



Volume 04 - 12

www.FlyingClub1.org

April 2012



FROM THE FRONT SEAT

Steve Beste, President

I am excited to announce that our May meeting is going to be special. For the first time in many years, we will have flying games—for both PPGs and airplanes/trikes. Come see how well you can do spot landings! In addition, we will have our usual barbecue, plus a table honoring former members of the club who have gone on. I'm told that this is the way we used to do the memorial fly-in, with the emphasis on games and the joy of the sport. In recent years, the event became a more somber affair that focused exclusively on the departed. Many thanks are due to Jim Heidish and Tom Richards who volunteered to run this year's event and revive our old practices. Please send an invitation to anyone you know who might care to join us. And note that this event has a rain date—the next day, the Sunday, May 6th.



WARRENTON AIRPARK

Warrenton, Virginia **SAT. MAY 5, 2012**

Celebrate with Friendship & Flying Competition

Rain Date Sunday, May 6th

Flying Club 1 and the Warrenton Airpark invites the flying community to a Fly-In celebration in the memory of past Flying Club 1 members. Enjoy a day of friendship, great food and some good old flying contests. For more information on the PPG Contest email : onegooddoc@starpower.net and the Fixed Wing/Trike Contest : 12jph@comcast.net

PPG Contest - 8 A.M. Meeting & Memorial - 11 A.M. Cookout - Noon Fixed Wing/Trike Contest - 2 P.M.

www.flyingclub1.org

Flying
1
Club

MEMORIAL FLY-IN

Fly safe,
Steve



What Will Replace the Rotax 447 and 503?

by Steve Beste

The Rotax 40hp 447 and the 50hp 503 engines are no more. The last available unit was sold in January. Since these engines powered almost every Part 103 airplane and trike on the market, what will replace them? I contacted six manufacturers of Part 103 trikes and airplanes to see what their plans were. Here's what I found.

Why Discontinued?

An article in [Light Sport and Ultralight Flying](#) magazine explains why the engines were discontinued: *“Rotax stopped producing the 447 and 503 because the molds for the engines needed to be redone,”* explains Canadian Rotax distributor Dave Loveman. *“Before spending the resources necessary to do that, they asked dealers/distributors to give a projection of sales they expected moving forward, so that [Rotax] could justify the cost. The feedback was that sales for those engines did not justify the cost. In the past, the 447 and 503 were also being used in the snowmobile industry. They have been now replaced with newer models, leaving the aviation industry as the only industry still using the 447 and 503.”*

I would also guess that the company's successful larger engines have squeezed out the 447 and 503. The 912 and 914 engines dominate the market in the 80-115 hp range. A company has only so much management attention, engineering talent, and factory capacity; much better to spend it on popular \$20,000 engines than on a few \$5,000 ones. Lastly, there's a widely-held belief that electric motors will take over the low-end of the market in a few years. Whether this will actually happen or not, it would affect an investment decision being made today.



Rotax 447



There Is No Substitute

There was general agreement that these engines **have** no easy replacements. Consider what they had:

- **Reliability** (and a reputation for reliability). When I took trike lessons at Kemmeries' in 2005, their on-staff Rotax mechanic told me that the 503 was the most reliable engine Rotax made.
- **Parts and service availability.** Just leaf through a catalog from Lockwood or California Power Systems, and you'll see that every spring and bolt on these engines is available, in stock, in this country. Plus, these companies will overhaul your engine if you want.

- **Geared re-drives.** All of the substitute engines have belt reduction drives. Although they work, they require more maintenance. And sometimes they don't work (see below). It turns out that a good re-drive is hard to design because of torsional vibration. Acting as a flywheel, the propeller wants to turn at a constant speed. But the engine is pulsing, speeding up with each power stroke, slowing down with each compression stroke. Usually, the engine's own flywheel dampens these out. But as you shrink the flywheel to save weight, more torsional vibration gets through to the re-drive, which has to mediate between the engine and the propeller. This stresses the re-drive. There's an excellent [online discussion](#) of this at EPI, a manufacturer of gearboxes. Their conclusion is that there's no substitute for an adequate flywheel. The upshot for us is that the manufacturer needs to evaluate not only the engine, but the re-drive.
- **Customer acceptance.** We light flyers are a conservative lot. If you're like me, you have enough money to buy only one aircraft. If the engine is a dud, you're stuck. The manufacturers are in a similar position. They're all small. None of them has deep pockets. Nor is there a Consumers Reports to tell them which engines are reliable. They pick an engine and take a risk. That risk has just gone up.

And the worst of it is, after they pick another engine and take this risk, they're merely back where they started—they have added nothing to the value of their product. So what are they choosing?

Don't Know

Todd Ellefson at [Quicksilver](#) wrote that they're still looking into it. Quicksilver is perhaps the largest maker of ultralight-type airplanes. As such, they have the most at stake.

Travis Brown of [Kolb](#) is in an easier position since he sells only kits, not completed airplanes, "there really *is* no substitute for the Rotaxes," he says. He's letting his customers pick their engine. Most customers are picking the Zanzottera MZ 201. He gets good reports from them.

Trike maker Mark Gibson of [Manta Aircraft](#) likewise sells only kits and is letting his customers pick their engine.

Rebuilt Rotax 447 (40hp)

The smallest manufacturer I talked to was Don Cooney, who makes the Prowler trike. The Prowler is a high-end Part 103 trike that won grand champion ultralight at Oshkosh in 2000 (and best trike at Sun 'n' Fun that same year). He makes a few kits over the winter and does other things the rest of the year. With this low volume, his plan is to buy rebuilt 447s. "I flew a Kawasaki 440 for many years up on Long Island. A great motor, but the belt reduction drive was a problem. The 440 is probably a better motor than the 447. But the re-drive is the problem. What we're all looking for is a good 40hp 4-stroke." Rotaries? Pricey. Half-VW? 110lbs with the starter and battery. Way too heavy. And high vibration.

Kawasaki 440 (40hp)

Kamron Blevins of [North Wing](#) trikes has a different experience with the Kawasaki 440 (40hp). It's the engine he recommends for his Maverick trike. "The Kawasakis have an excellent reputation. The [32hp] 330 is a bit underpowered for the [\$1,500] cost difference. You might as well go with the 440." As to Hirths, he reports nothing but bad experiences with both single and two cylinder models. "I've never had one run for any length of time without issues. Out of ten engines [back in 2000], only half the people were happy."

Verner JCV-360 (35hp)

Blevins is offering this new 35hp 4-cycle engine as an alternative to the 2-stroke Kawasaki's on the North Wing Maverick trike. Says Blevins, "we have four out there now. It's working out for them. It's not a huge

climb rate. 400-600 fpm vs. 800-1000 fpm with the 447.” According to the North Wing price list, the Werner adds \$4,000 to the price compared to the Kawasaki 440.

Hirth F-33 (28hp)

Terry Raber builds his [Aerolite 103 airplane](#) with the Hirth F-33. He’s been doing so since 2008, and is happy with it. He says he will offer the Kawasaki 330 and 440 as an option. He had much to say on the topic of light engines. He thinks the Verner engine is nice, but pricey. He likes the idea of industrial engines such as the Generac, since they are reliable, widely available, and you can easily get parts for them. But at 120 lbs, the Generac is too heavy for his purposes. He’s been looking at electric motors. He expects big changes in those in the next two years. And indeed, he says his next airplane will be electric.

I was unable to reach Paul Mather of [M-Squared](#). But his Breese XL Part 103 also uses the Hirth F-33. So does the Belite Superlite, named 2010 Grand Champion Ultralight at 2010 Sun 'n Fun.

Bautek-modified Briggs & Stratton (38hp)

German hang glider and trike maker Bautek is also alert to the virtues of industrial engines. They have taken a Briggs & Stratton Vanguard 4-cycle engine and modified it for use in their [Skycruiser](#) light trike. Although the trike is too fast for Part 103, it does make weight. Climb rate is 550 fpm, comparable to the North Wing Maverick with the Verner engine. The engine and re-drive weigh 75 pounds. Price is about \$4,600 plus about \$500 shipping. Bautek’s Harald Zimmer reports that they have three years’ experience with no problems. TBO is 1,000 hours, but Zimmer says that Bautek has 25,000 hours on one of the engines that they’re using to power a pump. It still runs well, having had only spark plug and oil changes.



Bautek/Briggs & Stratton 38hp

Bautek has also begun shipping a 50hp B&S engine, similarly souped up, but with a Hirth geared re-drive. About \$8,000.

Rotary Engines

Rotary (Wankel) engines have been a great disappointment. They would seem to be a natural fit for aircraft use—lightweight, high power, and smooth running. But no one has yet gotten them to work reliably in airplanes. In 2005 or thereabouts, the people who owned the Phantom ultralight experimented with rotaries. They ran into heating problems that they could not overcome. Reports Kamron Blevins of North Wing, “I had a mechanic who had two of them. The engine had too much torque and ripped the cogs right off the belt within half an hour after putting a prop on it.” Paul Mather at M-Squared had the same problem in 2009. Pressing on, he told the EAA’s Sport Pilot magazine that he overcame that problem with a different belt setup. But he subsequently abandoned rotaries —due to bearing problems I hear tell.

Most recently, paramotor vendor [Parajet](#) has offered two rotary engines, a 25hp and a 40hp model. Our own Michael O’Daniel had one of these at the Airpark last year. He found it amazingly powerful and smooth, but a little too heavy for backpack use. He thought it would be a good fit for a paramotor used with a cart.

However, Terry Raber reports that he has been unable to get the Parajet people to reply to his inquiries about using the engines in his Aerolite 103. He thinks they're going after the UAV market. Contrary to what you might think, this is not good news. Says Terry, "If so, it means that they're not focused on my industry and that they'll probably over-price it. I have seen other cases where people go for the high price up front, sell a few, and go bust. As a manufacturer, I have to be very aware of the parts availability." But at least the Parajet rotaries are not ripping up their re-drive belts. That's progress of a sort, so maybe something will come of them yet.

Electric Motors

We all hope that the billions of dollars invested in battery research by the auto industry will succeed, since the battery is the main limitation. As things stand today, you can buy an electric trike (the [ElectraFlyer](#)) for \$19,000 that has an 18hp motor and a two-hour flight duration at, I'm guessing, about 25mph. Designer Randall Fishman is moving next into highly-streamlined airplanes. These will deliver more performance, but not necessarily more battery life. That depends on battery development (or, perhaps, on super-capacitor development) outside our industry.



ElectraFlyer. 18hp, 25mph cruise, 2 hour duration, 247 lbs.

All of us have heard of [Yuneec](#), the Chinese manufacturer of radio-controlled aircraft that has burst on the scene. But Terry Raber, the Aerolite 103 maker, says that the engines from Yuneec are not really available yet.



Yuneec e-Spyder. 27hp motor, 37mph cruise, 1 hour duration, 253 lbs.

We all are watching electric motor developments with excitement. But it's clear that electrics are not yet a replacement for the Rotax 447 and 503. Sooner or later, maybe; but not yet.

* * *

Table of Available Small Engines for Light Aircraft

<i>Engine</i>	<i>Horsepower</i>	<i>Cyl</i>	<i>Cycle</i>	<i>Used By</i>
Rotax 447	40	2 in-line	2	-
Rotax 503	50	2 in-line	2	-
ElectraFlyer	18	electric	--	ElectraFlyer trike
La Mouette	19	electric	--	La Mouette trike
Bailey	22	1	4	Airborne T-Lite trike, North Wing Solairus trike
Yuneec Power Drive 20	27	electric	--	Yuneec e-Spyder ultralight
Hirth F-33	28	1	2	Aerolite 103, M ² Breese, Belite Superlite
Kawasaki 340	32	2 in-line	2	North Wing Maverick trike
Verner JCV-360	35	2 opposed	4	North Wing Maverick trike
Briggs & Stratton/Bautek	38	2 V	4	Bautek Skycruiser
Kawasaki 440	40	2 in-line	2	North Wing Maverick trike
Generac/Valley Engineering	40	2 V	4	Backyard Flyer
Hirth 2702	40	1	2	Gibbo Gear BB
ParaJet Cyclone 294	40	Wankel	4	ParaJet Cyclone Paramotor
Zanzottera MZ 201	45	2 in-line	2	
Hirth F-23	50	2 opposed	2	Belite Superlite+
AeroTwin AT972	50	2 in-line	4	
Briggs & Stratton/Bautek	50	2 V	4	Bautek SkyCruiser
Yuneec Power Drive 40	54	electric	--	Yuneec e430 airplane

Meeting Minutes

February, 2012 Minutes

Flying Club One

Thursday, March 1, 2012

Centreville High School

Clifton, VA

Selling 50/50 tickets before meeting

Call to Order

President, Steve Beste called the meeting to order at 7:35 P.M.

8 members present.

CONNECTIONS

Visitors & New Members

New member **Doug Crow** had six hours of training many years ago but now that he's retired the wants to get back into the aviation world and fulfill the old dreams.

Some of the New Members said that now, with the big LSA/Sport Pilot push they have found it very difficult to find Ultralight flight instructors. This is a real problem created when the USUA 2 place, (kit built) Fat Ultralight, commercial training exemption was pulled back by the FAA.

Old members

Because of the small turn out, the meeting turned into a more free form tell & ask with subjects ranging from the old Harris field that is located north of Marshall, VA on the market for \$1.8 million, to short flights because of the wind, to visiting the LSA Expo in Sebring, FL, to the Airpark and the special turboprop jump plane the Skydivers are going to be flying come April, to now having to be on the lookout for domestic recon drones flying through our airspace.

SERVICE PROVIDERS

Recap our standing list of service providers:

- PPG instructor and dealer: **Michale O'Daniel**
- Fixed wing instructor: **Chuck Tippett**
- Welder: **Tom Kotsch**
- A&P mechanic: **JD Ingram**

REGULAR REPORTS

Secretary: Jim Heidish reported that the February Minutes will be published in March Club Newsletter and for review at the April Club meeting. The January Minutes were approved as published in the February Club Newsletter.

Treasurer: Jim Birmbaum reported: February Income: \$180.00, Expenses: \$0.00, The Flying Club 1 Checkbook Balance: \$2647.55

President: Steve Beste reported about the latest news from Richmond on the law that protects airports and small landing strips (like the Airpark) from liability issues. This new law, proposed and promoted by The VA Department of Aviation and when signed by the governor, should open up a lot more fields that were restrictive because of the fear of being sued if there was an incident. Steve said the law also covers an open farm field, so PPGs should inform the owners of sites they would like to use of the new law and it may open doors. The Recreational Aviation Foundation (RAF) was the organization promoting the enactment of the law nationwide in an effort to save small rural airfields.

Everyone looks forward to the wonderful time we have in the pastoral setting of the Airpark. Also the event promoter that contacted him last month looking for a Trike that could be set up on stage and be part the grand entrance of the Panera Bread Restaurants companys' CEO called back saying it was not needed any more. Fear of flying??

Safety and Training Director: Dave Riedel – not at meeting.

Membership Director: Jim Birnbaum reported that even though some members drop out we always get a few new ones every other month. We have over 50 members plus family members, but some have not paid their dues. He reminded us that members that have not paid their 2012 dues by end of March would have their name dropped from the monthly roster updates.

Warrenton Air Park Owner: Tom Richards – not at meeting.

Old Business

An up-date on the Club Memorial Fly-In on May 5 at the Warrenton Airpark.

This year we are staging the event like the good old days. The Fly-In will not be the annual somber event that it had turned into, but one of celebrating the past members love of flying with flying. The formal part of the Memorial will be in a special designed display that

anyone can read it at his or her leisure. The flying part will consist of two flying contest, the PPG Contest at 8 A.M. and the Fixed Wing/Trike Contest at 2 P.M.. In between, the Meeting/Memorial starting at 11 A.M. and a big Cookout at Noon. SEE- the promotion in this Newsletter

New Business - None

MONTHLY PROGRAM - None
50/50 Drawing – Winner **Doug Crow** donated his winnings to the Club.

Adjourn

President, Steve Beste adjourned the meeting at 8:20 P.M.

Submitted by **Jim Heidish**, *Secretary*

Can you cook hamburgers?

Please sign up to cook at our meetings at the Airpark.

Click <http://goo.gl/IBmIn> to see which dates are available.

The club covers all costs of food. Jim Birnbaum will tell you what you need to do.

Plus, we'll give you the coveted Club 1 apron, which you can't get any other way!

Activities

2012 FLYING CLUB 1 ACTIVITIES SCHEDULE

Designated Club meetings will be held the first Thursday of each month in the Centreville High School, Union Mill Rd., Centreville, VA, at 7:30 PM. Others will be held at 11:00 AM at the Warrenton Airpark as shown in the 2011 schedule. Changes in time or location will be posted in this newsletter and on the Club website.

2012 Club Activities Schedule

Date	Activity	Location	Description
Thur, January 5th, 7:30PM	Club Meeting	CVHS	Conversation, Club business meeting, and program.
Thur, February 2nd, 7:30PM	Club Meeting	CVHS	Conversation, Club business meeting, and program.
Thur, March 1st, 7:30PM	Club Meeting	CVHS	Conversation, Club business meeting, and program.
Sat, April 7th, 11am	Club Meeting	Airpark	Club meeting and cookout at Warrenton Airpark
Sat, May 5th • 10am - Memorial ceremony • 11am - Club meeting & cookout	Memorial, Club Meeting, & cookout	Airpark	Memorial ceremony and cookout at Warrenton Airpark
Sat, June 2nd • 7am - PPG Poker Run • 8:30am - Airplane & Trike Poker Run • 11am - Club meeting	Club 1 Poker Run and Club Meeting	Airpark	Club 1 Poker Run and Club Meeting at Warrenton Airpark
Sat, June 16th	Father's Day Fly-In at Shreveport North (62PA)	62PA	The largest ultralight fly-in in the mid-Atlantic states. Club 1 fly-out from Warrenton Airpark
Sat, July 7th, 11am	Summer BBQ and Club Meeting	Airpark	Monthly meeting and Summer BBQ at Warrenton Airpark
Sat, August 4th, 11am	Club Meeting	Airpark	Monthly meeting and cookout at Warrenton Airpark
Sat, September 8th, 11am	Club Meeting	Airpark	Monthly meeting and cookout at Warrenton Airpark
Sat, September 15th	Club 1 Fly-out to Trikefest East at Shreveport North (62PA)	62PA	Club1 Fly-Out from Warrenton Airpark
Sat, October 6th	Club 1 Fly-in and meeting	Airpark	Monthly meeting, Club 1 Fall Fly-In and cookout at Warrenton Airpark
Sat, October 27th	Club 1 Color Run Fly-Out	Airpark	Club 1 Color Run Fly-Out at Warrenton Airpark
Thur, November 1st, 7:30pm	Club Meeting	CVHS	Conversation, Club business meeting, and program.
Sat, December 8th 4:30pm - 9pm	Club Meeting / Holiday Party	Airpark Club House	Monthly meeting and Holiday Party.

CLASSIFIEDS

Ads will be run twice and then dropped unless resubmitted, or renewed by telephone or e-mail. Please advise the editor: **Autumn Aceto** (alaceto@gmail.com) when the ad is no longer needed.

FOR SALE — Zodiac 601 XL (650 XL)

partially completed kit. Kit includes Constructed Tail Surfaces and Fuselage, to include Landing Gear with Wheels and Brakes, Dual Brake Peddles kit, Dual Control Stick kit and Instrument Panel. The wing kit and engine is needed. The wing kit is available now pre-drilled. It The plane will take a Rotax 912S, Jabiru 3300, Continental 0200, Lycoming 235, Corvair or VW conversion engines. All documentation and registered plans are in the package. Asking \$7500 or

best offer above \$6000. Note this is a Light Sport class aircraft. It is available built, IFR Certified at Southeast Light Sport for \$99,900. (SouthEastLSA.com). See

<http://www.zenithair.com/zodiac/xl/> for details of aircraft: Contact: Larry Walker, 540-347-7609

Flight Test Report: Steve Flattum flight tests the Zodiac and reports:

“The CH 601 XL / CH 650 family of airplanes are a delight to fly. Simple and easy to fly

with a great view and they are very comfortable for long flights. The airplane is very strong and it is backed by a company that has been around for a very long time.”

FOR SALE — Partnership - Taylorcraft BC-12D (1946) - available. Aircraft is hangared at Warrenton Airpark. The Taylorcraft is flown about 65hrs/year and should be flown more. Annual, hangar, insurance, maintenance and repair are shared costs, while fuel is individual responsibility. Tom Richards and Jim T. Hill are looking to add one or two partners to replace a leaving partner. Please contact Tom Richards (703) 568-3607; warrentonairpark@yahoo.com or Jim T. Hill for details.

FOR SALE — 1978 Weedhopper Ultralight for sale: JC24C model; no engine; just frame. Will need new sails. Contact Mark Ripberger for more details. Sold “as is” \$400.00
ripbergerm@darden.virginia.edu
434-589-8311

FREE Pterodactyl Ultralight Kit! 30 years old and never assembled. Engine still in crate. Complete kit, with all parts except wing coverings that can be purchased from an Ultralight supply co. Call: Bob Adcock (202)-882-4477 or radcock@verizon.net



Hangar w/ living space on 2 acres in Green Landings for sale. Located approx. 65 miles from Washington Beltway in Hedgesville, WV. 40' x 60' Lester building w/ approx. 600sf of seasonal living space 9' ceiling, windows, ceiling fans and electric baseboard heaters. Separate full bath, good deep well and septic sys. Kitchen w/cabinets, electric range and refrigerator in open hangar. Plenty of room to build your dream house in this active flying community w/2800' grass strip. \$175K Contact Ron Garves rkgarves@gmail.com Cell 301 213-4611 <http://www.airnav.com/airport/WV22>

Aviation Magazines “Ultralight Flying”

All twelve monthly issues for most years between 1989 through 2008—almost 20 years. Not mint, but good readable condition, \$50.00 cash. Call or e-mail for more details. I live in Annandale VA. Dsax289@aol.com / Ph# 703-503-8289

Membership Dues Policy

The period of membership follows the calendar year—January through December.

The renewal period starts on 1 October with regular dues at \$20.00 and family dues at \$25.00.

Members who have not paid their dues by the end of March will be dropped and will not receive the Newsletter or Membership Roster. New Members joining after 1 July will be charged half-price.

Please mail payments to Flying Club 1, 8570 King Carter Street, Manassas, VA 20110.

Payment can also be made at the regular monthly meeting. Please include the Membership Application form on the next page with your payment. This will be used to ensure that our records are current.

Jim Birnbaum, Treasurer
Flying Club 1

MEMBERSHIP APPLICATION - 2012



Type of membership: New, Renewal, Regular, Family membership

Name(s): _____

Name To Go On Your Name Tag: _____

Street or PO Box: _____

City: _____ State: _____ Zip: _____

Telephone, Home: _____ Cell: _____ Work: _____

Spouse's Name: _____

Emergency Contact: Name: _____ Phone: _____

E-mail Address: _____

Aircraft Liability Insurance through: _____

Aircraft make and model: _____ N-Number (if any): _____

Pilot rating(s): _____

Club Activities or Services for Which You Volunteer: _____

Information from this application will be included in the club's membership roster which is distributed only to members.

INSTRUCTIONS:

1. *FILL OUT THE ABOVE FORM.*
2. *ENCLOSE A CHECK MADE OUT TO "FLYING CLUB 1".*
3. *SEND THE FORM AND CHECK TO:*

Jim Birnbaum, Treasurer
8570 King Carter Street
Manassas, VA 20110-4888

To join the national USUA, go to <http://www.usua.org>
To join the national USPPA, go to <http://www.usppa.org>

Flying Club 1 General Information

The Flying Club 1 is a nonprofit, recreational club dedicated to the sport of ultralight and light sport aircraft flying.

2011 CLUB OFFICERS & DIRECTORS

President: Steve Beste 703-321-9110
Vice President: Dick Martin 703-242-2367
Secretary: Jim Heidish 703-524-5265
Treasurer: Jim Birnbaum 703-361-7478
Director and Past President: Len Alt 703-945-9314
Director At Large: Dave Riedel 703-815-4924
Director At Large: Larry Walker 540-347-7609

2011 CLUB VOLUNTEER STAFF

Safety & Training: Dave Riedel 703-815-4924
Membership: Jim Birnbaum 703-361-7478
Club Artist: Jim Heidish 703-524-5265
Librarian Dick Walker 202-363-4546

Newsletter Editor: Autumn Aceto 703-655-4137
e-mail: alaceto@gmail.com
Web Master: Greg Palmer 703-912-3774
PPG Web POC Par Karandikar 703-201-8909

A club is only as good as the members who volunteer to support its activities. The following listed activities with the club require member support in varying amounts. Please indicate on your membership application the function(s) (can be more than one) you will support as a Club member. All active Club members are expected to participate. However, members who live some distance away and cannot attend meetings regularly may prefer to support functions associated with Club weekend activities.

ANNUAL DUES (Jan 1 - Dec 31) \$20.00.
(Includes newsletter.) Family membership: \$25.00. After July 1, dues for remainder of year

are \$10.00. Family membership: \$25.00 (husband and wife). (A spouse who wishes to participate will please complete a membership application form.)

NEWSLETTER SUBSCRIPTION (without membership) is \$10.00 per year.

CLUB WEB SITE: <http://flyingclub1.org>

Note the change in web site. Flying Club 1 now has an officially registered name on the internet.

MEETINGS are monthly, year-round. See the web site for dates and places.

SUBMITTING ITEMS FOR THE NEWSLETTER Members and non-members are encouraged to submit items for this newsletter. Send submissions to Autumn Aceto, 9595 Sherburne Farm Rd, Marshall, VA 20115. E-mail is shown at left. Deadline for entry of items into the newsletter is 10 days before each meeting.

Club Management/Administration: Club Officers (elected, Directors and Staff). (Talk to current officer for more detail.) *Fly-ins:* Food supply, preparation; Facilities; Grounds; Ground Support. *X-country & outside events:* ground support. *Safety & Education:* Flight Safety & Training, New Member Mentoring, Library, Monthly Program Development. *Communications:* Membership, Newsletter, Web Site. *Fund Raising:* 50/50 Raffle. *Miscellaneous:* Meeting Facilities, Property Management, Clothing Sales, Tool Custodian, Ad Hoc Committees.

“If you are interested in joining the U.S Ultralight National Organization go to their website for membership information at: <http://www.usua.org/>”