

SAC'S LATEST. First of Boeing's B-52G missile platform bombers for the USAF's Strategic Air Command rolled out on schedule at Boeing's Wichita plant last month. The new long-range eight-jeter is designed as a launching platform for the supersonic, air-to-surface "Hound Dog" missiles. B-52G can fly ocean-spanning missions and return to bases without refueling.

DOT Appointments

Fourteen regional superintendents have been appointed in the six Department of Transport Air Services Regions to fill the new positions of Regional Superintendent, Airports, established in the recent re-organization of the Civil Aviation Branch, as well as vacancies created in the positions of Regional Superintendent, Airways, and of Air Regulations.

New Regional Superintendents, Airports, are: Moncton, L. V. MacDonald; Montreal, C. H. Delisle; Toronto, D. A. McIntyre; Winnipeg, R. E. St. John; Edmonton, E. G. Clarke; Vancouver, T. W. Tait.

Named Regional Superintendents, Airways, are: Moncton, S. Lantinga; Montreal, J. A. A. Guyot; Toronto, F. T. Hughes; Winnipeg, C. A. Appleton; Edmonton, T. Prescott.

Regional Superintendents, Air Regulations, are: Toronto, M. E. Louch; Winnipeg, J. D. Craton; Edmonton, P. S. Walker.

New Plant

A new Canadian plant has been opened by Potter & Brumfield, Inc., the relay manufacturing subsidiary of American Machine & Foundry Co. Located in leased premises at Guelph, Ont., the facilities will be operated by Potter & Brumfield Canada Ltd., a wholly owned subsidiary of the U.S. company. P&B President R. M. Brumfield indicates the manufacturing operation will begin on a small scale, with the Canadian firm stocking a complete line of standard relays. Eventually the entire line will be produced in Canada.

TransAir's "Operation Charlie"

The longest flight ever made by a commercial airline into the Arctic has been successfully carried out by TransAir of Winnipeg.

Chartered by three American geologists, a TransAir ski-and-wheel equipped C-47 flew 1,975 miles northeast of Churchill to the northeast coast of Ellesmere Island only 300 miles from the North Pole.

The plane refueled at gasoline caches at Coral Harbor on Southampton Island, Foxe Island, Resolute on Cornwallis Island and at Ureka some 200 miles from its destination.

Aboard the aircraft were three crew members, the three-man expedition and 2,700 lb. of scientific and camping equipment—a fact which ruled out a number of other scientists who had planned to go.

The flight was chartered by Norman H. Read of New York, a famed mountaineer and explorer. His companions were Nile Albright of New York and Alfred Hirsch of Newton, Mass., both Columbia University geologists.

Their project was a scientific study to be undertaken on an ice-shelf on Ellesmere Island and the flight itself called for a month's planning.

Gas was cached at about \$4 a gallon at the Arctic outposts and information compiled on weather and landing spots. The party had to get a government permit because of the type of operation and the safety factor involved.

Leaving Churchill July 13, the C-47

left the three scientists at Ellesmere, arrived back at Churchill July 16. The contract called for the plane to return for the party August 16.

Biggest concern was the landing strip at Ureka, which turned out to be in good shape. The entire trip was described by the airline as "perfect."

However, at Ellesmere, where it was hoped the expedition could be dropped on ice off shore, conditions appeared too mushy. A landing on the ice shelf itself was impossible for the same reasons.

The party was landed instead on an island ice-cap about 4,000 ft. above sea level and the expedition worked its way to the study site.

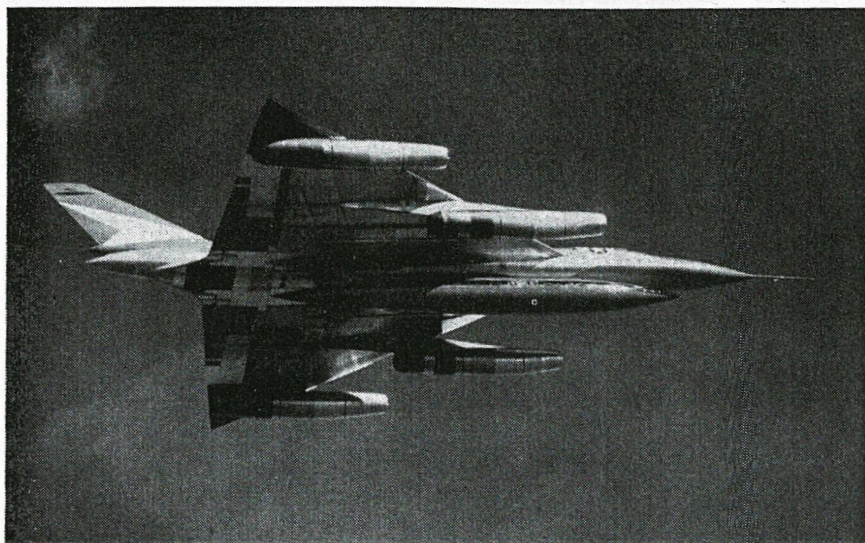
It's likely they'll return to New York by way of Frobisher Bay on Baffin Island and Iceland via USAF after TransAir gets them out of Ellesmere.

The trip could very well be called "Operation Charlie." Crew members of the C-47 were Charles Weber, pilot, Charles Fenwick, first officer, and Charles Chapman, engineer.

* * *

Paris Air Show

The Canadian aircraft industry has been invited to participate in the 23rd International Air Show of France scheduled for June 12-21, 1959, at Le Bourget airport. Anyone interested may obtain full information by writing: Salons Internationaux de l'Aeronautique, 6 rue Galilee, Paris 8e.



SUPERSONIC flight was sustained for more than an hour and a half by a Convair B-58 Hustler during a recent test mission. In the disposable pod beneath the fuselage, the B-58 can carry a bomb or missile load, cameras, or electronic counter-devices.

Canadian Development

George Topel, head of the research and technical group of the S. F. Bowser Co. Ltd., North Hamilton, Ont., was the speaker at the February meeting of the Ontario Section of the American Society of Lubrication Engineers. He has been concerned with the development of processes for the coalescing and vacuum dehydration of petroleum products and control devices for aircraft fueling operations. His paper described an oil conditioning system developed by the S. F. Bowser company in Canada, and promoted widely in the U. S. and Europe.

Local Viscount

New "local service" Viscount carrying 61 passengers at a cruise speed of 320 mph has been announced by Vickers Armstrongs. It will have V.810 type wings, specially strengthened for the V.840's speed. It is intended for the low-level flight and frequent landing stresses of the "whistle-stop" operation.

CPA Simulators

Canadian Pacific Airlines is scheduled to receive delivery of a Bristol Britannia flight simulator from the U. K. this month. This will be installed in the line's new flight simulation building at Vancouver International Airport along with the DC-6B simulator built by Canadian Aviation Electronics, Montreal. This was being installed last month.

Summer Schedules

Summer schedules of airline members of the International Air Transport Association begin on April 1, this year, instead of the middle of April as in previous years.

Electra Performance

The first Lockheed Electra, four-engined turboprop, is claimed to have achieved almost 460 mph in level flight during flight testing. Cruising speed is 405 mph.

Women's International

The all-woman international air race will start in Welland, Ont., this year. This is reported by Mrs. Dorothy Rungeling, the Canadian Air Race chairman. Starting date will be August 17. The race will be flown over a 1,300-mile route ending at West End Airport in the Grand Bahamas. It is run annually by the Florida Chapter of the Ninety Nines, the organization for women pilots, and it is the third time it has come to Welland, a record for any Canadian or American city. In 1952 the race ended in Welland and in 1953 it started there. Hamilton was the starting point in 1956.

Welding Film Series

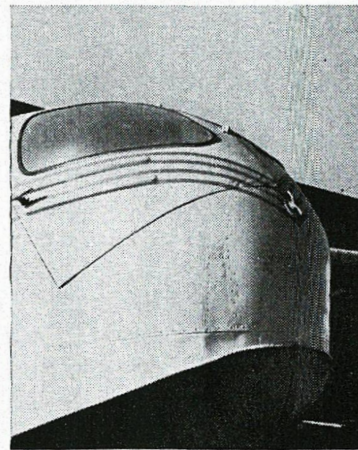
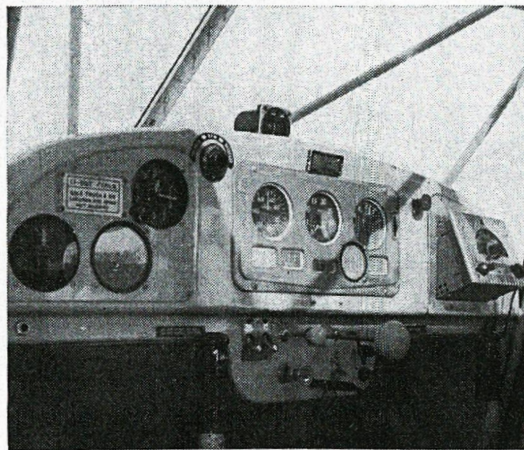
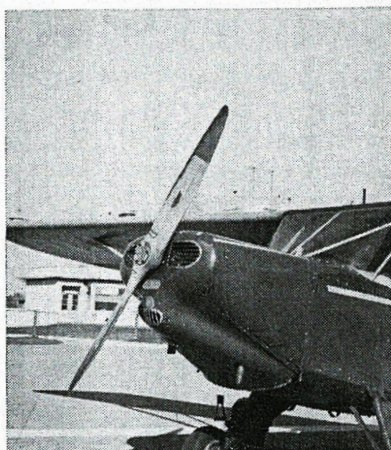
Series of 16 mm motion pictures dealing with the fundamental techniques of oxy-acetylene welding and cutting is offered by Linde Air Products Co., division of Union Carbide Canada Ltd. Titles are Braze-welding, Fusion welding, Flame-cutting, Fusion welding of light-gauge steel, Flame-grooving, Hard-facing, and The Air-acetylene flame. Each runs about 10 minutes.

Stokes Move

F. J. Stokes Co. of Canada Ltd., Canadian subsidiary of F. J. Stokes Corp., Philadelphia, has moved its Toronto headquarters to 4198 Dundas St. West.

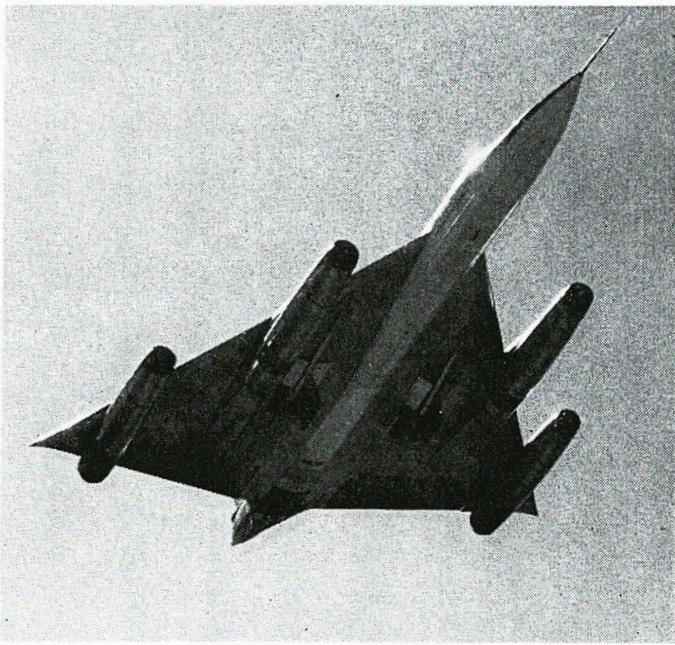
Piper Service Centre

Trans Aircraft Co., of Hamilton, located at Mount Hope Airport, has received official designation as a certified service centre for all products of Piper Aircraft Corp., Lock Haven, Pa. The facilities are operated by an associate firm, Hamilton Aircraft Services. Trans Aircraft is the first Canadian firm to be so designated in Piper's move to set up a continent-wide service system. The firm's Calgary operation is also scheduled to be designated as a centre under the scheme. The Hamilton firm is Canadian distributor for Piper.

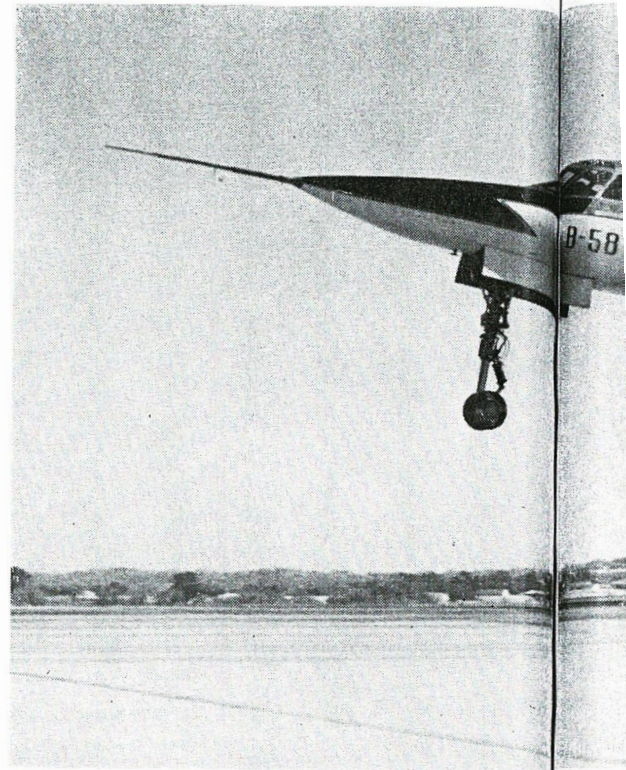


PLASTIC COMPONENTS are saving money in the aviation industry. Three components being manufactured by Leavens Bros. Ltd., Toronto, to replace aluminum parts at less than the original cost are shown above. Left, the nose bowl of the Fleet Canuck; centre, instrument panel for the same machine; and right, the bow skin panel for the Seabee. Tanks for carrying insecticides for aerial spraying are also being made from reinforced plastics. Skin patching is another application.

Convair's B-58 Hustler

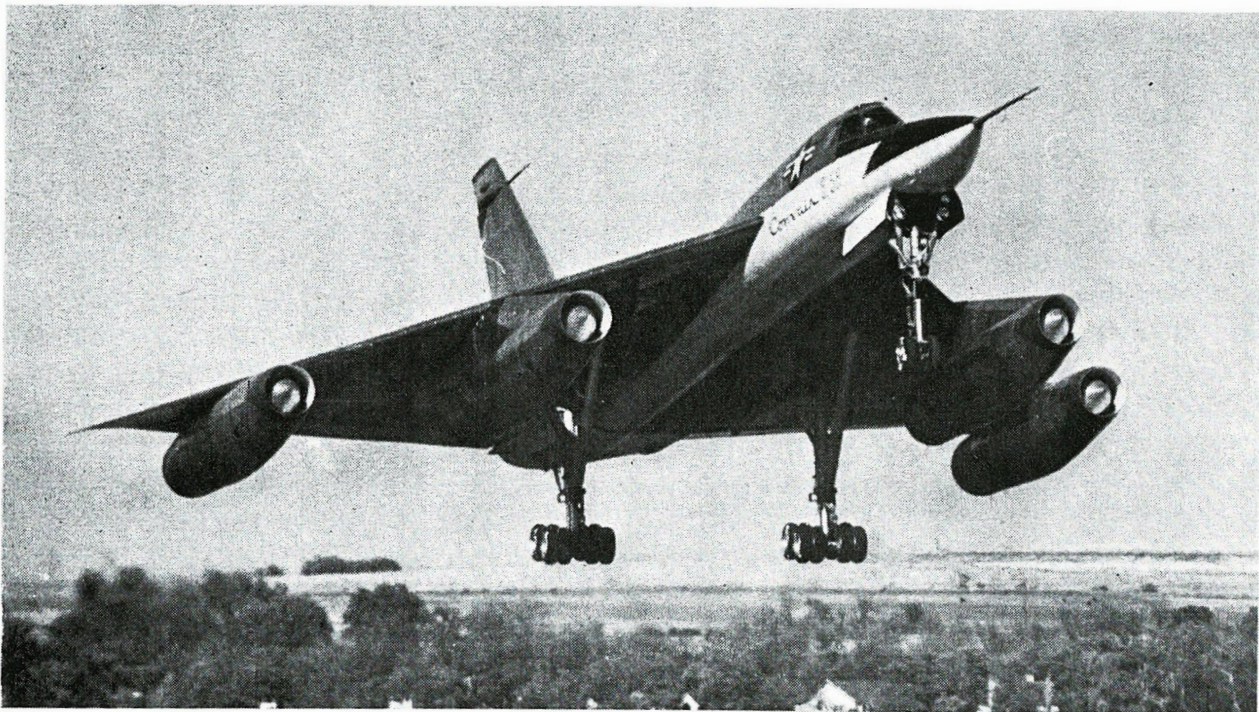


DELTA-wing Hustler carries a crew of three, can outrun an F-100 and operates above 50,000 ft. It's Avro CF-105 size.



Hustler's tremendous jet power

The supersonic atomic punch



Into a small airframe with area rule, Convair has packed a wide variety of offensive and defensive podded weapons.

Aviation News Digest

October

Canadian Aviation

1955

Col. Horace A. Hanes, Air Research and Development Command test pilot, set a level-flight speed record of 822.135 mph. August 20 in a North American F-100C 40,000 ft. above California's Mojave Desert.

* * *

At time of going to press U.S.-Canadian bilateral talks were just getting started in Washington. Nothing earthshaking is expected to result from these talks because of the heavy pressure the U.S. Civil Aeronautics Board has been under from the U.S. Congress.

Also since there are new members on both the CAB and Canadian Air Transport Board this meeting is looked upon as a chance to get together.

► **Canadians Want.** Should the talks get down to the route swapping stage, the following routes are known to be desired on the Canadian side: TCA would like Boston traffic rights on its Montreal-Bermuda service and possible extension of prairie services southeast of Winnipeg to Chicago; CPA would like San Francisco traffic rights on its Vancouver-Sydney trans-Pacific service.

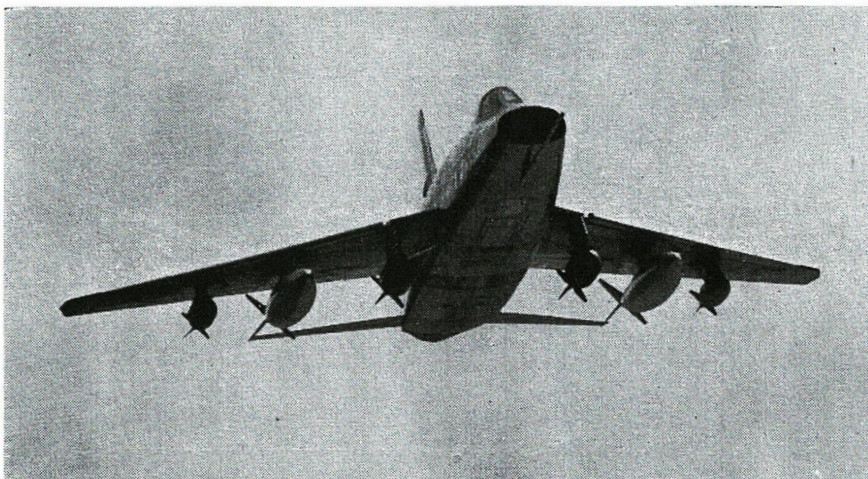
► **U.S. Wants.** On the U.S. side Capitol is known to want to inaugurate a Toronto-Washington service via Pittsburgh; Western would like Calgary-Edmonton traffic rights for either its Salt Lake City service or proposed Edmonton-Calgary-Spokane service through to Seattle or Portland; if the Capitol-Eastern merger goes through the combined airline will probably seek Montreal traffic rights on a service to Miami; Continental Air Lines wants to extend from North Dakota to Regina.

* * *

The Search and Rescue Division of the RCAF has requested that light aircraft owners who fly or intend to fly over sparsely settled areas display large portions of wings and fuselage in vivid colors in order to assist in the location of lost aircraft.

The colors should provide the best possible opportunity of being seen from the air by personnel in searching aircraft.

OCTOBER, 1955



SUPER SABRE F-100C, new long-range fighter which holds the official world speed record 822.135 m.p.h.



WARDAIR Beaver at Yellowknife, base of Wardair's extension charter operations using a large fleet of float/ski aircraft.

Aviation Electric Ltd., Montreal, has been designated exclusive distributor for Ronan and Kunz Inc., Marshall, Michigan, for their liquid oxygen handling equipment in Canada.

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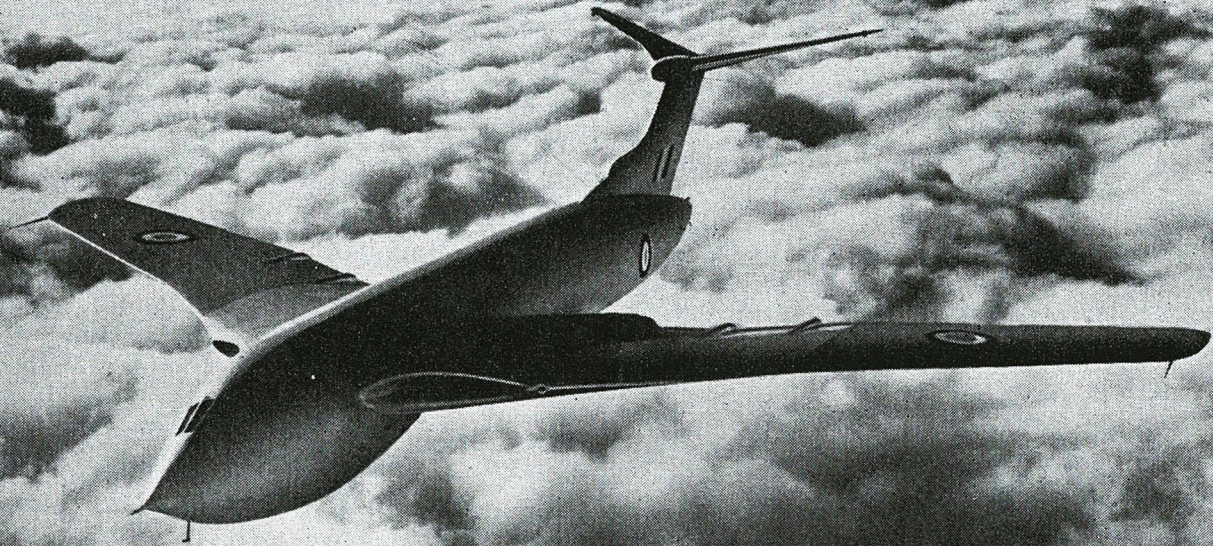
Civil Air Emergency Committee is holding its initial meeting at

the Toronto Flying Club, Malton, Ontario, on Saturday, October 8, at 1.30 p.m.

* * *

De Havilland L-20 Beavers are now going to the Royal Netherlands Air Force. The U.S. Government has assigned 20 under MDAP (Mutual Aid).

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VICTOR— the world's most
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with as great
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HANDLEY PAGE

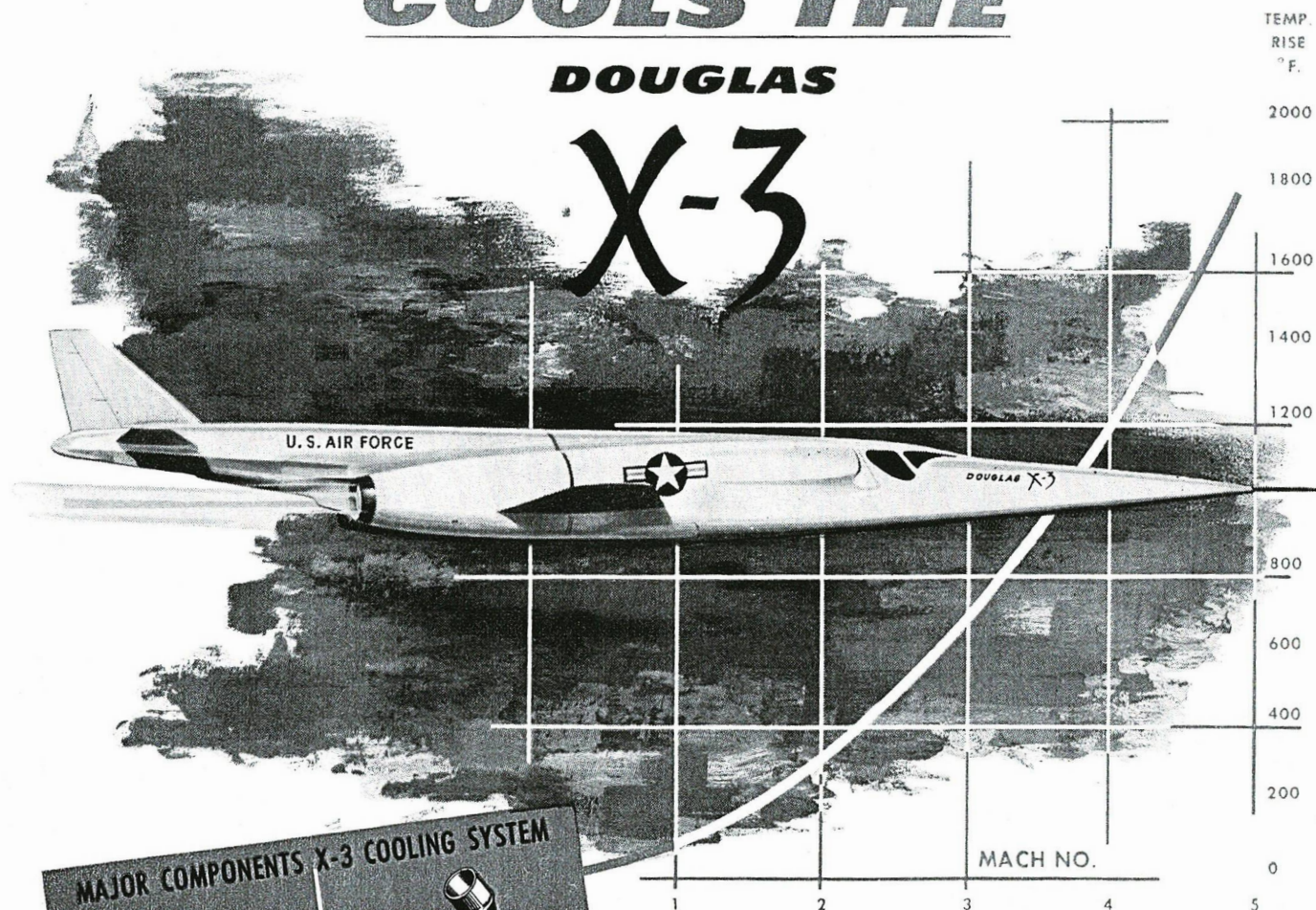
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LONDON

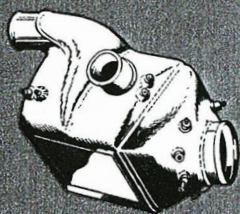
READING

STRATOS COOLS THE DOUGLAS

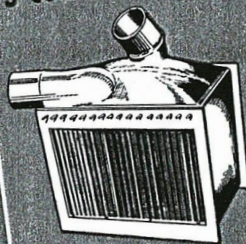
X-3



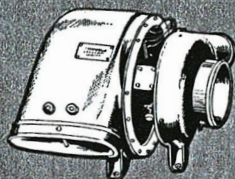
MAJOR COMPONENTS X-3 COOLING SYSTEM



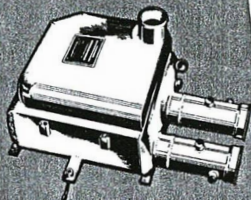
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HEAT EXCHANGER



100 LB/MIN AIR CYCLE
REFRIGERATION TURBINE



WATER
EVAPORATOR

For cooling the Douglas X-3, Stratos built the highest capacity airborne refrigeration system ever made and designed it to meet the severest requirements yet imposed by high speed flight. It is the first to use an evaporator in conjunction with an air cycle refrigeration turbine to create a compact, reliable system.

Since the X-3 flies for sustained periods at high Mach numbers it will be the first to explore problems arising from the high ambient temperatures which result from ram rise. Refrigeration is, therefore, of critical importance. The Stratos system is required to cool not only the pilot but much of the equipment and many of the compartments in this research airplane.

Stratos is proud to have been called on to design and produce equipment for this radical new research airplane built under the joint sponsorship of the Air Force, the National Advisory Committee for Aeronautics and the Navy.

PRINCIPAL STRATOS PRODUCTS: Jet Bleed Refrigeration Packages • Air Turbine Drives • Pneumatic Controls • Air-Moisture Separators • Cabin Superchargers • Bootstrap Refrigeration Units • Mass Flow Valves • Emergency Disconnects

STRATOS

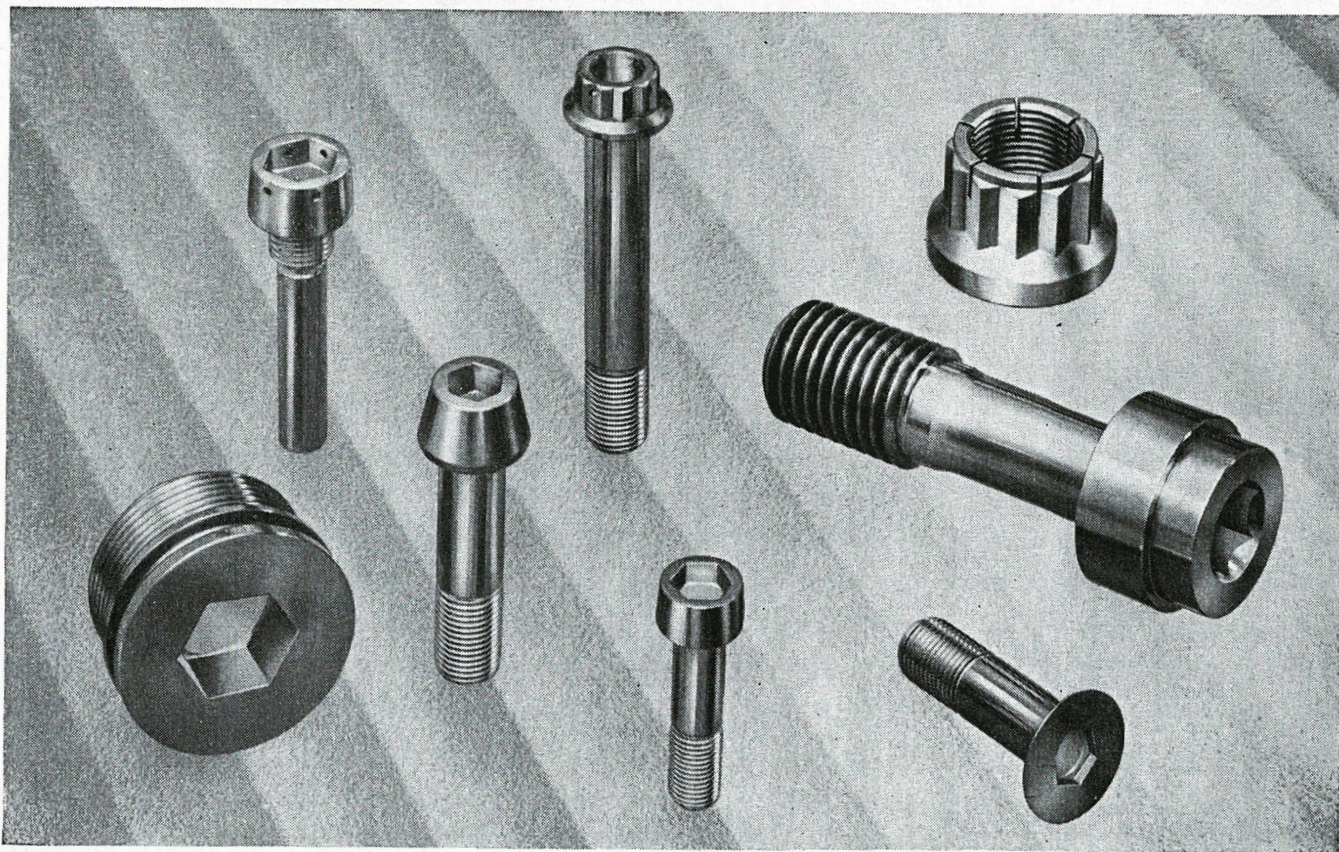
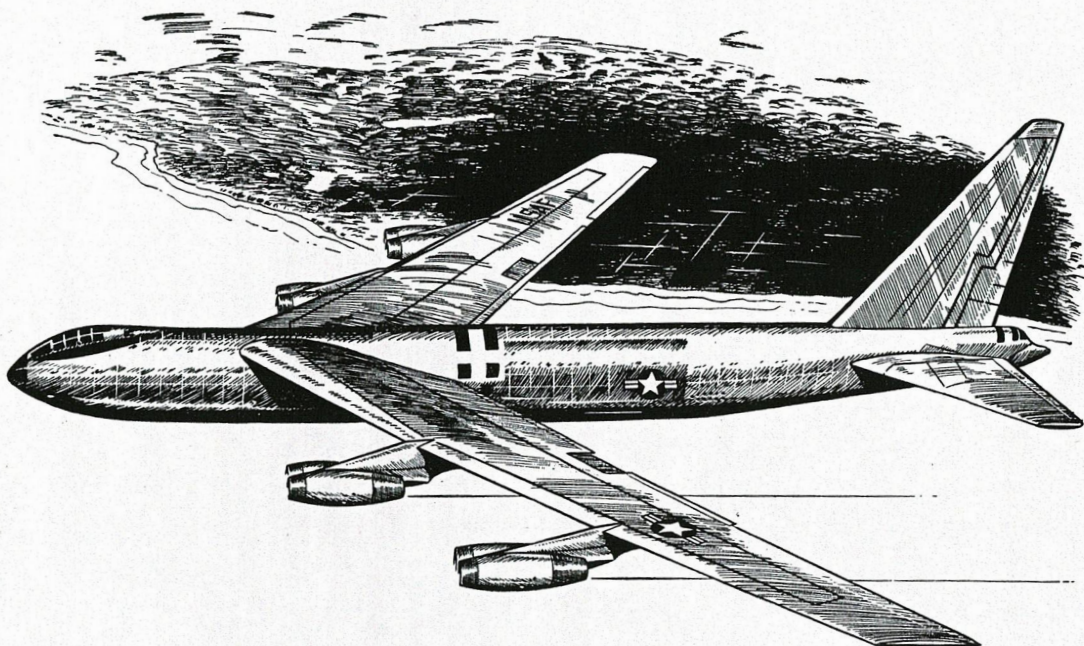
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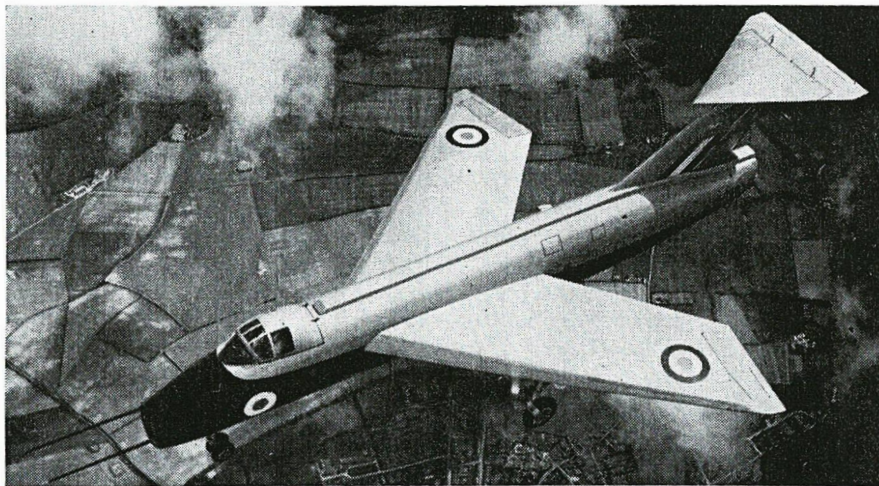


A typical selection of SPS fasteners. For complete information, write STANDARD PRESSED STEEL CO., Jenkintown 50, Pa.

AIRCRAFT PRODUCTS DIVISION

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JENKINTOWN PENNSYLVANIA



THE SHORT SB-5. Besides its adjustable sweep-back wing this aircraft has a movable tailplane, which is being tested set below the fuselage as well as above.

of acceptable damage is shown in Figure 1.

Cracked blades are not acceptable, and fortunately these are now very rare. All the same, each blade must be very carefully scrutinized for cracks under magnification, paying particular attention to the root areas. Creep, or stretching, was another problem in the early days, but this also has been almost eliminated. Detection for creep is by measurement of the blade growth in length.

Blades with bent corners, provided the bend is not more than through 90 deg. and within a certain length, can be made serviceable by straightening. Blades in this category must be carefully examined for cracks after straightening. Broken corners can be blended as shown in Figure 1. Blades with this type of damage are acceptable provided that when they are assembled to the turbine disc, the amount of unbalance is within the scope of the method of balance correction. A blade with a bent corner having a crack on the bend can have the corner broken off, the edge blended, and still be acceptable. All these conditions must, of course, be within certain limits, as laid down by the overhaul engineers for the particular make of engine being dealt with.

Small pit marks are usually acceptable but anything in the nature of a cut must be very carefully examined. If the damage is on the edge of the blade, it may mean rejection as scrap. Cuts inside the edge areas, provided they are not more than say, 0.100 in. in length and 0.020 in. deep and are on the thicker section of the blade, can be blended, making the blade acceptable.

Nozzle Guide Vanes

Most nozzle guide vanes are precision cast from heat-resisting alloys. In service they are subject not only to the usual damage caused by foreign matter passing through the engine, but to intense heat, resulting in bowing, cracking, and burning. Burning and cracks seriously affect the durability of the vanes, whereas bowing affects the performance of the engine. Since the total throat area (the area between the vanes through which the hot gases pass) has a direct bearing on the amount of thrust delivered and also affects the maximum jet pipe temperature, a definite standard for bowing had to be laid down fairly quickly. As it was, all except the very earliest blade were made of material suitable for stretching (straightening) and although large quantities of vanes were rejected for excessive bowing these were, and still are, reclaimed by this method. The amount of bowing acceptable without stretching will depend on how critical the throat area is, and bowed vanes can be used provided the area is kept within the specified limits. Some idea of acceptable bowing is shown in Figure 2.

Cracking, within certain limits, is acceptable in the case of nozzle guide vanes. Short axial cracks on the leading edge up to say 0.250 in. are usually accepted, but where cracks tend to converge, with the possibility of a section of the blade becoming detached, the vane is rejected either as scrap or for reclaiming. Vanes which have pieces broken away, either by impact damage or by converging cracks, can be reclaimed by blending the rough edges to form a smooth contour,

thus removing the possibility of serious cracks developing.

Flame Tubes

The main cause for the rejection of flame tubes is cracks. Distortion, buckling, and dents are also cause for rejection. Present-day standards make it possible to accept thousands of flame tubes which, a few years ago, lay waiting for suitable schemes for reclamation. Cracks are now welded and where cracking is extensive, the whole section of the flame tube is cut away and a new section welded into position. Usually, buckling and dents are not serious and where these are not extensive, they can be removed using bench stakes, a wooden or hide mallet and suitable plannishing hammers. If the amount of distortion affects the position of the swirl vanes inside the tube in relation to the burner head, or if the burner locating sleeve inside the tube is thrown out of alignment, these positions must be corrected before the tube is acceptable. Also, if the balance tube and/or the support tube bosses in the side of the tube are out of alignment with those in the air casing, the tube must be rejected.

Conclusion

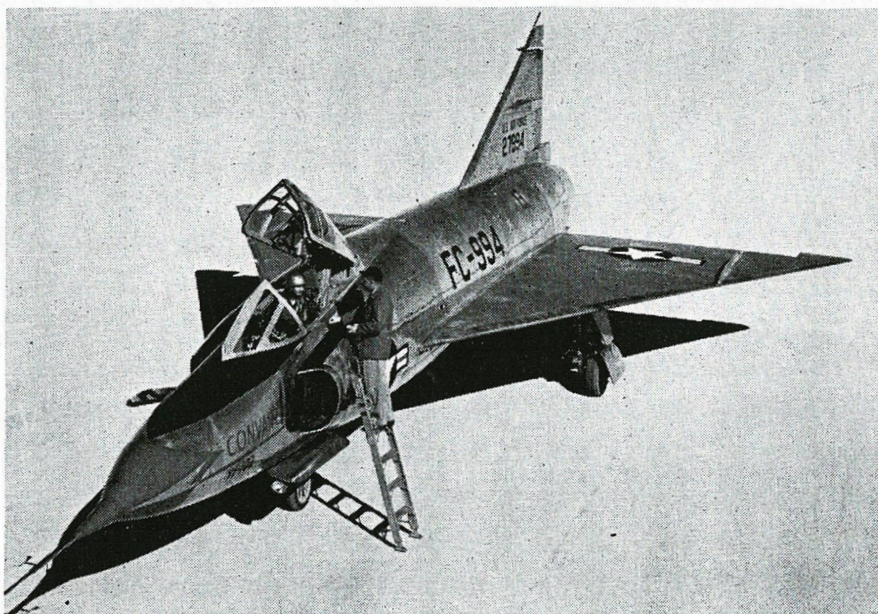
The jet age is still in its infancy and not too much has yet been written about the various techniques of the production and overhaul of these new machines. These notes do not apply to any particular make of engine and the standards quoted are of a general nature, but it is hoped that they will be of some use to the young engineers who are entering the industry and to others who are concerned with the overhaul of jet engines.

New Aro Blow Gun Meters Air Pressure

A new blow gun, designed with throttle valve that meters air pressure exactly with finger-tip control, is announced by the Aro Equipment Corporation, Bryan, Ohio.

The operator can regulate the flow of air at any desired rate—from a whisper to a blast—by pressing the throttle valve. This makes the gun readily adaptable to requirements for cleaning jobs in shops, foundries, paint shops, machine shops, wood-working, construction, production lines, inspection, shipping, and many other uses.

The Aro Line in Canada is handled through Aro Equipment of Canada, Ltd., 133 Wellington Street, West, Toronto 1, Ontario.



FIRST PHOTO of the new supersonic delta wing interceptor, the Convair F-102. The initial prototype of the F-102 was completed on October 5, 1953, and damaged in an emergency landing November 2. A second prototype has been under test since mid-December 1953.

and lumps of ice which may enter with the engine air. And the work involved in strip, rebuild and balancing at overhaul is of a type already familiar to every shop now working on modern piston aero engines.

The essential components of the fuel system are: the variable displacement multi-plunger pump, a flow control unit which contains a throttle valve connected to the pilot's lever in the cockpit and the high pressure cock which is merely an on/off valve. The barometric capsules are incorporated in such a manner that altitude compensation of fuel flow is achieved. From the flow control unit, fuel is distributed through suitable pipework to the burners which are situated at the upstream end of each of the seven combustion chambers. The present Dart engine does not now incorporate the torch igniter but has a high energy ignition system.

The fuel system of a turbo-prop engine, although similar to that of a jet engine, is substantially different from that of a piston engine, and also, of course, requires special rigs for setting it up and checking its performance during overhaul. But the type of work involved to ensure that the fuel system units are adjusted to meter correctly over the range of air pressures and temperatures and the power settings met in operation are necessarily very much the same.

The engine starting system, by means of an electric motor, is similar to that for any current aero

engine. The electrical ignition system, which only operates during the starting cycle, is much simpler. Starting itself is simple, and in recent practical tests at Fort Churchill it has been demonstrated that the Dart will start readily after standing out at 25 deg. or 30 deg. F. below zero, without any oil dilution or pre-heating.

There are, of course, some special features of the turbo-prop engine which set new problems to the overhaul shop. The components of a Dart combustion chamber assembly are seven in number. At take-off each chamber has an airflow of about three pounds of air per second, and burns fuel at the rate of about 20 gallons per hour.

The flame tube, standing up in the centre of the screen, encloses the combustion zone. It operates at a high temperature, and ultimately shows the effects of it.

Flame tubes are examples of what sometimes happens in the course of some hundreds of hours of operation. There can be severe distortion in the middle zone, which corresponds to the region of greatest temperature.

Much salvage work can be done on flame tubes in this state, by beating out distortion, welding up cracks, cutting out damaged areas and welding in patches, or even inserting new sections.

This soling and heeling is worth while because the flame tube is fabricated from expensive heat-resisting material.

Another example is the turbine rotor assembly of the Dart, compris-

ing the shaft, and two discs complete with blades. This unit presents some special problems of inspection, since the discs and blades are subject to relatively high centrifugal stresses.

The blades work at a fairly high temperature. The discs, however, are kept to a moderate temperature by keeping the rims away from the hot gases by using extended roots on the blades and by blowing cooling air tapped from the main compressor over the disc surfaces.

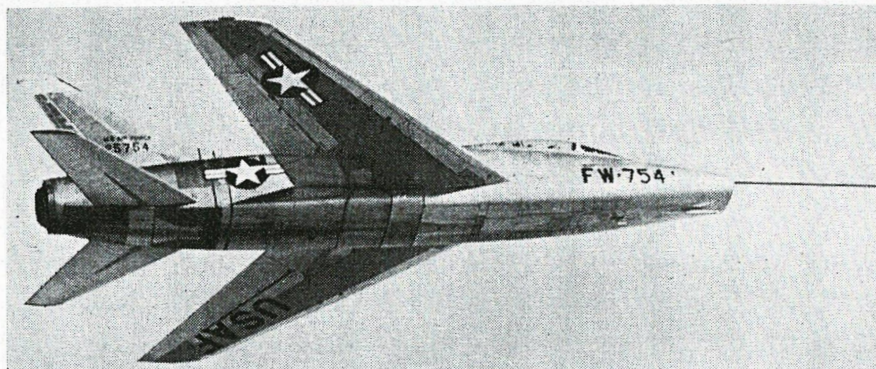
The discs can be easily unbolted from the shaft by removing a single retaining bolt. It is also a simple matter to remove the turbine blades by taking out a detachable locking piece and sliding the blade axially until the firtree root is out of engagement with the disc. All the components can then be thoroughly inspected.

The idea I have been trying to get across is that the simple turbo-prop provides those advantages of lightness and compactness which are to be expected in the turbine type of engine, and at the same time has the very practical advantage of being a straightforward job to overhaul in existing airline overhaul bases with existing personnel.

The ultimate reliability of life between overhauls of any new civil engine can only be established by mass experience on scheduled airline operation. Until such experience is built up, any predictions must be a matter of opinion only. However, it is interesting to note that the Air Registration Board in the U. K. has approved a life between overhauls of 600 hours, while a batch of 16 engines are flying to 700 hours in BEA.

I believe that aero engines of this type will set new standards of reliability and life, because of their inherent simplicity and the elimination of discontinuous reciprocating motion. Since the motion of the main components is purely rotary, and the airflow is continuous, both mechanical and temperature effects tend to be steady instead of cyclic under normal running conditions. This naturally means a very big reduction in cyclic fatigue stresses, which are a common cause of component failure in reciprocating engines.

The general freedom from vibration which is a characteristic of turbine engines as a type, is in itself a practical advantage in a civil aircraft. It means increased passenger comfort, and that means increased business for an airline operating in competition with piston engined aircraft.



THE NEW F-100 SUPER SABRE is the USAF's first jet fighter capable of breaking through the sound barrier in level flight at altitudes where it will fight.

The North American fighter is powered by a Pratt and Whitney J-57-7 turbo-jet engine with afterburner. It is 45 feet long, 14 feet high and has a wing span of 36 feet. It has a service ceiling above 50,000 feet and a combat radius of more than 500 nautical miles.

CITF policy poses an interesting problem in this respect. There are apparently two conflicting forces.

Trade Fair policy is to **welcome** U.S. exhibitors as warmly as exhibitors from Canada or overseas . . . but there is definitely no attempt to **attract** them. Yet most of the small sports model aircraft sold in Canada are made in the U.S. and the National Air Show committee definitely would like to see them exhibited.

So probably in the five remaining months before the Fair opens the

National Air Show committee will do considerable space sale promoting on its own. It has already written some 50 firms in the U.S. outlining static exhibit plans for this year and asking them to take part.

Being a government agency the Trade Fair has good reason for not actively seeking U.S. exhibitors. It wants U.S. buyers instead of sellers because the main object of the Fair is to bolster Canada's economy . . . not the U.S.'s.

This difference in perspective between the National Air Show com-

mittee and the Trade Fair executive doesn't seem to be worrying anyone. Apparently each realizes the other's problems and ignores the instances, or takes separate action, when they seem to be working toward cross purposes.

Again, the Trade Fair isn't sure really that it doesn't want U.S. plane makers to exhibit. Officials of the Fair, none of whom wish to be named refer frequently to the four great airshows of the world. And they speculate, "If we could bring both the British and the Americans to Toronto to show off their equipment . . . and to look at ours . . . we'd have the fifth great airshow in the world." The prospect pleases them.

The first step, however, is attracting the small planes.

Actually, it shouldn't be difficult to sell any **small** plane manufacturer on the advantages of exhibiting. The Trade Fair last year attracted some 1,500 exhibitors from 25 countries. More than 25,000 businessmen, lookers and buyers from some 60 countries, spent part or all of the 10-day Fair period traveling through the 264,843 sq. ft. of paid exhibit space.

Businessmen such as these are the prime prospects for the light plane maker. One manufacturer actively

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Combination Wheel Skis and Wheel Replacement Type Skis for Most Sizes and Types of Aircraft—The most complete line in the industry. Skis to fit all popular aircraft from light planes to multi-engined passenger, cargo and military planes.

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AIRCRAFT MANUFACTURERS

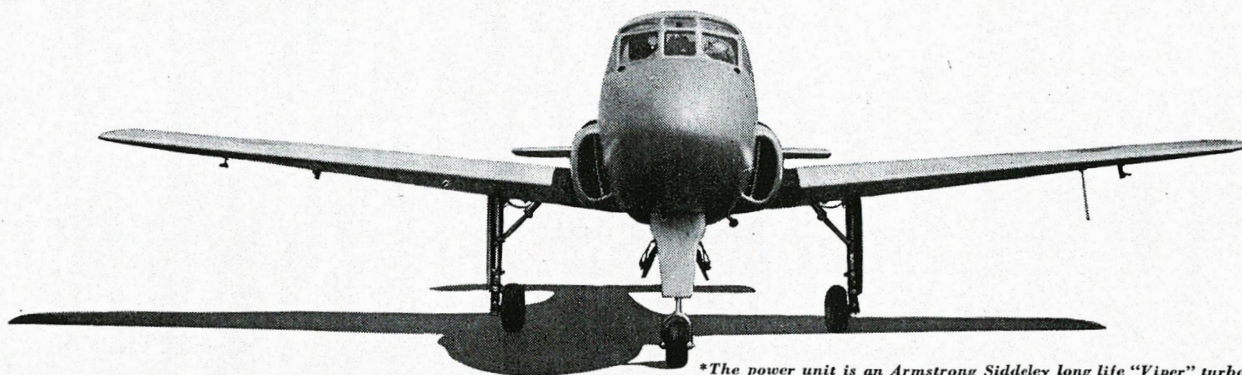
Under new procurement policies aircraft manufacturers are faced with military requirements for ski-wheel equipment. Federal Aircraft has over 25 years of experience in this specialized field, with correct ski design and proto-type or production requirements.

DISTRIBUTED BY: MacDONALD BROTHERS AIRCRAFT, LTD.
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** Slow approach and stalling speeds giving the pupil pilot confidence, are coupled with an endurance of over 2 hours at sea level giving an adequate training period at circuit height.*

** The wide performance range of the "Jet Provost" is emphasized when this is compared with an endurance of over 3 hours at 20,000 ft. (6100 metres), a maximum speed of 285 kts. (528 k.p.h.) and a service ceiling of nearly 30,000 ft. (9150 metres.)*



**The power unit is an Armstrong Siddeley long life "Viper" turbo-jet.*



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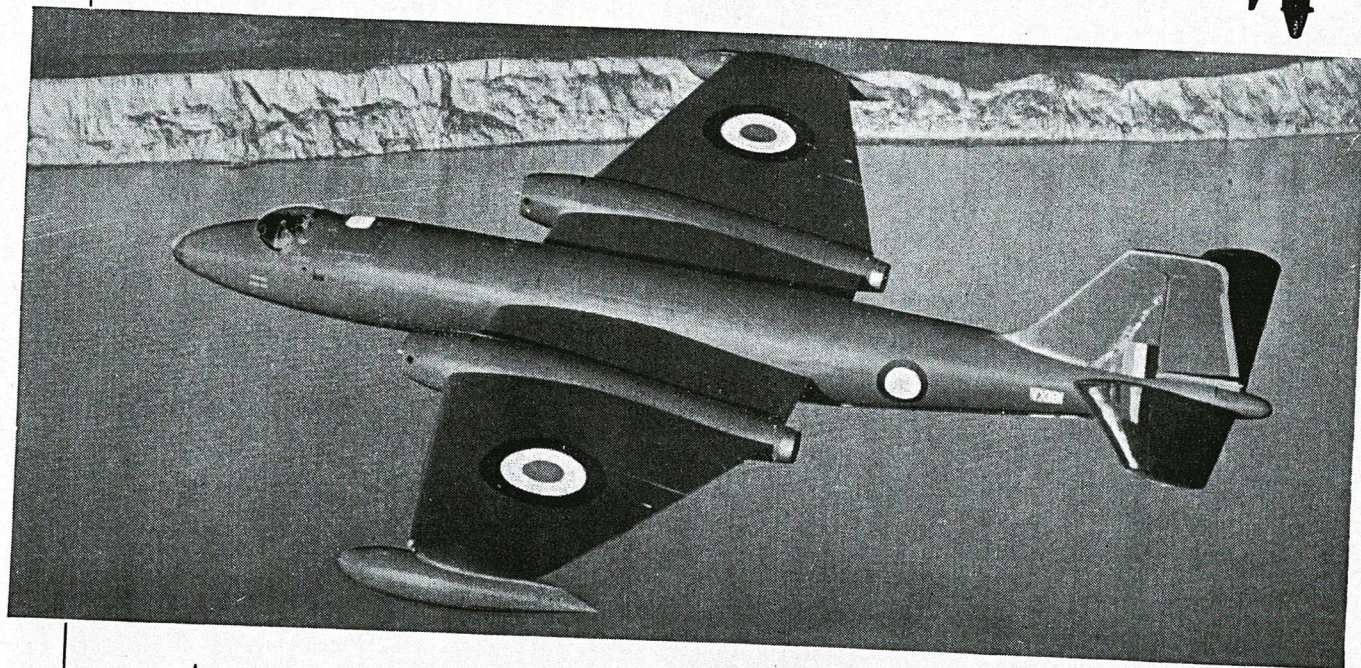
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AP123-304



**THE ONLY AIRCRAFT EVER TO HOLD, AT THE
SAME TIME, WORLD RECORDS FOR HEIGHT AND
FOR SPEED FROM POINT TO POINT**



★ The ENGLISH ELECTRIC Canberra (powered by two Bristol Olympus engines) holds the world's height record for aircraft at 63,688 ft.

★ The ENGLISH ELECTRIC Canberra (powered by two Rolls-Royce Avon engines) holds 12 world speed records, including London to Christchurch (New Zealand) at an all-in speed of 494.5 m.p.h.

'ENGLISH ELECTRIC'
Canberra

Designed and built by
THE ENGLISH ELECTRIC COMPANY LIMITED • QUEENS HOUSE • KINGSWAY • LONDON • WC2

CANADIAN AVIATION AUG 1954



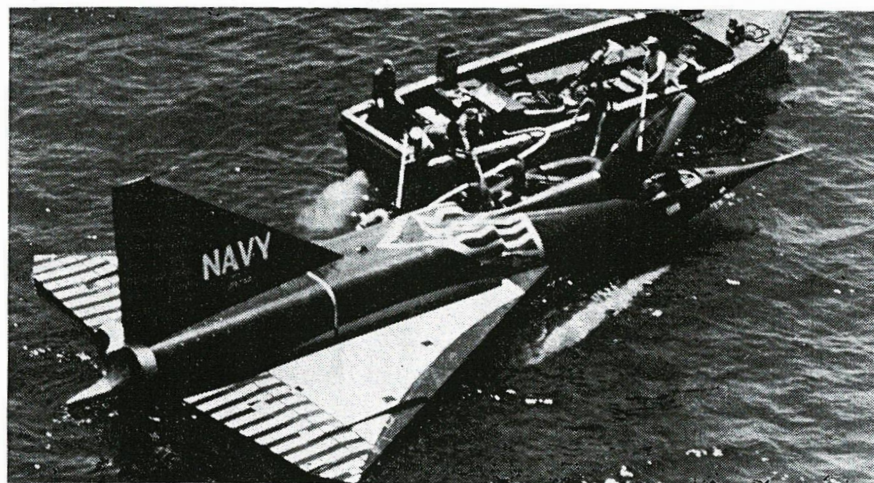
FLOATING into flooded hold of the landing ship-dock, Convair F2Y is guided by lines and poles and then the hold will be pumped out and plane dry-docked.

Sea Dart

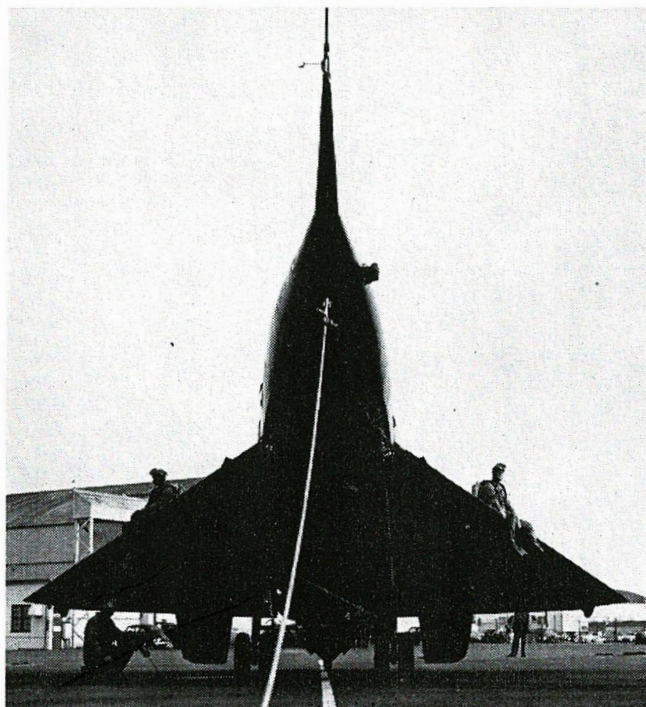
U. S. Navy's rough weather sea trials of the Sea Dart at San Diego has shown great progress.

The first all-jet seaplane with its hydro-skis set records in takeoff distance, rate of climb and endurance.

Pictures shown, demonstrate how the crews handle and take care of the craft during the trials. Any mishaps that could occur can be well taken care of with speed and efficiency. Specially equipped Convair boats are used during Sea Dart flight tests along with Navy aircraft.



STARTING flooded jet engines at sea calls for a specially equipped boat.



FROGMEN on the Sea Dart's wings await patiently for launching.



SEA DART, first supersonic fighter to operate off water blazes down a sea lane on a takeoff.

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TORONTO

develop more than 18,000 lb. of thrust.

* * *

The **Air Force Cross** has been awarded to **F/O S. E. Burrows** of White Rock, B.C., for "extreme courage and devotion to duty" during a jet flying accident in Germany last September.

About 20 miles from base a bird struck and shattered the perspex canopy of the aircraft he was flying and although losing blood, suffering shock and pain, and almost completely blinded, he safely executed a wheels-down landing on the aerodrome.

* * *

George Glinski, president, **Data Processing Associates Ltd.**, Canada, announced that an exclusive Canadian agreement has been signed with **Dynamics Research Associates**, Seattle, Washington, manufacturers of electronic equipment and components for automation. This association brings to Canada a new service and several new products which have wide application in guided missiles, and government research work.

* * *

Fairchild Aircraft Division announced plans for a light jet transport with a cruising speed of 560 miles per hour. The new ship will carry a crew of two and seven passengers and estimated performance characteristics show that the jet transport will take off at 17,695 lb within 5,720 ft over a 50-ft obstacle and land in 1,222 ft.

* * *

Mooney Aircraft Inc. has begun production and marketing of its new, four-place Mark 20, a business plane of modern design with manually retractable tricycle landing gear. Key to the airplane's efficiency and good performance is its clean aerodynamic design.

A modified laminar-flow wing is used for the first time in a civilian aircraft. Trim is accomplished by means of an adjustable stabilizer which minimizes drag.

* * *

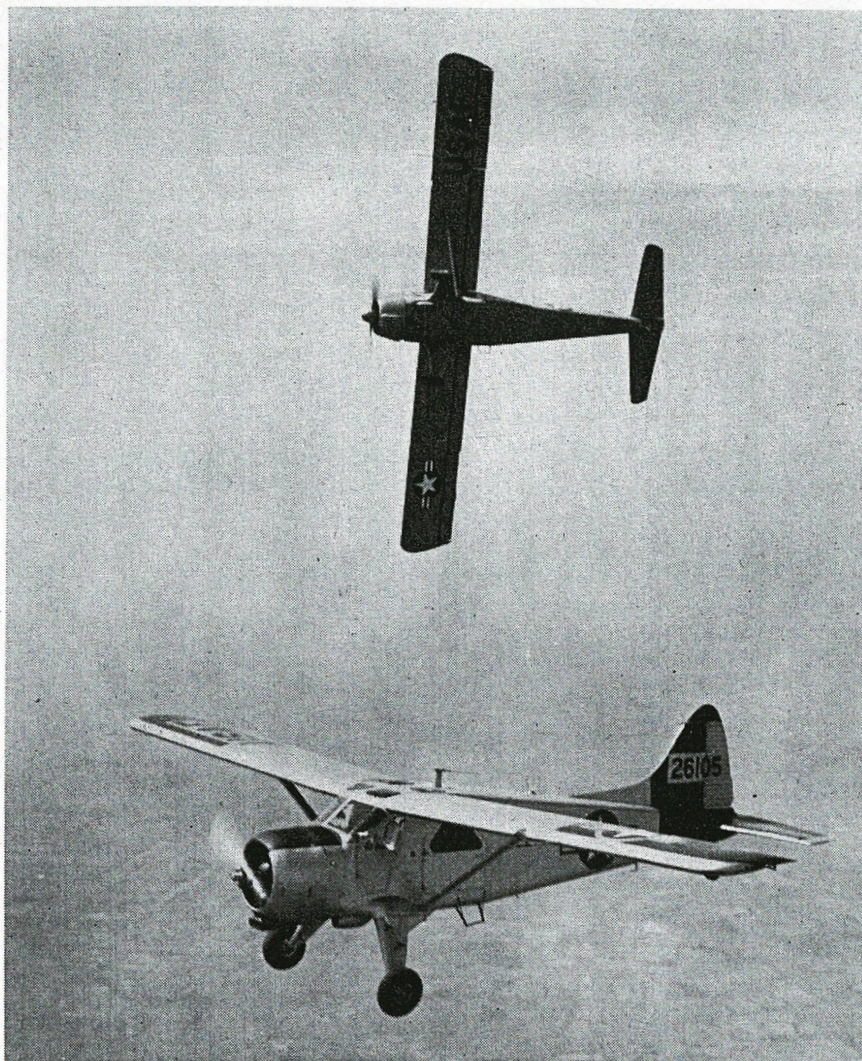
Royal Aircraft has begun production and marketing of the five-place amphibian, **Royal Gull**.

The gull-wing, pusher-type plane is powered by two **Lycoming GO-480 B-1** (270 hp.) engines equipped with three blade, full-feathering **Hartzell** propellers.

The plane has a cruising speed of 160 m.p.h. at 70% power with a top speed of 184 m.p.h.

* * *

The appointments of **J. A. Clowes**



USAF L-20 Beavers in an unusual shot showing one in a tight turn.



CHANCE VOUGHT XF8U-1 U. S. Navy's newest jet fighter plane designed to operate from carriers.

and **T. A. McLean** was announced by **Trans-Canada Air Lines**. Mr. Clowes was named general supervisor of passenger traffic methods, and Mr. McLean was named general supervisor of passenger traffic facilities.

* * *

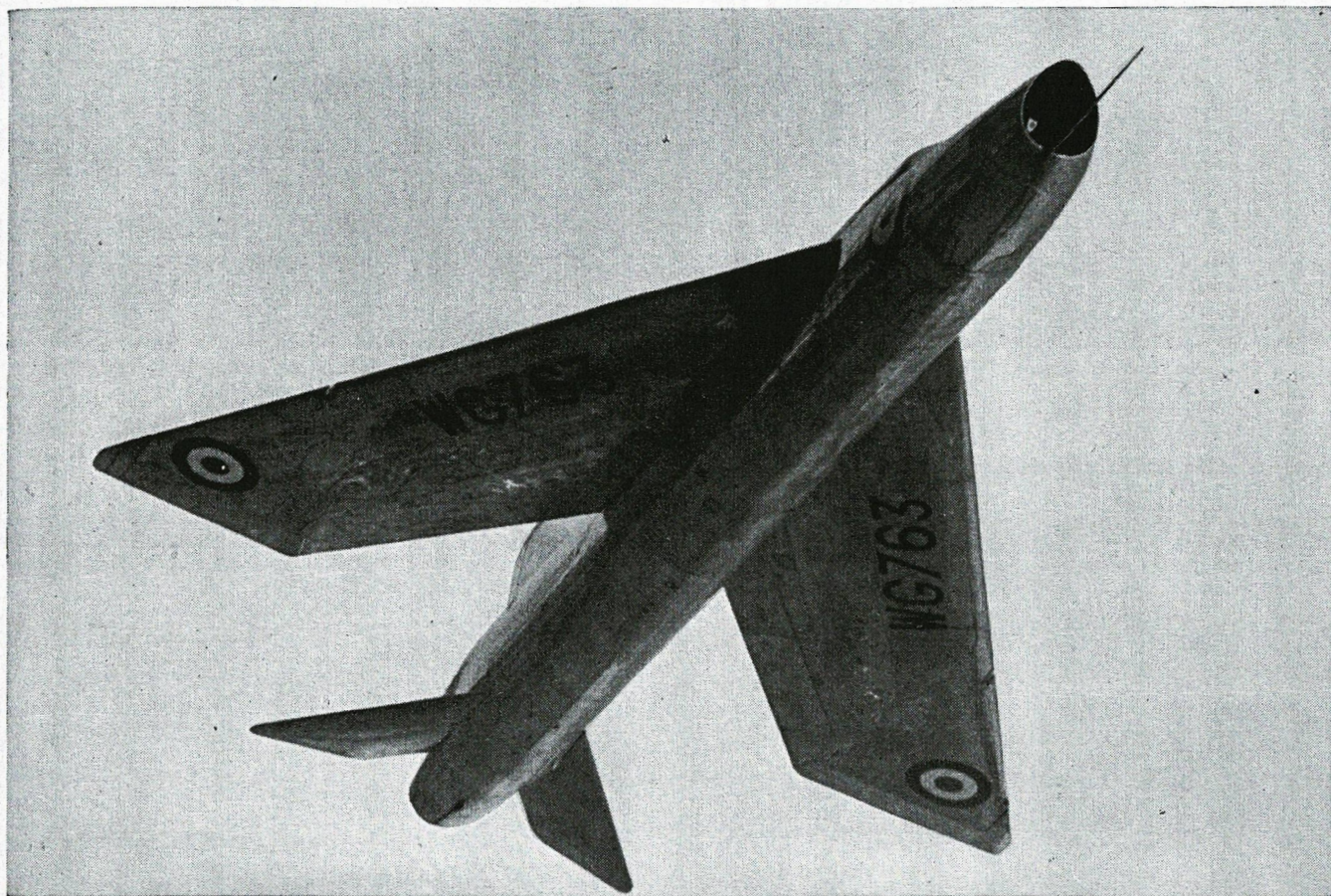
Carl A. Anderson has been named

manager of the Aeronautical Division of **Minneapolis - Honeywell Regulator Co. Ltd.**, Leaside, Ont.

* * *

The **Fairey Aviation Company of Canada Ltd.** announced the appointment to their board of directors of **Rear Admiral J. C. Hibbard, DSC, RCN** (retired).

Faster than sound— in level flight



A "Flight" Photograph.

P.1

**'ENGLISH ELECTRIC'
aircraft**

THE ENGLISH ELECTRIC COMPANY LIMITED • QUEENS HOUSE • KINGSWAY • LONDON • WC2

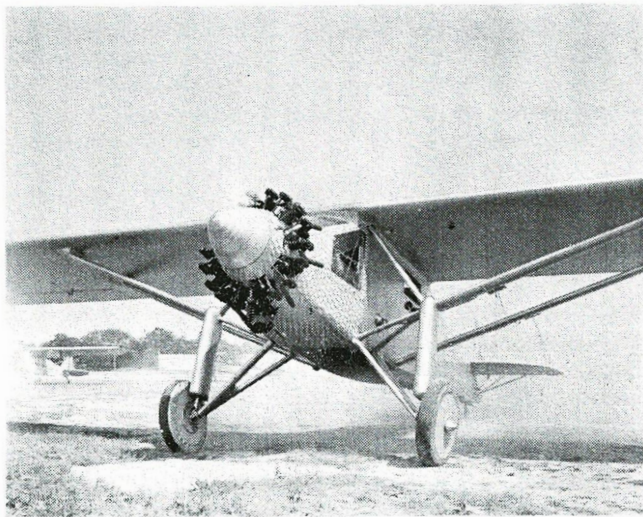
NOVEMBER, 1955

CANADIAN AVIATION



MARTIN SEA-MASTER XP6M-1 with streamlined jet engine nacelles atop wings, fixed plastic wing-tip floats to provide buoyancy in the water.

Planes in the News

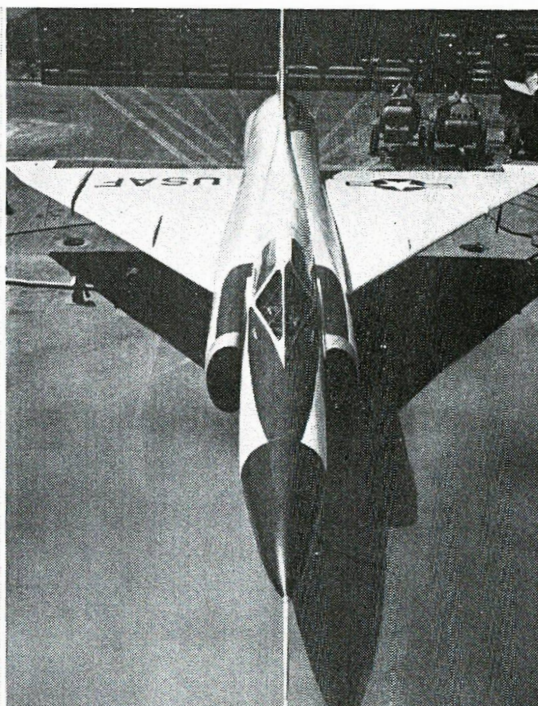
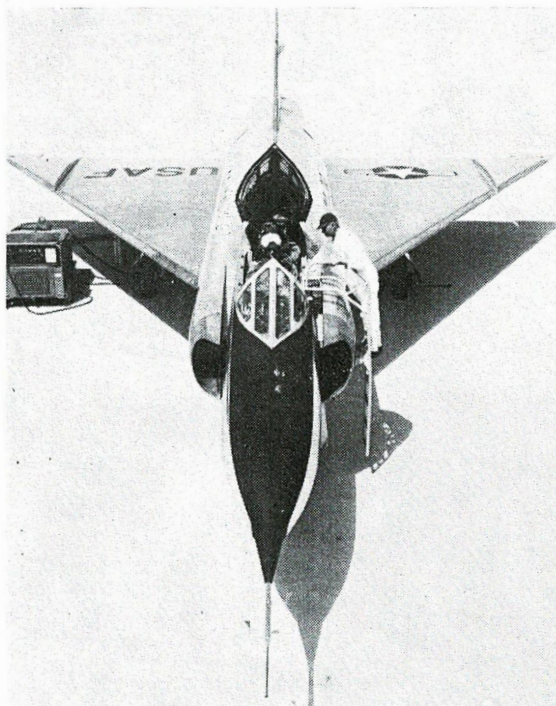


SPRIT OF ST. LOUIS flies again for Warner Bros. movie on Lindbergh.



RCN Piasecki helicopter performs as an Arctic mule off HMCS Labrador on Arctic patrol work.

(Left) CONVAIR YF-102 shows straight fuselage prototype and (right) production version of the delta wing F-102A with fuselage nipped in at the waist.



link Regina with Williston, Minot, Bismark, Jamestown and Fargo in North Dakota and to Minneapolis-St. Paul. A second route would link Regina with Williston, N.D., Sidney, Glendive, Miles City and Billings, Mont., with connections to cities in Colorado, Utah and Wyoming.

* * *

T. P. Fox, president of **Associated Airways Ltd.**, Edmonton, announced recently that Associated has relinquished its responsibility as a prime air-freight contractor on the Distant Early Warning (DEW) Line. This follows the crash of a sixth Associated aircraft (an Avro York) while engaged on the airlift.

Associated's responsibilities on the airlift were turned over to Pacific Western Airlines (Vancouver), formerly a subcontractor to Associated. Associated will now turn to expansion of its regular scheduled and nonscheduled passenger and air-freight business in the Canadian Northwest.

* * *

Cessna Aircraft Co. has announced the incorporation of the National Aero Finance Co., a wholly owned subsidiary.

* * *

McDonnell Aircraft Corp.'s XV-1 convertiplane has set an unofficial world's speed record for helicopters. Recorded speed was "more than 180 mph.," it was said; official record is 156 mph.

* * *

Top executives of **Bristol**, **Convair** and **Canadair** have been holding discussions in the past month in Montreal. It is believed the purpose of the conference was to review the pros and cons of a joint design of a long-range turboprop airliner with a speed approaching 500 mph. for 1960 production.

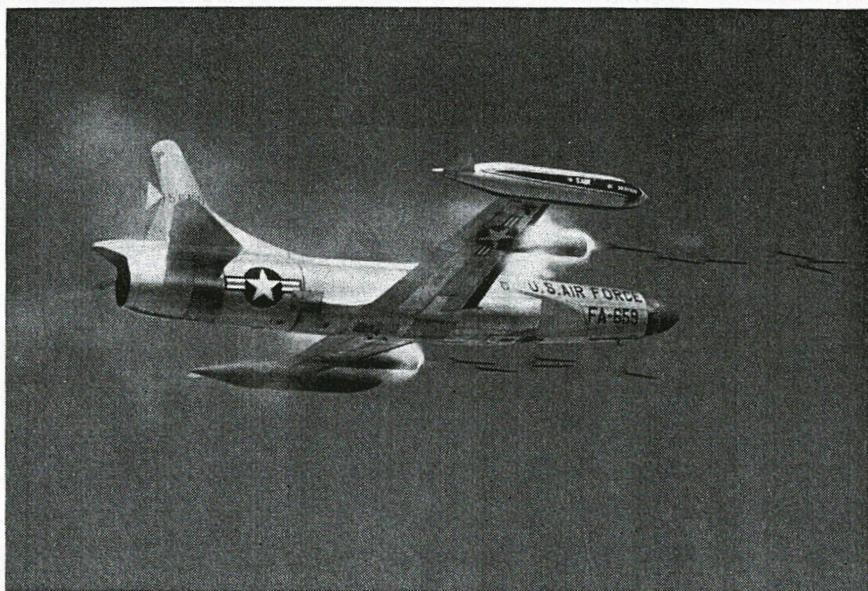
* * *

First "service centre" of its kind was opened recently at Montreal's Dorval Airport. It has been named "Timmins Business Aviation Centre" and will service company and privately owned aircraft.

* * *

ICAO Air Navigation Conference, held in Montreal recently, proposed a series of experimental flights based on present and expected future air traffic conditions.

The trials, which would be held in selected areas of high density air traffic would help technicians work out international standards for long-range air navigation aids accurate enough to keep aircraft safe in the heavy traffic expected to develop along the world's airways during the next 15 or 20 years.



LOCKHEED F-94C STARFIRE unleashes a fury of rockets from its wings pods. This interceptor carries two dozen rockets in its nose and a dozen in each of the two wing pods.



TAYLORCRAFT'S TOPPER is the first fibreglas agricultural airplane. Designed principally for dusting and spraying of chemicals by air, it can also carry five people.

Decca Radar (Canada) has signed an agreement with Smith & Stone, Georgetown, Ontario, under which Smith & Stone will manufacture Decca equipment for the Canadian market.

* * *

Dominion Rubber Co. recently opened a new and modern branch at 895 Don Mills Road, Toronto, which will house all sales and warehousing activities of the Ontario division.

* * *

TCA announced that a new all-tourist service on southern routes to Bermuda, the Caribbean and Florida, begins November 1. The tourist service will replace first class flights to Bermuda, Nassau, Jamaica, Bar-

bados, Trinidad and Florida, and will be accompanied by an over-all 27% reduction in fares and a 32% increase of available seats. There will be nine round trip flights weekly between Toronto-Montreal-Tampa at the height of the tourist season.

* * *

Canadian Owners and Pilots Association will hold its annual meeting of members on November 12, in the Ladies Cafe of the Chateau Laurier Hotel, Ottawa.

* * *

Lund Aviation (Canada) Ltd., has moved its office over to Montreal Airport, Dorval, Quebec, and is located in the new Timmins Business Aviation Centre.

Pacific Western Airlines, Vancouver, has purchased stock control in Associated Airways Ltd., Edmonton. Conclusion of the deal, which includes all of Associated's assets, is subject to Air Transport Board approval.

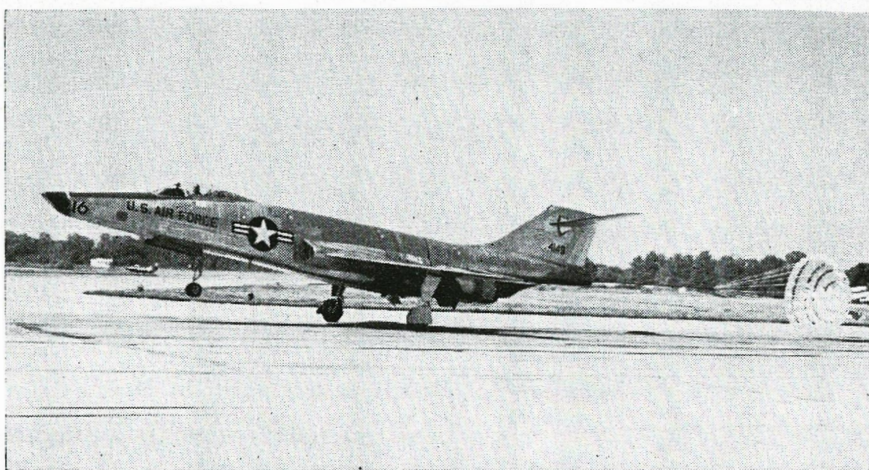
T. P. Fox, Associated president and majority stock holder, will receive payment in cash (an undisclosed amount) and PWA stock of a combined total value said to be \$1,500,000. Fox retains independent control of Associated Helicopters Ltd., a wholly owned subsidiary.

Purchase of Associated makes PWA third largest of Canadian airlines with scheduled and nonscheduled freight and passenger services extending from British Columbia through Alberta to the Northwest Territories and Yukon. PWA's fleet is increased from 56 to 76, including single-engine light planes, flying boats, amphibians, C-46s, a DC-4 and an Avro York.

* * *

Canadian Airline Pilots' Association 600 members have moved to join the U. S. Airline Pilots' Association International.

Canada's Department of Trans-



RF-101A VOODOO photo-reconnaissance powered by two Pratt & Whitney J-57's with after burners will soon see duty with Strategic Air Command, as the fastest pr aircraft in the world.

port and the Canadian aircraft industry generally came in for some harsh words from CALPA at a recent meeting in Toronto.

The airline pilots charged the Canadian Government "missed the boat" on the DEW-line airlift by making no adequate preparations with the result that U. S. and foreign pilots were hired by Canadian operators to fly obsolescent aircraft while Canadian pilots were employed elsewhere.

Another CALPA complaint dealt with Canadian airports which were said to have the following shortcomings:

- Lack adequate approach lights;
- Lack runway markings;
- Lack friction on runway surfaces;
- Ditches on airports or near runway ends;
- Close-in hazardous obstructions;
- Sharp rises at approaches to runways;

(Continued on next page)



AVIATION EQUIPMENT

Serves Canada's Aviation Industry

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Generators—A.C. and D.C. - Special Generators and Starters - Variable Speed Drives - Transformers and Rectifiers - Generator Control Systems-Fault Protection Systems-Over-voltage Protectors - Voltage Regulators - Relays and Contactors - Circuit Breakers.

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Aircraft Armament - Searchlights - Heating Equipment - Amplistats Servo-Amplistats - Electronic Components - Fenwal Thermoswitches.

POWER PLANT ACCESSORIES

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650W-455

CANADIAN GENERAL ELECTRIC COMPANY LIMITED

Electronic Equipment Department
830 Lansdowne Ave., Toronto 4, Ontario

"MISSILE WITH A MAN IN IT"

Lockheed/USAF F-104

World's Fastest Jet

The F-104 *Starfighter* is the most advanced airplane of its type ever developed. *Dimensions:* Height, 13 feet, 6 inches; length, 54 feet, 9 inches. *Wings:* knife-sharp and only 7½ feet from fuselage to wingtip. *Engine:* General Electric J79, which develops more thrust per pound of engine weight than any other turbojet of comparable size. *Electronics system:* new "plug-in" type to permit quick changes and replacements of components. *Pilot's seat:* downward firing ejection type, the first in a production jet fighter. *High, T-shaped floating tail:* twice as effective in controllability as conventional tail designs. *Armament and top speed:* both are military secrets, but the Lockheed F-104 can overtake and destroy any plane—of any size—known today.

The *Starfighter's* dart-like configuration, perfected by extensive wind-tunnel tests, permits the F-104 to flash through the sonic barrier, routinely, without a tremor. And even at supersonic speeds the *Starfighter* has unmatched ease and decisiveness of control—because never before have so many advanced design and engineering features been so superbly combined in one aircraft.

Like all Lockheed-built planes, the F-104 has inherent "design flexibility" that makes it readily adaptable to a variety of military requirements—at a substantially lower cost to the purchaser.

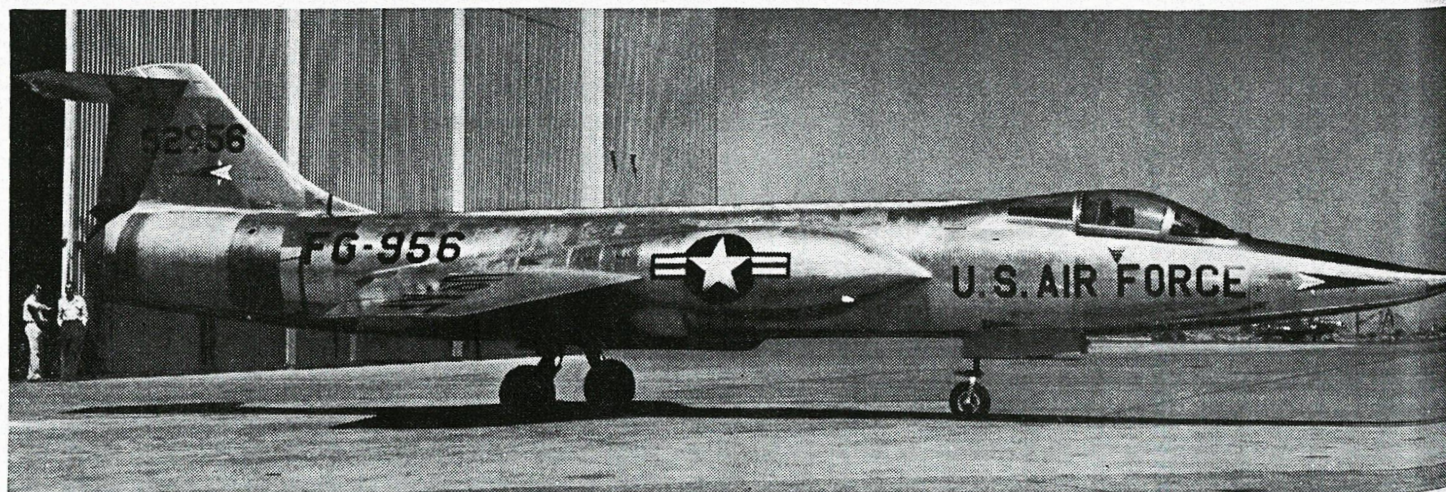
Lockheed's leadership in the design and production of military airplanes, of nine widely different types, is again demonstrated by the F-104 *Starfighter*—Lockheed's "Missile With A Man In It."

Lockheed

AIRCRAFT CORPORATION

BURBANK, CALIFORNIA

LOOK TO LOCKHEED FOR JET LEADERSHIP, TOO



707 Systems

A \$2,500,000 order for an undisclosed number of PB-20 autopilot systems for Boeing's 707 jet transports has been placed with Bendix Eclipse-Pioneer Division by the plane's manufacturer. The equipment is for aircraft ordered by American and Trans World Airlines. Delivery is scheduled for April next year. Meanwhile, Bendix says its PB-20 has been specified for Lockheed's 1649A Superstar Constellation and Electra turbo-prop, Douglas' C-133A turbo-prop, Canadair's CL-28 and de Havilland of Canada's CS2F-1.

More Seats

Seating capacity on Trans-Canada Air Lines Viscounts has been increased from 40 to 44, with few passengers noticing the additional row of seats in the turbo-prop airliners.

More Steel

New high-performance aircraft may use steel in ratios as high as 75% according to J. S. Smithson, vice-president administration of North American Aviation. The move will mean further changes in manufacturing techniques and equipment.

Briefs

Convair's B-58 Hustler supersonic medium bomber has been rolled out at Fort Worth. It is a four-engine (GE J79) delta wing with a small horizontal stabilizer mounted high on a vertical fin using area rule. Provides for a crew of four.

Hawker Hunter fighters are now being wired to fire their Aden guns in pairs to reduce recoil damage. The gun's rebound is said to be about three tons.

Hotel owner Hilton has organized a new airline financing company which plans to buy up to 25 Lockheed transports for lease to world airlines. The new company, Air Finance Corp.

Fairchild is aiming for a production run of 300 F-27 Friendships while Fokker plans to build another 150 in the Netherlands. Present orders on both sides of the Atlantic are around 100. At the same time Fairchild sees a potential civilian demand for 600 of its new four-jet M-185 executive jet transports with an added military potential of 200. Continental Can Co. has already ordered three of the swept-wing transports.

RCAF Sabre VI ejection seats are finally being converted to automatic seat-belt release and automatic parachute release.

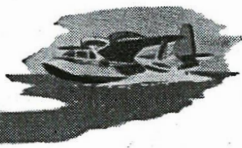
Ab initio jet trainer manufacturers are putting a more direct squeeze on sales. Following a visit of **French Fouga Magister** to Canada, the **Hunting Percival Jet Provost** has arrived to give the RCAF and possibly U. S. military a look and fly. Both aircraft have been evaluated by the RCAF and both are in production for NATO air forces which have already initiated ab initio jet training programs.

North American Aviation Inc. has announced plans to build a six-place twin-jet utility aircraft to meet the design requirement set forth this month (Canadian Aviation, February) by the USAF Air Materiel Command in its competition for a twin-jet pilot readiness trainer. This is one of two aircraft designs which the AMC called for in its competition. The other one is for a four-jet utility transport with a crew of two and carrying eight passengers. NAA has already completed 25% of the engineering work on its bid for the order on the twin-jet.

Lockheed has rolled out its first Model 1049H Super Constellation incorporating a high-load cargo floor which includes a movable bulkhead for combined cargo-passenger operation. The first one goes to Qantas for use on its London run.

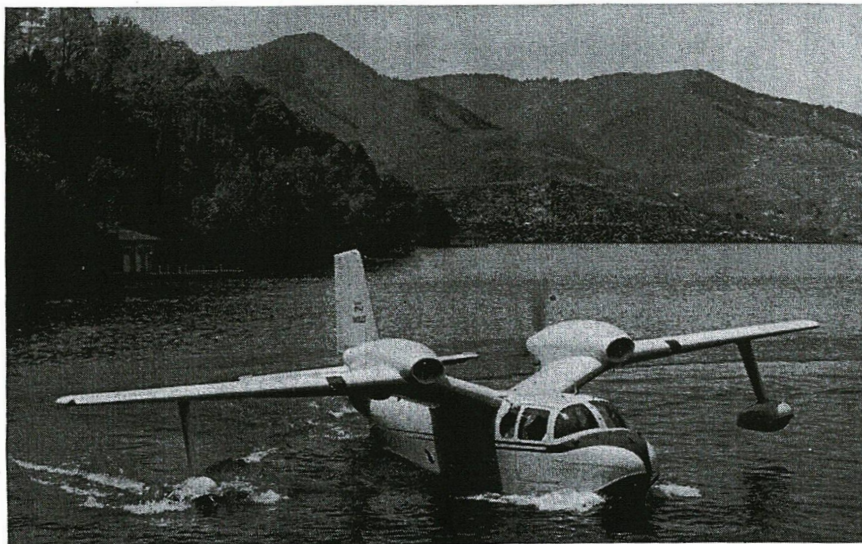
Percy F. Bradley operating the company Mattagami Skyways has had approval to operate a Class 4 C charter from bases at Remi Lake and Kapuskasing.

Royal AMPHIBIAN NEWS



Notes on America's outstanding utility amphibian for business flying and charter service operation

ROYAL GULL IN NEW DAILY AIR-TAXI SERVICE TO LAKE TAHOE



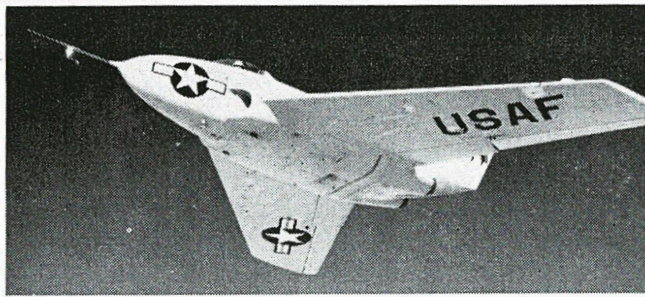
Across the bay from San Francisco in Sausalito, Commodore Air Service makes its home base. Everyday . . . only 60 minutes after pilot Bob Law takes off on his scheduled daily round trip, he lands his luxuriously appointed Royal Gull on beautiful Lake Tahoe, 6000 ft. above sea level. An hour later, grossed out again at 6000 lbs., he's winging his way home. The five passenger Gull is ideally suited for such water-to-water commuter service. Its amphibian design with 270° visibility feature, however, adds a great measure of versatility, convenience and safety for land or water based operations.

If you'd like to know how the Royal Gull fits into your air-transport picture, write direct—

In Canada it's
TIMMINS AVIATION, LTD.
Montreal Airport
DORVAL, QUEBEC, CANADA

Royal
AIRCRAFT CORPORATION

6791 West National Avenue
MILWAUKEE 14, WISCONSIN
A subsidiary of Kearney & Trecker Corp.



First flight photo of the Northrop X-4, a small flying-wing-type research aircraft. It has been in operation over the California desert during the past several months exploring the flight characteristics of the high subsonic zone. Fourth in a series of "X" aircraft ordered by the U. S. Air Force, the X-4 is continuing research pioneering by the Bell X-1. The X-4 has a wing span of only 25 ft.

Rotax in Australia

Rotax Ltd. of England who some time ago established a branch in Canada, have now announced organization of an Australian company to be known as: Rotax Australia Pty. Ltd. Headquarters is at 81 Bouverie St., Melbourne N3, Australia. The primary objects of the company are to act as service representatives, technical consultants as well as a servicing organization in Australia for Rotax Ltd. and Joseph Lucas (Gas Turbine Equipment) Ltd. of England. They will also carry out overhaul and repair of equipment manufactured by these firms.

ICAO Trims Estimates Plans 1950 Budget

MONTREAL — With economy as its keynote, the ICAO Third Assembly completed its sessions here by voting a budget of \$2,810,607 for the operation of the International Civil Aviation Organization during 1950. This marks a reduction of \$261,000 from the original estimates of the ICAO Coun-

cil and will allow ICAO to continue its working program at the present level but does not allow for any expansion.

Bendix-Scintilla Depot At Toronto Island

Appointment of Carriere & MacFeeters at Toronto Island Airport as a sales and service depot for Bendix-Scintilla products has been announced. The company, in its present location for the past two years, has RCAF and D.O.T. approval for repairs to all types of aircraft electrical equipment.

Powerful GE Jet Engine Plus Rockets in XF-91

The General Electric J-47 jet engine, which powers the North American F-86 Sabre fighter, also powers the U.S. Air Force's newest jet fighter, the Republic XF-91, according to announcement following this aircraft's first flight at Muroc Dry Lake, Calif.

In addition to the 5,000-lb.-thrust jet engine, the XF-91

will have rocket motors which will be used for take-off and for use at high altitudes.

Full Brake Without Skid With New Boeing Device

Boeing has developed a brake attachment which automatically prevents skidding and is capable of substantially decreasing airplane stopping distances, according to an announcement in Seattle.

The new attachment has been operated successfully on a Boeing XB-47 Stratojet bomber and on a Boeing YC-97A Stratofreighter.

Under the new system, operation of the airplane's normal hydraulic brake sets in motion an electronically-controlled valving unit which keeps braking pressure at all times just below the skidding point. Controlled automatically it gives the pilot the advantage of maximum runway friction regardless of the nature of the landing strip.

Greater Rotor Stability Claimed by Doman

The long-sought goal of helicopter engineers, stability which would reduce or eliminate the constant fatiguing manipulation of controls by the pilot, has been achieved by engineers of Doman Helicopters, Inc. at Danbury, Conn. according to a company release.

Flights as long as 45 minutes have been made, without the pilot having touched the stick, pitch control or throttle.

The stability has been achieved by a combination of several basic yet simple im-

provements in the blades and in the control system. This new arrangement eliminates the need for "gadgetation" such as gyro devices, used to stabilize some helicopters, which reduce to a noticeable extent the degree of control responsiveness. In the Doman rotor there is no loss of controllability whatsoever.

Al Bott, Chief Engineering Test Pilot for the Doman Company has flown the Doman rotor for periods of up to 45 minutes without touching the controls.

First production model on which the Doman rotor will be available is the Doman Pelican

Variable Sweepback Wings Said Possible

Supersonic aircraft equipped with variable-sweep-back wings which can be adjusted to a desired sweep angle are entirely practicable and may be the answer to the problem of obtaining low landing speeds in high speed airplanes, according to Smith J. DeFrance, director of NACA's Ames Aeronautical Laboratory at Moffett Field, Calif.

DeFrance said that manufacturers now have the aerodynamic knowledge to design an adjustable-wing plane. There are problems connected with its development, however, chiefly the expense of development and design of light-weight actuating equipment. The variable wing plane would use a straight wing for take-offs and landings and would be adjusted to a sweep angle at speeds from Mach .85 to 1.8 beyond which the straight wing is again most efficient.

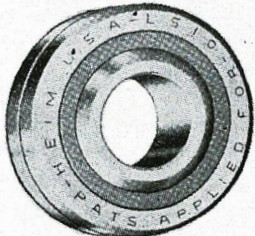


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OCT 1949

"What's in the Air"

A RECENT and most interesting visitor to this office was Don Simmons of Simmons Bros. Air Service, Moncton, N.B. A youthful and energetic RCAF veteran, Don has piloted his flying school and overhaul base through stormy postwar skies that have grounded most of his competitors.

Starting in April 1947, he has his own airport on an 80-acre farm. To level the 2,300-ft. N-S runway, he had to move 40,000 cu. yds. of earth. The E-W runway, now 1,000 ft., is being extended.

With three hangars, three air engineers, three instructors, a good record and the enthusiasm of a missionary, Don seems to be in a fair position to succeed. Some of his ideas should be of interest to others in the business.

"You can't get along by sitting in the flight office and wondering why more business doesn't turn up," he says. The Simmons enterprise has made a practice of promoting aviation at every opportunity. This includes an alert public relations program, keeping the local press and radio informed.

One of his most profitable ideas has been the conversion of a barnstorming aircraft into a **flying billboard**. Space on the side of the fuselage has been sold to a biscuit manufacturer. The rate is \$5 per square foot per month, with a minimum of six months. The purpose is not to advertise while in flight but at each landing on a barnstorming tour, the crowds flocking to see the aircraft can't help seeing the advertising.

OUR FRIEND Eric Bramley, who writes a lively and sometimes fascinating column on airlines for American Aviation, has come up with an item discussing a "**delicate subject**" which, from our observation, might have been written in terms of our own bush flying. We reproduce it without further comment.

"This is a rather delicate subject,

so those of you who might be shocked better turn the page and read elsewhere . . . Anyway, there are certain ladies in the U. S. who have questionable reputations . . . In polite circles they are often referred to as members of the world's oldest profession . . . They may also be called Ladies of the Night (they're listed twice in the dictionary, but one of the terms is 'excluded from polite speech') . . . Well, one of our operatives tells us how air transportation has widened the scope of opportunities, or markets, or trading areas, for these Ladies of the Night.

"It seems that several of these ladies found that business in a certain mining town was good but not too steady, i.e., there were low spots in the trade . . . The local feeder airline traffic man collaborated, and

now the ladies are commuting between two mining towns about 600 miles apart, and doing fine . . . It is connecting traffic, with the feeder getting the small end of the ticket, but everything counts these days. . . And on another feeder line, there is considerable rivalry between the stations for the best traffic record.

"One smart traffic guy got the idea that it would stimulate his sales if he could get some of his friends to spur the local police force to run the Ladies of the Night out of town periodically, especially during low traffic periods . . . Since the airline is about the only way to travel, surface transport being extremely slow, the ladies naturally went by air . . . He's done this quite a few times now with considerable success, because the travel is always round trip.

"Meanwhile the ladies have taken a liking to air travel, have found new fields to harvest, and are practically on a commuting basis. . . One gal had actually made 53 flights up to Oct. 1. . . This is probably the first time on record that an airline sales campaign has resulted in periodic raiding of local establishments to produce business . . . But it works . . . Will the wonders of air transportation never cease?"

—THE EDITORS

U.S. Tests Wingtip Ram Jets



RAM JET SHOOTING STAR

Ram Jet engines mounted on the wing tips of a Lockheed F-80 jet fighter spurt flames on a test flight for the U.S. Air Force over Southern California. Experiments with the "flying stovepipes" began nearly a year ago.

These 20-inch diameter tubes contain a grid where gasoline is burned with ram air compressed by the airplane's high speed. Ram jets are subsonic thermal jet propulsion units which are being

tested as future power plants for aircraft. At present they are used only in conjunction with regular turbo-jet engines mounted in the airplane's fuselage.

The Shooting Star is flown on the power of its Allison engine before the ram jets are ignited. At times however this has been turned off and the airplane has been flown by ram-jet power alone, making the F-80 the first man-carrying aircraft to accomplish this.

The NEWS

JANUARY

CANADIAN AVIATION

1949

CPA TO SPAN PACIFIC IN SPRING

Plan Passenger Hops by Midsummer
Use Lib. for Preview April or May

McCONACHIE BACK FROM AUSTRALIA

Plans for commencement of trans-Pacific service by Canadian Pacific Air Lines are now well advanced, according to Grant McConachie, CPAL president, who was interviewed by Canadian Aviation in Montreal the day after his return from an extensive tour of the South Pacific. During six weeks, he had covered 26,000 miles, visited six countries and travelled on seven different airlines.

First CPAL flights across the Pacific will be made in a war surplus Liberator carrying six pilots, three navigators, three radio operators and a number of maintenance personnel. Starting in April or May, the Liberator will be used for flight crew familiarization over the Vancouver-San Francisco-Honolulu-Canton Island-Fiji Island-Australia route.

Loran and radio range are used for navigation across the Pacific. At each airport en route, the air crews will become familiar with local conditions and facilities preliminary to inauguration of the passenger service.

It is anticipated that regular Vancouver-Australia passenger flights will start in July. This will be followed by inauguration of the Vancouver-Hong Kong service, now set for August or September. This route will be Vancouver-Kodiak-Shamya-Tokyo-Shanghai-Hong Kong.

Mr. McConachie was enthusiastic about the Canadair Fours which CPAL has ordered from Canadair Ltd. for the Pacific service. First of these is scheduled for delivery on June 9, with the other three to be delivered on Aug. 16, Oct. 12 and Nov. 28 respectively.



CPAL IN AUSTRALIA—Left to right: W. G. Townley, manager, Pacific Region, CPAL; Hugh Main, Director of Sales; G. W. G. McConachie, President; and Ian Warren, Ass't Gen. Passenger Traffic Manager of the CPR.

The interior is being designed specifically for the Pacific operation with emphasis on comfortable accommodation and restful colors. It will be a 36-passenger version with 55 inches leg room between each row of sleeperette type chairs.

While in New Zealand, accompanied by W. G. Townley, CPAL Pacific Region Manager, and Hugh Main, Director of Sales, Mr. McConachie attended the South Pacific Air Transport Council at which Alan Ferrier of the Air Transport Board was the official delegate.

The CPAL chief said he had been impressed by the air-mindedness of the Australians. As an example he cited the fact that in a country of 7 million population, Australian airlines fly a million passengers a year.

rier based. It is rated in the "over 600-mph class."

The unconventional looking airplane has two vertical stabilizers and rudders located at the trailing edge of the wing, but longitudinal and lateral control are obtained through the use of a pair of "ailavators," which are combined ailerons and elevators.

The XF7U-1's power plants are Westinghouse turbo jets. For combat performance high bursts of power may be obtained through afterburners, thereby providing large increases in thrust for short periods.

Form New Airline In Newfoundland

Maritime Central Airways has formed a new company in Newfoundland under the name of Newfoundland Airways Ltd. Capt. Carl Burke, manager of MCA, stated that his company had bought some of the assets of Newfoundland Aero Sales and Service. Some of the latter's employees have joined the new company.

Reports that Newfoundland Airways will operate mail flights into northern districts of the island during the winter were confirmed by the company.

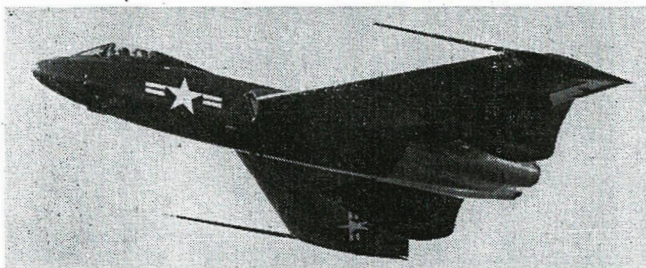
OPAS Flying Hours All Time High for '48

Pilots of the Ontario Provincial Air Service piled up an all-time record of 10,304 hours in the air since the spring break-up for the busiest season in the service's history. A total of 8,036 hours was registered in 1947.

When the season opened on April 1, the OPAS went into action with 12 additional aircraft. The new machines, DeHavilland Beavers, were purchased as a result of a thorough study of the needs of bush flying and fire fighting.

Reg. Parsons, OPAS pilot, logged the highest individual number of hours with a total of 540 between April 1, and October 31. Last year, Par-

New U.S. Navy Twin-Jet Fighter



CHANCE VOUGHT XF7U-1 "CUTLASS"

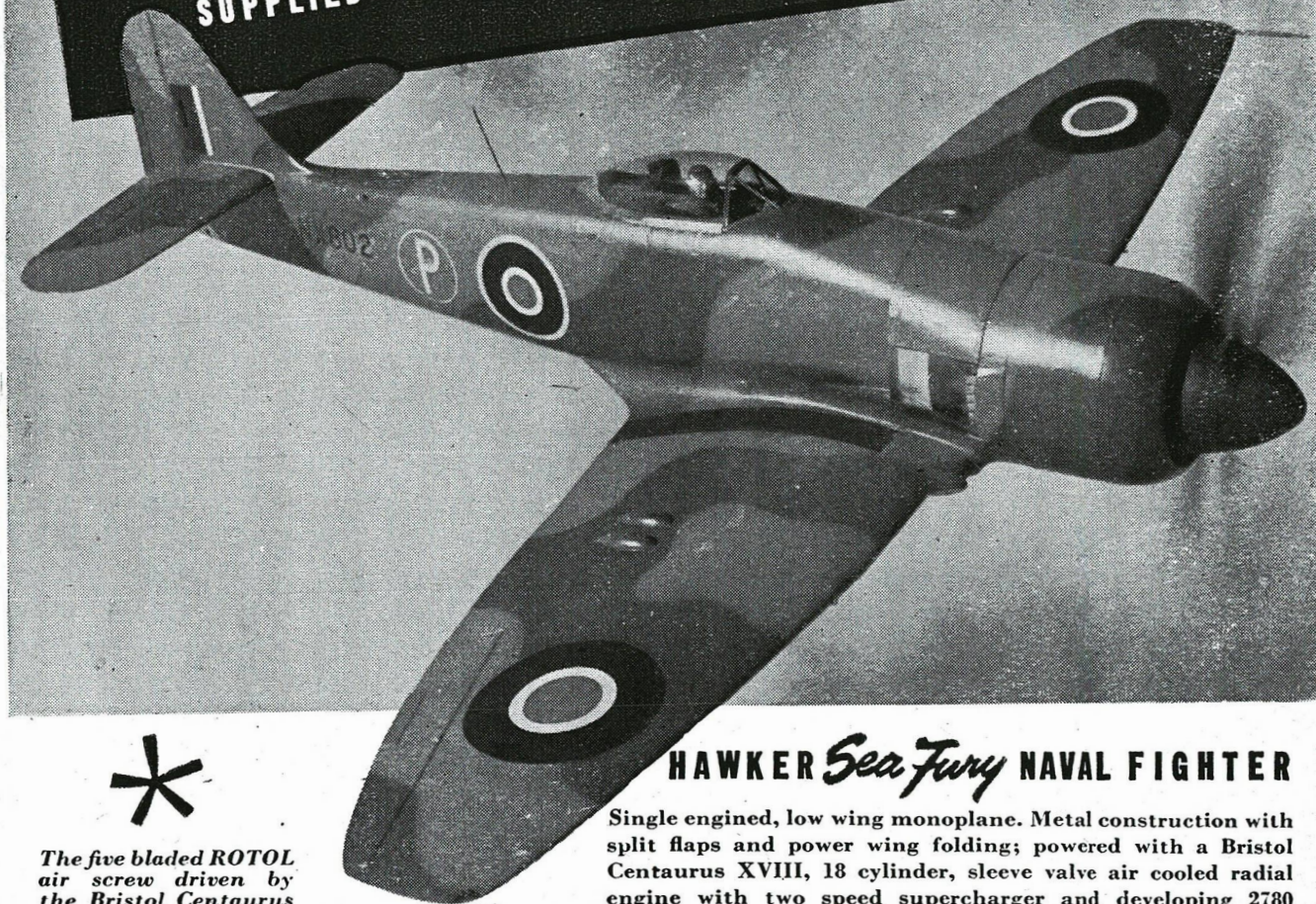
A new Navy swept-wing jet fighter designed for ship-board operation, the Chance Vought XF7U-1, "Cutlass" has successfully completed its initial flight test.

The "Cutlass" is tailless and is in reality a flying wing. The arrangement overcomes inherent handicaps of conven-

tional designs and is unlike that of any service aircraft thus far revealed. Incorporation of the sweep-back of the wings, together with a twin engine installation, is said to make this Navy fighter potentially capable of speeds in excess of current models of operational jets, land or car-

Sea Fury

NAVAL SINGLE SEATER FIGHTER AS
SUPPLIED TO THE ROYAL CANADIAN NAVY



The five bladed ROTOL
air screw driven by
the Bristol Centaurus
XVIII engine.



HAWKER *Sea Fury* NAVAL FIGHTER

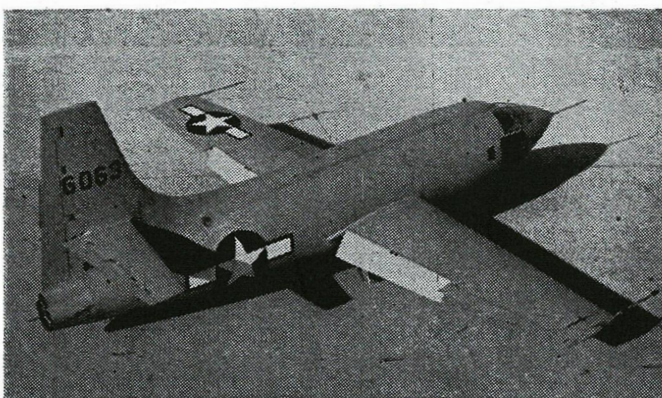
Single engined, low wing monoplane. Metal construction with split flaps and power wing folding; powered with a Bristol Centaurus XVIII, 18 cylinder, sleeve valve air cooled radial engine with two speed supercharger and developing 2780 BHP at 2700 RPM at 3000'.

Normal range 1020 miles at 340 MPH at 30,000'. Range special tanks, 2080 miles at 320 MPH at 30,000'. Maximum level speed at 16,200', 460 MPH.

BRITISH AEROPLANE ENGINES LIMITED

VANCOUVER, B.C.

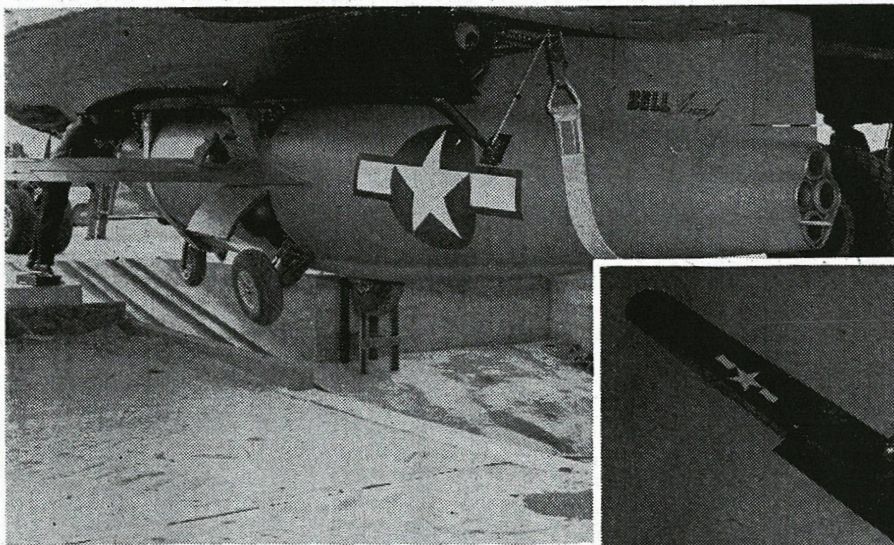
CANADIAN LICENSEES FOR "BRISTOL" AIRCRAFT ENGINES



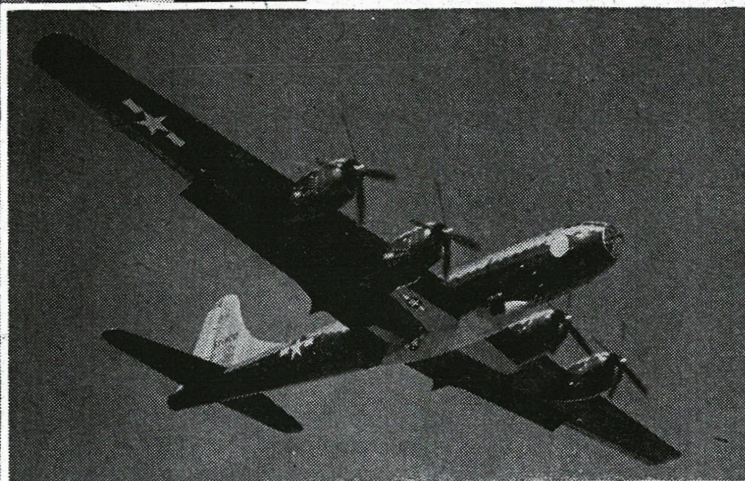
This may be the first aircraft to break through the barrier imposed by sonic vibrations. The Bell XS-1 rocket is designed for just this purpose.

SUPERSONIC QUEST

THESE excellent photographs from the United States Army show the first powered flight of the Bell XS-1 rocket ship which aims at supersonic speeds. Expected to reach a speed of around 1,000 m.p.h., the sturdy little craft is carried aloft by a B-29, with the pilot entering his cramped cockpit at 7,000 ft. and riding there until an altitude of around 30,000 ft. is reached. In its first powered flight the aircraft was held back to a speed of 550 m.p.h. and climbed an additional 10,000 ft. after release. The liquid fuel is fed to the four rocket chambers by the pressure of nitrogen gas—original plans called for a turbine fuel feed which would have increased the thrust available and the duration of the motor run. During the tests elaborate radar and telemetering devices record the progress of the machine and its instruments. Not intended as a combat machine, the XS-1 is a proving ground for principles which govern future high speed and rocket developments.



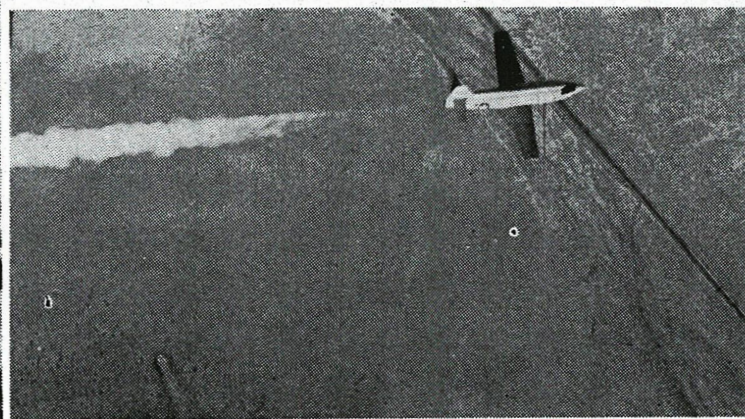
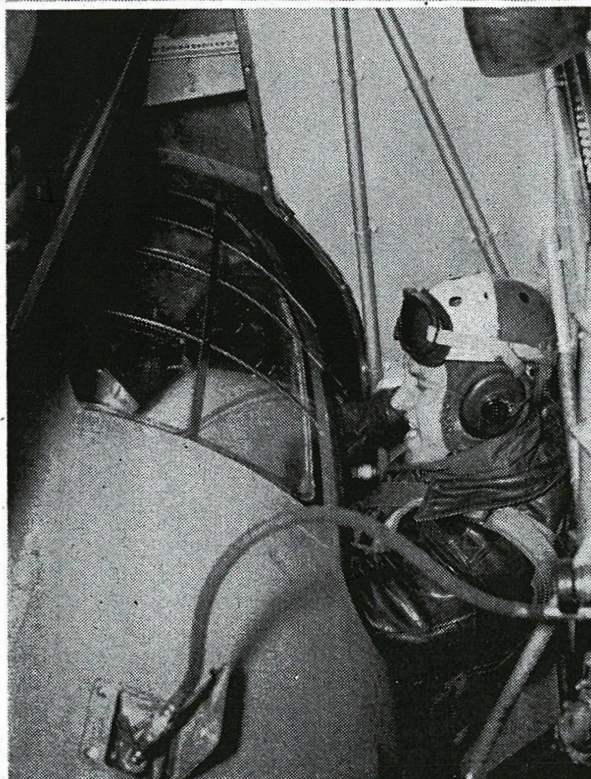
The B 29 Mother Plane is moved over a pit in which rests the little rocket ship, which is hoisted into position so that the rudder and cockpit entrance fit into the bomb bay.



Left: Little room is left for pilot Goodlin to enter.

Below: The XS-1 shortly after release, using its own rocket power.

Above: Here is what the combination looks like in flight.



EXPERIENCE COUNTS!

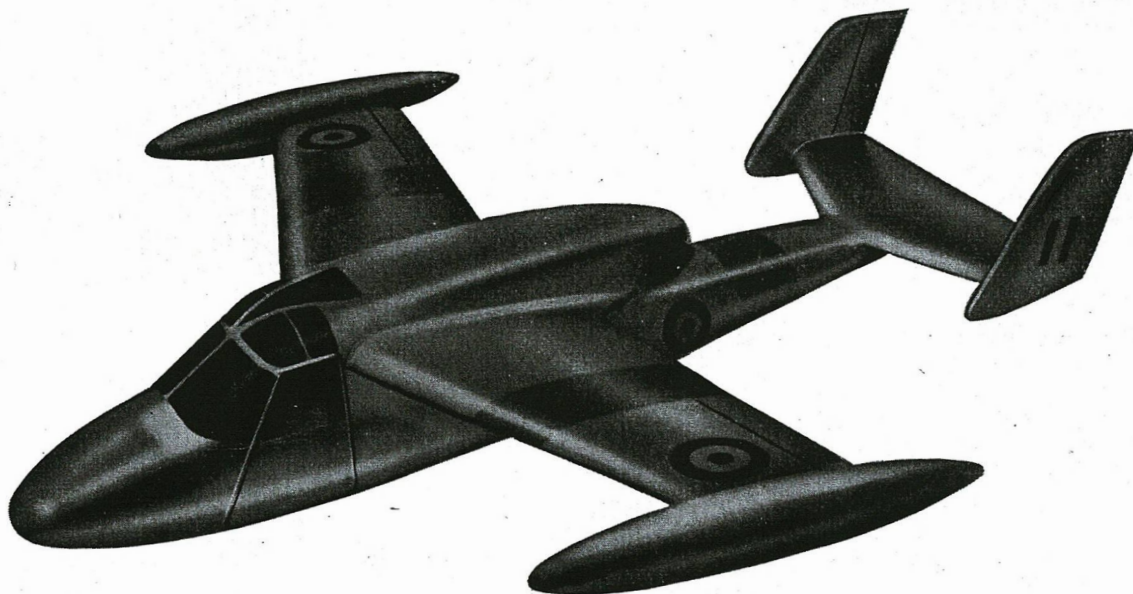


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"Aeroplane" photograph

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Enquiries invited from the Air Forces of the Free World

**F. G. MILES LIMITED, SHOREHAM AIRPORT, SUSSEX
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POWER

by Pratt & Whitney

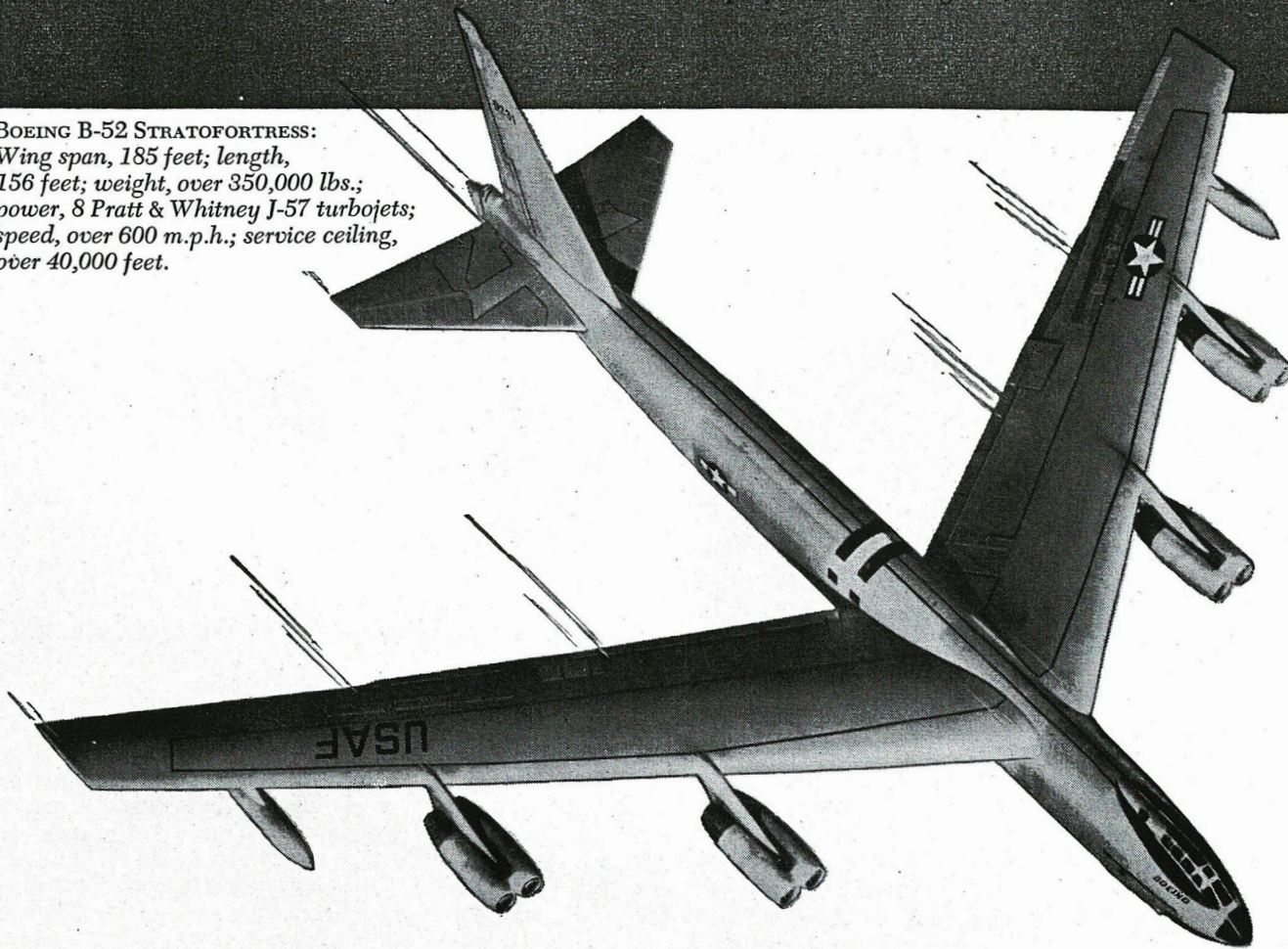
BOEING'S GIANT STRATOFORTRESS is the largest, swiftest jet bomber in the world. No "drawing-board dream" or prototype, it is a production aircraft.

Its mighty Pratt & Whitney jets — each rated at more than 10,000 lbs. thrust — are now in their third year of production. With these engines, Pratt & Whitney Aircraft again demonstrates its

world leadership in design and manufacture. When Canada's aircraft industry requires such power, or greater, we stand ready to meet the challenge. The established skills of the company's modern Manufacturing Division are at the nation's disposal.

CANADIAN PRATT & WHITNEY AIRCRAFT Company Limited, Longueuil, Montreal 23, Que.

BOEING B-52 STRATOFORTRESS:
Wing span, 185 feet; length,
156 feet; weight, over 350,000 lbs.;
power, 8 Pratt & Whitney J-57 turbojets;
speed, over 600 m.p.h.; service ceiling,
over 40,000 feet.



Cessna T-37 designed for Jet Training

To meet jet age demands, the U. S. Air Force requires a jet trainer that makes it easy for cadet-pilots to master first line combat airplanes.

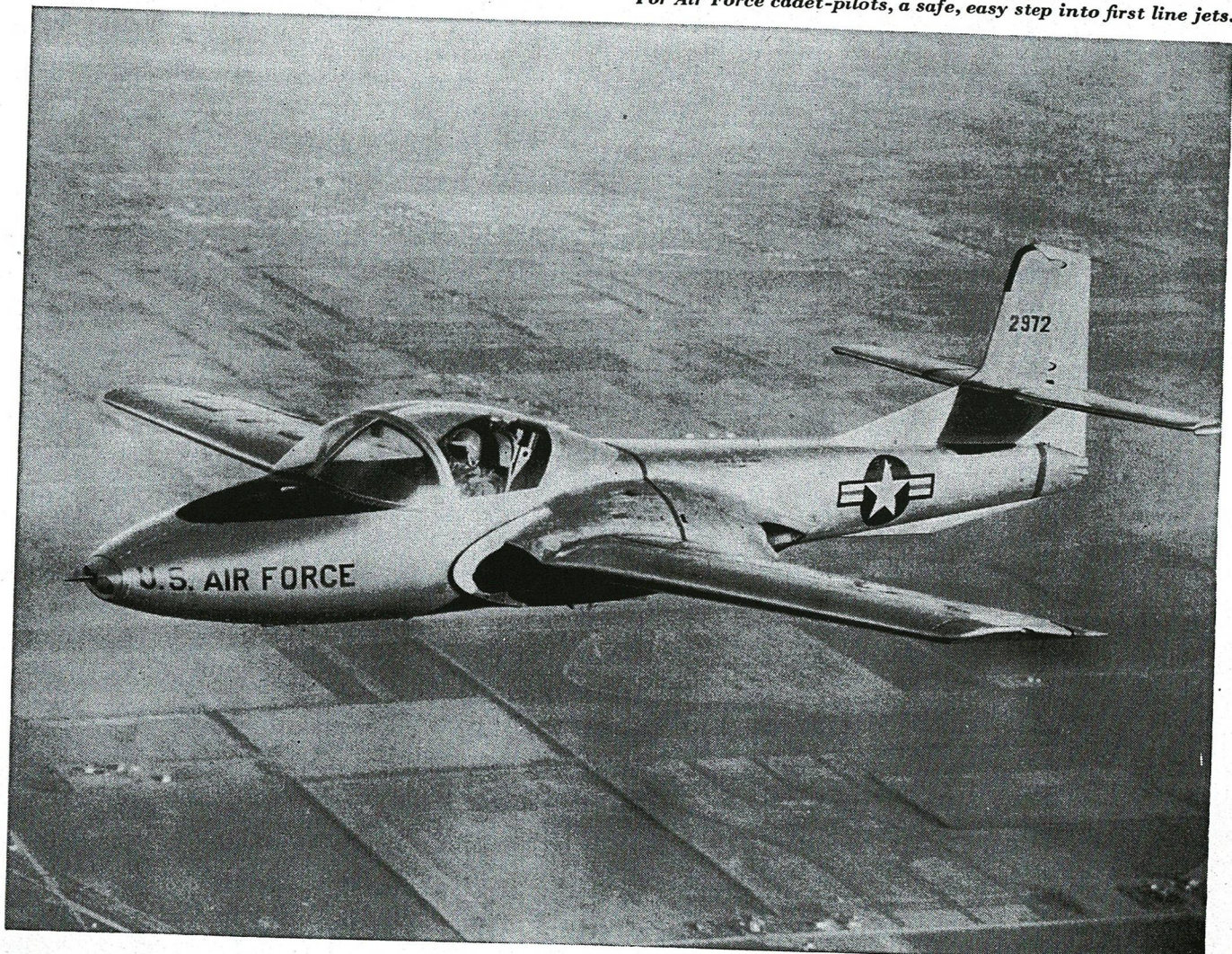
The Cessna developed T-37 introduces the cadet to all combat jet airplane characteristics while training on this safe, easy-to-fly jet trainer.

It is designed to provide the Air Force with a jet trainer that can be operated at substantial savings and cover the most important and longest phase of the cadet-pilot's jet training.

It is a privilege for us here at Cessna to team with the Air Force in its forward-thinking plans for the jet age. CESSNA AIRCRAFT COMPANY, Wichita, Kans.



For Air Force cadet-pilots, a safe, easy step into first line jets.



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The Chipmunk

"AIR MINISTER ANNOUNCED TO HOUSE OF COMMONS APRIL 14th,
CHIPMUNK TO REPLACE TIGER MOTH AS TRAINER OF ROYAL AIR
FORCE VOLUNTEER RESERVE."
HATFIELD, ENGLAND.

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- ✓ HIGH RATE OF CLIMB
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CAUTION: AVIATION JUNE 1948