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# RELATIVE WIND

The Official Publication Of  
The North Dakota Aviation  
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Official News Of The North  
Dakota Aeronautics Commission.



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Wahpeton, ND 58075

**Harold Vavra**

## Behind that administrator lurks some colorful tales

By Patricia J. Estes

Tall, lean and knowledgeable are three adjectives that describe N.D. Aeronautics Commissioner Harold Vavra.

He has a well earned reputation as spokesman for aviation

### One in a Series

in North Dakota and can write a response to various federal agencies that would rival that done by any lawyer. He has the legal jargon and format down pat.

It doesn't take much coaxing to get Vavra to talk about aviation. It takes more prodding to get Vavra talking about Vavra but once he gets going the tales flow as smoothly as any well piloted plane in the North Dakota airways.

The Aeronautics Commission was created on July 1, 1946. Prior to then it was a part of the Public Service Commission and had a very low profile.

### Warning issued

The State Aeronautics Commission issued a warning to low flying aircraft over the Falkirk Coal Mine dragline derricks near Underwood, North Dakota.

Vavra said he has received several complaints this week of aircraft flying low and circling about 200 feet above the ground over coal mine dragline derricks near Underwood.

Vavra said coal draglines have boom structures that extend over 150 feet above ground with numerous guy wires, which a pilot may not see.

Vavra said that pilots of general aviation aircraft flying low over coal mine dragline equipment endangers not only the pilot and passengers, but is a hazard to the operators of the mining equipment. Vavra said some of the coal mine draglines cost \$32 million dollars.

Vavra stated that it is illegal to operate an aircraft in a manner that endangers life and property of both the aircraft and passengers and persons and property on the ground.

The duties of the Aeronautics Commission, according to the Century Code, is to have general supervision over aeronautics within North Dakota and to: encourage the establishment of airports and air navigation facilities; to cooperate with and assist the federal government, the municipalities of this state, and other persons in the development and coordination of all aeronautical activities and thirdly to represent the state in aeronautical matters before state and federal agencies.

The variety of laws applying to the Aeronautics Commission take up almost 75 pages of an 8 by 10 booklet. While Vavra keeps the booklet handy for reference, he begins quoting verbatim from it with little need to check his accuracy.

Erling Nasset, now with GNDA in Fargo, was the first director. Upon his resignation in early 1947, Vavra, who had been in the Commission's engineering department, was appointed Acting Director. On July 1, 1948 he was named Director, a post he continues to fill very capably.

The Commission meets quarterly by requirement. Special needs often dictate additional meetings.

The five member board is a policy making group, according to Vavra, and serve only for stipends and travel expenses.

Currently Nicholas F. Schuster of Fargo is Commission Chairman. Vice Chairman is Ward Whitman, Robinson, while Jack Daniels, Williston is secretary. Alfred C. Pietsch, Minot and John D. Odegard, Grand Forks complete the board membership.

Vavra also serves on the Weather Modification Board. That board and its members, as well as the other Aeronautics Commission members, will be subjects for features in this series.

The Commission office is staffed by Mark Holzer, planner and draftsmen; Alice Keller, secretary and Lenore Dollinger, secretary-bookkeeper. The late Vern Balzer, who died unexpectedly in June, was assistant director and according to Vavra, an invaluable, irreplaceable source for North Dakota aviation history.

Vavra is a native of Iowa. He received his electrical engineering degree from the



Harold Vavra  
Purdue University at Valparaiso, Indiana.

Graduating during the depression, Vavra's first job

was closely tied to those times. People were unable to spend the few available dollars for entertainment at live shows, restaurants, etc. The table model radio was, therefore, becoming very popular.

At Kokomao, Indiana, the Crosley Radio Company couldn't produce their \$19.95 table radios fast enough to fill the orders.

Vavra recalls it was the initiative and aggressiveness of the Kokomo business people that lured the Crosley Radio plant to Kokomo in the first place.

Crosley Radio had sent out a brochure in a five state area, stating the firm was looking for a location to build a plant which

Continued on Page 3

## World Aerobatic Championships

Here's the details

Reprinted from the Minnesota Flyer

The 1980 World Aerobatic Championships will be held at Wittman Field, Oshkosh, Wisconsin August 17-30, site of the annual EAA Convention.

The tentative schedule of events begins on August 17, from 1330 to 1700 hours, with the official opening of the 10th World Aerobatic Championships, Air Show and Parade of Teams. Please note that the entire airport will be closed during all air shows, from 1:30 to 6:00 p.m. Check NOTAMS for any additional closings. The airport will not be closed while competition flights are in progress.

The remainder of the schedule is as follows: August 18 and 19, pilot briefing and practice flights from 0830-1900 hours; August 20, pilot briefing, practice flights from 0800-1200 hours and Program I (compulsory) from 1200-1800 hours; August 21, pilot briefing and Program I (compulsory) from 0800-1800 hours; August 22, pilot briefing and Program II (unknown) from 0800-1800 hours; August 23, pilot briefing, Program II from 0800-1400 and Air Show from 1430-1800 hours; August 24, (Morning) competition flying will be scheduled from 0800-1400 hours if the previous week's schedule is delayed due to weather, Air Show from 1430 to 1800 hours; August 25, Program III (free style) from 0800-1800; August 26, Program III (free style) from 0800-1700 and Air Show if championship is on schedule from 1730-1830; August 27, free day, or continue schedule if behind due to weather; August 28, Program IV (4 minute flight) from 0930-1530; August 29, weather make up day or free day; August 30, 1300-1730 Parade of teams, presentation of trophies, awards, medals, and air show featuring World Aerobatic Champions.

The following are the admission fees for the Championships: Adults, \$4 per person. Students, \$2 per person (12-18 years of age). Under 12 years of age admitted free when accompanied by an adult. 7-day Admission Book, \$24 (one day free! Good for any 7 days of the Championships.) Event Pass, \$40 (all 14 days of the Championships). Business Package, 50-100 tickets 15% off, 100-200 tickets 20% off, over 200 tickets 25% off. Auto parking \$2.00 per auto.

A campsite is provided on the airport and will be open to everyone. Camping fee is \$6 per unit per day. A camping unit is any tent, tent-trailer, bus or aircraft. Camping fees must be paid in advance, starting the day the unit is set up. Refunds will be given to units departing early. A well stocked "country store" will be in operation in the EAA campground as a service to those attending the Championships.

Housing assistance can be obtained by calling the Housing Hotline Number (414) 235-3007 Monday through Friday, 8 a.m. to 4 p.m. CDT.

If you need further information contact World Aerobatics '80, Box 229, Hales Corners, Wisconsin 53130, Phone 414-425-4860.

## Air ambulance transport may be harmful to patient

Editor's note: This article is an American Medical Association news release. Do any of our readers care to comment?

CHICAGO — It can be a

highly risky business to transport a patient by air these days, says a report in the current issue of American Medical News, the national newspaper for physicians.

The reason is that nobody is overseeing the operation of the air ambulance industry, says the article in the paper's Impact section.

The Federal Aviation Administration requires checks of these aircraft to assure their airworthiness, but no other agency imposes requirements to guarantee that they are properly equipped and staffed, the American Medical Association's newspaper points out.

There's a story circulating that one patient froze to death in such an air ambulance. He was safely flown in a small plane from a rural area to a metropolitan airport, but died when because of long delays on the field temperatures inside the plane plummeted to match the wintery ones outside.

That particular incident can't

be documented, but Willis A. Wingert, Jr., M.D., of the American Medical Association's Commission on Emergency Medical Services, says he, too, has heard a lot of such horror stories.

"The problem is just as serious with air ambulances today as it was 25 years ago when there were no regulations governing operation of ground ambulances," says Dr. Wingert, who is director of the pediatric outpatient emergency department at the U. of Southern California Medical Center in Los Angeles, and chairman of the Commission's Air Emergency Task Force.

"It's comparable to the day when the undertaker's hearse doubled as an ambulance. The public is entitled to know the truth about the companies that advertise air ambulance services."

The AMA commission is in the process of doing something about this problem right now, Dr. Wingert explains. It is developing guidelines that will set forth minimum standards for equipment, manpower, and outlining protocol for handling medical problems. The commission is being assisted by the U.S. Dept. of Transportation and the Federal Aviation Administration, both of whom have voiced similar concern about the lack of supervision and standards for air ambulance services.

"Outfitting a Piper Cub with a cot and a bottle of oxygen doesn't make it an air ambulance," points out Dale Smith, who staffs AMA's commission on Emergency Medical Services. "The trouble is that most states don't even know what's out there in the way of such services. Only a few states have addressed this problem by developing certification standards. Indiana is currently developing minimum standards for certification of air ambulance providers."

The first draft of AMA's guidelines for air ambulances should be completed by early 1981.

Says Dr. Wingert: "Upgrading of air ambulance services is one area where doctors can exert some positive pressures that will ultimately improve the national picture."

### Does your airport need its cracks filled?

The answer is yes to most of the airport managers across the state. But how can you accomplish this task? There are several ways this job can be accomplished.

One answer is get the local members of the authority or flying club to donate their time or pay them accordingly for their work. Or, you may choose to get the city, county, or highway department crew to refill the cracks.

A new way to solve this problem was discovered by James-town, Carrington, New Rockford and Larimore this year. They are all hiring a private contractor who specializes in using a rubber mixture along with the crack sealing liquid. This mixture will contract with the asphalt as the temperature cools allowing the cracks to remain intact longer.

We would like to commend these four airports in taking the initiative in trying this rubberized crack sealing method at their airport. For further information you may wish to contact one of the airports or the ND Aeronautics Commission.

Mark J. Holzer  
Planner  
ND Aeronautics Commission

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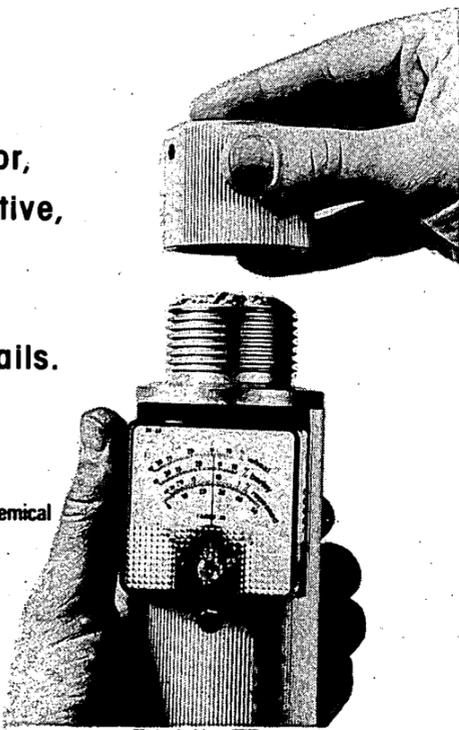
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## Vavra

would employ up to 2,000 people.

The citizens of Kokomo were suffering along with the rest of the USA. Jobs were scarce. Many were out of work. One auto manufacturer had gone bankrupt. The unused buildings were sitting there and were now owned by the City of Kokomo due to unpaid taxes.

Kokomo offered the Crosley firm the plant plus \$50,000 in cash, to be paid after the employees payroll reached \$2-million.

Crosley accepted and that meant converting the plant to radio manufacture. Vavra was hired to work on that project, his first job after graduation.

Working with the electrical production engineering needs, Vavra reports the plant was soon turning out 4,000 radios daily.

Within another year or two the radio in the automobile became popular.

General Motors put out bids for production of car radios for their auto line.

In 1937 the Crosley plant in Kokomo was successful in getting that bid.

All production efforts shifted to that bid. Within a short time GM bought out the plant and used it to produce its line of Delco car radios.

GM sent in management help, he remembers, to meet the goals of efficiency set by GM. Soon there were two shifts at the plant, employing 2,500. For Vavra the experience provided lessons in management and efficiency.

By 1941, he noted, when he was working in the Production and Engineering Department, the plant turned out 60 car radios per hour in each of seven assembly lines.

His job was a problem solving one. If the percentage rate of rejected radios rose above the acceptable rate, he had to find the reason and solve the problem.

Pressure periods paralleled startup of manufacture of new lines and the end of production periods.

With the onset of World War II the military operations needed the plant to produce items for the war effort.

Vavra then went to Chicago to interview for a job with Honeywell. Honeywell was looking for an experienced engineer to work on a manufacturing project for the Air Force. That project was the electronic auto pilot for the B17 Bomber.

Vavra went with Honeywell. From the aeronautics division in Minneapolis, he was sent to Boeing in Seattle, Wash. to supervise installation of the automatic pilot. At that time the project was a top secret one.

From there, in 1943-44, he went to Los Angeles, Calif., as West Coast Director of the Honeywell Aeronautics Division. Later he became the Southwest District Manager for Honeywell covering a 10 state area, with headquarters in Los Angeles.

Angeles.

Honeywell was linked to Douglas, Lockheed, and Hughes Aircraft-Tool Co. through contracts for production of various projects.

The B 17 was then in a testing stage and Vavra was connected to that phase as well.

Arthur Farnsworth was then Honeywell Company representative. He was also married to Bette Davis. Vavra found himself socializing at the Farnsworth-Davis residence and still chuckles over those memories.

Since Walt Disney Productions had a contract to do a training film which also involved Honeywell, Vavra got to meet Walt Disney, another favored memory of that time period. Walt Disney, he states, was a very creative person.

During this same period, Hughes Aircraft and Tool had the contract to design the first twin engine bomber with counter rotating props. Hughes was not then the recluse he came to be and Vavra was able to add his name to the list of interesting people he met.

One day a test pilot was to do a test on this experimental bomber. Vavra was on hand for the event. However, the test pilot was not. Somehow he had gotten the test dates mixed up.

No problem, according to Howard Hughes, he would fly it himself. On the way back one engine prop threw its blades. Hughes managed to land the big airplane on a Burbank street. He was seriously injured and spent a year in a hospital recuperating. It also signalled the beginning of Hughes reclusive period.

Well, Vavra was enjoying this California assignment. He was meeting exciting people. He was involved in imaginative and innovative projects which were making aviation history. He surely wasn't looking for a transfer but that's what he got.

In the Spring of 1943 Honeywell headquarters called. The person assigned to an overseas project had been killed in an auto accident. Would Harold Vavra please step in?

Harold was soon on the way to such romantic sounding places as Calcutta, Marikesh, North Africa, etc. However, this was not a particularly romantic time to be spending in those spots. The war was on.

The needs of the war had meant that the B29 was ordered into action before enough test time for the plane had occurred. As a result many problems were cropping up.

The U.S. government requested representatives of Honeywell, Boeing, Pratt-Whitney, etc. to be on site to work on these problems.

The assignment... trouble shoot, solve problems and get the bombers back in the air.

Vavra became Honeywell's man on the job for the 20th Bomber Command for the B29 air bases.

On a day in November 1944 the flight crew of a B29 asked Vavra to come along on a test flight to assist and advise. Test flights of new planes took off from the air base, flew out over the Bay of Bengal and included a mock bombing test of an

island prior to the return flight.

Well, never one to turn down a flight, Vavra agreed to come along for a test ride. As the only non-military person on board, Vavra went over to the supply depot and got a parachute.

He viewed it as just a formality, a meeting of requirements. In fact he didn't even bother to fuss and see if the parachute fit properly.

Vavra spied a likely spot to stow his chute up front but was told that there was enough cargo there already. Bring it to the back, he was told, and he did, climbing over the tunnel, peculiar to those B29s as he went. Following that request probably saved his life.

Out over the jungle, toward the Bay of Bengal, the plane went. Underneath was a jungle with very few people but lots of trees.

Vavra settled in the cockpit area. The plane was climbing and everything was okay.

At about 18,000 to 19,000 feet the manifold pressure on the number three engine dropped suddenly.

Asked what could be the problem, Vavra responded it looked like the turbo charger had quit. He suggested the copilot take a look and report what he could see. What he could see, he said, was smoke.

Call back to the gunner, he had a better view, what could he see? He didn't report smoke... no sir... he saw fire!

At this point, knowing what he did about that plane's design, Vavra decided he wanted to make a reacquaintance with that chute.

Back over the tunnel into the

rear section he went. Now he had a good view... a great view... of a white blue flame and melting aluminum. A gasoline fire, he decided.

He also decided that his knowledge of that plane and history of performance told him it was time to bail out quick.

Being a generous fellow, Vavra shared this observation with the crew.

Bailing out from that door meant confronting the fire and the crew and Vavra knew that. Many opted to go back to exit from the bomb bay.

Vavra advised them not to. He predicted the plane would lose its wing and roll. All the equipment in the cockpit and bomb bay would trap the crew.

Vavra decided to use the door in the rear. He took steps to depressurize the cabin and open the door. Standing in the door in illfitting chute, Vavra paused to hope that he did not somehow end up in the Bay of Bengal. While his parachute was a poor fit, it was far better than his Mae West. He had no Mae West at all!

Vavra stood in the open door  
Continued on Page 4

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for about 20 seconds, trying to plan his exit, to avoid the fire as much as possible, to land safely, etc.

His planning got interrupted very quickly. An explosion shook the plane as the wing severed from the fuselage. The plane barrel rolled 360 degrees and out the door went Vavra.

All those in the bomb bay cockpit were trapped, as he had predicted.

Those at his exit door and the tail gunner had the chance to survive. Concerned that he would hit some debris and watchful of the fire, Vavra opened his chute too soon. The velocity hit him, knocking him unconscious. Forty seconds or so later he came too, aware that he had some burns.

Four thousand feet below he could see the wing and he watched it hit the water like a spear. As it hit a sheet of flames spread across the water.

Vavra landed on the shore. The six others who jumped from the safe area also made it. One was unconscious almost all the way down, coming to about 1,000 feet above ground, just in time to pull the chute cord. Three landed on shore, three in the water.

They had escaped the heat of

the plane fire to land in the jungle heat of 120 degrees. That heat increased the pain of the burns.

The survivors hiked to a native village. The villagers were more interested in the parachute silk than in the six survivors. There was difficulty in even getting primitive first aid, Vavra recalls.

The villagers did send a runner to a British air base ten miles away. An ambulance from that base came to pick up Vavra and the others and transport them to Calcutta.

That was the end of Vavra's war experience. In addition to his burns, he had fractured vertebrae in his back.

After taking a well earned vacation, Vavra went job hunting. He was hired by Westinghouse in Minneapolis and assigned to Bismarck, N.D.

But in spite of his hasty exit from that bomber, Vavra was hooked on aviation.

When a position opened for an engineer in the state Aeronautics Commission, Vavra applied and was hired. From there he moved into the Director's slot.

Looking back at his boyhood, Vavra recalls it was his younger brother who was nuts

about aviation. He ended up in missile research and worked for NASA at Houston. After working on a variety of projects, including the man in space program, Vavra's brother retired ten years ago.

It was circumstances in his career that placed Vavra into aviation and made him a part of its history, particularly in North Dakota.

"I would have probably stayed in California!" he says, "if it hadn't been for that transfer during the War."

He was keenly aware of the real estate money to be made in California. However, he has no tone of regret in his voice as he reminisces about his years as N.D. Aeronautics Commissioner. They have been interesting years full of rapid changes and growth.

The first aerial agricultural regulation was adopted in 1948. At that time there were about 20 to 30 spray planes in the state. Last year there were over 190 spray plane operators and 324 planes registered.

The changes in planes are so dramatic that comparison is difficult. Spray planes in the early days could carry a 20 to 30 gallon load. Today 200 to 300 gallon loads are the rule.

Today 90% of the spray planes are designed and engineered for spraying rather than modified ones, as in the early days.

As he became director, there were about 300 to 400 general aviation aircraft, mostly very small planes, in the state. Today there are 1700 general aviation aircraft and twin engine business aircraft are common.

The big aircraft of early passenger days was a DC3 that could handle 25 passengers. Fifty seat planes were just coming on line. Today large passenger jets crisscross the state skies.

During the 1950s and '60s, licensing of aerial hunting for foxes and coyotes was part of the Commission job. Hunters would kill 700 to 800 fox and 300 to 400 coyotes per season. Aerial hunting is now illegal.

In 1960 two farmer-ranchers with experience in the Air Force began a hail suppression effort by seeding clouds. From that small start has come the State Weather Modification program.

The amount of federal regulation of aviation is one change and Vavra sees no lessening in the trend toward more and more rules.

A typical week for Vavra includes writing of briefs and documents for the CAB, FAA, etc. on proposed regulations and changes which might have an adverse impact to the state and aviation community.

Vavra writes all his own briefs and documents. He has picked up considerable background in administrative legal procedures and takes a deserved pride in this capability.

Briefs and other required comments often run to 15 and more legal size pages of data.

Keeping abreast of federal regulations requires reading 300 pages daily of the federal register. He also reads many other newsletters, etc.

Major issues facing N.D. aviation according to Vavra include: general environmental issues; the security issues relating to ATCO; fuel and excise tax; the need for additional state funds for air carrier and general aviation airports; recertification requirements; excessive ATCO insurance and the cost and availability of av gas throughout this decade.

If a severance tax on oil becomes a reality, Vavra believes some of that revenue rightfully should be directed toward aviation and other transport needs. However, many factions, including education hope to get a slice of that financial pie, he noted.

Whatever the issues in coming years, it is obvious that as long as Harold Vavra holds the title of Aeronautics Commissioner, he will remain an able and capable spokesman for the industry.

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# Big Sky Airlines expands North Dakota commuter air service

By Harold Vavra, Director,  
Aeronautics Commission

Big Sky Airlines, a Billings, Montana commuter airline, effective August 15th, will add Dickinson, North Dakota as an intermediate stop between Bismarck and Williston. Dickinson will be served with two round trips per weekday with Swearingen Metroliners (17 seat plane) and one round trip on Sunday only. In addition, Big Sky on August 15th, will provide a total of four round trips per weekday between Bismarck

and Williston, all with 17 passenger Metroliners, two of which stop at Dickinson and two are non-stop.

Big Sky Airlines on July 1st took over the entire Frontier Airlines commuter air service in western North Dakota and eastern Montana. These routes include service between Bismarck and Billings, Montana with stops at Williston, North Dakota; Wolf Point, Glasgow, Sidney, Glendive, Miles City, and service between Havre and Great Falls, Lewistown and

Billings.

Big Sky Airlines schedules effective August 15th will provide both Williston and Dickinson as well as eastern Montana cities with excellent connections at Bismarck to Fargo, Minneapolis, Chicago and Denver, Colorado, connecting with Northwest, Republic, Frontier and Air Wisconsin Airlines.

Under these new schedules both Dickinson and Williston passengers can depart early in the morning from either city and via crack connections at Bismarck be in Minneapolis by 8:10 a.m., Chicago by 10:05 a.m., Denver by 8:00 a.m. MDT and Fargo by 7:00 a.m.

Big Sky Airlines now has joint fares and interline agreements with Northwest, Republic and Frontier Airlines. Dickinson and Williston passengers save money under the "joint fare" agreement, which means a passenger connecting at either Bismarck

or Billings will pay the standard reservations change in the passenger fare of \$25.00 only once. Without joint fare agreements between airlines, the passenger would pay \$25.00 reservation change for both the local flight and again on the connecting airline.

## So far so good

Nationally, last year was one of the best on record for general aviation safety and, so far, 1980 is looking almost as good. Preliminary figures from the Office of Aviation Safety for the first quarter of 1980 show total accidents down from 837 to 747, when compared with the first three months of 1979. Fatal accidents also were down from 141 to 135. The only dark spot was an increase in fatalities from 268 last year to 278 this year.

## General Aviation Around The State

**Ashley** . . . Future plans are to have a new NW-SE asphalt runway. Their present E-W turf strip was lengthened on the east side.

**Bowbells** . . . Expansion on the west end of turf runway.

**Bowman** . . . Weather modification is in full swing for the county area along with other airport activities.

**Carrington** . . . Paving of access road, taxiways and hangar area has been completed. Crack sealing of the runway is a major objective at this airport. We are glad to see this type of work to save the runway and eliminate future problems.

**Beulah** . . . Is planning to combine with Hazen and build a joint airport that will handle the energy boom. This is a future project and their present airport needs work. There are tentative plans to do an overlay on the existing asphalt and maybe in the spring of 1981, a 500' extension. This will help eliminate some problems that the larger aircraft are having on hot summer days because of the length of their asphalt strip is presently 2970' x 50'. The field also has a powerline to the south and is situated in a river valley. Pilots be aware of your plane's capabilities.

**Ellendale** . . . Bids for a seal coat are being taken on their four year old runway to protect it from future deterioration. Also included are the taxiway and apron. Plans are for a completion date of late summer or fall 1980.

**Garrison** . . . Now that the town has gotten over its jubilee it must go back to work and is planning to install an aviation fuel supply. Runway lights have been installed and Garrison now has a very nice airport.

**Linton** . . . Proposed new fuel pumps to be constructed inside a small brick building with room for a tractor-mower.

**Napoleon** . . . Plans are for the painting of runway markings and installing an aviation fuel facility.

We would like to thank the people of Napoleon for their cooperation in arranging the aircraft funeral procession for Vernon Baltzer. He is greatly missed in our office and throughout the aviation field.

**Oakes** . . . New airport to be completed in a couple of weeks. New NW-SE 3500' x 60' asphalt runway, taxiway, apron and hangar area was constructed. The lighting system is proposed for fall completion.

**Tioga** . . . Plans for NDB and lighted windsock in the future.

**Walhalla** . . . We suggested that asphalt runway be painted and Runway 33 end painted as a displaced threshold.

Look for further comments on other airport activity in the next issues of this paper. We will try to keep you informed as to what is going on and where.

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# Aircraft, spook turkeys causing losses

By Harold Vavra, Director,  
Aeronautics Commission

General aviation aircraft flying cross country between Fargo and Devils Lake at low altitudes cross over the small town of Tolna, North Dakota (Pop. 250) about 30 miles southeast from the Devils Lake Airport. Located within a radius of 6 miles of Tolna are twelve turkey ranches. In the summer months up to fall, many of these ranches have anywhere from 13,000 to 30,000 turkeys per ranch in an open range area. These turkey areas are fenced off and in many cases are surrounded by trees.

A turkey is a rather stupid bird, but has a strong sense of self preservation. The noise of a light airplane when flown under 1000 feet over a large flock of turkeys causes them to stampede, hitting trees, fences, the barn or anything else in their way. It is a question of hearing a strange noise, with the bird not seeing the source of the noise, which spooks them.

Turkeys that have been

spooked may result in a financial loss to the rancher, especially if the birds are within two or three weeks of being marketed. Turkeys are inspected and graded when marketed. If the birds show any defects such as scratches on the birds wing or body, the rancher is docked and loses top grade on the sale of the birds.

In June this year a bi-plane from the State of Ohio flew over the Tolna area at low altitude resulting in a flock of 13,000 tom turkeys stampeding into the fences and piling on each other. These turkeys were mature and ready to market within 10 days. When the rancher sold the flock of 13,200 tom turkeys the buyer upon inspection noted some body and wing bruises, resulting in the grade being reduced from a normal 75 to 80 range to

a 68 grade range. The lower grade resulted in the ranchers being docked 1/2¢ per pound on 256,000 pounds of turkeys sold. This figures out to a reduction in net price to the turkey rancher of about \$1,280.00.

The same airplane flew over a second turkey ranch near Tolna, causing birds to spook, but this was not serious because these were young birds several months away from being marketed. Any bruises they sustained will heal by that time.

Helicopters are bad new for turkey farmers, especially flying low over their flock. In one instance several years ago, a turbine powered helicopter flew over a flock of turkeys at about 300 feet. In this instance the turkeys spooked so bad that the pile-up tore down 100 yards of steel fencing, resulting in

some dead birds and hundreds with serious scratches and bruises.

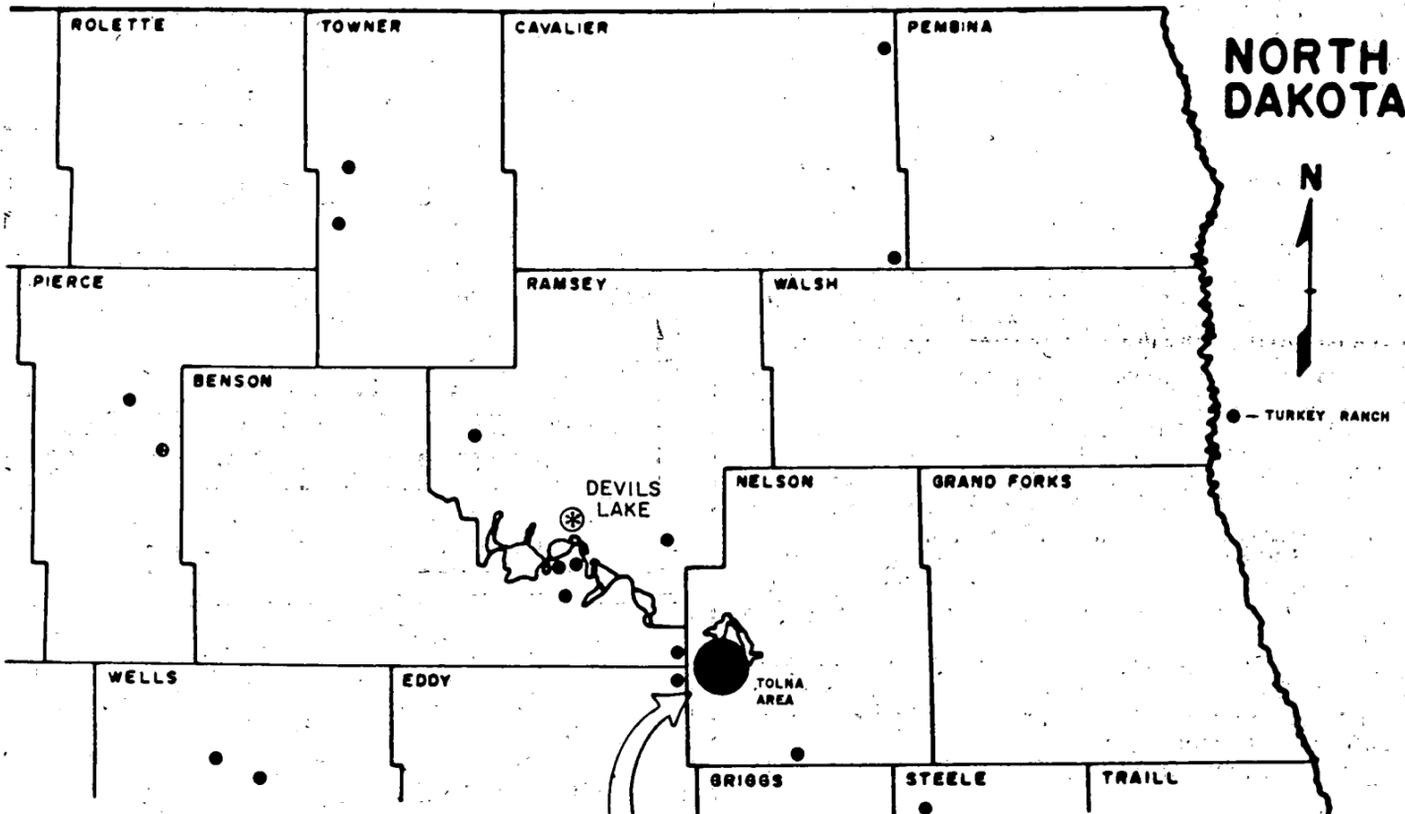
The purpose of this article on turkeys is to alert general aviation owners of the turkey problem and the fact that 25% of all the turkey ranchers in North Dakota are concentrated in a six-mile radius of the town of Tolna, North Dakota.

Attached is a map showing the Tolna turkey ranch area 30 miles southeast of the Devils Lake Municipal Airport.

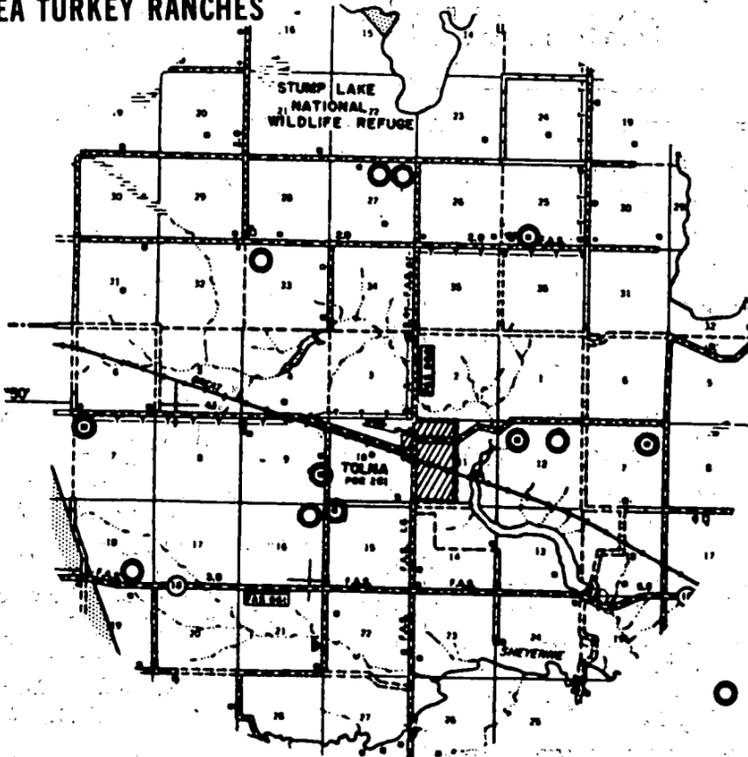
## Vacuum pump

Incorrect engine cleaning procedures can introduce harmful solvents to the dry air vacuum pumps that power some light aircraft instruments. Unless the vacuum pump is covered during cleaning, the seal, carbon bearing vanes, and rotor in the pump could be damaged, causing premature pump failure with little or no warning. Failure of the vacuum pump means loss of the attitude gyro, directional gyro, and turn-and-bank indicator. Bound to be a challenge aloft.

## Turkey Ranches Around Devils Lake



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○ - DENOTES TURKEY RANCH  
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## Letter to the Editor

Ms. Patricia J. Estes  
Editor, Relative Wind  
c/o Prairie West Publications  
Box 832  
Wahpeton, ND 58075

Dear Patricia:

Attached is a news article that should be of interest to pilots who receive "Relative Wind".

We find your newspaper interesting and the articles timely and informative.

If we can be of further assistance, please call on us.

Sincerely,

Lee C. Mills  
Chief, General Aviation  
District Office

## Updated guide lists aviation publications

The Department of Transportation has published an updated guide to the various free and for-sale publications issued by the Federal Aviation Administration.

The free 58-page guide lists more than 5,000 items including aviation safety regulations, advisory circulars, technical reports and aviation education materials.

It also lists many aviation related materials published by other federal agencies, such as the National Transportation Safety Board, Civil Aeronautics Board and the Department of Commerce's National Ocean Survey.

Some of the items listed in the guide are of interest to the general public, as well as to the aviation community, and many of them are free on request. The guide explains how and where to order these publications which are available from various sources within the federal government other than the FAA, including the U.S. Government Printing Office and the National Technical Information Service.

Copies of the "Guide to Federal Aviation Administration Publications (APA-PG-3)" may be obtained by writing to the FAA GADO, P.O. Box 5496, Fargo, N.D. 58105.

## Aviation terms

Reprinted from the MN Agricultural Aviation Newsletter

**AIR CARRIER** — any device, container or vehicle used for the purpose of carrying air.

**STEEP BANK** — one charging more than 6½% to finance an airplane.

**COMPUTER** — circular slide rule device used to explain why you ran out of fuel 20 miles from destination.

**STABLE AIR** — found near fertilizer plants and horse barns.

**VAPOR LOCK** — device to permit storing of vapor.

**TURBO PROP** — device used to prop turbos.

**JAUREZ FRONT** — often occurs in clearest weather between Albuquerque and Denver.

## Recreation airport in North Dakota?

The Turtle Lake Municipal Airport Authority and the local Park Board are considering creating an airport at Turtle Lake. The area proposed for the airport is located one mile north of Turtle Lake on the north side of a proposed recreation area around Lake Holmes. The Park Board will be in charge of the recreation area and may issue an approximate 40-acre lease to the Airport Authority for creating the airport.

There are approximately 20 aircraft registered in the Turtle Lake-Mercer area. The community has a need for a good turf strip which will accommodate business people, livestock buyers, government agencies, and local flying enthusiasts.

An aid to this project is if this airport will be feasible in terms of it being used for recreation. The landing strip is located close to the lake, camping area, beach site, playground and fishing area. Pilots would be allowed to land and taxi to a site where they could camp and enjoy the facilities of the recreation area.

The North Dakota Aeronautics Commission would like to hear comments from pilots who would like to see such a site as this developed. If you feel you would use a fly-in camping site, write to the ND Aeronautics Commission, Recreation Survey, Box 5020, Bismarck, ND 58505.

## Grasshopper aerial spray contracts awarded

Due to the build-up of grasshoppers in western North Dakota in grazing lands, the United States Department of Agriculture has awarded several contracts for aerial spraying grasshoppers with a low volume application of about 8 oz. per acre.

Requests for bids are not advertised in newspapers. Several North Dakota applicators have asked the Aeronautics Commission how they may be alerted to the

USDA taking bids for grasshopper programs in North Dakota or the upper midwest.

If you are interested in bidding on these projects you must get on the "Bidders List" maintained by USDA by writing to the United States Department of Agriculture requesting that your firm be placed on the bidders list. The address is: United States Department of Agriculture, APHIS Field Service Office, Procurement Services, 123 East Grant Street, Minneapolis, Minnesota 55403.

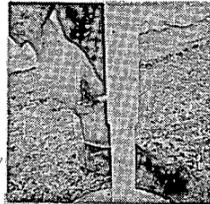
These programs move fast. Bid requests for aerial spraying 45,000 acres for grasshoppers in Grant County, North Dakota were mailed out on June 30, 1980 to persons on the bidders list with an award of the contract on July 9th. In this case John Kuehn, Parshall, ND was the low bidder. In these programs the USDA furnishes the chemical, the bidder provides the aircraft, pilots, and fuel for his aircraft.

Another bid opening is taking place in the latter part of July for about 70,000 acres of grasshopper aerial spraying in Grant County, North Dakota (50 miles southwest of Bismarck).

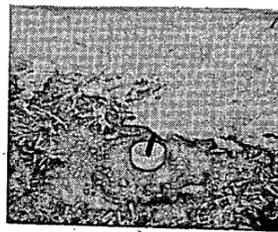


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