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WARD AERO, Inc.
MARTIN, SOUTH DAKOTA
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WHOLESALE CHEMICAL SALES, CROP AND INSECT CONTROL
DISTRIBUTOR OF BROTHILL AIRCRAFT AND GROUND SPRAYERS
PIPER — STINSON — AERONCA — SALES

Pilots and Operators

Have Your

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* ENVELOPES
* STATEMENTS
  * OFFICE FORMS, ETC.

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CENTRAL FLYER
"QUALITY PRINTING AT REASONABLE RATES"
WRITE US FOR QUOTATIONS
"AVIATION IN THE NORTHCENTRAL STATES"

CENTRAL FLYER

Vol. IV
Feb. 1949
No. 2

PURPOSE: "To give information with exactness of truth, not to omit
anything that the public has a right to know; to use always an
impartial, yet proper, style without pretexts to rigorous and forceful
critical thought."

Editor: CARL THOMPSON
Advertising and Circulation: ELLA THOMPSON

One Year Subscription: $2.00

Advertising Rates Furnished Upon Request

CIVIL AERONAUTICS ADMINISTRATION

Third Region

ITINERARY FOR FEBRUARY, 1949

Feb. 6—Tuesday...Municipal Airport
Jamestown, N. D. ......... Aircraft, Flight and Written Exam.
Feb. 7—...Thurs...Municipal Airport
Hershey, N. D. ......... Aircraft, Flight and Written Exam.
Feb. 8—...Wednesday...Municipal Airport
Bismarck, N. D. ......... Aircraft, Flight and Written Exam.
Feb. 10—Thurs...North Dakota
Altoona, N. D. ......... Aircraft, Flight and Written Exam.
Feb. 13—...Tuesday...Municipal Airport
Grand Forks, N. D. ......... Aircraft, Flight and Written Exam.
Feb. 16—Wed...Port O'Mouth
Moun, N. D. ......... Aircraft, Flight and Written Exam.
Feb. 17—...Thurs...Wright Field
Williston, N. D. ......... Aircraft, Flight and Written Exam.
Feb. 19—...Saturday...Municipal Airport
Crookston, Minn. Aircraft, Flight and Written Exam.
Feb. 21—...Monday...Municipal Airport
Duluth, Minn. Aircraft, Flight and Written Exam.
Feb. 23—...Wednesday...Municipal Airport
Bemidji, Minn. Aircraft, Flight and Written Exam.
Feb. 26—...Saturday...Municipal Airport
Fargo, N. D. Aircraft, Flight and Written Exam.

Written Examinations may be taken Monday through Friday of any
week at 200 Walker Bldg., Fargo, N. Dak. Aircraft and Flight Tests
at Hector Field, Fargo, N. D. may be secured by appointment only.

Fourth Region

AVIATION SAFETY DISTRICT OFFICE No. 8

Post Office, February, 1949

Feb. 6—Tuesday...Municipal Airport
South Dakota Aircraft, Flight and Written Exam.
Feb. 7—...Monday...Municipal Airport
Huron, South Dakota Aircraft, Flight and Written Exam.
Feb. 10—Thurs...Municipal Airport
Aberdeen, South Dakota Aircraft, Flight and Written Exam.
Feb. 14—...Monday...Municipal Airport
Hurun, South Dakota Aircraft, Flight and Written Exam.
Feb. 17—...Thursday...Municipal Airport
Rapid City, South Dakota Aircraft, Flight and Written Exam.
Feb. 21—...Monday...Municipal Airport
Huron, South Dakota Aircraft, Flight and Written Exam.
Feb. 24—...Thursday...Municipal Airport
Sioux Falls, South Dakota Aircraft, Flight and Written Exam.

Written Examinations may be taken Monday through Friday of any
week at 300 W. Main St., Sioux Falls, S. Dak. Aircraft and Flight Tests
at Hector Field, Sioux Falls, S. Dak. may be secured by appointment only.

Gentlemen's Corner

One of our distinguished women flies from South Dakota that comes under the category of
"Gentlemen's Corner" is Mrs. Dorothy A. Woodward of La Crescent.
You received her flying instructions from Red Apple Airport in Rapid City in 1943. In 1944 she
bought a Beechcraft in partnership to build up her cross country time. It was then that
she really learned the utility of the airplane, flying for repairs, carrying eggs and dressed chicken,
plus a few trips with baby chicks for mother and neighbors. Dorothy's private license is dated
1944 and is followed by over 700 hours of flight time. She now owns her second Taylorcraft and
besides being very helpful on a large ranch she also has insurance for Union National Life Insurance
Co. As she married a little over a year ago she has this bit of advice to the women: "More women
should learn to fly as Mr. Husband isn't apt to have both the car and plate at the field."

Dorothy Arnold Woodward did an outstanding job of flying after the recent blizzard in western
South Dakota. Besides all the regular marketing flying, she was of great service in spotting of
her cattle and emergency work.

THIS IS YOUR
NEWS PAPER — WE
WELCOME YOUR
NEWS AND PHOTO-
GRAPHS

FOR FEBRUARY, 1949
## Official Publication

### STATE AERONAUTICAL NEWS

For North Dakota

**NORTH DAKOTA AERONAUTICS COMMISSION**

**Receipts and Distribution of Aircraft Registration Funds**

**Jan. 1, 1946, Ending December 31, 1946**

<table>
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<tr>
<th>County</th>
<th>Total for Distribution (1946)</th>
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The money apportioned to the 31 counties will be paid out to the respective county treasurers due to the Henry County. The money paid out will be used to retire county debts. The total amount paid out to the 31 counties was $13,371.86, $10,528.26, $2,342.00.

*In addition three complimentary registration certificates must be filed with state agencies.*

PAGE FOUR

**CREDIT FLYER**
Investigation of Plane Crash

Investigations of the aircraft accident in which two Peninsular airlines pilots were killed Sunday January 3, 1948 near Crystal, N.D. (Thomas Jordan 63 of Honolulu and Joseph O. Fauzy 34, of Edinburgh) has been completed by Plymouth County Sheriff Fred O. Spano. According to Harold O. Vavra, acting director of Aeronautics Commission Spano's report revealed that Thomas Jordan, a pilot, carried a student pilot certificate. Jordan was in direct violation of state and Civil Aeronautics Administration rules which prohibit student pilots from carrying passengers. According to the sheriff the report was flown under poor weather conditions, low ceiling and snow conditions. Spano revealed the aircraft was being used for aerial fox hunting. Checking with the records of the state world's smallest plane makes its bow in California

"El Custo," Calif., the Wee-Been welded plane described by its designers as the world's smallest piloted airplane, completed its first flight yesterday.

"The tiny craft, with a wingspan of 13 feet and a length of 13 feet and a weight of only 130 pounds, was a complete success in its first flight, its designers and the test pilots agreed.

"The craft, which was flown by pilot E. D. Briscoe, took off from the runway at the Custo Airport and landed safely. The flight lasted two minutes and was uneventful."

"The craft is a small, two-metre-long plane, weighing only 130 pounds. It is powered by a small, two-cylinder engine and can carry two passengers."

"Data meet at Huron"

The South Dakota aviation trades association convened at Huron on January 10 for a regular meeting of the association. Attendance was far below average because of the great blizzard in western South Dakota.

Of major interest were the new amendments sought by the association in the current Legislature. Most important of these features is the licensing of aircraft and pilots through the various counties. This is in preference rather than direct, with the Aeronautics Commission. This chapter also exempts aircraft engaged in the business of the general public, passengers and individual fliers.

"Stone is laid at Idlewild for S. building"

The cornerstone for the first permanent building at the New York International Airport at Idlewild, Queens, was laid yester-

day afternoon by Howard S. Cullum, chairman of the Port of New York Authority. While routing machines have been used in construction of the steel framework of the new $4,500,000 airport building, the permanent building will be completed by spring, among the events at the cornerstone laying仪式 were officials of the Civil Aeronautics Administration and the United States Weather Bureau, the two Federal agencies who will occupy the building.

"Dolos W. Hartwell, Civil Aeronautics Administrator, who flew to Idlewild from Washington to participate, asserted that passenger air travel throughout the world had increased more than 2,000 per cent during the last ten years and would be stimulated to an even greater expansion during the next decade by developments such as Idlewild Airport.

"Mr. Hartwell, recalling that 70 per cent of all commercial airplane sales in the world today are American-built, said that the future of aviation was "terminated" by the imagination and energy of American people..."

"Since we opened the Idlewild International Airport on July 1, there has been a steady growth here of all types of business," said Cullum.

"Plane movements have increased from 780 in July to 1,980 in October, to make a total of almost 6,000 since the airport opened.

"In July we handled 2,375 passengers, and this number increased to 13,460 in October. Altogether, about 30,500 passengers have arrived at and departed for the airport to date."
BLIZZARD OF '49

Many chapters have been written in the history of aviation, some so numerous, yet others leave their impact on the lives of thousands of people.

Such is the story of aviation and the Blizzard of '49. It would be impossible to make honorable mention of all the people that made flying their planes through the many hazards of cold weather and blizzard conditions of western Dakota's and Nebraska to do their part in relieving food shortage, and providing necessary foodstuff to these people. The pilots rose to meet the occasion.

On each returning trip the pilots brought back important information as to the extent of the blizzard damage and where help was needed. In many instances they were the only communication available as people were cut off from the rest of the world. While these pilots flew their missions of mercy the commercial radio stations played an ever important part in disseminating news to the public of the conditions in areas where they had been.

A program initiated by the National Safety Council for dropping livestock feed from Air Force C-41 and C-45. The Air Force also sent In helicopters for the emergency. These men were experts in rescue and emergency work as well as weather prediction. They had just returned from the danger zone from Greenland ice cap last month and from here they proceeded to Mexico, where a flood emergency has been declared.

As we go to press blizzard conditions still exist in the north-central states. Frequent phone calls are still coming in from snowed-in ranches needing supplies.

Stories, articles and quotations from this manuscript are authorized by credit line taken from "February Central Flier."

SAFETY PROGRAM

The Aeronautics Commission is continuing its safety program by distribution of a new safety booklet to all North Dakota airports. Entitled "Let's Look at Blind Crashing," this booklet is printed by the Civil Aeronautics Board. It is composed of 20 copies and is being mailed to all airports. The safety guide covers:

1. Intended Normal Operation of aircraft.
2. Loss of Power.
5. Attempted visual flight in instrument weather.
7. Crop sprayering and dusting.

Additional copies may be had by dropping a penny post card to the North Dakota Aeronautics Commission, Minneota, M. D.

PAGES SIX
NEBRASKA VETERANS

The Department of Aeronautics has made a survey of aviation activities throughout the state, to find out how veterans are entering into aviation activities. The survey also determined that there is a demand for aviation-trained personnel in all forms of business and that VA curtailment of G.I. Flight Training was hindering all aviation business.

Aviation is definitely a growing business and although it offers no restriction as to age, the veteran, because of his wartime training, is the most logical prospect for employment.

The State Department of Public Instruction and Department of Aeronautics have approved 59 flight schools and satellite fields to offer flight training under the G.I. Bill. This training is still available to those who can show justification.

These schools employ a total of 738 trained persons, who are employed in the capacity of airport announcers, flight instructors, mechanics, bookkeepers and secretaries, A.S.T. machines, ground instructors and aircraft sales and charters. Seventeen of these schools need additional personnel. At the present time, 48 per cent of all of the personnel employed by approved flight schools in Nebraska are all or part of their training under the G.I. Bill. But for one month, November.

There are 25 operations approved in Nebraska for aerial crop spraying, who employ not less than 47 commercial pilots. One operation is approved for aerial paper crop spraying, which employs not less than 3 commercial pilots. Two operations are approved for pipe line and telephone and television line patrol, which employ not less than these commercial pilots. These businesses are all expanding by leaps and bounds and more pilots are needed every day.

There are 3 airlines operating in Nebraska, which employ approximately 466 persons in the State, who are in the capacities of pilot, flight engineer, and ground personnel. OAH recently passed a new ruling which will require all airlines to employ aChief pilot on all four-engined equipment. To qualify, for flight engineer, one must hold a valid commercial license.

There is a large number of manufacturers, wholesalers and retailers supply booster, private business, farmers and ranchers, and others, employing commercial pilots, and using aircraft in connection with Nebraska businesses. This number is increasing rapidly and is shown through the increased number of pilots for executive use.

War-trained GIs and veterans trained under the GI bill have accounted for a decided increase in the aviation business in all parts of the U.S., not only from the standpoint of their flying, but through their experience and training spreading the doctrine of safe, efficient and fast travel.

On June 30, 1947, there were 359 registered aircraft in Nebraska. On June 30, 1948 there were 1235 aircraft registered, an increase of 30 per cent. On June 30, 1947 there were 1253 registered pilots in Nebraska. Now there are 1253 pilots registered, showing an increase of 150 per cent.

On June 30, 1947 there were 127 licensed airports in Nebraska, which includes municipal, commercial, private, and personal-use fields. On June 30, 1948 there were 123 registered airports in Nebraska, an increase of 8 per cent.

On June 30, 1947 there were 63 schools approved to offer Veteran Training. On June 30, 1948 there were 69 schools and satellite, approved to offer Veteran Training, an increase of 97 per cent.

On June 30, 1948 we had 97 personal-use fields registered with the Department of Aeronautics and used by farmers and ranchers in connection with their operations.

The Nebraska 1948 Federal Aeronautic Program calls for an expenditure of $3,600,771.00 of public funds. These funds are being spent because of increased aviation activity created lately by the Veteran Flight Training Program.

WAKE IT UP CAREFULLY

Airplanes, like People, Are Inclined to be Grumpy and Irritable if Wakened Rudely

If your plane has not been ferocious for some month, a thorough check-over will pay dividends in smooth performance and longer life.

There is always the possibility that your plane has been bumped by another ship or a storm. A careful examination should be made of wings, fuselage, and propeller, and damaged spots repaired.

Properly aligned and inserted, nuts and bolts must be examined to see that they are tight and seated.

The engine needs attention after a period of inactivity. The propeller should be pulled through by hand in order to free sticky places and to draw the engine oil from the bottom cylinders in dual engines. Spark plugs need to be taken out and thoroughly cleaned of gum and carbon.

The fuel and lubrication systems should be drained and cleaned of sediment. Oil strainers and drainage plugs are likely to have accumulated moisture and dirt which will interfere with smooth engine performance if they are not drained.

It is likely that ignition wires, exhaust lines, and controls have not been tightened for several months. Now is the time for a complete examination of everything within the ship which can become loose. Wires, pulleys and cables have been responsible for loss of control in many accidents and spring clean up time is a good opportunity to eliminate these chances of a breakdown in flight.

Pilots need brushing up, too, and a check out will help to correct the bad flying habits which creep up on the best of us. A good time to improve your pilot's skills is in the spring after a period of inactivity. Conditions may be bad and reactions slow. An hour spent with an instructor is time and money well spent.

MAC SERVICE LETTER
miles north of the Perkins County town Grant and 30 dairy. Both pilots have flown many and missions to remote and isolated farms since the blizzard struck Western Nebraska.

last week. Mr. Meiners, manager of the Ogallala airport, landed in the body of an elderly man who died a natural death in Arthur County 40 miles away.—World-Herald Photo.

Mr. Meiners are shown loading milk into a place at Ogallala, 20

**ORIGINAL WRIGHT PLANE RETURNED TO U.S.**

The original aeroplane with which the Wright Brothers made the first human flight at Kitty Hawk, North Carolina, on December 17, 1903, became the property of the American people December 17, 1948. It will be kept in the custody of the Smithsonian Institution.

By original scientific research the Wright Brothers discovered the principles of human flight. As inventors, builders, and fliers, they further developed the aeroplane. They taught men to fly and opened the era of aviation.

The first flight lasted only twelve seconds, a flight very modest compared with that of birds, but nevertheless the first in the history of the world in which a machine had raised itself by its own power into the air in free flight, had sailed forward on a level course without a reduction in speed, and had finally landed without being wrecked. The second and third flights were a little longer, and the fourth lasted 30 seconds, covering a distance of 852 feet over the ground against a 20 mile wind.

The historic aircraft, most treasured object in aviation history, was presented by Milton Wright of Dayton, Ohio, on behalf of the estate of Orville Wright Acceptance was by Chief Justice Fred M. Vinson, Chairman of the Smithsonian Institution.

Vice-President-Elect Alben W. Barkley, a Regent of the Smithsonian Institute, delivered the appropriate acceptance.

The ceremony took place in the North Hall of the National Museum's Arts and Industries Building. Here the Kite's Hawk place will remain on display, where it will be the first object of attention when anyone enters the building. It will eventually have the place of honor in the new National Air Museum.
SHORT COURSE IN AERIAL SPRAYING PLANNED

The Montana State College and the Montana Aeronautics Commission are jointly sponsoring a two-week course on aerial spraying and dusting. The course is to be held at the State College in Butte on March 17 and 18. In general, the course will cover spray equipment, chemical materials, and their application, along with the effects on plants and insects. Special emphasis will be placed on spraying and dusting problems pertaining to Montana.

Guest speakers who are specialists in different phases of spraying and dusting will attend. They include Dr. Brown, who is head of all spraying operations for the Royal Canadian Air Force and the Canadian government; Mr. Ewen, the entomologist for the U.S. Forest Service and Department of Agriculture; and Mr. Censor, who is the chief spraying pilot for the United States Department of Agriculture.

Other possible speakers will include Mr. Peper and members of his staff of the State College Department of Entomology, and Mr. Robert Warden, a weed control specialist of the State College.

An open discussion is planned to give the views of the short course participants on the type of regulations, if any, that may be needed to control aerial spraying and dusting in Montana.

AIRCRAFT ACCIDENTS

Two pilots were injured in an airplane crash near nine miles north of Bismarck, North Dakota, on January 6. A small plane, owned by John D. Taux of Bismarck, North Dakota, was flying from the city of Bismarck to Williston, North Dakota, and was the subject of an accident report by the Bureau of the Aeronautics, North Dakota. The report stated that the pilot sustained a head injury, a broken arm, and broken bones. The aircraft was a small single-engine plane.

STATE AERONAUTICAL NEWS

For Montana

STATE HIGHWAY PATROLMAN: The aircraft involved was an Aeronca C-2566B owned by Duane McCall and John D. Taux of Bismarck, North Dakota. According to the pilot's report, the plane took off from the airport at Ray and flew in the general area northeast of the community. The plane was spotted by Mr. Taux, who is a local pilot, and was followed by Mr. McCall. The plane was flying at a height of about 150 feet above the ground. The pilot apparently spotted a fox and turned to follow it. The aircraft then entered a stall and began to descend. The pilot then attempted to regain control and flew the plane to Williston, North Dakota.

The pilot, Duane McCall, did not receive any injuries and was not seriously hurt. The aircraft was damaged, but it was not completely destroyed. The repair cost was estimated to be between $500 and $1,000.

STATE HIGHWAY DEPARTMENT: The state highway patrolman, along with the pilot, worked together to stabilize the aircraft and prevent it from crashing. The patrolman arranged for a tow truck to assist in the recovery of the aircraft.

NORTH DAKOTA: The aircraft was a small single-engine plane, and the pilot was a local pilot. The aircraft was owned by John D. Taux of Bismarck, North Dakota.

- Duane McCall, a local pilot, spotted the aircraft flying at a height of about 150 feet above the ground. The plane was spotted by Mr. Taux, who is a local pilot, and was followed by Mr. McCall. The plane was flying at a height of about 150 feet above the ground. The pilot apparently spotted a fox and turned to follow it. The aircraft then entered a stall and began to descend. The pilot then attempted to regain control and flew the plane to Williston, North Dakota.

The pilot, Duane McCall, did not receive any injuries and was not seriously hurt. The aircraft was damaged, but it was not completely destroyed. The repair cost was estimated to be between $500 and $1,000.

STATE HIGHWAY DEPARTMENT: The state highway patrolman, along with the pilot, worked together to stabilize the aircraft and prevent it from crashing. The patrolman arranged for a tow truck to assist in the recovery of the aircraft.

The aircraft was a small single-engine plane, and the pilot was a local pilot. The aircraft was owned by John D. Taux of Bismarck, North Dakota.
Heaters


Heaters for small planes are mostly of the heat exchanger type, and are usually heated from the exhaust gases. The essential feature of such a system is a duct which surrounds a portion of the hot exhaust pipe from the engine. Air from outside, or from within the cabin, is passed through the duct and is warmed by the exhaust pipe. An efficient heater will include an enlarged section of the duct so that the air will come in contact with a larger area of hot metal.

The heat exchanger has the advantages of simplicity and efficiency. It does not add much weight to the aircraft, and large quantities of warm air are available for winter comfort in the cabin.

The heat exchanger also has disadvantages which must be realized by the pilot of any aircraft which is so equipped. The most dangerous possibility is leakage of carbon monoxide. Unless passing through the exhaust pipe, which have a temperature of about 1,500 degrees F., and then out of the metal! A crack or opening in the pipe will allow carbon monoxide to enter the stream of air into the cabin. If essential, the entire heater unit must be examined periodically for cracks or faults, and any worn sections be replaced.

Some has air handlers consist of two exchangers. The first is the one just described and takes heat from the exhaust gases. However, the heated air of the duct does not go into the cabin, but passes through a second exchanger which heats the air in another duct. There is not much chance of failure in this second exchanger because the air is not hot enough to cause rapid corrosion of the metal. Obviously, the heater with a double set of heat exchangers is not as likely to have oxygen-carbon monoxide entering into the cabin. Its lower efficiency is hot important in a small plane because there is plenty of heat in the exhaust gases.

The pilot must always be alert for indications of carbon monoxide poisoning. It can come from a leaky exhaust pipe as well as from a defective heater. Any feeling of dizziness while flying in a closed cabin is a danger sign. Windows should be opened at once, and exhaust lobs thoroughly checked for leaks at the first opportunity.

Flight Maneuvers

Pressure any flight maneuvers can be accomplished by a skillful pilot without endangering the load factor. The rule necessary to remember is to make pull up gradually. At high diving speeds there is also more danger of flutter. The NEVER EXCEED speed on the placard of every certificated airplane represents the upper limit, for which the airplane has been analyzed and tested. Although the airplane keeps the following rules in place, it may be good for higher speeds, it is not worthwhile at such speeds to have not been established and there fore considered as a violation of the principles of safety operation. At any speed in that region, in fact, the pilot will have to be extremely careful, as it is an easy matter to produce a dangerous load.

Statistics

Personal Aviation consumed 141 million hours in 1947 — and traveled 148 billion miles. Per each 10,000 hours of flight instruction there was a 2% accident rate, 89% of all fatal non-air-carry accidents are attributed to skill of collision of these accidents are attributed to pilot error, and a great percentage of these accidents could have been eliminated with the proper pilot education.

There were 584 accidents due to plane attempting to fly in adverse weather, and 666 accidents due to the pilots' selection of bad terrain.

Tailwind Tattler

I see where Bill Cogan had to delay his non-stop flight from Honolulu to New York. Bad weather set in and caused the delay. He plans to fly a Beech Bonanza in an effort to set a non-stop record of more than 6,000 miles. The present record is less than half that distance.

Down in Nebraska I see where Dean Akers took to the air to relieve the aforesaid of Mrs. Louza Kramer from her husband, this is all according to Hoyle reporting to chances on file in the Lancaster County District Court. Mr. Kramer charged that in his campaign Mr. Akesont hired his wife to Omaha, and burned the Kramer home in an airplane. He also packed his plane in front of the Kramer home.

Now Mr. Kramer seeks $25 thousand dollars damages, because he almost lost his wife, and has no-quette as well.

Makers no difference if you want to go straight up, or go ahead in this world, but the Army air force "fastier than sound" Bell X-1 has made its maiden flight. It is reported that the tiny plane reached an altitude of 63,000 ft. in one minute and forty seconds. Capt., Charles Yeager, the first pilot to exceed the speed of sound was at the controls. The flight took place at Muroc in California.

A pilot, Palmer Ostron was bit len by a dog at an Arctic outpost of Inukshuk this month. The Royal Canadian Air Force completed a mercy flight to Inukshuk and dropped vaccine to the ailing Roman Catholic priest.

In Australia the cattlemen are trying out the possibilities of an unflit to save thousands of dollars each year. At present the cattle are driven several hundred miles from the busy Kimberley region of western Australia to the feedlots on the north coast. The death rate on these long treks is very high.

Central Flyer
Within the past year and a half considerable information has been written and recited on the development of non-aviation revenue at the larger airports. Behind it all however, lies a story of pioneering, so to speak, to which a great amount of the credit due should be directed to that too-often-criticized group, the Civil Aeronautics Administration.

A little more than two years ago, after recitalization that the Federal public had become cognizant of the fact that a certain amount of their tax dollar was being allocated to the maintenance of their local airport, and learning further of the prevailing lack of knowledge of the general public in the value of their airports to the community, the CAA set the wheels in motion to do something about it. It was not unusual to discover, and still is not today, that the great majority of the tax payers generally regard their local or municipal airport simply as a necessary spot for a "choo-choo" of the local trains to load their personal aircraft on, and beyond that to believe that their public apparatus substitute the commercial airlines as the carrier on of their vast business of air transportation. To think of their airport as an institution of value to the community, and as a logical spot for commercial development seemed entirely beyond average understanding or conviction.

The operation of a profitable airport is nothing new to many of us who remember profitable fixed-base operations in years gone by. Those were more or less in the days however, when little operating expense was incurred by municipalities in the maintenance of their airports. Airport management development was, until a few years ago, practically unknown, and why, I cannot tell you. As a matter of fact, and as a long-time airport managers who presumably possessed all of the money-making propensities known to avians, I am reluctant to now look back to those days when none of us realized the real worth of commercial development on airports. We call it non-aviation development, or non-aviation revenue, and it means just that. Most of the revenue producing means on successful operated airports today have little or no relation to the operation of aircraft.

The purpose of this article, the CAA being faced with the realm and necessity to do something about this nonaviation revenue producing development, sought the assistance of about seven of the "old-time" airport managers men who had reputation as good business men as well as good operators men who possessed vision in airport development, and especially those who could conduct and absorb the studies they were about to make, and who later could disseminate the information they had learned through contact and experimentation who were keen-minded, and who were willing to learn something about the possibilities to which they had devoted many years of their most active lives, and who now realized the necessity of the incorporation of outside businesses on modern airports.

With these few old-timers distributed throughout the U. S., one to each CAA Region, the study was commissioned, and almost instantly they became agents of innumerable suitable businesses for airport installations. Today, the results of those studies are favorably reflected from Coast to Coast. (Continued on page 15)
Dear Editor;

Received our directory and think it will prove very helpful to pilots. Looking through the directory I find you have the wrong information listed for Edgeley airport.

The airport you have listed has now been abandoned and the location of the new field is three miles North of Edelstein on the west side of the US highway 281. The present field has one 800 ft. runway. The next summer we plan to also have an EW runway about 1800 ft long, and to install a gas pump.

Yours very truly,

J. E. King
Edelstein, North Dakota

EDITORS NOTE: It may be a good idea to clue up the above information and move it in our 1949 North and South Dakota Airport and City Directory.

Dear Editor;

Here is my two dollars for renewal of the "Pilot". I hope we don't miss a copy. We enjoy the magazine very much. You're certainly doing a grand job of editing--Our compliments. I like the "Flying High with Maize" too. I'd like my name on the list of those interested in the women's club. I haven't been doing much flying lately but I'm still very enthusiastic about it.

Seasons Greetings;
Mrs. Andrew Bec
dulinsky, North Dakota

Dear Editor,

Please send me copies of the new airport and city directory. We want one for every airplane on the field.

Yours truly,

Joe Hansen
Langdon, North Dakota

Dear Editor;

Received the new directory the other day. Thanks a lot for sending me one. I will be the handsomest thing for cross-country flying that I know of.

Sincerely,

Emil Kastner
Douglas, North Dakota

Dear Editor;

Thank you for a well-done job on the directory, and I hope you have continued success with the new "Central Pilot". I envy it a great deal.

Yours truly,

Lloyd Wright
Mandan, North Dakota

Dear Editor;

I greatly appreciate you sending me this copy of the North and South Dakota Airport and City Directory. It is an excellent publication and should prove to be of great value to the private pilot.

Sincerely yours,

Barbara Looma
Fargo, North Dakota

Dear Editor;

An interesting and worthwhile publication, and a well-arranged and informative Directory. A very important time Greater success to you and aviation.

Sincerely,

L. C. Ruten
Mandan, North Dakota

Dear Editor;

At this time we wish to thank you on behalf of our club for your sincere interest and also the very fine publicity received in your magazine in connection with our Air Show. Trusting our report will reach you in time for the coming issue, and again thanking you for your valuable space. We beg to remain,

Very truly yours,

Estevan Flying Club
Estevan, Saskatchewan, Canada
Per Henr. Mandel, Sec

MOONEY M-18

"This is the first time I've ever strapped an airplane to my pants and flown away. The Mooney M-18 (I'd call it the Mite) is so tiny that you almost 'strap it on' to fly it.

"This one of the most interesting little personal planes to be produced in recent years. The M-18 has a number of unusual features: a 25-hp, automobile engine, built-driven propeller, almost unbelievable operational economy ... It is a low-wing monoplane made of wood, fabric and metal, and has a manually retracting tricycle landing gear.

"The power plant is a converted Crosley auto engine. In order to use it in a certificated plane, Mooney had to get a CAA type certificate on the converted engine, as well as on the airplane...

"Cruising true air speed at 1500 p.m. is 90 mph...

"The Mooney's landing characteristics are breath-taking... This little plane's landings are as good as its take-offs...

"Although Mooney does have his CAA certificate... he has not put this little plane on the market. To date he has produced about a dozen. Each of these airplanes is being flown by a wide variety of pilots and their comments are being sent back to the factory. Mooney is using this program to determine if there is enough interest in a one-place airplane to push it into production as well as to work out the bugs.

MAX KARANT
AOPA Asst. Gen'l. Mgr.

Forty-four per cent of personal planes sold in 1947 were equipped at the factory with radios. In 1946 less than 9 per cent were so equipped.

CENTRAL FLYER
**MAKING THE AIRPORT SELF-SUSTAINING**

(Continued from page 11)

Coast and in neighboring counties beyond the sea. The idea met with immediate acceptance almost everywhere, and now feel entirely safe in stating that any airport whether in its largest or smallest, can be profitably operated. We are sure that it can be self-sustaining.

In our studies we soon found an outstanding requirement in the area for improving facilities, wherever possible, to install facilities would make the airport a part of the community. Depending upon the adaptability of the site and terrain there have been installed many commercial facilities on a small scale, baseball diamonds, bowling alleys, small-arena ranges, and in fact almost any recreation facility found in any well developed community. It may be a surprising fact to many, that in addition to the foregoing ordinary facilities, there have been discovered on certain airports, and still in line with recreation, such projects as the placing of professional football, baseball, tennis courts, and motorcycle racing. By the inclusion of facilities adaptable to the particular airport, community interest is established with the result that further development is made much less difficult. The whole idea is to make the dominant feature of airport facilities beyond that exclusiveness for aircraft.

In parameter development, the possibilities are almost endless. "Entertainment has divulged astounding facts. Of course, we have known for many years that airports are of such enterprises as the airport restaurant which still can hold its place as a number one requirement on every airport, which expects to be economically operated, and on a self-sustaining basis. Regardless of size of community, or airport patronage, the well designed, high-type operated airport restaurant is always popular and always "windy."

Frequently in presenting this idea to municipal groups, immediate opposition is presented by them to the extent that "efficient people are not on our airport to support a restaurant or snack-bar." There is however, no basis for this argument. As long as it is an airport, situated on a highway, and relatively close to the city which it serves, it is a logical spot for a good eating establishment, and the reason is simple: Everyone who has occasion to "eat out" is constantly in need of a new and better place to dine. The drive to the airport offers what is an inclined to call, "an estate valve" from the usual routine. When he arrives there, instead of the usual search for a parking space, in which he has become so accustomed, he finds an uncrowded spot to park his car. That in itself is a revelation to most people. When he enters a "fine, clean, well-kept restaurant, light is coming through the windows and there are plenty of Picture windows face the airport or landing area. This is something new and unusual to most drivers who are accustomed to looking at the same dirt, dismal walls in the downtown spots, or at a parked automobile at dirty curb. No is immediately impressed by the beauty and activity of the airport, the planes landing and taking off, passengers "boarding or alighting, student instructors or whatever may be going on at the time. Here is a spot that offers revelation and relaxation. The food is well served by well-groomed personnel, who have the time and inclination to smile. The prices are not above the average found elsewhere. Doesn't that all sound logical and conducive? We know of airport restaurants throughout the country, some on airports with minimum scheduled service, some on airports where no schedules prevail, that do a remarkably fine business. One airport restaurant chain boasts of the fact that their seasonal airport restaurant manager draws a monthly salary of $600.00. Others as in the S. M. C. chain range up to $1000.00 per month for the manager's salary.

Where the laws do not preclude, it is usually advisable to include a cocktail bar or lounge with the restaurant. The addition is psychologically advantageous to the operation of the restaurant and is usually very profitable to both the operator and the owner. The old idea concerning liquor at or near an airport is now entirely outmoded and is seldom considered except by the neophytes, so we do not deter in this thinking.

(Mr. Voeller's article will be continued on next month's issue of Central Flyer.)
"BUSINESS TAKES TO THE AIR"

"Business has expanded wings. More and more companies whose executives have to travel long distances are finding that it pays to have their own planes."

"There is some evidence that business use is becoming the most active market for the small plane. Last week, the Aircraft Industries Assn. issued a report on sales of non-military aircraft. It showed that sales of four-passenger planes accounted for 66 per cent of total sales in August, as compared with 47 per cent for the first eight months of 1946, and 41 per cent for the first eight months of 1947."

"The small-plane builders are well aware of this. They are putting their hopes on the business plane market to make up for the disappointing postwar market for personal planes."

"Business figures that the biggest advantage of a company plane is that it saves executives time. By flying, they can make a business trip in one day which would take at least two or three days by any other form of transportation. More than that, they can land close to out-of-the-way plants that might otherwise take many hours to reach."

BUSINESS WANTED

"Dramatic success, question board happens isolated construction contractor in the firm can use these 14 weeks, at $2.50 an hour, to build planes for help. They will be built with new design and novelty, and will be marketed in this area. Payment is in cash, and planes will be charged to accounts."

WANTED A & N Mechanic capable of light plane repair work. DEPT.Y SORENSEN AVIATION, INC. Washington, D.C.

"TRADE 1941 Plymouth sedan in good shape, almost new 2-bottles John Denver flew and you can toddle for - low tune new model - airplane Ernest Berquist, Waukesha, N.D.

A few years makes the difference!

Are you going to be an "Old Man" or an ELDERLY GENTLEMAN?

CHOOSE TO-DAY

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1 Mile East of Miller
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Airport only a block from the most
Fashionable Hotel, Cafe and Theatre
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When Visiting the Dakotas
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