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One-Third of SC's Runways Need Attention

All State Pavements Evaluated

Nearly one out of three runways in South Carolina are in urgent need of refurbishing, and over \$21 million is needed to put all airfield pavements in good condition, according to a state Pavement Evaluation conducted on the state's 57 public-use airports.

In the Pavement Evaluation, 31 percent of primary and secondary runways evaluated were rated poor, very poor or failed the evaluation conducted for the state Aeronautics Commission. Pavements were graded on strength and condition according to the Federal Aviation Administration's standardized method of reporting airport pavement.

The Pavement Evaluation also

found that if all airfield pavements were refurbished to an acceptable condition, it would take approximately \$21,872,000.00. However, a project of this magnitude and scope has little hope of being funded entirely, so a priority system has been established to take advantage of whatever funding is allocated through state and federal sources.

The state Aeronautics Commission's goal is to maintain all primary and secondary pavements to a safe condition of fair or better (having a Pavement Condition Index of 70 or more) which the study estimates will take \$15,368,000. If pavement conditions fall below an Index of 70 refurbishing is necessary and airport safety is impaired.

The state Pavement Evaluation inspections consisted of a visual condition survey for both rigid and flexible pavement surfaces. The condition survey focused on signs of distress resulting from the influence of aircraft traffic and/or the environment.

The pavement condition survey procedures and sampling techniques that were utilized are fully described in FAA Advisory Circular AC: 150/5380-6.

A total of 498 public use airfield pavements were included in the study. Each of these pavements was inventoried, inspected and its respective Pavement Classification Index was assigned.

The tabulations and ratings of the airfield pavements contained in the Pavement Evaluation were strictly based on visual inspections of the pavements.

The procedure the evaluating the condition survey data and computing the Pavement Classification Index (PCI) values provided the common index for assessing the condition and rating of the pavements and also provided a rational basis for prioritizing restoration and repair projects.

Upon close examination, the data collected about pavements

See State Pavements, Page 6

Airport Noise:

A Problem of Compatibility

Over three million people live in areas exposed to aircraft noise levels of 65 day-night sound level (DNL) or greater. Approximately 10 percent of these people are exposed to levels of 75 DNL or greater.

The FAA, in conjunction with other federal agencies, has established a guideline of 65

DNL as the level at which aircraft noise becomes objectionable for residential purposes.

The following information comes from a FAA publication entitled "Airport Noise Compatibility Planning and Programs."

Public opposition to airport noise is becoming increasingly vo-

See Airport Noise, Page 6



PALMETTO AVIATION is an official publication of the South Carolina Aeronautics Commission. It is designed to inform members of the aviation community, and others interested in aviation, of local developments in aviation and aviation facilities, and to keep readers abreast of national and international trends in aviation.

The Aeronautics Commission is a state agency created in 1935 by the South Carolina General Assembly to foster and promote air commerce in the state.

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AOPA Reveals New Publications

Books, pamphlets and videotapes among the offerings

AOPA has done it again! They have released many new, exciting and informative publications.

New aviation safety videotapes, books and pamphlets for pilots and flight instructors are now available from the non-profit AOPA Air Safety Foundation.

The new publications vividly illustrate the techniques of avoiding accidents and improving skills while explaining new regulations and procedures.

All money received from Air Safety publications is re-invested in aviation safety research, free safety seminars and other new products that benefit all pilots.

Here are just a few arrivals:

- **Aircraft Icing**, a 30-minute video which combines state-of-the-art computer animations with in-flight footage to illustrate the hazards and prevention of icing, \$29.95;
- **Midair Collision Avoidance**, a 27-minute videotape. Learn about the limitations of the human eye, understand collision avoidance methods and develop an effective scanning technique, \$29.95;
- **Recreational Pilot Handbook**, this 78-page book explains from start-to-finish the recreation pilot certificate. \$10.00;
- **Flight Instructor's Companion**, an indispensable pocket-sized reference guide for flight instructors who needs to "have everything in one place." \$9.95;
- **Pilot Operations at Non-Towered Airports**, a pamphlet designed to outline recommended procedures for safely flying to and from airports without control towers. This is the third in a series of sectional chart-sized pamphlets, \$1.00.

For more information on how to order to call AOPA Air Safety Foundation at 1-800-638-3101 or write to 421 Aviation Way, Frederick, Maryland 21701.

25th Annual Southeastern Airport Management Seminar

The 25th Annual Southeastern Airport Management Seminar will be held February 25-27 at Auburn University, Alabama.

The seminar is an extension of the Auburn's curriculum in Aviation Management, and provides continuing education, instruction and discussion on many of today's most pressing problems facing airport management.

Since there are no membership requirements, anyone may attend. Topics include: Fuel Storage Headaches and Solutions, Liabilities of an Airport Manager, and Emergency Plans for GA Airports.

The registration fee is \$175 and includes a certificate for participation. Lodging has been reserved at the Auburn University Hotel and Conference Center. Please call to make your reservations 1-800-2-AUBURN or 1-800-282-2876.

For information call Auburn University's Engineering Extension Service (205) 844-4370.

South Carolina Aeronautics Commission Offices are at Columbia Metropolitan Airport. **Mailing Address:** Post Office Drawer 280068, Columbia, South Carolina, 29228. **Phone:** (803) 739-5400.

RAD Act will place Rural Airports in Limelight

By Sean Keefer

The Rural Airport Development Act or Rad Act is a South Carolina legislative act designed to provide for the development of the rural airports in South Carolina. The act was passed by the South Carolina House of Representatives during the last legislative session.

The bill is now before the Senate of the state of South Carolina awaiting approval. The act may, however, experience some difficulties in the next few months. As a result of Hurricane Hugo, the state now has only a limited amount of funds with which to fulfill budget request during the next year.

Rep. Marion Carnell, one of the representatives who drafted the bill, says some people think it best to wait until efforts are made to fund the bill.

"We could wait, but if we did that, someone else may get to the money first," Carnell says.

Currently, the bill is awaiting Senate approval, and Carnell forseees no problem in the bill passing in January. As well, a bill to provide funding for the RAD act is being drafted by Carnell and the SCAC. Carnell says he expects it to be introduced in the next session.

The funding bill will itemize each airport with their needs and how much money the airport will receive. The important point with the upcoming bill is to secure co-sponsors for it. With the initial bill, there were 87 co-sponsors, and Carnell hopes to have the same representatives to sponsor this one. Carnell urges everyone to contact their delegations and encourage them to support the bill. "Take them to lunch or at least call them on the phone, we get so much mail, a personal approach is much bet-



Rep. Marion Carnell (l) and Jones Herring, SCAC, field questions about the RAD Act now introduced in the legislature.

ter," Carnell says. As well, co-sponsors will be asked not to vote on any amendments to the bill that will not fund the rural airports. "We want to keep this bill for airport improvements only," Carnell says.

Governor Campbell has said that he will veto any bond bill that comes before him this session due to the economic strain caused by Hugo. It is his main concern not to increase state operating cost through additional expenditure of state funds. However, the RAD act will have no operating cost, it will be local in the operating cost. So due to this, Carnell believes Campbell will not veto this bill should it come before him.

Carnell thinks many people overlook the importance of the rural airport. "If one corporate jet each month lands at a rural airport, the cost of maintenance and employees will be offset," Carnell says. Roads and bridges are important to the state, but in the future the people who will determine the destiny of the state of South Carolina don't drive, they fly.



Aviation Calendar

January 7

Breakfast Club
Open Date
Call B. Hawkins
432-9595

January 20

EAA Chapter 242
Tentative meeting
Owens Field Hangar
Columbia, SC

January 21

Breakfast Club
T. McWhirter Field
Lancaster, SC

February 4

Breakfast Club
Greenville Downtown

February 18

Breakfast Club
Alan Smoak's Airport
EAA Chapter 242
will serve breakfast
12 NM S. of CAE VOR
158 radial

February 25-27

25th Annual
Southeastern Airport
Management Seminar
Auburn University
Alabama



*Happy
New Year!*

On the Verge of Something Great

Marlboro County Airport

According to Speck Rowe, the Marlboro County Airport is in the midst of an economic explosion.

As the Marlboro County FBO, Speck has seen it all - literally. He arrived in 1968 when the airport was built and has seen it slowly develop into a dynamic part of the Marlboro economy.

The main reason this tobacco-belt airport has done so well is the support it has through its local businesses and the personal service people get when they arrive at the airport.

One business which has maintained steady ties with the small airport is Williamette Industries, a national corporation specializing in making large paper for computers.

For 15 months, the Marlboro County Airport even rented part of their terminal building to the company for office space. The agreement not only provided Williamette with a convenient location for their business dealings, but also provided the Marlboro Airport with enough revenue to make improvements without using other funding sources.

The relationship with Williamette has benefitted everyone,



Charles Midgley of the airport commission is optimistic about the Marlboro County Airport.

but most importantly to the taxpayer who may not know of either Williamette or the Marlboro County Airport.

Financial gains are very evident there. In July, Williamette presented the Marlboro County Airport Commission with a check for fifty percent of the cost of runway end identifier lights. And more recently, the money earned from rented office space has paid for painting the main hangar facility.

Charles Midgley, of the Marlboro Airport Commission, said, "Williamette has used the airport extensively, but at the same time contributed to its success...They have bought fuel on a regular basis; they have a shuttle run twice a week, too."

"It's a mutually beneficial arrangement," said Midgley, a Bennettsville real estate and insurance businessman. He added that the airport knew it was also a temporary measure until Williamette built other offices in the vicinity.

"Right now, we're trying to get the county to put a county office of some sort at the airport. But I know, that the airport may be out of the way for some offices," Midgley said.

Both Speck and Midgley agreed that the airport is working toward being the best facility it can be, which means a full service airport.

"We are working toward getting a full service FBO that provides not only fuel sales, flight instruction, aircraft rental and a charter service," articulated Midgley, "so far, we have not been able to do that."

"We're also working toward attracting more aircraft," he added.

The Marlboro County Airport has excellent facilities, including a



Speck Rowe, county FBO, insists on the best service at the Marlboro County Airport.

three-bay T-hangar, a 58 x 75 ft. main hangar, a smaller hangar that's 40 x 75 ft. and another medium-sized hangar.

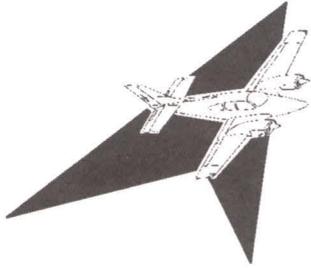
In addition the airport has a 5,000 ft. runway with full-parallel taxiway, has precision approach path indicators, REILS, VASI, medium intensity runway lights and a non-directional beacon. The FBO sells 100ll and Jet A fuel operating from dawn to dusk daily. However, Speck said, "I'll come out anytime you need me. I've never let one to go wanting yet."

"We have nine based aircraft," counted Speck, "and the way I count 'em, average about a half a dozen planes a day coming in."

The outlook for the Marlboro County Airport is bright as new industry and businesses settle in the area.

"In ten years, I'd like to see an instrument landing system, a full ILS," said the optimistic Midgley, "also I'd like to see 20 to 30 planes on the field, but I know I'm just dreaming."

Whether or not the "dreams" of the Marlboro Airport come true, it's a fact that the tobacco-belt airport has the stuff to make the county an economic dream.



A New Aviation Association May Be Waiting In the Wings

A new association for people in the aviation industry may be formed if there is enough interest, according to Ron Wade of the Union County Airport.

During the 1989 S.C. Airports Conference, a session dealing with FBO's, airport managers and commissioners brought up the question of forming a statewide aviation association.

At the meeting people interested in forming a group signed a list to be notified of future progress.

Ron Wade, manager of Union County-Troy Shelton Field, said the matter just happened to surface. "At the meeting we were discussing problems that everyone has had at one time or another with their airports and it just came to me that we ought to form a statewide group which deals with these types of problems in an ongoing manner. Then, we could have seminars and workshops on current topics that would benefit everyone involved

in aviation."

Wade admits that there was once a statewide aviation group but due to lack of interest the group disintegrated.

"I think the gamble of setting up an organization is worth the risk," Wade said. "I also think that many more people are interested in aviation, not just the one who signed the list."

The Union County airport manager added, "First you have to find the people who want to get involved and find out what they expect of a group like this."

"At the time, we didn't have any idea what the scope of that group would be, but I believe that the association should deal with all the problems that airports have," Wade said.

"Airports are a network; one is just a dead-end," he continued, "We're all competitors but we all need each other to survive."

Another panelist who added to

the discussion was Joe Frasher, executive director of the Greenville Downtown Airport.

He also agreed an association could work in the state by providing needed lobbying services and a cohesive voice to both state and federal governments.

"I think that an association should work in conjunction with the Aeronautics Commission towards the improvement of airports and aviation in South Carolina," Frasher said.

"We definitely need to work together so that we can have a voice large enough to be heard. Only if we ban together can we have the strength to make a difference."

"Whether the issue is on the RAD Act (Rural Airport Development Act) or some other important topic, as long as we speak in a unified manner we will be heard, but as a few individuals we have very little clout," the Greenville director concluded.

To gauge public support for a statewide aviation association, we are asking that you fill out the following questionnaire and return to Ron Wade, Union County-Troy Shelton Field, Rt. 2, Box 280, Airport Road, Union, SC 29379.

Or call with your answers (803) 429-1680 and put them on his answer machine.

- Who do you think should belong to this association?
- What should the goals and purpose of the association be?
 - 1) A trade/education association with FBO's, airport managers and airport commissioners
 - 2) A statewide association to take care of lobbying activities on behalf of aviation, open to anyone interested in aviation.
 - 3) Or some other purpose????
- Should dues or membership fees be charged? If so how much?
- Would you be willing to serve as an officer? If so, please write your name, address and phone number.

State's Pavements Need Restoration

Continued from Page 1

revealed that pavements receiving a PCI value of less than 70 had deterioration levels of greater magnitude and severity.

The summary also states that with a PCI value of less than 70, the pavements have reached the point that any restorative action should include a pavement overlay.

If the pavements had PCI values of less than 56, immediate restoration including pavement overlayment is required. For pavements with PCI values of between 56 and 70 immediate repairs are necessary and overlays should be considered on a case by case basis.

For those pavements with PCI values greater than 70, the individual airport operators should be able to perform the appropriate repairs on their own without State or Federal assistance.

Due to the magnitude of the study, a priority system was developed to assist both the S.C. Aeronautics Commission and the FAA to

be more effective in the management and allocation of the limited funds available.

The priority system assumes that the most important pavement at each airport is the essential runway, followed by its taxiway system and the airport's apron for servicing arriving and departing aircraft and people.

Unlike the FAA's priority system, this priority system has been based solely on the basis of the pavement categories. Consideration has not been given to other factors normally included in the FAA's system, such as airport classification, number of based aircraft and number of operations, etc.

The pavement priority system is based upon the premise that the poorer a pavement has been rated the more accelerated the rate of deterioration, and therefore, the more rapidly the pavement is becoming unsafe for aircraft operation as well as more expensive to restore.

The following is a prioritized list of runway pavements that require repair. The list includes the budgeted estimate repair cost for restoring each pavement, as well as its PCI value.

Airport	PCI	Cost of Repair
Dillon County	20	\$121,304.20
Andrews Mun.	37	\$115,019.30
Orangeburg	39	\$290,614.20
Hester Mem.	50	\$171,218.45
Pageland	53	\$135,512.10
McWhirter Fld.	56	\$211,622.05
Fairfield Co.	59	\$161,845.75
McWhiter Fld.	60	\$218,917.65
Laurens Co.	60	\$157,180.10
Greenwood Co.	63	1,214,706.05

Airport Noise: A Question of Compatibility

Continued from Page 1

cal and sophisticated. In many instances, court actions are initiated to restrict or close airports.

This is a community problem which needs to be addressed by the airport owner, affected political subdivisions, airport users, FAA and the public.

If your airport has a significant amount of jet, large propeller or helicopter aircraft activity and noise sensitive areas exist or are likely to be developed in the vicinity, an airport noise compatibility plan and program may be needed.

Funding is provided under the Airport and Airway Development Act of 1982 and the Aviation Safety and Noise Abatement Act of 1979 as amended by the Airport

and Airway Safety Capacity Expansion Act of 1987.

Noise planning which meets the criteria contained in the Federal Aviation Regulations (FAR) Part 150 is eligible for 75 percent federal funding at airports enplaning 0.25 percent or more of the total U.S. revenue enplaned passengers and 90 percent federal funding at all other eligible public use airports.

Measures designed to achieve compatible land use and/or attenuate noise which are included in an FAA approved Part 150 Noise Compatibility Program (NCP), such as land acquisition and sound insulation within the 65 DNL are eligible for 80 percent federal assistance at airports enplaning 25 percent or more of the total U.S. reve-

nue enplaned passengers and for 90 percent at all other eligible airports.

The FAA will fund only those noise planning studies which conform to FAR Part 150 criteria. This includes provisions for Noise Exposure Maps (NEM) and Noise Compatibility Programs (NCP) and is contained in Advisory Circular (AC) 150/5020-1, "Noise Control and Compatibility Planning for Airports." This document is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Look for NEMs: How Do They Work? in next month's Palmetto Aviation.

FYI From the FAA

Transponder Altitude Verification

The following report appeared in FAA Aviation News in October. The following discussion is intended to help new users of Mode C Transponders understand how the equipment works, its function in assisting safe air traffic separation, and the means by which its accuracy is maintained.

Many thousands of pilots have begun utilizing Mode C transponders in VFR flight, as required by law. July 1, 1989 was the effective date for certain portions of recent amendments to Part 91 of the Federal Aviation Regulations concerning the altitude encoding transponder (Mode C). This equipment must be installed for all en route operations at or above 10,000 feet mean sea level, except when below 2,500 feet above ground level, and for all flights within 30 nautical miles of a terminal control area primary airport.

Much of our VFR flying is done without radio contact between the pilot and air traffic control. However, the required use of Mode C transponders in areas frequented by air traffic carrier aircraft will enable controllers to "see" the altitude, as well as the position, of unidentified aircraft in sectors where they are providing radar traffic separation for air carriers and other IFR traffic. This will not only help controllers expedite the flow of traffic but will decrease the potential for traffic conflicts.

However, many new users of Mode C have incomplete understanding of how the instruments function; and of their role in assuring its accuracy at all times.

For example, some pilots have the impression that their Mode C

transponder will always have the same altitude readouts as their panel altimeter. This is obviously untrue: many transponders derive their altimetry from a separate pressure sensing source which is not visible to the pilot. Furthermore, the transponder itself could malfunction, although such occurrences are rare.

The transponder-displayed altitude of uncontrolled aircraft is read by controllers to determine if and when traffic advisories should be issued to pilots of aircraft which are in contact with an ATC facility. An erroneous transponder altitude reading could give the controller and the pilot a false sense of security.

For aircraft on instrument flight plans or otherwise under air traffic control, the controller will, on initial contact, compare the transponder altitude readout with the pilot-reported altituded. If there is any

significant discrepancy the pilot will be notified and appropriate action taken by ATC. But this information is not provided for aircraft NOT under air traffic control.

VFR pilots who are receiving ATC traffic advisories may request an altitude crosscheck, but this may only be provided when the controller's workload permits—this is not a routine service.

Our increasing dependence upon Mode C for air traffic separation underscores the importance of aircraft equipment maintenance, which in the last analysis is the responsibility of the pilot in command. The regulations require that no transponder remain in service longer than 24 months without undergoing removal from the aircraft and inspected by a certified repair station.

An aircraft is qualified for IFR flight in controlled airspace only if the pressure sensing systems which provide its barometric information are similarly inspected. Pilots of VFR aircraft requiring Mode C transponders are advised to have similar maintenance performed upon their pressure sensing systems, and to be watchful, during preflight inspections, for dirt adhering to the fuselage which might block static ports, and thereby interfere with pressure sensing.

Finally, pilots are reminded that neither Mode C nor any automated device we can invent to improve air safety, will allow us to become lax about scanning inflight for other aircraft or ground obstructions. The pilot's eyes are still the basic guardian of the airspace.

TCA Veils & Phone Numbers

Atlanta, GA	(604) 669-1203
Boston, MA	(617) 567-6622
Chicago, IL	(312) 601-5540
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New York	(516) 683-2910
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**This Month . . .
Inside Palmetto Aviation**

- S.C.'s Pavements Evaluated
- A RADical Act for Airports
- On the Economic Edge:
Marlboro County Airport

. . . and much, much more!

Cabin Heaters: A Heated Warning

The cabin heater in most small single engine aircraft comes off the exhaust system.

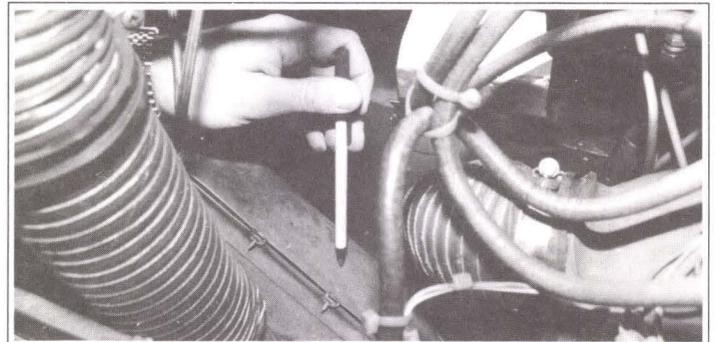
Ram air is circulated around either the muffler or an exhaust stack then routed to the cockpit.

Now that cold weather is here, you need to know this system is in perfect working condition. Carbon monoxide is a colorless, odorless and tasteless gas that has long been suspected as a cause of some aircraft accidents.

Use of carbon monoxide testers in addition to actual system inspections would make good sense.

The presence of carbon monoxide in the cabin will cause drowsiness and the affects are greater with

Checking your aircraft's exhaust system should be a high priority during the winter to prevent dangerous situations.



high altitudes.

In one particular instance, a Musketeer landed at an airport, but the pilot was disoriented and did not know what airport it was, and all passengers in the aircraft were asleep.

Upon investigation, the ex-

haust system was the culprit. A six-inch split in the muffler was emitting exhaust fumes directly into the cabin.

Inspection and a carbon monoxide tester might have picked up the disorder before it became dangerous.

This publication is printed and distributed by the South Carolina Aeronautics Commission in the interest of aviation safety and to foster growth of responsible aviation in the state. The viewpoints expressed in articles credited to specific sources are presented as the viewpoints of those writers and do not necessarily reflect the opinion of the South Carolina Aeronautics Commission.