

# WINGTIPS



SEP-OCT 1998

## TEXAS AIRPORT SYSTEM PLAN

AUSTIN—When many of us think of general aviation airports, if we think of them at all, we may think that they have nothing to do with us. But the impact these facilities have on the lives of the average Texan might surprise you.

Another thing that might surprise you is the role the Texas Department of Transportation (TxDOT) plays in general aviation. In addition to building and maintaining the highway system we all enjoy and from which we all benefit, TxDOT also helps protect and enhance the investment in the state's aviation system.

More than 300 Texas communities enjoy the benefits of a public airport. These airports are the base for more than 3 million flight hours per year – flights that provide services that might not be available without an airport.

General aviation airports basically provide the same services that commercial airports do, but on a smaller scale. More importantly, they are part of the community infrastructure that serves and benefits the entire community. General aviation airports are divided into four categories. Reliever airports attract general aviation traffic in metropolitan areas to reduce congestion at commercial airports. Transport airports provide access to turboprop and business jet aircraft and most single and twin-engine piston-powered aircraft. General utility airports provide access to smaller communities, and provide limited access to business jets. Basic utility airports provide access to communities for purposes such as agricultural or medical use.

Aviation has an impact on Texas economy of at least \$45 billion per year and supports a variety of businesses large and small.

The ways in which a general aviation airport supports its community are manifold. When air travelers—businessmen, tourists, hunters, fishermen—outside a region use a general aviation airport, the entire community benefits. These travelers spend money throughout the community on accommodations, food, shopping and recreation. The money is then re-circulated by the residents on many of the same goods and services. Consequently, this increased business is called the "multiplier effect."

Agriculture also benefits from aviation. Pest control was one of the earliest uses of aircraft within farming communities. Now,

with high tech agricultural methods, such as hydro-seeding, aviation has become an integral part of the modern farmer's tools.

Improved air access to a community also translates into other benefits. Travelling doctors provide critical medical services to residents of rural communities, and emergency air ambulances transport patients to trauma facilities in larger cities. And the speed and convenience that flying affords, also makes it a valuable tool for veterinarians.

Communities also benefit in ways not commonly associated with aviation. Law enforcement activities, such as aerial surveillance and apprehension of suspects are often overlooked. Using planes is increasing as law enforcement agencies recognize the efficiency and effectiveness of general aviation, particularly in remote areas.



### Flight Safety Advisory

To provide adequate air access to communities within the state, TxDOT has developed the Texas Airport System Plan (TASP). Its goal is to promote and improve the statewide system of airports similar to the interconnecting system of highways that serves our state so well. TxDOT Aviation Division provides technical assistance, including reviewing airport layout plans, evaluating obstructions and the location of proposed new construction, preparing zoning packages and obtaining environmental clearances.



### AIRPORT GRANT PROGRAM APPROVED

On August 26, 1998, the Texas Transportation Commission approved the TxDOT Aviation Facilities Grant Program for Fiscal Year 1999 which will provide funding for airport improvement projects at 40 communities across the state. Most of the grant requests approved by the Commission were for airport planning or engineering design for future construction projects. As the design for each individual project is completed, a follow-up request will be made to the Commission for approval of the actual construction funding. Total grant funding for FY99 is expected to be between \$37 million and \$40 million; which includes \$15 million in state funding and \$22 million to \$25 million in federal funding, depending upon the level of funding authorized by Congress. It is anticipated that Congress will pass legislation authorizing FY99 funding prior to October 1.

### INCREASE IN FUNDING FOR ROUTINE AIRPORT MAINTENANCE

On August 29, 1996, the Texas Transportation Commission authorized a new program, the Routine Airport Maintenance Program (RAMP), to provide financial and technical assistance to communities to assist in preserving the investment being made in local airports. Beginning September 1, 1996, the Department provided, to each community that wished to participate in the program, a grant of up to \$10,000 per year for routine maintenance on a 50/50 matching basis. District field personnel were also made available to provide recommendations as to what type of maintenance work was needed. Due to the success of the program, the high priority that TxDOT places on maintenance, and the fact that maintenance work frequently exceeds the \$20,000 combined state/local funding; the Commission recently approved an increase in state funding up to \$20,000 per airport per year for routine airport maintenance beginning September 1, 1998. This effectively doubles the amount of maintenance funds available for individual airports. In addition, the program has been given more flexibility as to eligible work items and in how the work is accomplished. If you would like more details on any aspect of RAMP call Karon Wiedemann in our office at 1/800-68-PILOT. ➔

## WINGTIPS

is an official publication of the Aviation Division of Texas Department of Transportation. The intent of WINGTIPS is to keep the aviation community and others interested in aviation informed of local developments in aviation. Printed circulation: 11,500.

Comments and suggestions are welcome. Submission of articles is subject to space and editorial review; and should be directed to the editor at:



Sep-Oct 1998

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## MEN OF FLYING

Bell Helicopter Textron, Inc. won the American Helicopter Society's prestigious Igor I. Sikorsky International Trophy in April 1997 because of native Texans John W. Williams of Arlington and Ron Bower of Austin. These pilots assured themselves a place in aviation history by establishing a new around-the-world-speed record in a helicopter.

The feat was accomplished in a Fort Worth-based, twin-engine Bell 430 helicopter that flew westward from London, England on August 17, 1996; returning to London on September 3. The world record of 17 days, six hours, 14 minutes, and 25 seconds is notably entered in the Guinness Book of Records. The flight covered 23,600 statute miles over 14 countries, including Russia, where, with a navigator-interpreter aboard, the pilots made 18 landings. The journey covered every state except Hawaii and was instrumental in the team gathering extensive data for a pilot-fatigue study by the National Aeronautics and Space Administration (NASA).

Williams is a senior test pilot for Bell Helicopter Textron, Inc., Fort Worth, Texas and Bower is president of Austin Jet International, Austin, Texas.



Of historical note, Williams comes from a family of Texas' most active pioneers – a great-great grandson of an early Texas settler named Leonard Williams. Leonard Williams was a Texas pioneer, soldier, and Indian agent who made history in early Texas as an interpreter and negotiator for the 'Texians' with various Indian tribes. Arriving in northern Texas in 1819 with his family, the senior Williams quickly began his service for Texas Independence. Leonard Williams died on April 14, 1854 and is buried on private land in Limestone County. The U.S. Congressional Record of April 8, 1965 cites his service to Texas and by the Texas Legislature in May 1965. A historical marker on Texas 31 near Mount Calm is placed in his honor. ➔

Source: Texas Highways, August 1998

### CORRECTIONS...mea culpas

- ➔ Statistics should read: Bluebonnet Hills Golf Course  
18 holes, 6,503 yards, par 72, driving range;  
9100 Decker Lane, Austin, Texas ; 272-4228.
- ➔ Confederate Air Force should be:  
[www.avdigest.com/caf/caf/html](http://www.avdigest.com/caf/caf/html)



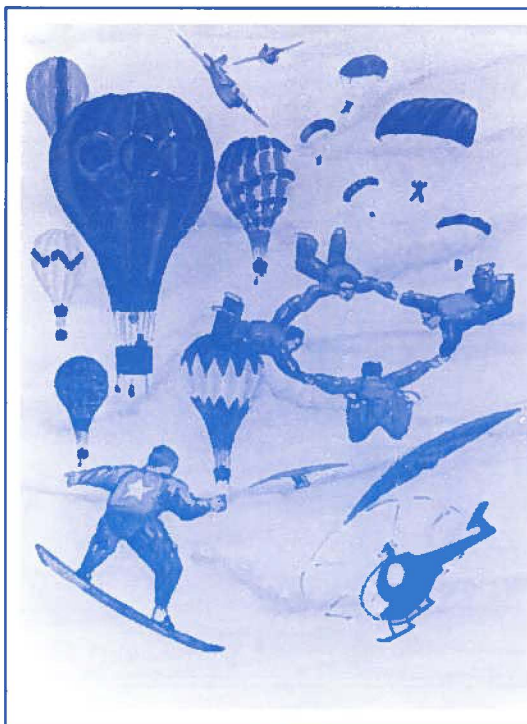
**Adam Liddell**, 17 years old, from Fort Davis High School in Fort Davis, Texas won First Place International, Category III, in the 1998 Art Contest. The international judging was held in England on July 1-4, 1998. Liddell received a Gold Medal from the Federation Aeronautique Internationale (FAI). Award ceremonies were held in France.

Last year, Texas also had a First Place International winner in Category III. Catherine Choi, 17 years old, from Clear Brook High School in Friendswood, Texas won the award.

Special thanks to our state judges for 1998 International Aviation Art Contest: Mel Brown, Texas Aviation Artists; Michelle Hannah, TxDOT Aviation Division; Rob Bishop, TxDOT Electronic Publishing; and Colly Kreidler of Rain Dog Studio.

**Congratulations again to Adam Liddell!**

*Let's keep the record going and go for another international award in 1999! ➔*



Adam  
Liddell

## TEXAS AIRPORT SYSTEM PLAN

*continued from page 1*

TxDOT can help a community improve its airport through the Aviation Capital Improvement Program. This program identifies specific projects for development during an upcoming three-year period. TxDOT Aviation Division programs projects for general aviation airports identified in the state system plan. Many communities will benefit from the program this year as the Texas Transportation Commission is expected to approve more than 37 million in grants for airports around the state.

Grants are used by communities to establish, construct, reconstruct, enlarge or repair their airports.

TxDOT also assists airport sponsors with the upkeep of their airports. Many communities partner with TxDOT in the Routine Airport Maintenance Program (RAMP). RAMP uses TxDOT resources to help with pavement repair and markings, drainage improvements and general maintenance.

Certainly, aviation plays a great role in the welfare of all Texans, and TxDOT is in the vanguard with its support.



## A QUICK LOOK... Hill County & Hillsboro

Hill County and Hillsboro – Hill County was created in 1853 out of a wilderness populated by small bands of Indians, horse soldiers, bear, antelope, buffalo, wild horses and deer.

Hillsboro was settled by strong-hearted pioneers who saw the value of the Cross-Timber Region as a natural resource of timber for homes and good soil conducive to cotton production. The abundant natural artesian wells were attractive to both early settlers and native Indians, such as the Cherokees, Comanches, and the friendly Kickapoos.

The first Hill County Courthouse was constructed of elm poles, clapboard and dirt floors, and measured 12 feet square. Three more structures served as courthouses on this site until the present Second Empire Courthouse structure was built in 1890 for \$83,000.

Hillsboro Municipal Airport is owned by the City of Hillsboro. Airport attendance schedule is from 8:00 a.m. to 5:00 p.m., Monday through Friday. The airport manager is Bill McLelland, P.O. Box 568, Hillsboro TX 76645, 254/582-3478.

POINTS OF INTEREST: (1) Market Depot, (2) Old Hillsboro Cemetery, (3) Hill County Cell Block Museum, (4) Old City Park, (5) Texas Heritage Museum, and (6) Residential National Register Historic District.

SOURCE: Hillsboro Chamber of Commerce.

## WINGTIPS GUIDELINES

### September 1998

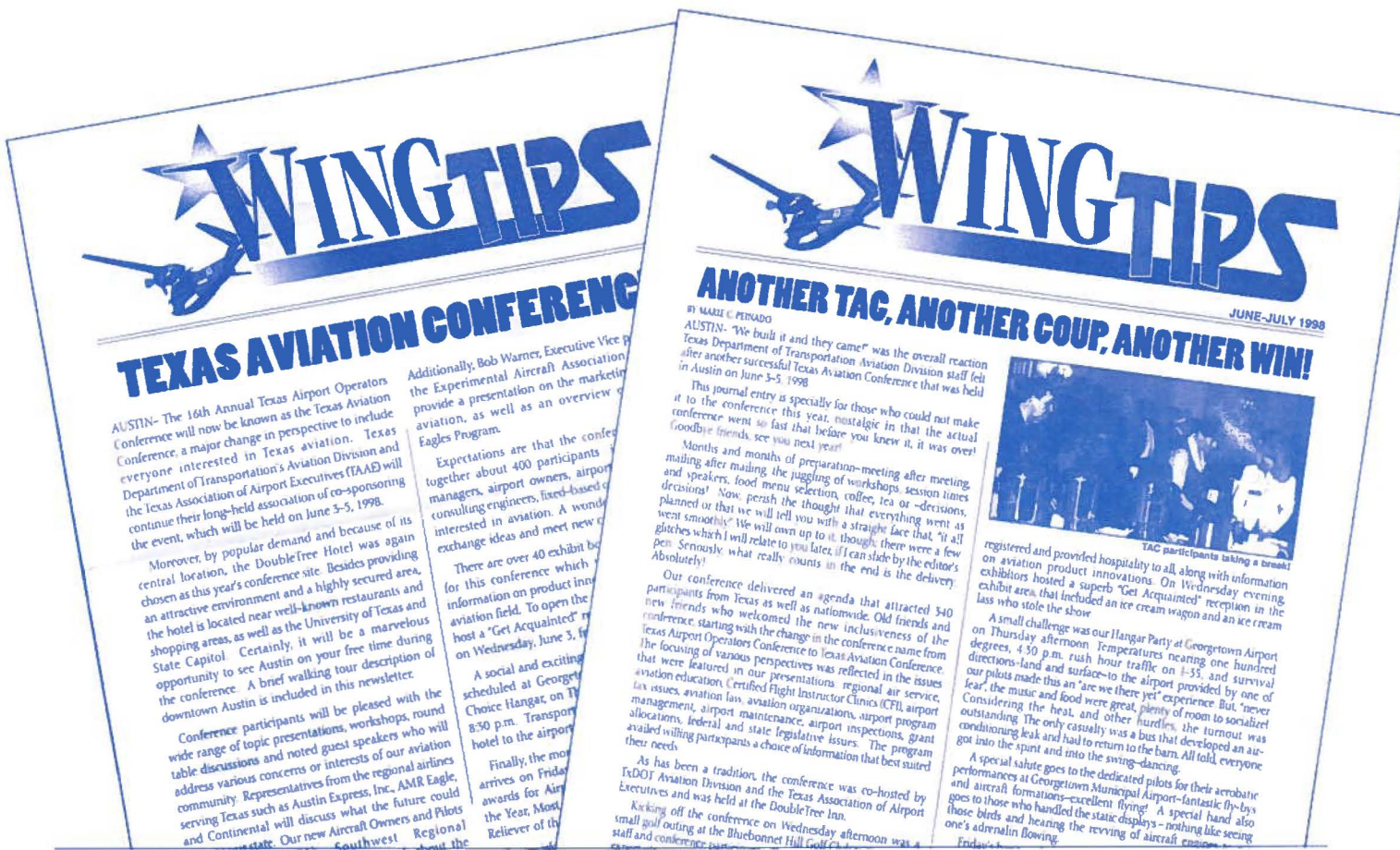
- 1) Wingtips will not endorse officially any goods, services, or products of any particular business; nor endorse individual or organizational points of view on aviation issues in Texas. This newsletter is informational in nature, as well as educational.
- 2) Submissions to Wingtips for publication should not be more than 400-500 words. Moreover, material is subject to editorial review and space limitations.

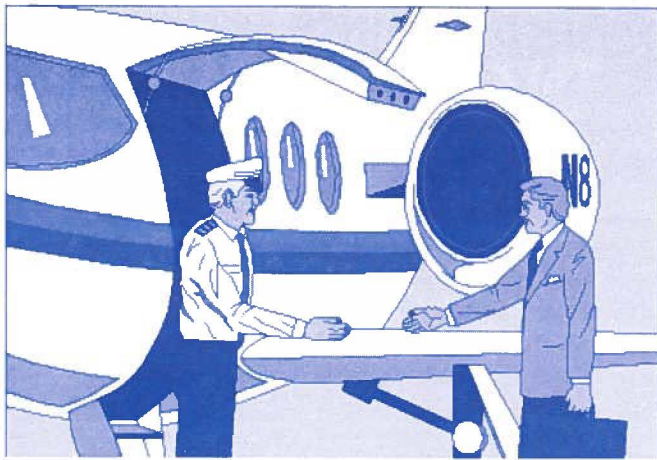
Statement of fact or opinion expressed in a submission published in Wingtips does not necessarily represent the view point of Wingtips.

- 3) Wingtips is published quarterly. Copy deadlines are:

- ➔ **JUNE-JULY ISSUE** - deadline June 10 for July distribution
- ➔ **SEPTEMBER-OCTOBER ISSUE** - deadline September 10 for October distribution
- ➔ **NOVEMBER-DECEMBER ISSUE** - deadline November 10 for December distribution
- ➔ **JANUARY-MARCH ISSUE** - deadline January 30 for March distribution

- 4) Wingtips' mailing list: to add your name to the mailing list, please call 512/68-PILOT or FAX the information to 512/416-4510.
- 5) Wingtips submissions or corrections should be directed to Wingtips editor: Marie C. Peinado, Aviation Division, Texas Department of Transportation, 125 E. 11<sup>th</sup> Street, Austin, Texas 78701-2483 or contacted at 512/416-4550.





## 1999 ANNUAL TEXAS AVIATION CONFERENCE

The 17<sup>th</sup> Annual Texas Aviation Conference sponsored by the TxDOT Aviation Division and the Texas Association of Airport Executives will be held on April 7-9, 1999 in Austin, Texas. The Austin North Hilton at 6000 Middle Fiskville Road in Austin, Texas will be the next conference site. The continued increase of conference participants and exhibitors prompted us to seek larger accommodations for our needs. The hotel has undergone extensive remodeling, offers larger meeting and exhibit areas, and is centrally located.

We will begin diligently to work on plans and preparations for TAC in 1999. We hope to offer you a conference that will be informative, useful and fun. We will provide you with more details on the conference as they are finalized.

*Mark your calendar, and we hope to see you next year!*



## CAREER OPPORTUNITIES IN AVIATION

◆ **Women in Aviation, International** is seeking Co-op/Interns. Students needed for Fall 1998 or Spring 1999. One or two semesters options available. Prefer junior or senior majoring in an aviation-related field. Must have a 3.25 GPA or above. Opportunities are available at headquarters near Dayton, OH, and southern office in Auburn, AL. Computer skills are required (word processing required/database experience preferred). Work will include a variety of projects including assistance with planning and implementing annual conference, magazine production, and research projects. Interested persons should send a letter, resume (including computer experience) and a current transcript to Co-op/Internship, Women in Aviation, International, 3647 S.R. 503 South, West Alexandria, OH 45381.

◆ **Southwest Airlines** is accepting resumes for pilot positions. For complete information on the minimum requirements and items which must be included in the application package, contact the People Department at Southwest Airlines, P.O. Box 36644, Dallas TX 75235-1544.

◆ **Leading Edge Air, Inc.** is looking for a Certified Flight Instructor (CFI) for western Pennsylvania. Build 75-100 hours per month instructing Part 91 piloting services and 135 co-pilot operations. Includes some multi-time and plenty of actual instrument time. Competitive hourly rate. Low-time preferred. Send resume to LEA, Attn: Chris, 152 Aviator Lane, Friedens, PA 15541.

◆ **Dallas Airmotive, Inc.** is seeking licensed Airframe & Powerplant or Powerplant licensed maintenance technicians. The candidates should have two or more years of experience in gas turbine engines, though recent A&P school graduates will be considered. Dallas Airmotive, Inc. operates an engine overhaul facility (Love Field), satellite shops throughout the U.S., and two in the United Kingdom. There are opportunities for advancement within our structure. Formal training in specialized areas and processes is offered through our training facility. Excellent benefits. Fax resumes to Human Resources, 214/956-2915. ✈



## 1999 INTERNATIONAL AVIATION ART CONTEST

Entry forms for the 1999 International Aviation Art Contest are now available from TxDOT Aviation Division. The theme for the 1999 art contest is "Flying is Fun." The contest offers school age children the opportunity to become involved in aviation through art. Moreover, the objective of the contest is to motivate and encourage children to become more familiar with and participate in aeronautics, engineering and science. Students between the ages of six and 17 may participate in the contest and entries must be postmarked by February 5, 1999. Entries are to be sent to our office mailing address: 125 E. 11<sup>th</sup> Street, Austin, TX 78701-2483. For more details, please contact Yolanda Alvarez, Aviation Division, 1/800/68-PILOT. ✈



Mesquite Metro Airport tie-down apron.

## EFFICIENT COST EFFECTIVE METHODS FOR ASSESSING THE CONDITION OF IN-SERVICE PAVEMENTS

BY JERRY DALEIDEN, PE AND TIM MARTIN,  
EIT, BRENT RAUHUT ENGINEERING

AUSTIN—Non-destructive structural evaluations have proven to be a cost-effective tool for agencies to assess existing conditions of in-service pavements.

During a recent project at the Mesquite Airport, non-destructive testing practices were employed to evaluate a tie-down apron using an 8000E falling weight deflectometer (FWD) to conduct structural evaluations. The FWD test results allowed engineers to evaluate the structural capacity of the existing apron and locate areas of weakness in the pavement and subgrade. The joints of the concrete pavement were tested with the FWD to determine the joint transfer efficiencies, which indicate the effectiveness of the dowels to transfer the load from one slab to the other.

Geotechnical investigations were also conducted to ascertain the thickness of the pavement and determine the base and subgrade material properties. The geotechnical investigation provided site-specific conditions of the soils. This was valuable for determining the moisture content of the soil. The test results identified areas of weaknesses where moisture was pooling beneath the pavement surface. Once the extent of the weaknesses and their causes were determined, it was possible to recommend cost-effective maintenance and rehabilitation strategies.

A remaining life analysis was also conducted to determine the amount of lightweight aircraft that could be applied before failure should be anticipated in the pavement. Failure of a pavement can be measured in many ways. In this particular investigation, failure was assessed on the basis of accumulated damage. This was calculated by determining the amount of damage applied by the stresses of one aircraft, before the accumulated stress exceeded the strength. Once the amount of allowable aircraft was determined, an estimate of the annual traffic was then used to calculate the number of years the pavement could be in-service before rehabilitation was required. ➔

## AIR SERVICE UPDATE

The Regional Air Service Task Force and other interested parties met on Thursday, September 3 to review, discuss and approve a proposal for an in-depth statewide study on air service in Texas. The primary objectives of the study will be to identify existing air service levels at airports that wish to participate in the study and determine what airports could do to attract airline interest to their areas. Some airport officials, realizing that the results of the study can show negatively on their airports, nevertheless voted to commission the study and to begin gathering possible information on candidates for airport consultants. The research, additionally, will estimate the degree of leakage—passengers driving to larger airports for lower fares and better travel options—at participating airports. Most importantly, the study will analyze the potential for improved air service at Texas airports and perhaps assess the potential impacts on increased service.

More information on this task force's progress will be reported in the next Wingtips newsletter. ➔



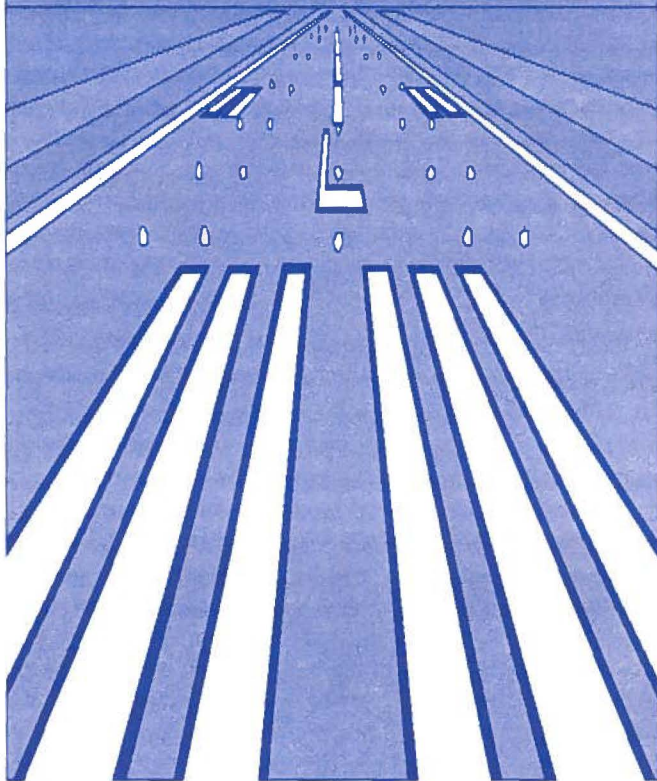
## AIRPORT DIRECTORY NOW AVAILABLE

The 1998 Texas Airport Directory of Open To The Public Airports, which includes airport layouts and services available at these airports, is now on sale for \$5.75 per copy. For a copy, please mail a request and enclose a check or money order made out to TxDOT/Aviation Division, P.O. Box 5020, Austin, Texas 78763. For more information or comments about the directory, contact Yolanda Alvarez at 1/800/68-PILOT. ➔

## NOTICE!!! NOTICE!!! DEADLINE APPROACHES!!!

The Texas Natural Resources Conservation Commission (TNRCC) has new requirements relating to all underground storage tanks (UST's). As an owner or manager of an airport facility that has either active or inactive fuel operations with UST's, this applies to you. New leak detection systems, and spill and overfill prevention equipment are required. You have until December 22, 1998 to upgrade, replace or remove your UST (leaking or non-leaking). If you have any questions, please call the TNRCC Petroleum Storage Tank Division immediately at (512) 239-2182. ➔

# HOW IMPORTANT IS JOINT DENSITY ON AIRPORT PAVEMENTS?



Asphalt pavement cracks and deterioration often start in the joints between the paving lanes. Continuous highway traffic runs parallel to the joints and kneads the flexible pavement into the joints, thus preventing cracks from starting. On airport pavements, however, joint density is especially important because airport traffic flows randomly and crosses joints, unlike traffic following a highway lane.

Engineers can extend the life of the airport pavement and reduce the likelihood of cracks by ensuring high density, particularly in the area of the joints. When constructing pavement, engineers consider both the size of the grains of aggregate (usually lime rock) and the amount of liquid asphalt.

To understand the engineer's challenge, imagine pouring water into a jar filled with marbles. If all the marbles are the same size, the large spaces between the marbles allow plenty of room for water. If the marbles vary in size, smaller marbles can fill spaces between large marbles thus increasing the density of the jar's contents. In the same way, engineers use varying sizes of aggregate thus filling as many spaces as possible to increase overall pavement density. ✈

SOURCE: Florida Flyer, Winter 1998

# DID YOU KNOW?

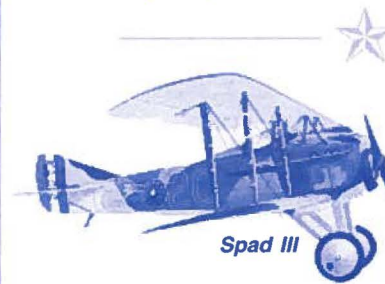
## U.S.A. Control Towers

A poll commissioned by The Professional Pilot Magazine found among other results that the best Control Towers are as follow:

- ★ 1. Chicago ORD
- ★ 2. Washington DCA
- ★ 3. Teterboro TEB
- ★ 4. Atlanta ATL
- ★ 5. Dallas Love DAL
- ★ 6. New York La Guardia LGA
- ★ 7. Van Nuys VNY
- ★ 8. Dallas-Fort Worth DFW
- ★ 9. Memphis MEM
- ★ 10. Chicago Midway MDW
- ★ 11. Houston HOU

The poll, in its 24<sup>th</sup> year, is administered by the Alexandria, Virginia, accounting firm of Minter, Morrison and Grant. The firm tallied and certified 5,820 ballots it received from Pro Pilot readers. Seven judges witnessed the tallying of the results and verified their authenticity and resolved any ties. Consequently, the poll is generally recognized as the principal authority on who's the best of the best in ground service. ✈

SOURCE: Flyer, April 3, 1998.



## Aviation Milestones

- ✈ **September 8, 1927** – The Cessna Aircraft Company is established in Wichita, Kansas.
- ✈ **September 13, 1935** – Howard Hughes sets an aviation speed record of 352.38 mph.
- ✈ **September 24, 1929** – James H. Doolittle makes the first recorded solo instrument landing.
- ✈ **November 1, 1941** – The Civil Aeronautics Administration begins to operate airport traffic control towers for the first time.
- ✈ **November 21 1977** – The Concorde lands after having made its first flight from London, England.
- ✈ **November 29, 1920** – The start of the first regular mail service from the Twin Cities to Chicago.

SOURCE: Minnesota DOT, Office of Aeronautics, 1998 Calendar.

## VIDEO LIBRARY UPDATE

Although our physical office was closed to the public while our building was under construction, we continued our service to the public through the mail. The video library is now open to users who wish to visit our office. The Aviation Division Video Library is located at 150 E. Riverside Drive, South Tower, Room 1B.8, Austin, Texas. We have new hours: Mon-Fri 8:30 a.m. – 4:00 p.m., closed for lunch, 12:00-1:00 p.m.

If you plan to visit our library, please call us ahead to ensure that we have the tapes that you need on the shelf. We are on a first-come, first served basis and because of the high volume of requests, we cannot accommodate video reservations. For users in the surrounding areas, if it is an inconvenience to stop by our library, we can mail the video tapes to you, if available.

**POLICY:** any resident of Texas can check out 3 video tapes at a time for 2 weeks at no charge, only return postage is necessary.

To enroll in the membership database, write to our mailing address: Aviation Division, TxDOT, 125 E. 11<sup>th</sup> Street, Austin, Texas 78701; give your name, address, telephone number, as well as driver's license number. After the membership enrollment, a video directory listing tapes available will be sent to you for your review. For further information contact Donald Brown at 1/800/68-PILOT or 512/416-4500. ➔

## FAVORITE WEB SITES

- ➔ FSDO, Lubbock Texas  
[www.faa.gov/fsdo/lbbfsdo/](http://www.faa.gov/fsdo/lbbfsdo/)
- ➔ Weather Resource (color doppler radar images, radar loops, hundreds of USA cities/regions)  
[www.intellicast.com](http://www.intellicast.com)
- ➔ Thunderbirds  
[www.nellis.af.mil/thunderbirds](http://www.nellis.af.mil/thunderbirds)
- ➔ Air Transport Association  
[www.air-transport.org](http://www.air-transport.org)
- ➔ University of Texas Aviation Research Center  
[www.utexas.edu/ftp/depts/ctr/aviation/index.html](http://www.utexas.edu/ftp/depts/ctr/aviation/index.html)
- ➔ Civil Air Patrol  
[www.cap.af.mil](http://www.cap.af.mil)

## MARK YOUR CALENDAR!



Oct 10, 1998 .....	Amigo Air Sho, El Paso, Texas
Oct 10, 1998 .....	Gathering of Memories, San Marcos, Texas
Oct 17, 1998 .....	Wings Over Houston, Houston, Texas
Oct 23, 1998 .....	Flying M Ranch Fly-In, Reklaw, Texas
Nov 14, 1998 .....	Lone Star Fly Days, Galveston, Texas
Dec 7, 1998 .....	Pearl Harbor Memorial, Rio Hondo, Texas

Check our web site (TxDOT Aviation) for updates: [www.dot.state.tx.us](http://www.dot.state.tx.us)

