, is second to none in the world.

About 60,000 square feet of floor area is being added to the present shop and gas turbine engineering areas, and a similar addition is to be made for expansion of aircraft manufacturing. These additions will be between our details and assembly buildings.

A proposed new building with a floor area of about 125,000 feet is planned for production flight testing and modification work. The present flight service building is being converted to an experimental shop and an extension of some 11,000 feet added. This will contain complete facilities for prototype construction.

The number of experimental test cells is being increased from four to six. New sound suppression equipment will allow engines to be run night and day at low noise levels.

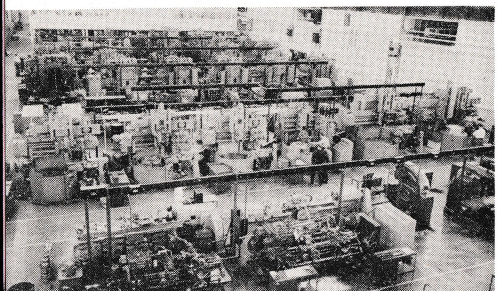
By successfully producing a unique jet fighter, turbojet engine and jet transport, the basis has been laid for other achievements. Nothing similar has ever been done concurrently by any company in Canada and probably not in the world. To produce the CF-100, Orenda and Jetliner, we started practically from scratch.

Within the comparatively few years since the war, we have set up a design, development and production team probably equal to any in the world. The CF-100 fighter, one of the most powerful in the world and the first long-range, all-weather, day-night, jet-powered fighter, has given outstanding promise from its initial flights. We expect even better performance when it is soon fitted with the Orenda engines, which have had to date thousands of hours of successful ground tests and which are now being tested in the air in a special Lancaster flying test bed. The Orenda is one of the largest turbojet power units in North America to have reached an advanced stage of development. The Jetliner is the first inter-city jet transport in the world, and the first of any description in the western hemisphere.

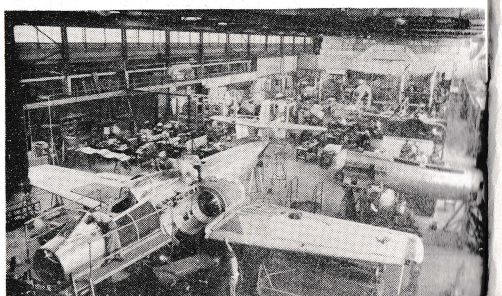
New performance records and standards are continually being set with these jet aircraft and engines. The CF-100 has been authoritatively described as being at least two years ahead of anything similar in the United Kingdom or United States. On a flight from Toronto to Montreal, our CF-100 averaged 638 m.p.h., believed to be the fastest any aircraft has yet travelled in Canada. Our plans to fly the CF-100 non-stop across the Atlantic - an unprecedented feat - were postponed because of the need to complete the testing of the aircraft in preparation for its accelerated production program, but are now going forward again. The Jetliner has made a North American speed record for an airliner of more than 500 m.p.h., and on flights to Ottawa, Montreal, New York and Chicago, the present airline scheduled times have been cut in half or more.

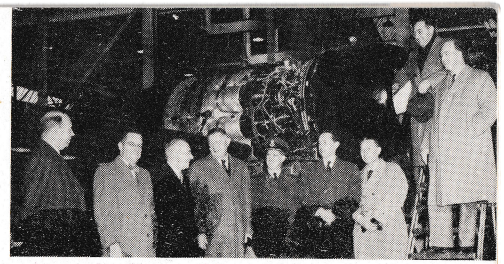
Avro Canada's record of producing two aircraft, a jet fighter and jet transport, and two types of engines from a bare floor in four years is unequalled anywhere. Each of these products is unique in its class and everyone who has worked on them has a right to be proud of himself.

INSTALLATION OF NEW MACHINERY FOR ORENDA TURBOJET PRODUCTION



PRODUCTION OF THE CF-100 FIGHTER





HERE ARE SOME OF THE COMBAT AIRCRAFT TASK FORCE OF THE NORTH ATLANTIC TREATY ORGANIZATION WHO INSPECTED OUR DEFENCE FACILITIES RECENTLY WITH OUR MANAGEMENT. THEY REPRESENT THE U.K., U.S.A., FRANCE, ITALY AND CANADA

## Resolved

Herewith are our contributions
To piles of year-end resolutions.
For Avro News readers (if any)
Proposed improvements are many.
More plant news if we can git it;
If you hear some please remit it.
Early issues will mean more sprinting
From those who do art and printing.
Better writing throughout the book -
Writers please have another good look
At your copy before submitting -
Or don't complain of our refitting.
No births, weddings, or deaths we plead,
Readers are likely to secede.

We'd like to make vital matter
As readable as back-fence chatter.
With our increasing readership
We must assume true leadership,
Not take ourselves too seriously
But rather Wallace Beery-shly.
The press will get the carpet red.
(If not our head she should be read).
We hope that others will share these views
Not think we're too big for our shoes.
We know we're wrong to go on record
But our pleas for copy were ignored.
We had to fill this space with print
While we'd much rather see you in't.

# The Darts Game

THIS IS THE SORT OF THING YOU CAN SEE ANY LUNCH HOUR AT AVRO CANADA

The game of darts which has recently become the lunch-time vogue for many Avro Canada workers has a long history. It first became popular as a type of indoor sport, and it was mainly confined to the country villages and rural areas of England.

In the evening after the day's toil on the land, farmers would gather at their local inn or tavern for a pint of beer and a little relaxation. Some would settle down for a quiet game of dominoes or cribbage, while others enjoyed their game of darts. Many of the town dwellers on a visit to some country area looked on with amazement at the extraordinary skill and enthusiasm shown by their country cousins on the dart board. Grandfathers and grandsons alike would throw their quivering feather-tipped arrows with unerring aim, obtaining the required numbers time and again with practically no effort.

It was thus not long until the game of darts began to attain popularity in the larger towns and cities in the London area. Dart boards gradually began to find their way into the public houses, hotels, clubs and many other places of recreation. Friendly matches between pubs down the road began, and soon brewery representatives offered to provide cups and medals for the winning teams. Eventually in 1924 the National Darts Association of England was formed whose object was to draw up and standardize a set of rules for the game. Today well over a million entries are received for the individual championship.

Many Canadian ex-servicemen will well remember the game as it was played in the pubs of England, and a great number became very proficient at this sport during their sojourn there. On their return to Canada, however, it was obvious that the game would merely remain as a fond memory unless something was done to organize its future in this country.

One such ex-serviceman, Richard Walker, realized the need and set out to organize teams in the Toronto area. His first task was to get sufficient people interested in forming teams to play matches. Many disappointments ensued, but today some 80 magnificent trophies are up for competition, an indication of his success. On one occasion, six bus loads of players and their followers constituting 20 dart teams visited Hamilton to play for the Blue Top Trophy. Teams also compete in Oshawa, Georgetown, Whitby as well as the many in Toronto area.

One of the early, and for many years an active member of the London National Darts Association was Avro Canada's Charlie Litteley, of the Aircraft Tool Room. Charlie had been delayed in coming to Canada owing to the war, but obtained passage on the "first available" in 1946 and arrived in Toronto with thoughts of darts on his mind.

Noting that a number of Canadians had dart boards in their homes, he made several endeavours to find one or two responsible people in the city to promote the game, but knowing very few people at that time, he failed to find anyone sufficiently interested and decided that he would leave the idea until he had become better acquainted. In due course, he started work at Avro Canada, where it was evident that sufficient interest was being displayed to warrant forming a league amongst the various departments.

Charlie was thus instrumental in forming the Avro Darts League, and at the same time considered the possibility of endeavouring to find some suitable place in the city in which to play these games in order to overcome the main obstacle, that of transportation.

It was during his search for this accommodation that Charlie came into contact with Richard Walker, who had organized the game in the Toronto area. Thus Charlie became incorporated into the Ontario Dart Association. After much searching, a suitable building for darts was eventually located at 10 Wellesley Place. Being fairly central, the location became the home of the Ontario Dart Association, which now includes the Avro League who had until this time no proper home ground of their own.

It is not necessary for one to be an actual dart player to become a member, for membership is open to any individual, or man and wife, at a moderate fee. In addition to social evenings and entertainment, it is hoped that sufficient interest will be created amongst the ladies to enable the Association to promote a Ladies Individual Competition in Toronto.

This club is the only one of its kind in Canada, and its main objective is to promote this healthy indoor sport on a province-wide basis, with a view to interesting many of the younger generation in clean healthy recreation, as well as periodically assisting various charitable organizations.

# YOU COULD HEAR A PIN DROP

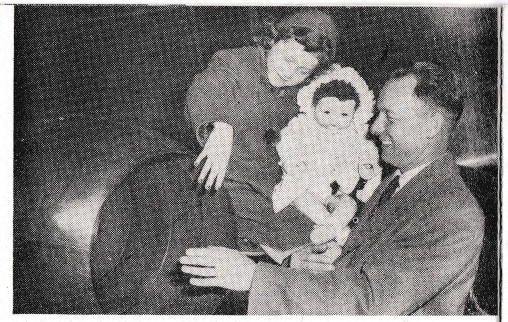
*by Ross Willmot*

The Jetliner was flown to Chicago the latter part of November on the first of a number of demonstration flights for United States airlines. After one of these very successful demonstration flights, an official expressed the common view of all Jetliner passengers that jets definitely would be the transport aircraft of the future. Travel by contemporary piston-driven airliners couldn't be compared with jetflight.

The writer incidentally had his first flight in the Jetliner on this occasion. After having written thousands of words in praise of jetflight based on other people's experience, it was a relief to learn that neither the other people or myself are liars. If anything, we erred on the side of understatement.

Our particular flight happened to be a brisk whisk between Chicago and Milwaukee, a distance of 90-odd miles, in eight minutes. Our 500 m.p.h. plus trip was a revelation in air travelling comfort for everybody.

Perhaps the biggest difference we noticed was the lack of irritating noise. We easily conversed whereas you practically have to shout to your seat partner in most piston-driven airliners. We could easily hear the other passengers talking several feet away in normal tones. I even dropped a pin on the floor and heard it. (It was a metal tie pin, admittedly, as I didn't have the other variety handy). There is noise in the Jetliner but it is a low, subdued, lulling noise.



UNITED AIRLINES BROUGHT THEIR CHILDREN TO THE AIRPORT AT CHICAGO TO SEE THE JETLINER WHEN IT VISITED THERE RECENTLY

There was little or no vibration. Just to prove the point I balanced a pencil on its end, an old trick but worth proving. It stood up even when we went into a steep turn. I tried the same trick on the piston-driven airliners flying between Chicago and Toronto. Needless to say it didn't work.

As we raced through the air I noticed that the needles on the duplicate control panel were sticking. Bill Baker gave the panel a shake to get them in movement again explaining that vibrators had to be installed for this purpose. Up to then this had only been a publicity story to me.

We climbed more rapidly than a last war fighter, yet our pressurization system worked so well that we felt no effect. I had wondered about this as I had had sinus trouble with the RCAF during the war and am susceptible to pressure changes.

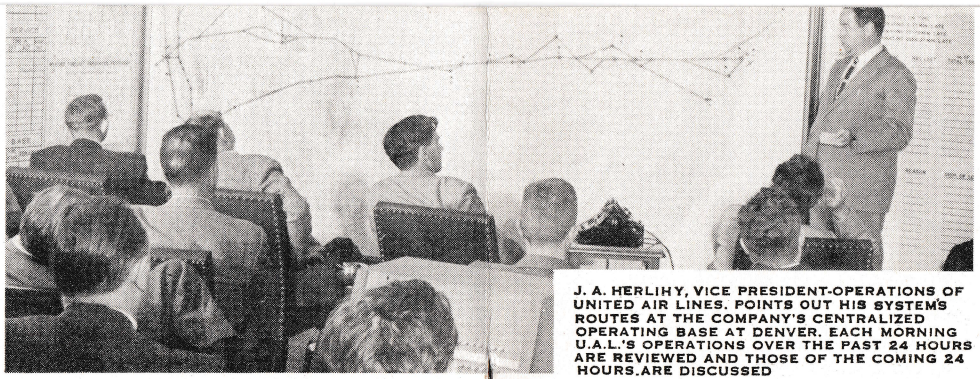
The trip to Chicago did much to correct such erroneous impressions that sheets of flame come out of the back of jet engines consuming everything nearby. Without any trouble whatsoever, the Jetliner worked in the traffic pattern of the airport which sees 10,000 passengers go through daily.

The Jetliner flew the 460 mile route from Toronto to Chicago in one hour and 38 minutes, as compared to the two hours and 50 minutes taken by scheduled piston-driven airliners the same day. At first the flight was at more than 440 m.p.h. at 30,000 feet, but as the weather deteriorated a descent was made to 4,000 to abide by VFR regulations. Although operating under conditions generally considered unfavourable to jets, the Jetliner proved it could outclass its competition. The return trip and take-off were made on three engines but even so the Jetliner beat the airline schedules.

Everybody from Avro Canada associated with the Jetliner felt very much at home in Chicago, which is very conscious of its own greatness. We could have our breakfast in the world's biggest hotel, take a glance at the world's best newspaper, drive out to the airport past some of the world's biggest buildings, and then go for a ride in the world's best and incidentally America's only jet transport.

RIGHT:- CAROLE, DAUGHTER OF JAKE GAUDAUR, OF THE POLICE PROTECTION CORPS. SHOWS THE LEGS WHICH DANCED HER TO FAME AT THE C.N.E. LAST YEAR. SHE INSTRUCTS A GOOD-SIZED CLASS IN TOE, TAP AND ACROBATIC DANCING AT MALTON

BELOW:- DORIS CAREY HOLDS THE 30 LB. AIR COOLING UNIT OF THE JETLINER, WHICH HAS THE CAPACITY OF 200 HOUSEHOLD REFRIGERATORS



J. A. HERLIHY, VICE PRESIDENT-OPERATIONS OF UNITED AIR LINES. POINTS OUT HIS SYSTEM'S ROUTES AT THE COMPANY'S CENTRALIZED OPERATING BASE AT DENVER. EACH MORNING U.A.L.'S OPERATIONS OVER THE PAST 24 HOURS ARE REVIEWED AND THOSE OF THE COMING 24 HOURS ARE DISCUSSED

# THE MAIN LINE

*by Boyd Ferris*

When the United States Post Office Department selected the historic "pathway of pioneers" between New York, Chicago, and San Francisco for its first U.S. air mail route, they little realized that they were selecting the route which was to form the backbone of United Air Lines' Main Line system. Flying the mail was one of the major factors contributing to the development of commercial aviation south of the border, so when these services were turned over to private contractors about 1926 it gave the impetus to the companies which now make up United Air Lines: Varney Air Lines, Pacific Air Transport, Boeing Air Transport and National Air Transport.

In those early years, air mail was the all-important thing as far as air line operations were concerned. Getting the mail through to its destination, despite weather and other obstacles, was the main objective and the first passengers found themselves quite secondary to mail pouches. On the Pacific coast, they rode in open cockpits with mail sacks piled in their laps. On the coast-to-coast route, they sat in the box-like cabins of Boeing 40's between San Francisco and Chicago, while between Chicago and New York it was open cockpits again.

Since those days, more attention has been paid to the welfare of the passenger. One of United's original members introduced (with considerable scepticism) stewardesses on its flights, while the humble box lunches which had hitherto contained only a sandwich and an apple began to take on the semblance of meals when United introduced the first flight kitchen, and in addition berths for overnight passengers. Paralleling these were technical improvements such as the two-way plane-to-ground voice radio, the static discharger for keeping radio reception clear, the absolute altimeter, and the hydromatic full-feathering propeller, in all of which United or its predecessor had a hand in the development or the proving.

United Air Lines was formed in 1931 and today the company's routes cover more than 13,000 miles, stretching from gateway cities on the eastern seaboard of the United States through major cities of the Great Lakes and inter-mountain regions to all important cities on the Pacific Coast, and from California to Honolulu. The company's services connect with those of Trans-Canada at New York, Boston, Cleveland, Detroit, Chicago, Seattle and Vancouver. In an average day United now carries more passengers than were flown by the entire North American transport industry in 1926. The company's daily cargo lift averages 675,000 pounds.

United's executive administrative offices are located in Chicago, its centralized operating base in Denver, and its huge "push button" maintenance base in San Francisco. There are 10,000 employees on the company's payroll.

Centralized control of United's operations was accomplished in 1948 when the company established its Denver operations base. There all reports pertaining to the functioning of the company's system are gathered quickly by radio, private phone and teletype, permitting pre-planning and co-ordination of operations on a system-wide basis. A speed reservation system (payload control) makes possible instantaneous confirmation of reservations and operations of extra sections to accommodate additional traffic.

Early in 1948 United opened in San Francisco what has been hailed as the "world's finest maintenance base." Equipped with electrically-operated docks, conveyer lines and other such devices it promptly was dubbed the "push button base." Hangars, shops and offices cover 116 acres. During 1949 more than 1,000 aircraft engines and almost 300 aircraft were completely overhauled at the base.

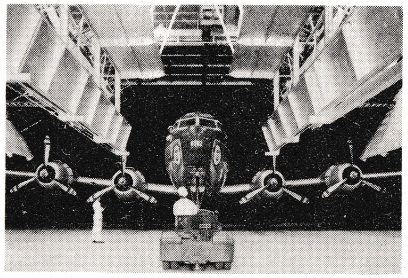
While United's DC-3's, DC-4's and DC-6's helped revolutionize air transportation over the past 13 years and today have brought a new era of dependability and regularity to airline operations, the company is looking forward to eventual replacement by turbo-prop or turbo-jet aircraft. In its recent trip to Chicago, the Avro Canada Jetliner was demonstrated to officials of United and aroused considerable interest.

According to J.A. Herlihy, United's vice-president - operations, the turbine engine may have completely replaced the piston engine for all aircraft over 1,000 horsepower by 1960. Last January Mr. Herlihy, accompanied by R.D. Kelly, superintendent of technical development, and Frank Davis, staff assistant to the

vice-president - operations, made an extensive tour to Canada, Scandinavia, England and Western Europe to gather first-hand information on aviation developments in these areas. The trip dispelled misgivings that Mr. Herlihy had had that turbine transports were "hot" aircraft resembling military jets in the United States with small, radically-swept wings and requiring extreme manoeuvering speeds and field lengths. Following the trip he made this comment:

"The planes we saw and flew dispelled this impression for they approach and land at DC-6 speeds. They have large conservative wings with plenty of space for fuel and feature low wing loadings. They are quite like the planes we already know - except for their engines.

"This trip has convinced me that the turbine engine has arrived, "Mr. Herlihy said. "It's here, and like all world progress, nothing can stop it. The first airline to get the faster, quieter, and more comfortable turbine-powered airplanes into operation will attract the air travelling public."



LOOKING LIKE A GREAT BEETLE, A U.A.L. TRANSPORT IS DRAWN BY TRACTOR INTO THE "PUSH BUTTON" DOCK AT THE COMPANY'S SAN FRANCISCO MAINTENANCE BASE. WHEN THE AIRLINER IS IN POSITION, CATWALKS ON EITHER SIDE, SHOWN IN UPRIGHT POSITION, ARE LOWERED. TIME TO GET A PLANE IN POSITION FOR OVERHAUL HAS BEEN REDUCED IN THIS DECK TO A MATTER OF MINUTES

# Relative-ly Speaking

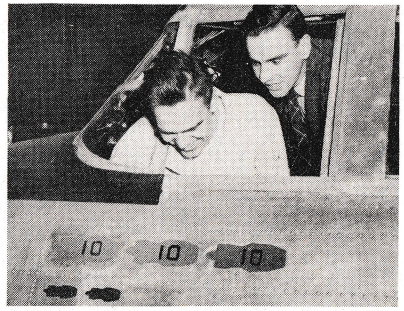
*by Kay Rumble*

We like the idea of various members of one family working at the same place of employment. Such a plan, besides promoting friendly rivalry and family interest in the breadwinners concerned, has definite family advantages which make for a better organized household - such as coordinated working hours and holidays. Transportation difficulties are more easily overcome by the family car, and perhaps more important, the "bringing home of the bacon" on the same day makes for better family budgeting.

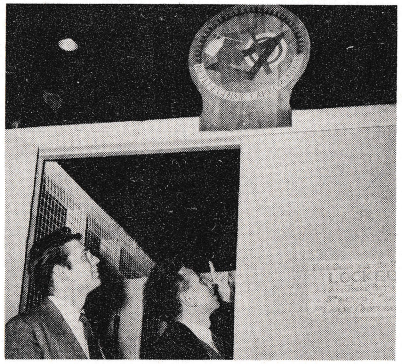
Happy examples at Avro Canada of this neat arrangement are:-

Walter Parish, Chief Inspector, and daughter Kay, Cost Accounting; Bea Anderson, Sales and Service, and husband Jack, Airframe Design; Alec Webster, Purchasing, and son Ronald, Production Control; Don Pearson, Sales and Service, and wife Pat, Purchasing; Jim Flanigan, Planning, and daughter Greta, Purchasing; Shirley Aitken, Accounting, and sister Helen, Gas Turbine Production Engineering; Kay Burrows, Avro Canada cashier, and husband Dave, Material Control; Marg Henderson, Timekeeping, and brother Bud Hildebrand, Cost Accounting; Joe Cribar, Production Planning, and daughter Joan, Cost Accounting; Ken Rowntree, Lofting, and wife Maud, Plant Engineering; Shirley Munshaw, Accounting, and cousin Gord, Gas Turbine Division; Joan Rolfe, Accounting and husband Ken, Gas Turbine Division; Jerry Proctor, Cost Accounting, and brother Doug, Timekeeping, and wife Jean, Purchasing; Berniece Dorst, Sales and Service, and brother Gus Hendriks, Accounting; Lucy Richards, Cost Accounting, and husband Arnold, Gas Turbine Division; June Aitken, Methods Division and Des Aitken, Plant Engineering, brother and sister; Ken Hall, Material Stores, Curly, Shipping and Receiving, and Vic, Standards, - brothers; Garth Cowtan, Accounting, and wife, Vi, Production Planning; Lorne Mavety, Standards, and wife Lally, Blueprinting; Earl Brownridge, Assistant Production Manager, Gas Turbine Division, and brother Ross, Standards; Bill Evans, Gas Turbine Blade Shop, and sons Al, Gas Turbine Division, and Gwilym, Stores; Cliff Bird, Material Control, and daughter Doris, Production Engineering; Hugh Gilmour, our Chief Security Officer, and brother Jack, Timekeeping; Esther Rosewarne, Purchasing, and husband Harry, Design Office; Elsie Ring, Purchasing, and husband, Ernest, Lofting; Kay Rumble, Sales and Service, and husband Ray, Airframe Design; Isabelle Moody, Expediting, and husband Arthur, Aircraft Conversion and Overhaul.

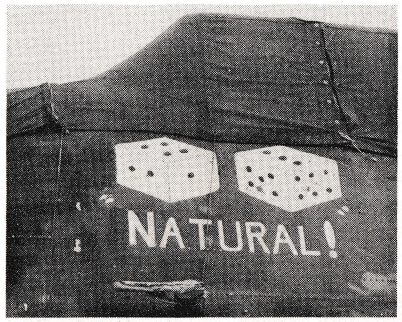
## SIGNS OF THE TIMES



THE NUMBER OF SUCCESSFUL TEST FLIGHTS CARRIED OUT BY THE ORENDA FLYING TEST BED IS INDICATED BY THESE PAINTED TURBO JETS ON THE SIDE OF THE LANCASTER



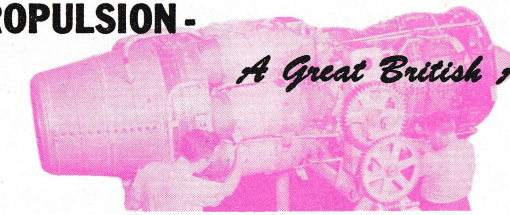
A COUPLE OF THE GAS TURBINE BOYS ARE AMUSED BY THE SIGN OUTSIDE THEIR EXPERIMENTAL LABORATORY WITH ITS BASTARD LATIN INSCRIPTION




THERE'S A LOT OF OPERATIONAL HISTORY BEHIND THE SIGNS WHICH THE WARTIME BOMBER BOYS OF THE R.C.A.F. PAINTED ON THE SIDES OF THEIR LANCASTERS NOW BEING CONVERTED HERE

# JET PROPULSION -

## *A Great British Achievement*



It was Sir Isaac Newton, the great English Scientist, who suggested, in 1680, that a carriage might be propelled by the power of reaction from a steam jet. Towards the end of the last century the British Admiralty experimented with jet-propelled ships. During the last world war many inventors put forward schemes for jet-propelled aircraft, but a solution to the problem was not forthcoming until a certain British officer in the R.A.F., who was also an engineer and brilliant mathematician, took out his first patent as long ago as 1930 on jet-propulsion for aircraft. This was Air Commodore Sir Frank Whittle who actually produced the first successful jet-propulsion unit for aircraft in 1936. The Whittle engine passed its tests successfully in 1937; its importance was quickly recognized by the British Air Ministry, who placed their first order for jet-propelled aircraft in 1939, the engines being built by Power Jets Limited, a company formed for the purpose, in a secret factory "somewhere in England".

In Great Britain design and development continued, based on the experiments of a great number of test flights by pilots of the Royal Air Force at extremely high as well as normal altitudes. The construction of the Whittle engine was undertaken by various firms, including the B.T.H. Co., and the Rover Co., while work on axial compressors was carried out by Metropolitan Vickers.

It was in 1938 that the world famous Rolls-Royce Company first took an interest in jet-propulsion units for aircraft, and in 1939 the first design projects were made. In 1940 test work began to be carried out on various components; the great experience of Rolls-Royce engineers and facilities for manufacture at the Rolls-Royce plant in Derby were lent to the producers of the Whittle type engines, and the machining of such parts as supercharger casings and wheelcases, and the manufacture of turbine blades and oil pumps were undertaken.

In June, 1941, a test plant was set up at Rolls-Royce, Derby, for development work on compressors including a step-up gearbox capable of transmitting 2,000 h.p. and running up to speeds of 17,000 r.p.m. This particular plant has been in operation ever since that date. At that time it was the only test plant in the world capable of handling the compressors employed in jet propulsion. At the same time development was carried out on combustion chambers, and at the end of 1941, under instructions from the Air Ministry, the Rolls-Royce Company undertook the manufacture of the simple gas turbine unit of the Whittle type in conjunction with Power Jets Limited. The limiting factor was the construction of the turbine blades due to limitations of temperature and r.p.m., but so much progress was made that Rolls-Royce was asked to take over the development and manufacture of the Whittle units.

Only a few senior Royal Air Force Officials knew of these early experiments and the first flight of this epoch-making aeroplane took place in May, 1941. Information was immediately passed on to the Military Air Arm Authorities in U.S.A.; and General Arnold was so impressed that he asked for a complete Whittle engine as well as the plans of the aircraft to be sent over at once to America, where the Bell Aircraft Company were given the job of redesigning a suitable machine. Twelve months later the first American jet-propelled aircraft made its maiden flight in October, 1942.

The Derwent, now used in the Avro Canada Jetliner, was the first British jet engine to go into quantity production, as well as the first jet engine to power British aircraft in operational service with the Royal Air Force. The first operational duties of the Derwent-powered Meteor were to combat the grave menace of the Flying Bomb against England in 1944. Rolls-Royce began design work on the Derwent in 1943.

Meanwhile other British companies such as our own associated Armstrong Siddeley, began their own independent research on jet propulsion based on extensive gas turbine work. Excellent engines resulted including the Armstrong Siddeley Sapphire, one of the most powerful turbojets in the world, the well-tested single and double Mamba turboprop and the largest turboprop in current operation in the United Kingdom, the Python. The Curtis Wright Aircraft Corporation of New Jersey recently acquired rights to build these last engines in the United States. In addition there will be a complete exchange of research and technical information which will be very valuable to the United States gas turbine industry.

Sir Frank Spriggs, KBE, chairman of the Hawker Siddeley Group, said the agreement reached by the two companies "is, perhaps, the most far-reaching development in peace-time aviation since the war."

THE PAY-OFF, JUNIOR GETS HIS PRESENT DELIVERED PERSONALLY BY SANTA

# AVRO CANADA *Christmas Party*

SANTA MADE A SPECIAL PRE-CHRISTMAS VISIT TO AVRO CANADA EMPLOYEES AT THEIR ANNUAL CHRISTMAS PARTY AT THE PALACE PIER. HERE A CLOWN BRINGS A SANTAGRAM ANNOUNCING HIS ARRIVAL

EVERYBODY (AND THERE WERE MANY) WAS KEYED UP TO THE POINT OF BURSTING WITH EXCITEMENT, AS YOU CAN SEE

IN THE MEANTIME A MAGICIAN ENTERTAINED BY PRODUCING ARTICLES OUT OF THIN AIR. A VERY HANDY KNACK TO HAVE AT CHRISTMAS

WHAT A RELIEF WHEN SANTA DID ARRIVE AND WHAT A WELCOME HE RECEIVED!

ON THE WAY TO THE STAGE SANTA STOPPED TO SAY HELLO TO SOME OF THE YOUNGER GENERATION

SANTA FINALLY SITS SURROUNDED BY CHILDREN WHO HAVE BEEN WAITING ALL YEAR FOR THIS NIGHT

THE SUPREME THRILL - THE CHANCE TO MAKE A PERSONAL REQUEST FROM SANTA

MR. DEISHER GIVES CHRISTMAS GREETINGS TO THE STAFF FROM MANAGEMENT

# NEW YEAR RESOLUTIONS

Now that another year of shattered promises and slightly bent vows be safely behind us, and we have had a week of festive season to salve our writhing consciences, herewith a brand new batch of Resolutions for us and our Chosen Cause:-

(1) It is hereby resolved to treat all inspectors like the gentlemen they are.

(2) It is hereby resolved that we will never be late (for breakfast, dinner, the pay-man, etc.).

(3) It is hereby resolved that we will discontinue the low, wolfish tactics of whistling at Miss Chanel Number 5, Miss Nose Bullets of 1951 or any other of our distaff side. (Yuck, Yuck!).

(4) It is hereby resolved to treat all inspectors as though they are gentlemen.

(5) It is resolved hereby that we will always leave our spring knives, tommy guns and other lethal weapons at the gate house.

(6) It is resolved that we will make every effort to find an inspector who is a gentleman.

(7) Resolved to find out how many thousandths in an inch (millions?).

(8) Resolved always to let the guy ahead of us get out of the parking lot first.

(9) Resolved never to argue with an inspector.

(10) Resolved never to argue with our fellow men, either!

(11) Resolved always to help the aged and infirm, little children, lame dogs over stiles, design engineers, etc.

(12) Resolved always to remember our work passes, and stop trying to get away with Texaco Credit Cards, Elks Club membership cards, etc.

(13) Resolved never to call a gentleman an inspector.

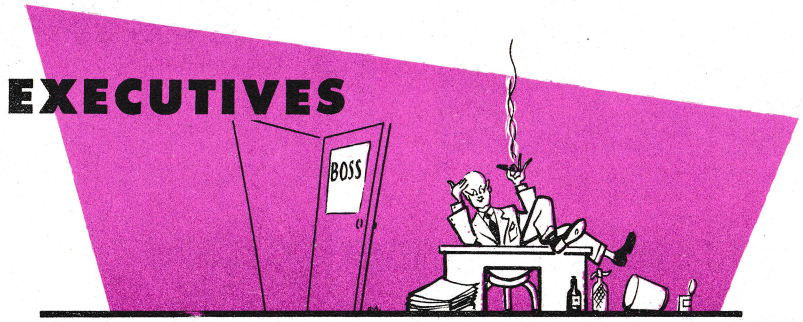
(14) Resolved never to call an inspector a gentleman.

Oh hell! I didn't want the blasted casting passed to Stores anyway!

(15) Nearly forgot! Most important of all, resolved to encourage good relations with Inspection Department.

Rid Dowding

# EXECUTIVES




## PRO

Executives are a fortunate lot, for as everybody knows, an executive has nothing to do, that is except:-

To decide what is to be done; to tell somebody to do it; to listen to reasons why it should not be done, why it should be done by somebody else, or why it should be done in a different way, and to prepare arguments in rebuttal that shall be convincing and conclusive.

To follow up and see if the thing has been done; to discover that it has not been done; to enquire why it has not been done; to listen to excuses from the person who should have done it and did not do it; and to think up arguments to overcome the excuses.

To follow up a second time to see if the thing has been done; to discover that it has been done but done incorrectly, to point out how it should have been done; to conclude that as long as it has been done, it may as well be left as it is; to wonder if it is not time to get rid of a person who cannot do a thing correctly; to reflect that the person in fault has a wife and seven children, and that certainly no other executive in the world would put up with him for a moment; and that, in all probability, any successor would be just as bad or worse.

To consider how much simpler and better the thing would have been done had he done it himself in the first place; to reflect sadly that if he had done it himself he would have been able to do it right in 20 minutes, but that as things turned out he himself spent two days trying to find out why...it had taken somebody else three weeks to do it wrong; but to realize that such an idea would have a highly demoralizing effect in the organization, because it would strike at the very foundation of the belief of all employees that an executive has really nothing to do.



## CON

The Director stopped, then looked around,
And pointing sternly to the ground,
"What the héck is this" demanded he,
"Some crumpled paper that I see".
The Manager turned a crimson red,
And turning to the Super said,
"I say, your fault again.
Now what the dickens do you mean
By letting all this mess be seen"
The Super quickly getting mad,
Gave the foreman all he had,
"You so and so! I've told you before,
Get that rubbish off the floor",
The foreman turned and cast his eye,
On a lead-hand passing by,
"Come here you, - now don't delay,
Get that swept up right away".
The lead-hand sensing all the fuss,
Addressed quite heatedly, the sweeper thus,
"You lazy so and so! you dope, you lout!
Just get this clear, 'ere you're let out".
And so the sweeper steeped in gloom,
Applied himself with shovel and broom.
"They talk a heck of a lot," quoth he,
"But who does all the perishing work? -
Why, ME!

## SUPERVISORS' STAG

LORRIE MARCHANT SEEMS TO BE TRYING TO PROVE OR SELL SOMETHING IN CONNECTION WITH THE SLOT MACHINE TO CANNY ANDY CAGGIE WHILE ED McCLOSKEY, DON ROGERS AND BILL SHAW LOOK ON WITH AMUSED ANTICIPATION

THIS LOOKS LIKE FUN. LEFT TO RIGHT:- ED McCLOSKEY, S. AIKEN, HAROLD LLOYD (OUR NEW SECURITY OFFICER) AND JACK HILTON WITH BILL GIBBS IN THE BACKGROUND