THE GREMLIN GAZETTE
THE WEST CENTRAL GEORGIA CHAPTER, 677, of the EXPERIMENTAL AIRCRAFT ASSOCIATION, INC.

February 1987

FEBRUARY MEETING.....

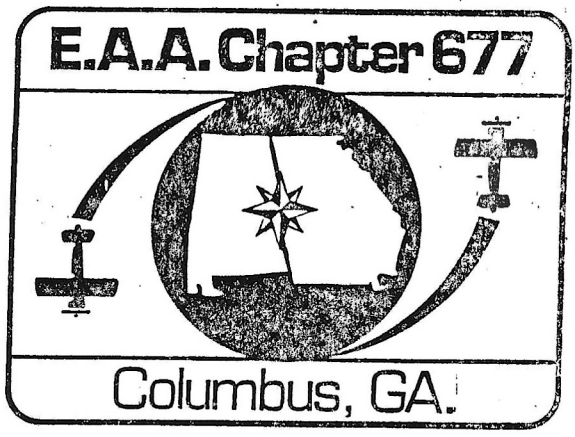
The February meeting will be held on Thursday Feb. 12th at 7:30 PM in the meeting room at the Airport Administration Building on the Airport Thruway in Columbus.

1987 DUES.....

Just a reminder that 1987 dues are due and payable as of the end of 1986 and we do not want to have to cut off anyone from the newsletter. Look at your mailing label, if it has a number one (1) in the upper right hand corner you are a paid 1987 member. If the number is a two (2) then you are receiving this letter as a courtesy from Chapter 677 and will continue to receive it with no further action on your part. If the number is a three or larger you are not a paid 1987 member and may possibly be dropped from the mailing list sometime in the future.

AIRPORT & AIRWAYS TRUST FUND.....

Ever wonder where the money you pay in Federal fuel taxes goes? It does not go into the Feds general treasury but rather it goes into the Airport & Airways Trust Fund to be used to improve public use airports and provide for new and replacement facilities for air traffic control and navigation. The latest figures which we have are as of September 30, 1986, at which time the fund had $8,625,199,213.60. Thats eight billion, six hundred and twenty-five million plus dollars folks! Where is all of this money to go? Its to be given to airports, both large and small to improve, enlarge, lengthen, or otherwise be spent on runways, taxiways, approach and departure clear zones, ILS's, localizers, NDB's, runway and taxiway lighting, approach lights, etc. and to be spent to build (but not for staff and operating costs) air traffic control facilities, Federal navigational aids and the like. Rumor has it that some people in the FAA would like to see some of that money spent to fatten their paychecks rather than spend it on what it was intended for. (FAA personnel for the most part are paid out of general treasury funds budgeted by Congress for that purpose) Someone correct me if I am drastically wrong, which I do not believe I am. We need to keep our eyes open to this and write our Representatives and Senators to encourage them to not let this happen. (Charles Hanna)



HAPPENINGS.....

With the mixture of weather we have had the last couple of months the activity of Chapter 677 members has been at a low ebb. MIKE WILSON however, has been seen working on his EAA BIPLANE despite the cold and LONNIE (and MIKE) WILSON and DON BREEDEN went to McCollum airport at Marietta to inspect a Forney Aircoupe in early January. (continued on p. 2)

THE GREMLIN GAZETTE is published monthly by THE WEST CENTRAL GEORGIA CHAPTER OF THE EXPERIMENTAL AIRCRAFT ASSOCIATION, Inc., Number 677. For more information about the chapter or National EAA contact on of the chapter officers. Pres., Richard (Dick) French; V. Pres., Charles Hanna; Sec.Tres., Spencer (Don) Breeden; Newsletter Editor, Charles Hanna; Asst.NewsletterEd., G.C. (Skip) Barfield.

HAPPENINGS (CONT.).....

BOBBY JONES has his Ercoupe back sporting a new engine and new oversize rear windows, he says it purrs like a kitten now. JOE DUNAJ'S Ercoupe has been cloned, however it (the clone) was not sanforized and someone apparently left it out in the rain and it shrunk. It is 1/10th scale, but otherwise identical to N99741. HAROLD BUCK Will soon be launching himself in his new motorglider to soar the skies of our great state from his airstrip at Juniper.

CALENDAR OF EVENTS.....

Feb. 27-Mar. 1 Atlanta, GA. AOPA weekend ground school courses. Call 1-800-824-7820 for further info.

Mar 13-15 Titusville, FL. Annual All Warbird Air Show, put on by the Valiant Air Command.

Mar. 15-21 Lakeland, FL. Sun-N-Fun EAA Fly-in.

April 25 Americus, GA. Charles Lindberg Day activities at Souther Field, where Lindy first soloed.

July 31-Aug.7 Oshkosh, WI. 35th annual EAA Convention.

YOUR MEMBERSHIP.....

Local EAA Chapter 677 members and other recipients of this newsletter.. There has been a question in the minds of many as to what constitutes membership in the "EAA". Let me attempt to clarify your status as members of a local EAA chapter affiliated with the national organization of the same name. Our local chapter "The West Central Georgia Chapter of the Experimental Aircraft Association, Inc.", number 677, is sanctioned by and affiliated with the EXPERIMENTAL AIRCRAFT ASSOCIATION, Whitman Field, Oskosh, WI. The national association is the sole representative in the U.S. of the FIA for amateur built aircraft, it fosters and encourages the exchange of ideas, information, safety, and is a lobbying force in Washington (as is AOPA) to help preserve our rights and freedom to own and operate aircraft not limited to amateur built but including antiques, war birds, ultralights, aerobatic aircraft and other sport aircraft. The National EAA also is a division of the National Aeronautic Association. The National EAA publishes several magazines, the principal one being Sport Aviation and sponsors fly-ins, seminars and the International Convention at Oskosh, WI. in August of every year. The EAA is now international in scope in that it has affiliate chapters in many foreign countries. Local EAA Chapters are sponsored by and affiliated with the National EAA. Local membership includes home builders and other aviation afficinados who have formed a chapter in their area, who collect dues, have meetings, build projects, attend and hold fly-ins, and sponsor other activities.

National EAA membership is $30 and you membership card brings you many privledges, such as admittance to flight lines at fly-ins and conventions, the Sport Aviation magazine, EAA research and develoment of STC's, and other things such as production of video tapes.

Being a member of one organization doesn't make you a member of both; you must join both. National EAA and the local Chapter separately to get full benefits of this great organization. Your local Chapter 677 dues are $12 per year and will give you the local affiliation and fellowship plus our monthly newsletter, the GREMLIN GAZETTE. The National dues of $30 per year brings you the Sport Aviation magazine, mailings and updates on regulatory matters and other information of interest, a life insurance policy, and all the benefits, privledges, political and other clout that a national organization brings. Call (414)426-4800 to join National EAA and call Don Breeden at 561-4608 to join our chapter. (Skip Barfield)

MIKE WILSON provided the following and reports "a friend of mine the other day at work (at Northwest) brought this to my attention. He is an IA and thought that since I associate heavily with the Columbus EAA chapter that I should pass it on." Builders and restorers take heed, Mike reports that at least one fatal accident has occurred in a homebuilt as a result of a failed switch. Mike also reports that he was unable to find any mechanics at Northwest's maintence base in Atlanta where he works who were aware af the differences in these switches, so its not a well known problem.

AC OR DC
A LOT RIDING ON THE RIGHT CHOICE

This article is reprinted by permission from the July 1986 issue of Sport Aerobatics, the magazine of the International aerobatic Club, a division of the Experimental Aircraft Association. (This article was copied for printing here in the Gremlin Gazette from the FAA's General Aviation Airworthiness Alerts bulletin published monthly by the FAA.)

By Art Bianconi, IAC #5697

Some years ago I was fortunate to be able to work alongside engineers from Underwriters Laboratories during destructive testing of electrical devices. It was part of my apprenticeship as a designer for a major electrical manufacturer and it was during this period that I acquired an appreciation for the vital differences between AC and DC ratings for switches.

I share this you because I am growing increasingly concerned at the widespread lack of appropriateness most aircraft builders demonstrate when selecting switches for the cockpit environment. Each time a builder asks me to preform a pre-FAA inspection of the aircraft, I carefully inspect the switches and to date, over three-fourths of the projects inspected have turned up AC- rated or non-rated switches in DC circuits.

There is a large scale misconception that any switch can be used so long as its current rating exceeds the maximum load in the circuit. "Current is current; what difference does it make whether it's DC or AC? Besides, I'm using a 125 volt AC switch in a circuit with only 12 volts!"

The differences in load carrying capability are dramatically non-linear and are best appreciated by carefully inspecting a high-quality switch carrying both AC and DC ratings. Typical of this is the roller and bar micro switch made by MICRO Corporation (p/n DT-2RV23-A7). Rated at 10 amps at 125 or 250 volts AC, the same switch can only carry .3 (that's three-tenths!) of an amp at 125 volts DC. If DC voltage is increased to 250 volts, the current rating drops even further to .15 amps! In real terms, this represents less than 1/60 of the original load carrying ability and all we did was go from 250 volts AC to 250 volts DC!

Those of you who can still remember the old Kettering coil ignition systems will recall that when the condenser in the distributor went bad, the points generally turned blue and melted down in just a few minutes. Cockpit switches don't have the benefit of condensers to absorb the electrical inertia present in a DC circuit and, as a result, the gap temperatures get hot enough to weld contacts, even those made with exotic high temperature alloys.

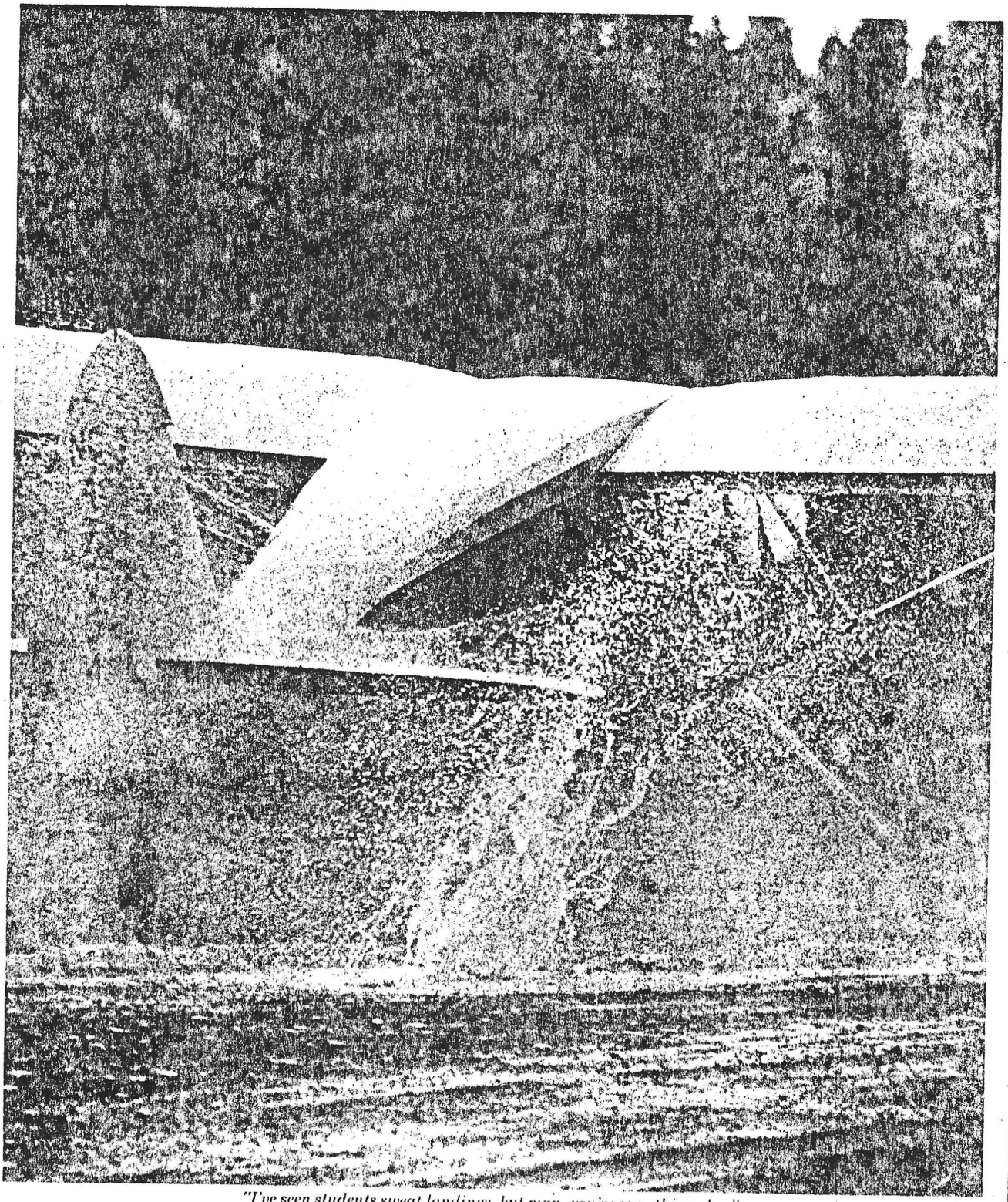
The reason for this is simple enough to appreciate. Because AC current changes directions 120 times a second in a 60-cycle circuit, there are 120 times when there is no current flowing at all. The current actually helps turn itself off the moment it sees a gap and switch designers use this phenomenon to help reduce the cost of manufacturing AC switches. In DC circuits, however, the "push" is constant even when the points begin to open and the resulting arc is DC current's way of demonstrating its resistance to termination.

"But won't my circuit breakers protect me?" No they won't. Fuses and CB's provide overload protection and a welded set of contacts will not, by themselves, cause an increase in circuit load. Furthermore, what often happened during UL testing was that the points welded shut making it impossible to open the circuit. Cycling the switch to the open position was often misleading. Yes the lever moved, but inside the switch, the cam had separated form the welded points and while it appeared to have interrupted the circuit, the circuit was, in fact, still hot.

If the circuit involved was your fuel transfer pump or fuel boost pump and you thought it turned off when in fact it was still running, what would the consequences be? If it were a flap or elevator trim motor or gear retraction device, how would a tripped circuit breaker save you if the activating switch was welded closed and in a mode other than what is required for a safe landing?

A DC-rated switch will cost you about three times mare than an AC-rated switch of identical current capacity. If your panel sports 10 switches (which is not likely), the difference will be less than $35. You've gotten this far. Is it worth jeopardizing your investment or your safety by cutting corners with cheap or improperly rated switches?

Say Again, Pil



"I've seen students sweat landings, but man, you're something else."