COMMUTER AIR SERVICE SUCCESSFUL IN NORTH DAKOTA

Two commuter airlines initiated scheduled air service between Fargo and Minneapolis and between Bismarck-Jamestown-Fargo and Minneapolis, while Northwest Airlines' pilots have been on strike.

Flight Development, Inc., Fargo, N.D., during the four-week period from July 24th start-up to August 24th, boarded 500 passengers between Fargo and Minneapolis and return using twin-engine Beech Barons, Aztecs and Beech 018 equipment, according to James A. Peterson, President. Flight Development, Inc. schedules two round trips per day between Fargo and Minneapolis during week days and one round trip per day on Saturday and Sundays.

Pro Airlines, Inc., Sioux Falls, S.D., which received a common air carrier certificate from the State Aeronautics Commission to provide intrastate air service, inaugurated flights on August 7th, with three round trips per day between Bismarck-Jamestown-Fargo and Minneapolis during week days and one round trip per day on Saturdays and Sundays.

During the first two weeks between August 7 and August 21st, Pro Airlines boarded a total of 666 passengers at cities along the route. Pro Airlines had a 50% passenger load factor the first week and 75% load factor the second week, according to Curtis Shupe, President.

Pro Airlines is using 15-passenger Beech Model 99-260 mile per hour turbo-prop aircraft on two round trips per day and a 9-passenger Beech Model E18 on the third round trip per day.

Both commuter airlines combined, boarded a total of 1,166 passengers during the first few weeks of the emergency service. The passenger volume continues to grow.

AIRPORT AID HIKE IN LIMBO

The Senate has passed legislation to increase federal aid payments for airports in North Dakota and the nation while outlawing airline passenger head taxes or boarding fees.

Mr. Vavra said the bill, which passed the Senate 82-2 makes it unlawful for any state or political subdivision to levy or collect passenger taxes or to levy and tax on gross receipts derived from passenger ticket sales on air transportation.

The legislation does not, however, prohibit airports from charging airline landing fees or other service charges for use of airports.

The State Aeronautics Commission supported the Senate bill because of increased federal participation in airport costs and because of a belief it will be the "sense of Congress" to outlaw passenger head taxes.

Following the Senate action, the House by a voice vote passed legislation which imposes an 18-month moratorium on all state and local taxes levied on airline passengers. While the House bill orders an investigation by the Civil Aeronautics Board, it does not provide increases or changes in present Federal-aid subsidies for airports.

The Senate bill provides: 1. Increases matching from 50 to 75 percent of construction costs of both airline and general aviation airports, except for 22 of the nation's busy airports. 2. Provides for 50 per cent federal share of costs of public use areas such as passenger terminal buildings; (at present there is no federal money available for this purpose) and 3. Increases initial federal share of land acquisition costs for future airport development to 100 per cent.

The question of airline boarding taxes, common in Europe, developed after the U.S. Supreme Court recently declared that such head taxes imposed by the State of New Hampshire on Evansville, Indiana Airport Authority did not violate the U.S. Constitution nor was there any federal law prohibiting such taxes.

Following the court's ruling, a number of cities imposed boarding fees of $1. except for Philadelphia which hiked its airport departure tax to $3. and eliminated its deplaning tax of $2.
**Canmore Events From the Blood Donor Non Becouse Costly Botth Ways**

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>October</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Campbell</strong></td>
<td></td>
</tr>
<tr>
<td>Cocktail hour and dinner</td>
<td>6:00 p.m.</td>
</tr>
<tr>
<td>Live entertainment</td>
<td>7:00 p.m.</td>
</tr>
<tr>
<td>Free time</td>
<td>8:00 p.m.</td>
</tr>
<tr>
<td>Buffet</td>
<td>9:00 p.m.</td>
</tr>
<tr>
<td><strong>November</strong></td>
<td></td>
</tr>
<tr>
<td>Lunch at Holiday Inn</td>
<td>12:00 p.m.</td>
</tr>
<tr>
<td>* University Aviation Program</td>
<td></td>
</tr>
<tr>
<td>Speaker: Jim Dabrowa</td>
<td></td>
</tr>
<tr>
<td>* Business Meeting</td>
<td></td>
</tr>
<tr>
<td><strong>December</strong></td>
<td></td>
</tr>
<tr>
<td>Horse Show</td>
<td>6:00 p.m.</td>
</tr>
<tr>
<td><strong>January</strong></td>
<td></td>
</tr>
<tr>
<td>Transportation to Hotel</td>
<td>8:00 a.m.</td>
</tr>
<tr>
<td>Breakfast</td>
<td>8:30 a.m.</td>
</tr>
<tr>
<td>Horse Show</td>
<td>9:00 a.m.</td>
</tr>
<tr>
<td><strong>February</strong></td>
<td></td>
</tr>
<tr>
<td>Lunch on your own. Transportation resumed</td>
<td>9:00 a.m.</td>
</tr>
<tr>
<td>Executive Board Meeting</td>
<td>9:30 a.m.</td>
</tr>
</tbody>
</table>

**Arrival and transportation to hotel - informal gathering**

The complex agenda within includes many other activities besides meetings. The complete agenda within includes many other activities besides meetings. The complete agenda within includes many other activities besides meetings. The complete agenda within includes many other activities besides meetings. The complete agenda within includes many other activities besides meetings.
CARBURETOR ICE ACCIDENTS

National Transportation Safety Board urged FAA to take action against preventable carburetor ice accidents. In the five-year period between 1965 and 1969, there were 360 general aviation accidents in which carburetor ice was a cause or a factor. Of the 636 persons involved in the accidents, 40 died and 160 were injured. There were 47 aircraft destroyed and 313 substantially damaged. Carburetor icing is one of the "unnecessary" causal factors in general aviation accidents.

INDUCTION ICING:

We used to talk about carburetor icing in past years, but with all the modern fuel metering devices used today, a more up-to-date terminology describes this flight condition as induction system icing. The latter term includes all types of fuel metering (fuel injection as well as carburetion), and also the parts of the induction system where ice can accumulate such as the air filter or bends in the system, as well as the critical areas of the fuel metering device like the throttle plate in the float type carburetor.

If operators understand what happens when the fuel metering device (carburetor or fuel injector) injects fuel into the air being sucked into the induction system by the engine as it operates, they can take suitable precautions to preferably avoid or eliminate induction system ice. But they also need to understand how the engine reacts when heat is applied to prevent induction icing.

There are two types of induction system ice:
1. Impact ice - forms on the air filter and bends in the system.
2. Refrigeration ice - forms in float type carburetor as result of fuel vaporization and low pressure.

THE FLOAT TYPE CARBURETOR AND ICING: Under certain moist (and "moist" is a key word here) atmospheric conditions, with air temperatures ranging anywhere from 20°F to 90°F, it is possible for ice to form in the induction system. The rapid cooling in the induction system or in a float type carburetor is caused by the absorption of heat from the air during vaporization of the fuel, and also due in part to the high air velocity causing a low pressure area through the carburetor venturi. As a result of the latter two influences, the temperature in the mixing chamber may drop as much as 70°F below the temperature of the incoming air. If this air contains a large amount of moisture, the cooling process can cause precipitation in the form of ice, generally in the vicinity of the "butterfly" or throttle plate, and may build up to such an extent that a drop in power output could result. If not corrected, ice accumulation may cause engine stoppage. Indications of icing to the pilot are a loss of RPM with a fixed pitch propeller and a loss of manifold pressure for the aircraft with a constant speed propeller, and the accompanying airspeed loss with both types.

Now the thinking pilot will anticipate possible icing and utilize heat before the ice forms. However, should he fail to anticipate icing with the float type carburetor and ice begins to form, he must definitely use the full heat position in order to be sure of eliminating the ice. Using full heat will initially cause a loss of power and possible engine roughness. Heated air directed into the induction system will melt the ice which goes through the engine as water, causing some of the roughness and more power loss. Therefore, unless the pilot knows what is actually happening, the stress and confusion of the situation will tend to frighten him out of using heat, and thereby could result in losing his engine to icing. But most of all, he must realize that despite this temporary roughness and attendant moderate power loss, the pilot is not damaging his engine at a cruise power of 75% or less with any amount of heat.


**FUTURE RESULTS**

Future results are drawn from the following sources:

- The Future Results Committee, which meets quarterly to discuss future developments.
- The Future Results Review Board, which meets monthly to assess progress and make recommendations.
- The Future Results Advisory Council, which provides guidance and feedback.

These results are then published in the Future Results Journal, which is distributed to all members of the organization.

**SPECIAL ANNOUNCEMENTS**

Special announcements may include updates on future developments, changes to policies, or important events relevant to the organization.

**MEMBER NEWS**

Member news includes updates on member activities, events, and achievements. This section is updated regularly to keep members informed.

**CONTINUING EDUCATION**

Continuing education courses are offered to members to enhance their knowledge and skills. These courses cover a wide range of topics relevant to the organization.

**NEWSLETTER**

The newsletter is a monthly publication that includes updates on recent developments, member news, and special announcements.

**EVENTS CALENDAR**

The events calendar includes details of upcoming events, workshops, and conferences. Members are encouraged to attend these events to network and learn from each other.

**MEMBER DIRECTORY**

The member directory is a searchable database that includes contact information for all members. This directory is updated regularly to ensure accuracy.

**ONLINE RESOURCE CENTER**

The online resource center is a comprehensive database of resources available to members. This center includes articles, reports, and other materials relevant to the organization.

**MEMBER BENEFITS**

Member benefits include access to exclusive resources, discounts on products and services, and opportunities for networking and collaboration.

**MEMBER FEES**

Member fees are based on a sliding scale based on income. There are also special rates for students and retired members.
The following is a reprint from a flying magazine called "Western Flying" which was published in Los Angeles, California. Robert Nelson, Pilot for the N.D. Game and Fish Dept. supplied the magazine from his private collection, which makes very interesting reading for some. At this time, we are also reprinting the only reference made about Minnesota, which refers to Max Conrad, who of course is well known in North Dakota.

Beach: Department of Commerce Inspector Lester Orcutt paid a visit to local fliers recently. The object of his visit was to become acquainted with student fliers that have started up in the last year. Harris Gilman flew to Dickinson where he traded his Velleie Monocoupe for the long nosed Eagle owned by Hank Abberon. Harris is well pleased with his bargain and flies the new ship well.

Lynching: Jack Calfo recently landed out to Hector Field. He had strapped a parachute, jumped into Dan Carver's Hisso Eaglecock, proceeded to spin, spiral and spot land for the approval of Lester G. Orcutt, D.C.I. Jack now flashes an L.C. around with the greatest of ease. You can look at it if you want to.

E.M. Canfield of Williston flew a hunting party from Fargo up into Canada in his Lycoming Stinson. Ed makes a similar trip each year.

Titus Richardson of Central Airways in Fargo is the proud owner of a new Waco Cabin, which he demonstrated to R.R. Halstead of Beach. Roy says the new ship looks and is good.

I know of some people around here who think Frank Spizlza was just spizzling when he said he was going to get a "ship".

Johnny Osterhouse of Mandan, pilot for Charles Towers has built a cabin, a la Dan Boone, on the Mandan airport, where he and his mechanic may dwell for the winter. Johnny recently made a trip to Cleveland, Ohio from which point he flew a 105 6-place Travel Air to Mandan, where he flies it commercially for Towers who bought it. Towers also purchased the Hisso Travel Air from Martin Schow of Stanton.

Minot: Cecil Shupe of Port O' Minot is rebuilding a Great Lakes Trainer, which he bought in Wyoming. When he puts the finishing touches on it, he will use it for training. Port O'Minot has another Stinson flying around. Tommy Lee purchased it way down in Illinois and Ed Schrow flew it up for him. Ed's Ryan is still in the repair room and will probably not be in the ozone till the robins return to our cloudless skies.

There is something about aviators that seems to lure them into the wilds occasionally. So many pilots are big game hunters that one should be able to make some simple equation about them like "all pilots love big game" or "big game seems to fall for pilots" or some such nonsense. Nevertheless, among the big game hunters in this section, one finds many familiar pilot friends. Dan Carver, aerial weather observer at Fargo, N.D. and Clyde Watkins, student pilot at Fargo, killed their moose in the wilds of Ontario. Guy Miller of Winner, S.D. and his brother Clarence Miller of Valentine, Neb., both Stinson pilots, went elk hunting in Wyoming. Ed Canfield has taken several loads of hunters up to his cabin in Northern Canada. There they stalk the wary moose. Ed's fingernails were nearly ruined in Minot while he and three hunters patiently waited for weather conditions to clear up so they might get to their hunting grounds.

Clyde Ice is now at Watertown, S.D. where he is flying a 300 Travel Air for Watertown Air Service. They contemplate establishing a route from the Twin Cities to Rapid City, S.D.

Bill O'Neill of Fort Shaw, Mont. flew his Stinson to Sioux Falls where he passed his tests for L.C.

Mr. Manley and Dr. Lloyd of Mitchell, S.D., both passed their tests for private pilots in their Fairchild trainer.

Williston: Ben Myrhe of Williston Airport fame has sold his Monocoupe to Wesley Rupp of Wahpeton, N.D. Wesley has since taken his transport tests and now transports around and about.

Bill Fallen and Titus Richards of Fargo, N.D. spent a few days in Williston. Fallen is flying his new Waco C with Jacobs motor.

Winona, Minnesota: Max Conrad, Jr., of the Conrad Flying Service, Winona, is doing private flying at the University of Notre Dame. His landing field is right on the campus, adjacent to the stadium. Several of the priests are enthusiastic passengers on short hops. On a recent trip to his airport at Winona, Minn., Mr. Conrad took his two-year-old daughter Judy, as co-pilot. She handled the navigation very capably, and is a seasoned air traveler. He is making trips to the Notre Dame games away from home with loads of ardent N.D. football fans.

newsletter mailing list to be pared of dead wood

Unless you are currently registered as an airman, mechanic or have some other certificate, your name will be removed from the N.D. AVIATION NEWSLETTER mailing list, by the office staff in their yearly purge. So if you don't want to be classified as dead wood, send in that $1.00 if you are a student or $3.00 if you are private, commercial or mechanic, and get yourself registered and legal, if you are flying.

* * *
ACCIDENTS - continued

Pilot: Harold E. Finley, Oberon, N.D.
Time & Place: June 29, 1972, 8:55 a.m., Maddock, N.D.
Pilot Time: RATINGS - NONE
Aircraft & Damage: Champion, Right wing, left wing, fuselage, prop, landing gear
left elevator and stabilizer damaged.
Pilot Statement: Aerial crop spraying east & west. Power line on east end of field,
made normal spray run to east. Pulled up and made procedure turn around, making
let down into field over power line. Left landing gear caught power line. Power
line pulled aircraft into ground. Aircraft hit ground flat, left wing dug in, then
airplane cartwheeled.

Pilot: Erik Kristensen, 310 - 20th St. N.W., Minot, N.D.
Time & Place: July 2, 1972, 3:26 p.m., Minot International Airport
Pilot Time: Private, SEL, 90 TT, Age 33
Aircraft & Damage: Piper PA-18 - Damaged landing gear, wing, prop.
Pilot Statement: On final runway 30, undershot the runway, added power too fast
which caused the engine to flood, causing the plane to land short of the runway.
Pilot Recommendation: Higher airspeed

Pilot: Pete Marinucci, 301 Broadway, Fargo, N.D.
Time & Place: July 22, 1972, 2:45 p.m., Kindred, N.D.
Pilot Time: Private, SEL, Sea, 214 TT, Age 27
Aircraft & Damage: Cessna 120, damaged wings, struts, fuselage, bent motor mount,
prop.
Pilot Statement Condensed: Pilot taxied into a low spot filled with water,
applied additional power and overturned on its back

Pilot: William M. Grocock, Box 277, Tisdale, Saskatchewan
Time & Place: August, 1972, 10:20 a.m., Jamestown, N.D.
Pilot Time: Private, 438 TT, Age 48
Aircraft & Damage: Piper PA-20, Damaged right wing and undercarriage
Pilot Statement: Landing approach and touch down, aircraft veered to left, turning
completely around.
Pilot Recommendation: Approach glide not constant, airspeed on high side.

Pilot: Thomas J. Marsh, Fargo, N.D.
Time & Place: July 2, 1972, 1725, 45 miles South of Oakes, N.D.
Pilot Time: Private, ASEL, 234 TT, Age 35
Injuries: FATAL
Aircraft & Damage: American AA-1A, Aircraft totally demolished.
Investigation Revealed: Shortly after departure, witness stated he looked up and
saw the aircraft at low altitude in a spin, just prior to impact.

CANADIAN AERIAL APPLICATORS OF AGRICULTURAL CHEMICALS

The Canadian Government has released a report on the Canadian National totals
of licensed aerial applicators of agricultural chemicals in Canada for the 1970-
1971 year as follows:

<table>
<thead>
<tr>
<th>Number of Commercial Aerial Applicators</th>
<th>Total Number of Commercial Fixed Wing Ag Aircraft</th>
<th>Number of Commercial Wing Ag Aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td>99</td>
<td>183</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Private Aerial Applicators</th>
<th>Total Number of Private Fixed Wing Ag Aircraft</th>
<th>Number of Rotary Wing Ag Aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td>109</td>
<td>120</td>
<td>2</td>
</tr>
</tbody>
</table>

This includes licenses issued by the Canadian Government (DOT) in the Canadian
Provinces of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec and
the Maritimes. Some of these aircraft are also used in the forestry aviation
industry.

During this period, there were a total of 303 fixed wing licensed Ag aircraft
and 30 rotary wing ag aircraft licensed in all of Canada.

The agricultural provinces of Canada, during the average growing season, pro-
duce about 5 times the total bushels of spring wheat compared with North Dakota.

During the 1972 season in North Dakota, the Aeronautics Commission licensed
175 commercial applicators and 7 private applicators for a total of 182 operations
with a total of 268 fixed wing aircraft. From these figures, it would appear that
there should be ample opportunity for Ag Aviation growth in Canada in the years to
come.