



R.U.F.F. Times

The Official Newsletter of the
Rochester Ultralight Fun Flyers
EAA UL Chapter 95
December 2010



December Member's Meeting Honeoye Falls Brewery

When: Wednesday, 22 December at 6:00.

Where: 8 Main Street, Honeoye Falls

Program: RUFF Annual Solstice Tradition!! Good Beer Cheer!!



Dues are Due!!

RUFF Membership dues, \$30.00, by the end of January, 2011.

Since we had to cancel our business checking account (a new monthly fee of \$10) and open a new personal account (free), **your checks MUST be made out to George Charnitski, NOT to Ruff or Rochester Ultrasport F.F...**

Please send your checks to: George Charnitski
3549 Daansen Rd.
Walworth, NY 14568

If you plan not to continue your membership, please let George know (charney@walworthfire-ems.org) so he will not have to send the Guido Collection Agency after you.

Submit Your Choice for the RUFF Fellowship Award

Vote for RUFF Fellowship Award at the meeting on 22 Dec. at the Brewery,

OR: Send your vote for the RUFF Fellowship to Jon Arney <JARney@rochester.rr.com> (585)334-8548 no later than 22 December at the Member's Meeting. The following members have received this award within the past five years and are not eligible: Richard Reuter, Jerry Getgen, Jon Arney, Robert Schoenberger, Chris Black.

January Meeting at Bernie Quantz's Shop in Dansville!

When: Saturday, 29 January, 2011 at 10:00 am.

Where: Dansville, NY. Bernie will provide directions in the next newsletter.

RUFF Annual Banquet

When: Sunday 13 February, 2011 at 12:30 open bar, lunch 1:00.

Where: The Old Toad, 277 Alexander Street, Rochester

Lunch: To select your menu option, go to the "<http://www.theoldtoad.com/>" web site, click on menu, click on entree. Select your menu option and let George Charnitski know of your selection/s no later than Feb. 5th (the earlier the better). His e-mail address is charney@walworthfire-ems.org.

Or, call the Old Toad (585-232-2626) to find out their menu options. Then call George (585-727-1572) and tell him your menu choice. As we did last year, everyone will be responsible for their own check, and a gratuity will be added.

RUFF Awards: This is the event at which RUFFians are recognized for their achievements and misadventures. Ya don't want to miss it!

Gift Exchange: There will also be a gift exchange (max \$10) or holiday re-gift (or whatever white elephant you are trying to get rid of!) Bring a gift to receive a gift, open to both members and significant others. Please mark for male, female or either.

Minutes of the December Board of Directors

Submitted by Dan Burrell, Secretary

Call to order: Jerry Getgen

Roll call: Jerry Getgen, Chris Black, George Charnitski, Dan Burrell, Jon Arney and Chuck Blocher

Treasurer's Report: Submitted & approved.

President's Minute: This is Jerry's last board meeting as president. The members congratulated him on completing his tenure and kudos for a job well done. Also, congratulations to George on successfully completing his HAM radio license test.

Old Business:

- EAA has mailed this year's awards and should be received in time for the February banquet.
- Nominations for the Fellowship award should be received by Dec 22. Anyone is eligible except for the last 5 members receiving the award.
- New officers will assume their office at the Brew House meeting.
- Regarding the air park, we will continue to maintain the premises, keeping them neat and clean. Any improvements are pending and will be revisited in the spring. Anti freeze will be added to the Porta john to get us through the winter.

NEW Business:

- Winter meetings are as follows: December at the Brew House (12/22 @6PM). January 29th at Bernie Quanz's shop in Dansville, and February at the Old Toad banquet (2/13). Members attending the banquet need to e-mail George your lunch selection ASAP. A \$10 gift is optional. If you bring one you get to receive one.
- Onetankflights.com is a website worth exploring. It gives information on events based on data you input. There is a cost for membership.

Program for next membership meeting: Eat, drink and be merry at the Brew House on December 22 at 6PM. See you there!

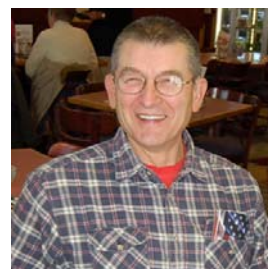
A RUFF Project

Below is a picture of the Murphy Rebel project that Chris Black is hard at work on. Beautiful airplane project!!



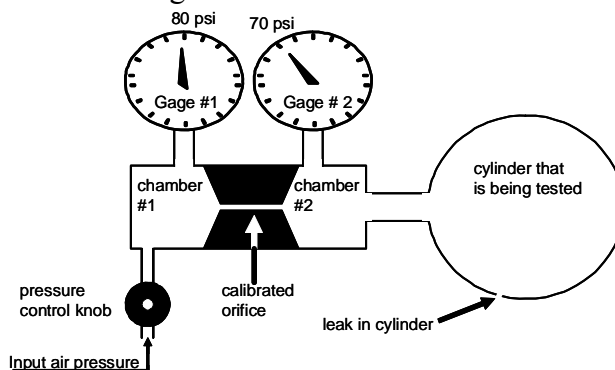
RUFF HERO!

Congratulations to George Charnitski on passing the test for the Technician Class Amateur (ham) radio license! His radio station call sign is KC2ZLR. He says he earned this license so that he could have more ways of choosing not to talk to folks! Actually, as a volunteer at the Walworth Fire Company, it is handy to know about emergency communications techniques by amateur radio.



The Standard Differential Pressure Test For Cylinder Compression

An important part of an annual inspection is the cylinder compression test. The picture on the left shows a typical differential pressure gage used by A&Ps for measuring compression. The hose on the left gage is hooked to an air compressor. The hose on the right gage is plugged into one of the spark plug holes of the cylinder being tested. The valve between the two gages is opened, and then the air into the left gage is adjusted to read 80 psi. The cylinder pressure is read on the right gage (75 psi in this example). At first glance, you would think both gages should read the same pressure, since they are both connected together. So, How does this differential pressure gage work? See the picture on the right.



► Air pressure is introduced into chamber #1 and adjusted by the control knob so that Gage #1 reads 80 psi. There is a calibrated orifice between chamber #1 and #2. Chamber #2 is connected to the cylinder that is being tested. The connection is through a spark plug hole, with the other

spark plug in place (not shown in the diagram). This connection is large, so gage #2 also shows the pressure of the cylinder.

▶ If the cylinder is completely air tight, the air from chamber #1 goes into #2 and then into the cylinder. The pressure reaches equilibrium and both gauges show 80 psi, which is also the pressure in the cylinder.

▶ If there is a HUGE leak in the cylinder, the cylinder is in equilibrium with the atmosphere, and so is chamber #2. Therefore, Gage #2 reads zero. Air squirts rapidly through the calibrated orifice, but Gage #1 reads 80 psi because you operate the control knob to make it read 80 psi. The calibrated orifice acts as a pressure reducing link in the system.

▶ If there is a small leak in the cylinder, then that leak also acts as a pressure reducing link to the atmosphere. In this case, (a) there is a pressure drop between chamber #1 and chamber #2; (b) chamber #2 is at the same pressure as the cylinder, and (c) the cylinder has a pressure drop to the outside atmosphere. Gage #2 reads between zero and 80 psi. This is the “cylinder pressure” reported by the A&P in the engine log.

RUFF Radio Column

Chuck Blocker, KC2IQV

I hope to do this column every few months, but don't press me on it. This is an **EXPERIMENTAL** column. So why write a column on radios? After all, we just use them to announce our intentions and at times talk with the tower. Well, for one thing, we often complain about the darn things not working right. For another, I'm a licensed amateur radio operator and have been working with electronics for most of my life. I also worked in the commercial repair of many different type of radios, mainly those that use FM to modulate the radio wave.



So here is the mission of the RUFF RADIO column: to educate and help maintain our RUFF radios, and to create curiosity around all communication (mainly aviation and amateur radio). I hope this will be a useful way for me to contribute to RUFF's tradition of interactive camaraderie.

I would also like to organize a few electronic project sessions. We could build stuff like a cockpit intercom, or an aircraft radio receiver to monitor ATIS.

In the RUFF RADIO column I also plan to discuss the things you can do for the care and feeding of your radio. I'd also like to do a presentation at one of our meetings to show how to care for radios, how to assemble electronics, and how to trouble shoot problems. For a start, here is a list of things to think about.

1. How old is your battery?
2. Do you have a copy of your manual?
3. Do you have the portable antenna for it?
4. Do you have an AA battery pack for aviation radio?
5. External microphone?
6. Good head set for the external microphone to connect with?

Fly Safely with E10 Gasoline
Part (III): A Better Test for Water in E10 Gasoline

Jon Arney

Over the past several months, RUFFians have been discussing how to deal with E10 gasoline. One of the major issues is what to do about the possibility of water contamination. As discussed in the September and October issues of the R.U.F.F. Times Newsletter, E10 gasoline can dissolve a significant amount of water. A five gallon tank of E10 gasoline, for example, can dissolve up to 15 teaspoons of water and remain perfectly clear and indistinguishable from dry gasoline. Gasoline with this much water in it is called “saturated” and is unsafe for flight. However, gasoline that is 90% of saturation or less (13.8 tsp water per 5 gal) is actually safe for flight. Phase separation can occur due to a decrease in temperature when you fly from sea level up to 10,000 feet. However, this will not happen unless the E10 is more than 95% saturated. So, if you fly with E10, you need to test it for water content. This is easily done with “ArnWet50”, which is a 1:1 mix of water and 70% Rubbing Alcohol (rubbing alcohol that is 70% isopropyl alcohol in water). ArnWet50 can also be made by mixing 35% pure isopropyl alcohol into water.

ArnWet 50 is put into an eye-dropper type of bottle like the one shown in the picture. Jon has some if you have a need. When you do your walk around, sump the gas as usual. Then put 10 ml of the gas into a test tube (Jon has those for free also) and **add One Drop** of ArnWed50. Stopper the test tube (or place your thumb over it) and vigorously shake it to dissolve the drop. If the result is clear, then the gas is Less Than 80% Water Saturated. **Add a Second Drop** and shake it up again. Add a **Third Drop** and shake it up. Use the table below to see how dry your E10 gasoline is. You can decide how much water can be in your tank and still feel safe flying. I believe that gas that is below 80% of saturation is safe. If you want to be more cautious, you may chose 60% or 40%. Or, you can do the test with one drop of pure water. The gas will remain clear only if the gas is quite dry (less than 5% of saturation).



Test for Water In E10 Gasoline

	Add 1 drop of ArnWet 50.	Add 2 drops of ArnWet 50.	Add 3 drops of ArnWet 50.
If the result is:	then	then	then
Clear	The gas is less than 80% of saturation.	The gas is less than 60% of saturation.	The gas is less than 40% of saturation.
Cloudy	The E10 gas at least 80% of saturation.	The E10 gas at least 60% of saturation.	The E10 gas at least 40% of saturation.

STABIL Marine Formula in E10 Gasoline

Jerry Getgen reports that he found info on a product called STABIL Marine Formula. His cousin in Georgia has boats, jet skis, and all that water stuff, and he recommends the use of “STA BIL Marine Formula” (NOT the usual STA BIL). Jerry bought a couple bottles of it after reading the specs on line. You only use an oz. for 10 gal. of gas, so it isn’t too expensive. Chris Black reports that using E10 in small engines may require re-jetting because of the difference in evaporation behavior of E10, and that the STABIL Marine Formula may eliminate the need to re-jet.

Note from Jon Arney: I love going to the lab and testing things! I added STABIL Marine Formula to a sample of Sunoco 97 octane E10 gasoline in accordance with the instructions on the label (1 oz per 10 gal). Testing was done on the water uptake and the tendency to phase separate with a 30° F drop in temperature (roughly sea level to 10,000 ft.). The STABIL treated E10 gas behaved exactly as the untreated E10 in all tests that I ran. **STABIL Marine Formula doesn't change the water attraction characteristics of E10 or prevent phase separation.** What the manufacturer says is that if water does get into the E10, the water/alcohol combination is very corrosive to metal parts, and **STABIL decreases the corrosive effect.** However, the manufacturer does not claim that STABIL eliminates the water or the tendency for phase separation. It is still best to test it with ArnWet, or a 1:1 mix of water with 70% rubbing alcohol.

Fun Places to Fly

Dansville Airport is a short cross country down the Genesee River and is a favorite among local flyers for a breakfast or lunch outing. Left to right is George Charnitski, Jon Arney, Laura Arney, Ellen Donahue, and Dan Burrell. You can walk across the street to McDonalds or take a 20 minute stroll downtown to several nice restaurants. The picture was taken back in November, and we all thought it was COLD then!!



AA 44 Newsletter "The Flyer"

Paul Pakusch, Editor

To see the latest issue of the EAA 44 Newsletter, go to the following web address:
<http://www.eaa44.org/ea44-2009-08a.pdf>



• *Trade Winds* •

The "Engine Information System"

If any of you aircraft builders are considering using the EIS system from Grand Rapids Technologies in your plane, contact me as I can get a better price since I am a dealer. This way you can save a few bucks. The EIS is a valuable instrument to have because it measures the battery voltage, engine rpm, exhaust gas temp., cylinder head temp., water temp, outside air temp., engine hours (Hobbs meter), flight time, and also has extra inputs that you can use to your liking. All of these measurements have upper and lower limits that you set and if any of these limits are exceeded, a warning light flashes and the screen indicates the problem area. This is probably the most valuable function of the unit. Basic units for most aircraft run about \$500. George Charnitski.

Buccaneer for sale: Asking \$ 4000

Located at Lakeville Airport, Livonia.

Owner would consider all reasonable offers. With covering, the BRS chute, on-board battery electrical system, 12 gal. fuel tank, and outer covering, it weighs in as 300 lbs. It is probable that it can be lightened to meet FAR Part 103. The owner reports that it flies well and has always been hangared. He doesn't know what the "011CS" on the side means, but it is not a registered aircraft in the US. For additional information, contact William G Irwin, wirwin7@tampabay.rr.com.

