



SKYLINE NEWS

MONTHLY NEWSLETTER OF SKYLINE SOARING CLUB, INC APRIL 2011

Masthead photo by Dick Otis

From the President

Curtis Wheeler

Soaring activities this month. We are off to a good start with our spring flying. I'm seeing a lot of First Flight participants and we're out at FRR checking out our equipment as well as our own abilities. I have made my first OLC input also; not much for distance but a good 2:45 local hop in the Cirrus to check out the recorder and other onboard equipment. Recommend you do the same—Enjoy your club.

Meisters Majic. I will be heavily dependent on the club "Meisters" this year. They are:

Airport Commissioner—Bob Gould

SSEF—Spencer Annear

Membership—Steve Rockwood

Duty Officers—Craig Rockdorf

Hangar—Dan Ernst

Maintenance Meisters:

Pawnee—Shane Neitzey & single POC for FRAS for Pawnee

Husky—Hugh McElrath & single POC for FRAS for Husky

Grob—Sobek Dziadek

K-21—Mike Christensen

Four-wheeler—Dave Collier

Sprite—Carlos Troncoso

Tow Car—Bill Woodard

I also want to extend special thanks to Bill Woodard for his

recent work on the towcar.

Members should utilize these courageous individuals as I do. Make suggestions and use the structure that has been provided, as well as direct input to the BoD. Know who they are and how to reach them. They all work tirelessly and continually for your benefit.

The No Fly list—as you may have heard, I've been calling on the DO's each week to refer to a no fly list. In some cases this is just support of our long-standing policy of tracking attendance at the annual safety meeting and insuring that the appropriate follow-up action is completed. In a few others, there are some rather significant sums involved.

As you will see in a following article, Jim Kellett has written up an extensive description of how members are to handle making their payments to the club.

Days Away planned—Two planned thus far, plus the week of training. We will go to Highview on June 11, and to Woodstock (Now Bill Burner's place) on July 9th. Thanks to both Craig Hageman and Bill for making these unique flying opportunities available to us. Also we have planned a week of training for July 18-22.

Finally, member inputs to the BoD: Several interesting suggestions to the BoD have been made in recent weeks. Keep 'em coming. Although we cannot implement all that is suggested, the Board takes them all seriously and discusses them at length.

And we are also planning an offsite retreat for the Board in the next month or two to discuss and lay down action plans for long term, strategic club issues.

See you at FRR, Curtis

Club Finance Primer

And the Member's Role

Jim Kellett

Members must remain in good financial standing with the Club at all times. Here's a brief summary of how the Club's finances are managed:

OVERVIEW

Our Club is a (501)(c)(7) non-profit organization managed entirely by volunteers. In a sense, it can be viewed as a collective, with members sharing the responsibility for making the facilities and services available to them. Fiscal stewardship by all members is absolutely essential.

The Club's financial needs are served by a Treasurer (currently Tom Park) and an Assistant Treasurer (currently Dan Ernst). Questions about your financial status should always be first addressed to them.

The Club charges annual dues for the period January 1–January 1. The Club also requires that all members' annual SSA dues be paid through the Club, and are normally collected at the same time as the Club's dues.

The Duty Officer records flight data and associated costs on the day any member flies, and the member is responsible for paying those costs before or on the day the expense is incurred (see following details).

Members who wish to become Inactive members (with the right of reinstatement at some future date) **MUST** be in good standing financially with the Club and **MUST** formally request that status. Members who simply stop paying dues, or who become in arrears to the Club for any reason, risk being classified as terminated, and may not be allowed to re-join the Club.

Before you ask, yes, the Club's Board of Directors has reviewed many times over the years the possible use of credit card or other electronic payment schemes (e.g., PayPal). Each time, the Board has determined that the cost to the Club (and associated pass-through) to the members was not in our best interest. That is the current position. The Board will continue to monitor such services, and if and when it becomes fiscally responsible to use such services, we will.

Membership Report

Steve Rockwood, SSC Membership Officer

Membership has again dwindled slightly over the last month with several members opting for inactive status but we do have a couple of new members to welcome. The club now has a total of 77 active members, including one new Probationary and one new Introductory Members in the last month. Welcome the following member who has recently joined with Probationary Membership status:

- **Paul Pruitt:** Paul is a Software Engineer who lives in the Reston area of Virginia. He recently received his Airman Certificate for single engine aircraft after receiving training from the instructors at Manassas Regional Airport (KHEF). Three days later Paul made his first "Hamburger Run". Paul is new to soaring but very anxious to work toward a glider rating add on.

PAYING DUES

Members are invoiced via e-mail annually, in December, for their Club and SSA dues. The invoice will be considered overdue if not received by January 15, and may be subject to a 10% late fee if received after that date. Payment may be made by mailing a paper check to the treasurer, or issuing an e-check. Electronic fund transfers are not acceptable.

PAYING DAILY OPERATING COSTS

Members have two ways to pay for their use of Club equipment:

1. On the day of the flight, members may pay the Duty Officer by check. (Please do not pay with cash, as that causes a major difficulty to the Duty Officer who would have to write a personal check on HIS account to mail to the Treasurer, since no one in their right mind would mail cash.) The Duty Officer will mail that check to the Treasurer at the end of the day.

2. Prior to the day of the flight, members may establish (and maintain) a positive balance on their account with the Club by mailing a check to the Treasurer at:

Mr. Tom Park, Treasurer
Skyline Soaring Club
96 Windy Meadows Court
Front Royal, VA 22630

Payment may be made by either paper check or e-check; electronic fund transfers are not acceptable.

Members may also establish such an advance account on the day of their flight by providing the Duty Officer with a paper check that significantly exceeds the expenses incurred during that day.

Members who elect to use Option 2 above will receive a monthly statement via e-mail from the Treasurer indicating their balance. It is the member's responsibility to assure that his/her balance is always in excess of his/her expenses on any given flying day.

It must be emphasized that the Club relies heavily on individual members to monitor maintain their financial relationship with the Club. And, because the Club's management strives to keep costs to members at a minimum, it should come as no surprise that the Club has a low tolerance for members who fail, whether deliberately or inadvertently, to maintain that good relationship. Finally, tracking one's balance is the member's responsibility; Tom is the Club's treasurer, not the member's!

Welcome the following member who has recently joined with Introductory Membership status:

- **Jack Stradley:** Jack is a 1,400 hour instrument rated private pilot based in Stafford, VA. Last December, while on vacation in Hawaii, he took some instruction and made eight training flights at Dillingham Airfield and got the soaring "bug". Jack purchased a FAST package that comes with a 30-Day Introductory Membership with the club. After checking us out with his introductory membership I would anticipate he will join the club as a Probationary Member and work toward his glider rating add on. At least we hope so!!

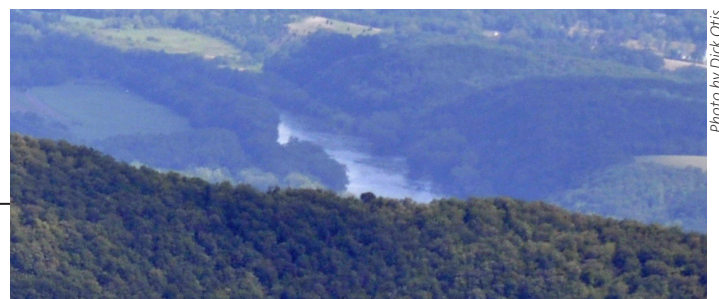


Photo by Dick Otis

Meister—Masters of the Hardware

Michael Christensen

Meister—borrowed from German into English slang and used in compound nouns to denote a person’s expertise in a specified art, skill, or profession. A person referred to as [fill in blank] meister is one that has extensive theoretical knowledge and practical skills in their profession, business concerns and training. Typically the blank is filled in with a word that describes the particular skill set the person in question is an expert in, (for example, a puzzle meister would be someone aptly skilled at completing puzzles).

Your SSC “winged fleet” meisters’ are: *Hugh McElrath*, for the *Husky*; *Shane Neitzey*, for the *Pawnee*; *Mike Christensen*, for the *K21*; *Steve Rockwood*, for the *Cirrus*; *Sobek Dziadek*, for the *Grob*; *Carlos Troncoso*, for the *Sprite*. *Dave Collier*, *Bill Woodard* are the *rolling stock* meisters. In short, the meisters direct and oversee the maintenance and administration of your SSC Fleet, necessary to keep your capital equipment inventory flying and rolling.

Meisters SSC Fleet Maintenance and Administration Spreadsheet Published on SSC Member’s Web Site

Model	Serial #	Manufacturer	N-Number Call Sign	Annual Due	State Sticker Due	FAA Registration Due	Trailer/Auto Tags Due	Meister	Mode S Code	MFR Year	Owner	Domicile
ASK-21	21752	Schleicher	N-341KS	May	NA	31-Mar-11	31-Mar-13	Mike Christensen	50740767	2002	F. Winter	Lewistown, PA
Cirrus	18	Schempp-Hirth	N-888AN	October	March	30-Sep-11	Permanent	Steve Rockwood	53035632	1968	SSC Inc.	Front Royal, VA
G-103 Twin II	3849-K-89	Burkhart Grob	N-4794E	April	March	31-Dec-13	Permanent	Sobek Dziadek	51362562	1984	SSC Inc.	Front Royal, VA
SGS-1-36 (Sprite)	11	Schwitzer	N-3617B	May	May	30-Sep-12	Permanent	Carlos Troncoso	51011522	1981	SSC Inc.	Front Royal, VA
A-1 (Husky)	1236	Aviat Inc.	N-6085S	September	February	31-Dec-12	NA	Hugh McElrath	51764017	1993	SSC Inc.	Front Royal, VA
PA-25-250 (Pawnee)	25-8156005	Piper	N-90866	January	January	30-Jun-13	NA	Shane Neitzey	53110055	1981	SSC Inc.	Front Royal, VA
ATV	NA	Honda	Tug 2	Feb. Inspect & Lube Dec. Drain fuel	NA	NA	NA	Dave Collier				
Tow Car	NA	Ford	Tug 1	March	NA	NA	NA	Bill Woodard				

Updated 3/27/2011

SSEF—Best Foot Forward

Spencer Annear

On March 16 SSEF gave a presentation on soaring to the Front Royal Kiwanis Club. The presenter was Jim Kellett. The program was well received with numerous questions afterwards. A number of Kiwanis members indicated that they did not know a soaring club operated at Front Royal Airport. It turned out that the lady who introduced Jim, Tina Hobson, was his former boss at the Department of Energy.



Tina Hobson and Jim Kellett, who made an eloquent presentation on the behalf of the Skyline Soaring Education Foundation

As part of its mission of aviation education, SSEF gave a FAST package which was made part of a regular drawing the Kiwanis have at their meetings.

Skyline Soaring Education Foundation thanks the Front Royal Kiwanis Club for the generous donation it made at the meeting.



Photos by Dick Otis

Soaring to Mercury

Martin Gomez

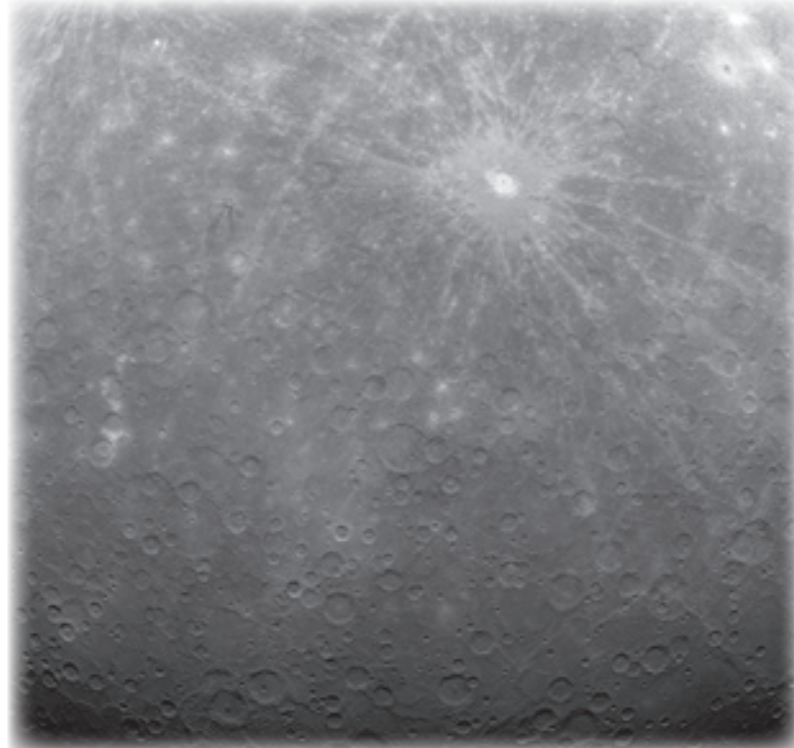
On March 17, 2011, a spacecraft called MESSENGER entered orbit around Mercury. It is the first spacecraft to do so. In the 1970s, a Mariner spacecraft did a flyby, but no spacecraft ever before orbited Mercury. MESSENGER will spend one Earth year in Mercury orbit, giving scientists data about its composition, its magnetic field, and its geology. Mankind has now orbited every planet from Mercury out to Saturn. Neptune, and Uranus have each had a flyby, and Pluto will be flown by in 2015.

When it was released by the launch vehicle, MESSENGER was fully fueled, and weighed 1,100 kg. Over half of that was fuel. It cost over \$400M, including the launch vehicle, the spacecraft, the science instruments, and staffing during its long flight (2004-today.)

In 2002-2003, I had the privilege of working on MESSENGER. I lead the small team of engineers who implemented the fault protection autonomy rules. These are little snippets of software that guard against anomalies, and keep the spacecraft safe until the Mission Operations team can intervene. For instance, if the battery discharges too far, the autonomy rules detect that, turn off non-essential loads, and put the autopilot in a simpler mode that just faces the solar panels into the Sun, rotates slowly so that an antenna will sweep by the Earth, and waits for help.

My team and I contributed less than 1% of the labor associated with an effort like this. MESSENGER introduced me to some of the smartest people I know...it takes such a team to make such a complicated machine work. Consider a few factoids:

- Spacecraft coast most of the way, their path ordained only by gravity. They carry enough fuel to correct their trajectory—very occasionally—and to “dump momentum”...more on that later. The reason for this parsimony is simple: carrying fuel to Mercury requires that you first lift it off Earth, then accelerate it to Earth escape velocity (7 miles/second), and then brake to fall toward the Sun. The more fuel you put in the spacecraft the bigger the launch vehicle gets...a lot bigger. The last big braking maneuver to enter Mercury orbit slowed the spacecraft by about 850 knots, and cost about 1/3 of the spacecraft’s fuel. It now has to fly for a year on the remaining 10%...and that’s plenty.
- The navigation team measures the spacecraft’s position and velocity, and then calculate the small (few knots) of correction required to get it to its destination. They measure the velocity to millimeters/second! And there’s a reason for that...a difference in velocity of one mm/s on a long trip (say Earth to Mars) moves the trajectory by about 1 km!
- Student pilots take note: spacecraft live or die by their ability to control their attitude. Pointing is everything: the spacecraft has to point the solar panels at the Sun, or close to it, or the spacecraft dies...the battery is good for maybe an hour. It has to point the science instruments at the planet, or we might as well stay home...it’s all about the science data. It has to point the thrusters in the direction it wants to accelerate, or it might hit the planet. It has to point an antenna at Earth, or it won’t hear commands or be able to send data back. In the case of a Mercury orbiter, pointing the sun shield is obviously important, and even the sunlit surface of Mercury is hot enough to damage unprotected portions of the spacecraft.
- A good science spacecraft points to within hundredths of a degree of where it’s needed. They don’t do that with rocket thrusters...they’re sledgehammers. To point accurately, they use reaction



Early March 29, at 5:20 am EDT, MESSENGER captured this historic image of Mercury. This image is the first ever obtained from a spacecraft in orbit about the Solar System’s innermost planet.

NASA

wheels. When the spacecraft needs to yaw clockwise, say, a fly-wheel is accelerated counterclockwise. These reaction wheels spin more or less non-stop for a decade-long mission! They exert tiny torques on the spacecraft...an inch-ounce on a one-ton vehicle. But since the spacecraft is in a vacuum, the disturbance torques are also tiny. The only problem is that there is one long-term disturbance torque that is always trying to twist the spacecraft around: the push of sunlight. Sunlight exerts enough pressure that over the course of a week or so, the reaction wheels build up a lot RPM in their attempt to counter the sun torque. To bring their speed back down, the thrusters are fired briefly to “unwind” the reaction wheels, a process known as “dumping momentum.”

So far, all indications are that the spacecraft is working perfectly, despite the harsh environment. The science instruments are being turned on for their long year of investigation, and will soon return their first images.

For more details see <http://messenger.jhuapl.edu>



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The Project Mercury and MESSENGER Mission stamps were designed by Donato Giancola of Brooklyn, New York, under the art direction of Phil Jordan of Falls Church, Virginia. A three-time winner of the Hugo Award for Best Professional Artist, Giancola is known for his cover illustrations for science fiction authors, including Isaac Asimov, Ray Bradbury, Phillip K. Dick, and Arthur C. Clarke. His luminous works for J.R.R. Tolkien’s *The Hobbit* and *The Lord of the Rings* have received recognition through more than a dozen awards.

These stamps will be issued May 4 in Titusville, Florida.



with its power adapter, along with the mailing envelopes and what passes for an Operating Manual, in a small, black fabric bag with an "AOPA" logo on the side.

It's smaller than a regular laptop, but the logsheet image on the screen is still the same size. Here's what it looks like:



It is configured with two programs in its status bar: the Club's logsheet record keeping program, and an Internet Explorer browser with two tabs, the members-only page of the Club's website (so you can easily upload the file during and after the day you're working) and the Intellicast local weather radar (so that, on iffy-weather days, you can monitor the real-time Doppler radar). Once launched, you can toggle between the two programs using the icons on the status bar.

You can see the screen in at least moderate sunlight, so a black box to hide it isn't necessary. It also has a Li-ion battery, and the power consumption is configured to put itself to sleep fairly promptly (like, after 10 minutes of non-activity). It's been "broken in" by running the battery down several times and fully charged.

Enjoy. And please, please—take care of it! —*Jim Kellett*

Editor's note: only THE Curmudgeon could own an exact cat replica of a curmudgeon!

"WWII glider pilot, William Horn, expressed it well in a letter to the author: There never was a dull moment during those training flights—some of them were worse than combat!"

—*To Fly the Gentle Giants* The Training of U.S. WWII Glider Pilots

by J. Norman Grim

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Really careful readers of Skylines, both of you, may have noticed that the following article regarding the WSPA appeared twice in the March issue. Your electronically challenged editor apologizes for not reading it closer but does admit it surely fit better with two of them. —**2011 WSPA Seminar Cancellation**—The Women Soaring Pilots Association regretfully must cancel the 2011 Women's Soaring Seminar because the hosting club has withdrawn its support.

Some 4 wheeler tips:

1. To start the motor you need to have the key ON, a green light and the emergency kill switch in the center position (on the left hand grip above the start button). I believe the kill switch is what's been killing the 4 wheeler operations.
2. Fuel—its best to operate the atv with the fuel petcock (lower left gas tank) in the ON position until it runs out of gas, then switch to REServe to get you back to the hanger to refuel. After refueling switch back to ON pos so that the next person has the luxury of reserve. The ON / OFF / RES labeling is difficult to see. Maybe some white tape or stickers with white background would help visibility.
3. Shifting gears—let off gas while changing gears.
4. Tow in 1st gear.
5. The muffler is a looming problem. If you notice engine noise level get quiet and it doesn't return to its normal (fairly loud) level, its probably best to park and report it. Its been needing a muffler longer than its needed tires.

I gave it an oil change and a little test ride recently and it seemed to be running fine. Happy riding, —*Dave Collier*

One More Time—Or, Our Newest Field Computer

We have a new notebook for Duty Officers to use at the field! It's a 10.1" chicklet keyboard device, relatively simple to use (compared to some of the laptops we've had in the past). You'll find it, along



Skyline Soaring Club, Inc.

is a private, 501(c)7 non-profit organization, dedicated to the enjoyment and promotion of the sport of soaring. SSC is based at the Front Royal-Warren County, Va. Airport and is an affiliate club of the Soaring Society of America. For information about the club go to www.skylinesoaring.org

President—Curtis Wheeler
Secretary—Jim Kellett
Treasurer—Thomas Park
Membership—Steve Rockwood
Chief Duty Officer—Craig Bendorf
Chief Tow Pilot—Curtis Wheeler
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