



EAA Chapter 21 **NEWSLETTER**

Volume 8, Issue 1

www.eaa21.org

January 2006

The Official Newsletter of
EAA Chapter 21
Evansville IN

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Chapter 21 Tentative Schedule of 2006 Events

January 11, 2006 — Project Meeting — Gary Zimmerman's — 7:00 pm.

Christmas Party Report

The EAA Chapter 21 annual Christmas party was held on December 14th at Kipplee's Party House. Approximately 35 members and several guests attended. The cost of the dinner was picked up by the club. A short meeting was held. Awards to this years officers and chairpersons were presented. The leather coat from EAA National was raffled off at \$5.00 per chance. It was won by Phil Dawes. The club raised \$250.00. A good time was had by all.

Tales from the Tower

As a controller at Carbondale one of my most important jobs was to issue traffic point-outs to all the aircraft in the vicinity of the airport. This is to help the pilots maintain VFR separation with other aircraft. The instructor pilots would typically respond with "tally-ho" or "traffic in sight" if they had the traffic, and "no joy" if they didn't. One day, one of the student pilots, after having been issued traffic responded: "I'VE GOT HIM IN MY SIGHTS!"

Pete Wiggin

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BATTERY CHARGER DISCUSSION FOLLOW UP

Earl Schroeder offered the following discussion to the newsletter
It was taken from the AeroElectric-List@matronics.com.
The author is Bob Nuckolls.

I would counsel adoption of some term other than "trickle charge" for the modern maintenance of batteries. In days of yore, a "trickle charge" was defined as some steady state, CONSTANT CURRENT charge that was deemed too low to be detrimental to the battery but sufficient to offset the battery's inherent self-discharge rate. Flooded batteries had about a .5 to 1% per day self discharge rate. So a 30 a.h. car battery REALLY needed 5 to 20 MILLIAMPS of input current to offset internal losses.

"Trickle chargers" were typically in the .5 to 1.0 ampere range. So, under trickle-charge maintenance, a flooded battery could be expected to consume water, which was easily replaced.

The SVLA/RG battery cannot be so maintained and a true trickle-charge will cook them. So, a new approach is needed. If you set a fully charged battery on the shelf and come back to measure its terminal voltage after 24 hours, it will be on the order of 12.8 volts. Okay, this is the voltage at which internal losses are being supplied. Suppose we hook a 13.0-volt power supply to the battery. This voltage is way too low to do any chemical conversions, i.e. CHARGE the battery. However, it make the power supply the higher and therefore dominant power source in the system . . . it WILL assume ALL parasitic loads in the system thereby causing all self discharging of the battery to cease.

The battery maintainer product DOES have a charge mode. The Battery Tender Juniors will put out about .75A in the charge mode. I use them to charge my really big instrumentation batteries after a test run . . . it might take it a day or two to bring up a depleted battery . . . but then it drops to 13.0 CONSTANT VOLTAGE maintenance mode and sustains the battery in a ready state indefinitely . . . but it's NOT a trickle- charger. Bob . . .

I've tested a couple of Harbor Freight "maintainers" and only one of the three was truly suited to the task. The acid test is to come back in two or three days after the battery was placed in 'storage' on the maintainer and measure the battery terminal voltage. It should be greater than 13.0 and less than 13.5 with 13.0 being the preferred end of the spectrum.

Two devices I tested were running 14.2 and 13.8 volts. The 13.8 would probably have been okay but the 14.2 was definitely too high. If you have some control over the product via potentiometer adjustment, great. Shoot for 13.0 Bob . . .

The following site is included in the newsletter as it was suggested on the AeroElectric-List and is for public use. Earl

<http://www.autoshop101.com/>

Continues.....

When someone one asked Bob Nuckolls what should you consider when purchasing a battery charger, he replied as follows:

The primary behavior your looking for is a charger that takes a battery up to 14.0 to 14.8 volts for a relatively short time depending on size of battery but generally less than 2 hours. It then "relaxes" to a level just above the normal open circuit voltage for the battery (12.9 or thereabouts at room temp). A "maintenance" voltage of 13.0 to 13.5 would make sure that (1) the battery is NOT being over charged and (2) ALL internal self discharge loads are being supported by the charger and not the battery's energy stores.

With the latest chargers, this is a one-shot cycle. With some older designs, the charger will occasionally go into a "boost" mode. These chargers probably do not have any supporting output . . . they just wait until the battery self discharges to a small value below open circuit and then zaps it again. Give it another couple of years and we may see something different yet.

Bob . . .

Chapter 21 Monthly Balance Sheet November 2005		
"November 25, 2005"	Ending Balance	"\$3,311.24"
Receipts		
Interest Dec	\$0.66	
Dues-31@\$15.00ea.	465.00	
Raffle	250.00	
Disbursements		
Dec Newspaper Print	-\$51.15	
Dec Office Rent	-10.00	
Christmas Party	-414.80	
Flowers	-55.12	
"December 25, 2005"	Ending Balance	"\$3,495.83"
Phillip Dawes, Treasurer		
Note: \$40.50 in reserve for Bud Starnes Fund.		

EAA Chapter 21

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Address Service Requested



Upcoming Chapter 21 Events

Jan. 11th 2006 — A new year and a new project

Location: Gary Zimmerman's 10814 N. Green river Rd., Evansville
1 mile south of Daylight In.

Project: 2006 Glasair Super2RG

Meeting: 7:00PM and a brief discussion of project by Gary
Zimmerman