



# Membership Manual

**April 22, 2024**

Please note newly revised, updated, and additional text in a [blue font](#)

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# QUICK FACTS

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## **ORGANIZATION**

The Soaring Tigers was established in 1974 and is incorporated and registered as an educational non-profit organization with the U.S. government. We are chapter members of the Soaring Society of America and the Region-Two Soaring Council.

## **PURPOSE**

Soaring Tigers, Inc. is a 501(c)(3) non-profit organization dedicated to the development and promotion of safe motorless flight, and to the training and instruction of its members in the art, science, and sport of soaring. The major focus of the club is on flight instruction for new pilots. While flight instruction is limited to active members, the club extends to the broader community opportunities to learn of motorless flight through lectures, soaring meetings, and subsidized demonstration flights.

Safety, both in the air and on the ground, is of paramount importance to the club. To that end, Soaring Tigers not only promotes safe practices in general, but requires its members to comply with all Federal Aviation Regulations (FARs), to maintain a level of training and proficiency beyond the minimum required by the FARs, to expand their knowledge through participation in the FAA's WINGS program and membership in the Soaring Society of America, and to evaluate his or her own 'fitness to fly' through use of the "IMSAFE" protocol. (See additional information under the Member Info tab.)

## OUR FLEET OF SAILPLANES

### Schweizer SGS 2-33A Dual Place Sailplane for Flight Training, Solo, Flight Reviews, FAA Flight Tests, and Passenger Rides – L/D 23:1

We fly our Schweizer SGS 2-33A (L/D 23:1) N65867. It's a two-place sailplane that's ideal for training. This ship was refurbished in 2011. It is equipped with a variometer.

The Schweizer SGS 2-33A N65867 ship occupants' maximum combined clothed weight of the pilot and another ship occupant is 385 lbs.



### General characteristics

- **Crew:** one
- **Capacity:** one passenger
- **Length:** 25 ft 9 in (7.85 m)
- **Wingspan:** 51 ft 0 in (15.54 m)
- **Height:** 9 ft 3 in (2.83 m)
- **Wing area:** 219.5 sq. ft. (20.39 m<sup>2</sup>)
- **Aspect ratio:** 11.85:1
- **Airfoil:** [NACA 63<sub>3</sub>-618<sup>\[2\]</sup>](#)
- **Empty weight:** 655 lb. (297 kg) for our N65867 ship
- **Max takeoff weight:** 1,041 lb. (472 kg)

## Performance

- **Stall speed:** 36 mph; 57 km/h (31 kn) dual
- **Never exceed speed:** 98 mph; 157 km/h (85 kn) in smooth air, rough air and aerotow
- **Max winch-launch speed:** 60 kn (110 km/h; 69 mph)
- **g limits:** +4.67 -2.56
- **Maximum glide ratio:** 22.25:1
- **Best glide speed dual:** 45 kn (83 km/h; 52 mph)
- **Rate of sink:** 187 ft/min (0.95 m/s) dual
- **Minimum sink speed:** 37 kn (69 km/h; 43 mph)
- **Wing loading:** 4.74 lb./sq. ft (23.14 kg/m<sup>2</sup>) max

## Schweizer SGS 1-26B Single Place Sailplane – L/D 23:1

In July 2016 the club received a donation of an SGS 1-26B (L/D 23:1) N389BR single-place sailplane and a glider trailer from a club member.

The Schweizer SGS 1-26B N389BR minimum clothed pilot weight is 158 lbs. (with optional ballast) and the maximum clothed pilot weight is 192 lbs.



## General characteristics

- **Crew:** One
- **Length:** 21 ft 6 in (6.55 m)
- **Wingspan:** 40 ft 0 in (12.2 m)
- **Height:** 7 ft 2 in (2.18 m)
- **Wing area:** 160 ft<sup>2</sup> (14.9 m<sup>2</sup>)
- **Aspect ratio:** 10
- **Wing profile:** NACA 4301 2A

- **Empty weight:** 408 lb. (185 kg) for our N389BR ship
- **Gross weight:** 700 lb. (318 kg)

## Performance

- **Maximum speed:** 114 mph (182 km/h)
- **Maximum glide ratio:** 23 at 53 mph (84 km/h)
- **Rate of sink:** 174 ft/min (0.88 m/s)

## Schweizer SGS 1-34 High Performance Single Place Sailplane – L/D 33:1 and our Gliderport’s Piper Pawnee Tow Plane

Our SGS 1-34 (L/D 33:1) is a beautiful higher performance sailplane that’s available to qualified and experienced glider pilots (private or above) to fly it safely.

The Schweizer SGS 1-34 N7JP minimum clothed pilot weight is 140 lbs. (with optional ballast) and the maximum clothed pilot weight is 212 lbs.



## General characteristics

- **Crew:** One
- **Length:** 25 ft 5 in (7.80 m)
- **Wingspan:** 49 ft 3 in (15.00 m)
- **Height:** 7 ft 6 in (2.31 m)
- **Wing area:** 151 ft<sup>2</sup> (14.0 m<sup>2</sup>)
- **Aspect ratio:** 16
- **Wing profile:** Root: Wortmann FX 61-163, Tip: Wortmann FX 61-126

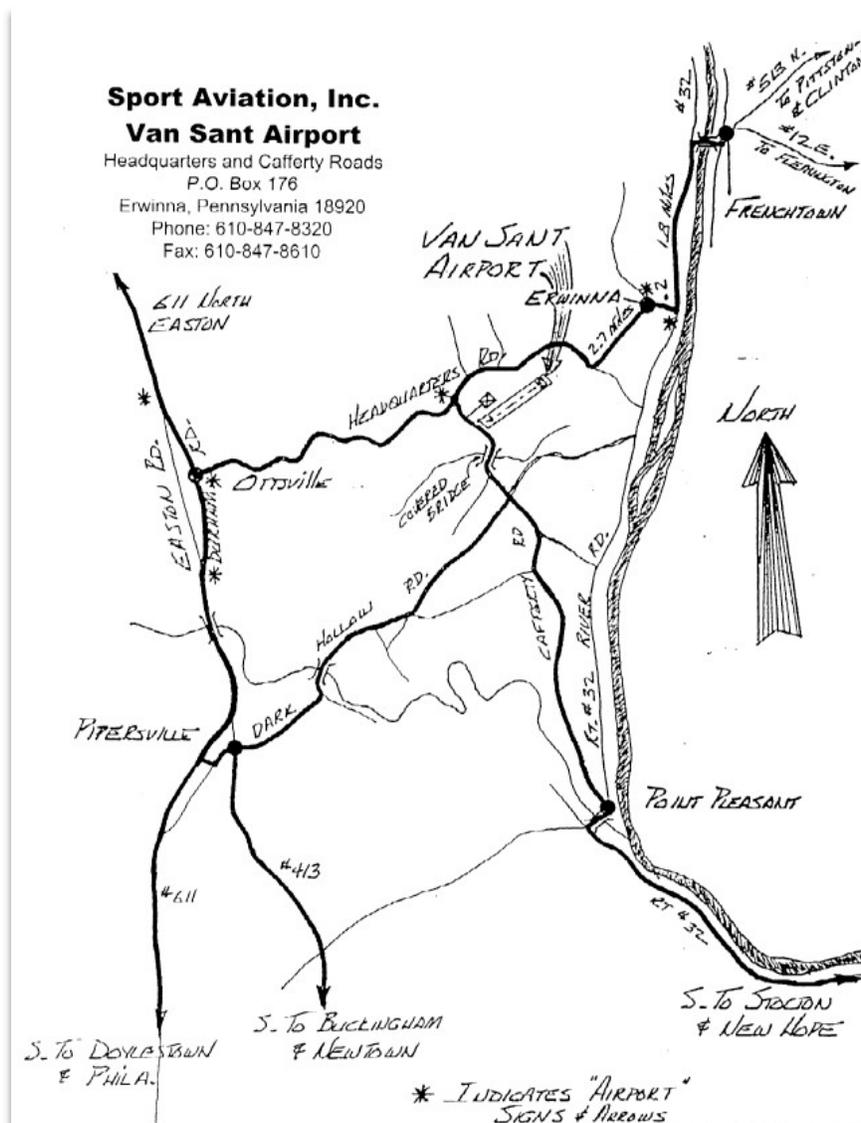
- **Empty weight:** 595 lb. (270 kg) for our N7JP ship
- **Gross weight:** 840 lb. (381 kg)

## Performance

- **Maximum speed:** 142 mph (227 km/h)
- **Maximum glide ratio:** 33 at 55 mph (88 km/h)
- **Rate of sink:** 144 ft/min (0.73 m/s)

## AIRPORT LOCATION

Van Sant airport in Erwinna, Pennsylvania, is a beautiful country airfield in Bucks County. It has two grass strip runways and is an active soaring, flying and ballooning site. Van Sant airport is located at coordinates (40.30N 75.05W), about 10 miles upriver of New Hope, PA and one mile west of the Delaware River. It is also about 3 miles SSW of Frenchtown, New Jersey.



## MEMBERSHIP FEES

We offer greatly reduced rates by having all members contribute time for the benefit of the club. Members are required to help with different tasks (e.g., ship and trailer maintenance, washing, assembly-disassembly, web site maintenance, etc.).

High school / undergraduate / graduate school student member:	\$500/year dues.
Glider student pilot membership ( <i>for new and power transition glider pilots</i> ):	\$750 non-refundable initiation fee and \$750 annual dues until solo with pro rata refund for unused portion in the first year if the member leaves the club. Upon solo the annual membership rate is then immediately adjusted to the full standard membership fee on a pro rata basis for that season and for all future seasons.
Standard membership:	\$1,500/year dues for all club members. Standard members have access to dual instruction and use of Soaring Tigers' complete fleet of aircraft, subject to appropriate logbook endorsement from a club CFIG. Standard members who own, insure, and actively fly their own glider are eligible to receive a 25% discount on their membership dues.
Recurrent training member:	\$200 for ground instruction and up to six flights with a club CFIG in our SGS 2-33A (no solo flights). This membership level allows licensed glider pilots, private or commercial, to accomplish their recurrent training needs. Recurrent training members can complete a Flight Review, safely practice emergency procedures, complete WINGS Pilot Proficiency Program flight tasks, or other training goals as mutually agreed by the CFIG and member. All applicants must first complete an interview with a Soaring Tigers CFIG to ensure this membership level is appropriate to help them meet their goals. Recurrent training members can upgrade their membership, within the same flying season, to Standard Membership and receive credit for their already paid \$200 dues.
Family membership:	½ standard membership dues for additional family members when one is already a standard Soaring Tigers club member.
Emeritus membership:	\$200 for formerly active Soaring Tigers members who no longer choose to soar but want to participate in pilot training sessions, take informative rides with club PIC glider pilots, and participate in ground schools and flight simulation exercises.

Club instructors: No fee for active CFGs providing instruction to members on a regularly scheduled basis eight or more days annually. When a glider commercial pilot gets the CFG rating from the FAA, and the new CFG begins instructing regularly for our club, then the Soaring Tigers will then reimburse the new CFG their current year's dues on a pro rata basis.

Board and/or officer: Soaring Tigers elected board members and/or officers with voting rights must either be active dues paying members or a non-dues paying board/officer member. This non-dues paying category of membership does not, by itself, enable that person to have any club dual or PIC flight privileges.

Scholarships: Available and considered on an application basis.

*\* For all membership levels, aero tow fees are paid directly to the FBO by the member.*

Fees are used to maintain all club ships and trailers, pay tie-down fees, make repairs, FAA required annual inspections, insurance, and to operate the club.

## **FLIGHT CHARGES**

The club does not charge members for hourly rental of the club ship or for flight instruction. Membership fees cover the direct cost of operating our sailplane. Members include FAA Certified Flight Instructors Glider (CFG) who donate their time to teach new pilots the art of soaring.

Tow planes are provided by The Bird of Paradise the Fixed Base Operator (FBO) at Van Sant airport. Members are responsible for the cost of their tows. [Tow costs as of March 2024 are the same as in the past few years.](#)

Simulated Rope Break (SRB)	\$40.00
1000' AGL	\$45.00
1500' AGL	\$50.00
2000' AGL	\$52.00
2500' AGL	\$55.00
3000' AGL	\$60.00
3500' AGL	\$65.00
4000' AGL	\$75.00
4500' AGL	\$90.00
5000' AGL	\$95.00

Club membership fees go towards covering the cost of maintaining our sailplane.

## **WHO PAYS THE COST OF A TOW?**

- 1) Our Soaring Tigers club members with commercial glider ratings (and only those) may allow another member, prospective member, or guest as passenger to pay 100% of the tow costs directly for an out-and-back (not a cross-country) flight;
- 2) Our members with private glider ratings may only share tow costs up to no more than a pro-rata basis (i.e., no more than 50% in a two-place 2-33) with such a passenger on an out-and-back flight, provided that the private pilot would have made that particular flight anyway. If such a person requests a flight, and a private pilot agrees, that pilot may not allow that person to pay any costs whatsoever;
- 3) If two private pilots or two commercial pilots or one private/one commercial pilot wish to share tow expenses on a single flight, please contact me. The answer will depend on who will be PIC, or whether that responsibility will be changed during the flight;
- 4) No other form of direct or indirect payment (including non-cash items) of any kind is allowed in the case of commercial or private pilots. These regulations do not apply to CFIs giving legitimate flight instruction; otherwise, glider CFIs fall into the same category as other commercial glider pilots.

These regulations may seem questionable to some of you, but we assure you that the FAA takes them very seriously.

## **MEETINGS**

The club meets periodically during the year. Meeting agendas focus on club operations, soaring topics of interest and ground training. We also have family picnics at the airport during the summer.

## **FLIGHT INSTRUCTION**

Since its inception in 1974 the Soaring Tigers have provided a structured training program that has resulted in hundreds of members obtaining FAA ratings for Private Pilot, Commercial Pilot and Flight Instructor licenses. Members who are CFIs have many years of glider flight instruction experience. Flight training typically provided from March through November on weekend and some selected weekdays.

## **HOW LONG BEFORE SOLO?**

The Soaring Tigers Sailplane Flight Training Syllabus is structured into eight lesson groups that are designed to provide the student with the flight maneuvers and knowledge that must be mastered before solo flight. 32 flights may be sufficient for the exceptional student to solo. However, different learning rates, time between lessons and varying weather conditions may necessitate more flights before solo. Generally, the more frequently a student can fly the quicker he can expect to solo. A more realistic assumption might be 40-50 flights before solo. But in some cases, this may take longer.

## **OBTAINING A PRIVATE GLIDER PILOT LICENSE**

FAA regulations about this can be found at FAR 61.109(f)

### **Applicants with no power experience**

A glider private license requires you to be a minimum of 16 years old and be able to read, speak, write, and understand English. You'll need to take an FAA written and oral test. The FAA also specifies the following practical requirements for the private glider rating for applicants with no power experience:

- 1) twenty flights in a glider including at least three training flights in a glider with an authorized instructor in preparation for the practical test that must be performed within the 60-days preceding the date of the test, and
- 2) two hours of solo flight time in a glider with not less than 10 launches and landings being performed.

### **Applicants who are power pilots with a least 40 hours of flight time**

Applicants with at least 40 hours of flight time in heavier-than-air aircraft must:

- 1) Log at least three hours of flight time in a glider,
- 2) 10 solo flights in a glider, and
- 3) three training flights in a glider with an authorized instructor in preparation for the practical test that must be performed within the 60-days preceding the date of the test. FAR 61.109 (f) (2) allows the dual flights to count towards the 3-hour requirement.

The Soaring Tigers provides only aero tow instruction.

## **WHAT DOES IT COST?**

Each student's situation is unique so the cost may vary substantially. You should estimate about \$1,650 of flight fees for solo and \$1,200 of flight fees after solo to obtain a license. Add the club fees for whatever length of time is required to obtain a "ballpark" cost. However, please note that these flight fees will vary based on the skill of the student or transition pilot.

## **MEDICAL REQUIREMENTS**

Glider pilots are not required to have a physical exam but must sign a statement saying that "I have no known physical disability that would prevent me from safely executing the tasks of flying a glider." If you're in reasonably good health and have correctable vision, you'll probably qualify. There are a few medical problems that may be disqualifying. These include epilepsy, diabetes, and recent heart ailments. If you are uncertain of your medical fitness to fly, you can contact an Aviation Medical Examiner (AME) who can evaluate your health and advise you on this subject.

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# INTRODUCTION

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## PURPOSE

Soaring Tigers, Inc. is a 501(c)(3) non-profit organization dedicated to the development and promotion of safe motorless flight, and to the training and instruction of its members in the art, science and sport of soaring. The major focus of the club is on flight instruction for new pilots. While flight instruction is limited to active members, the club extends to the broader community opportunities to learn of motorless flight through lectures, soaring meetings, and subsidized demonstration flights.

Safety, both in the air and on the ground, is of paramount importance to the club. To that end, Soaring Tigers not only promotes safe practices in general, but requires its members to comply with all Federal Aviation Regulations (FARs), to maintain a level of training and proficiency beyond the minimum required by the FARs, to expand their knowledge through participation in the FAA's WINGS program and membership in the Soaring Society of America, and to evaluate his or her own 'fitness to fly' through use of the "IMSAFE" protocol. (See additional information under the Member Info tab.)

## HISTORY AND EQUIPMENT

Thanks to the tireless efforts of Steven Sliwa '77 and Barry Nixon, the Soaring Tigers (formerly known as the Soaring Society of Princeton University, Inc.) was established in December 1974 and began operating in the spring of 1975. The club then purchased a Schweizer SGU 2-22E (L/D 18:1) training sailplane for \$4000 from the Harris Hill Soaring Club. It was the last SGU 2-22E ever manufactured (1965) and had been modified extensively since then. The 2-22 was completely recovered in the spring of 1978.

In November 1975 the club purchased a Schweizer SGS 1-26D medium performance (L/D 23:1) single place sailplane and trailer for \$7500. The 1-26 is by far the most popular and numerous sailplane in the United States today. The 1-26 was also completely recovered in the spring of 1978. The 1-26 trailer was modified in early 1987 to accept all of the club's aircraft.

In June 1984, Winslow Lewis donated his 1-26B and trailer to the club. This ship was enjoyed for a year but traded in October 1985 to the Aero Club Albatross for a Schweizer SGS 2-33A two-place sailplane (L/D 23:1). The addition of a second two-seater greatly expanded the club's capacity for passenger flights and demonstration rides without detriment to the instruction schedule. The 2-33 also serves as a good transition ship to the 1-26. The 2-33 acquired a new paint job through a generous donation from club member Richard Ullman in early 1987. The club also operated a Schweizer 1-34 (L/D 34:1) during 1978-1984 that was owned by Gerald O'Neil.

Soaring Tigers operated from Forrestal Airport on the Princeton University campus from 1974 through June of 1989. During that time the club contracted for tow operations from a variety of sources including Princeton University students and faculty, and two aircraft leasing companies. The club has never owned its own tow plane, although club members with power ratings served regularly as tow pilots.

In June 1989 Princeton University closed Forrestral Airport so that the land could be used for commercial development. After thoroughly exploring alternative soaring sites and mergers with other clubs, the club then moved its operation to Van Sant airport in Erwinna, Pennsylvania in June 1989. This airport is an active soaring, flying and ballooning site, and many vintage power airplanes are based and fly there. Van Sant is located just west of the Delaware River approximately 10 miles north of New Hope, PA and across the river from Frenchtown, NJ. It is about 1 hour driving time from Princeton, NJ.

In July 1989 the club loaned its SGU 2-22E sailplane to the newly formed Penn State Glider Club. Both clubs entered into an affiliate membership agreement that enables members of both clubs to fly each other ships from their home airports. In March 1991 the 2-22E was destroyed while on loan to the Penn State club when it broke loose from its tie-downs in a severe windstorm.

In January 1996 Dan Barry, a former club member (who took his first flying lesson and got his glider private rating with the club when we were at Forrestral) flew as a mission specialist aboard the Space Shuttle STS-72. He then went on to fly two additional Space Shuttle missions.

In August 1995 the SGS 2-33 two-place glider was damaged with no injury to the pilots. In November 1996 the club replaced it with another completely rebuilt and recovered 2-33. This glider is equipped with a Borgelt electric audio variometer with averager. In November 1997 the club sold its SGS 1-26 to provide the necessary monies to ensure the continued operation and maintenance of the club's 2-place ship and flight training program.

In May 2001 the club purchased a Schweizer SGS 1-36 single place ship which experience wing damaged with no injury to the pilot in an off-field landing. In October 2001 the club purchased a Schweizer SGS 1-34 (L/D 33:1) single place sailplane and enclosed trailer. The ship is equipped with a Borgelt audio variometer with averager and a 720 channel Ditel aircraft radio. Our SGS 1-34 (L/D 33:1) is currently in storage. It was planned for return to flying status if and when we have the sufficient number of qualified glider private pilots (private or above) to fly it safely and justify the annual operating costs.

William Brian Binnie is a former Soaring Society of Princeton University (SSPU) member, United States Navy officer and is one of the test pilots for SpaceShipOne, the experimental spaceplane developed by Scaled Composites. On December 17, 2003, the 100th anniversary of the Wright brothers' first powered flight, Binnie piloted the first powered test flight of SpaceShipOne, flight 11P, which reached a top speed of Mach 1.2 and a height of 12.9 miles (20.7 km). On October 4, 2004, he piloted SpaceShipOne's second Ansari X Prize flight, flight 17P, winning the X Prize and becoming the 435th person to go into space. His flight, which peaked at 367,442 feet (69.6 mi; 112.0 km), set a winged aircraft altitude record, breaking the old record set by the North American X-15 in 1963. It also earned him the second set of Astronaut Wings to be given by the FAA for a flight aboard a privately operated commercial spacecraft.

Since inception, the Soaring Tigers has conducted about 1,000 sailplane flights in each of the years while operating from Forrestral airport. Since moving to Van Sant airport the club has conducted between 200-400 flights each year.

We now fly our Schweizer SGS 2-33A (L/D 23:1) N65867. It's a two-place sailplane that is ideal for training and giving rides. This ship was refurbished in 2011. It is equipped with a Winter variometer. The maximum combined clothed weight of the occupants for this N65867 ship is 385 lbs. This weight limit varies from one plane to another.

In July 2016 the club received a donation of a SGS 1-26B (L/D 23:1) N389BR single-place sailplane and a glider trailer from a club member. It is equipped with both a mechanical Winter variometer and a Tasman V1000 electric audio variometer. The minimum clothed weight of the pilot in this N386BR ship is 158 lbs. (with optional ballast) and the maximum clothed weight of the pilot is 191 lbs. This weight limit varies from one plane to another.

Our SGS 1-34 (L/D 33:1) started flying again in July 2016. We are flying it again since we now have a sufficient number of qualified glider pilots (private or above) to fly it safely and justify the annual operating costs. It is equipped with a radio plus both a Winter mechanical variometer and a Borgelt B40 electric audio variometer. The minimum clothed weight of the pilot in this N76JP ship is 140 lbs. (with optional ballast) and the maximum clothed weight of the pilot is 212 lbs. This weight limit varies from one plane to another.

## **ORGANIZATION**

Soaring Tigers has non-profit educational organization status with the United States Federal Government (IRC 501(c)(3)), which makes it eligible to receive donations for tax credit. The Corporation is managed by a five-member elected Board of Directors and by elected club officers consisting of President, Vice President, Secretary, Treasurer and Membership officer. The term of office for directors is 2 years. The term of a director begins on October first. The term of office for the officers is one year. Terms begin on January first of each year. The Soaring Tigers is also a chapter member of the Soaring Society of America, the Region-Two Soaring Council and the Collegiate Soaring Association.

## **RULES**

All pilots flying Soaring Tigers rented or owned aircraft must fully comply with all club policies, operational procedures, rules, plus airport and U.S. governmental regulations.

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# MEMBERSHIP

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The club is able to support a large membership of student pilots by maximizing utilization of its aircraft through an efficient sign-up and scheduling system. Membership is open to the general public with a special emphasis on younger members. Up-to-date membership lists are distributed regularly.

## MEMBER RESPONSIBILITIES

Soaring Tigers offer greatly reduced dues by having all members contribute time for the benefit of the club. Members are required to help with different tasks (e.g., owner-authorized ship maintenance, washing, assembly, disassembly, recruiting, web-site maintenance, etc.).

All members must sign a statement that they have read and will comply with the applicable Federal Aviation Regulations, club insurance policies, airport rules and procedures, relevant flight manuals/Pilot Operating Handbooks, and the latest version of all club policies, operational procedures, and rules as set forth in this and any updated documents or other forms of communication. In addition, each member must, on an annual basis, review and sign a Release From Liability form as provided by the club.

All pilots flying Soaring Tigers rented or owned aircraft must fully comply with all club policies, operational procedures, rules, plus airport and U.S. governmental regulations.

## FEE STRUCTURE

High school / undergraduate / graduate school student member: \$500/year dues.

Glider student pilot membership (*for new and power transition glider pilots*): \$750 non-refundable initiation fee and \$750 annual dues until solo with pro rata refund for unused portion in the first year if the member leaves the club. Upon solo the annual membership rate is then immediately adjusted to the full standard membership fee on a pro rata basis for that season and for all future seasons.

Standard membership: \$1,500/year dues for all club members. Standard members have access to dual instruction and use of Soaring Tigers' complete fleet of aircraft, subject to appropriate logbook endorsement from a club CFIG. Standard members who own, insure, and actively fly their own glider are eligible to receive a 25% discount on their membership dues.

Recurrent training member: \$200 for ground instruction and up to six flights with a club CFIG in our SGS 2-33A (no solo flights). This membership level allows licensed glider pilots, private or commercial, to accomplish their recurrent training needs. Recurrent training members can complete a Flight Review, safely practice emergency procedures, complete WINGS Pilot Proficiency Program flight tasks, or other training goals as mutually

	agreed by the CFG and member. All applicants must first complete an interview with a Soaring Tigers CFG to ensure this membership level is appropriate to help them meet their goals. Recurrent training members can upgrade their membership, within the same flying season, to Standard Membership and receive credit for their already paid \$200 dues.
Family membership:	½ standard membership dues for additional family members when one is already a standard Soaring Tigers club member.
Emeritus membership:	\$200 for formerly active Soaring Tigers members who no longer choose to soar but want to participate in pilot training sessions, take informative rides with club PIC glider pilots, and participate in ground schools and flight simulation exercises.
Club instructors:	No fee for active CFGs providing instruction to members on a regularly scheduled basis eight or more days annually. When a glider commercial pilot gets the CFG rating from the FAA, and the new CFG begins instructing regularly for our club, then the Soaring Tigers will then reimburse the new CFG their current year's dues on a pro rata basis.
Board and/or officer:	Soaring Tigers elected board members and/or officers with voting rights must either be active dues paying members or a non-dues paying board/officer member. This non-dues paying category of membership does not, by itself, enable that person to have any club dual or PIC flight privileges.
Scholarships:	Available and considered on an application basis

*\* For all membership levels, aero tow fees are paid directly to the FBO by the member.*

Fees are used to maintain all club ships and trailers, pay tie-down fees, make repairs, FAA required annual inspections, insurance, and to operate the club.

All club members are required to meet the qualification requirements as set forth in the declaration section of the current Soaring Tigers flight insurance policy.

No refunds of dues will be made owing to bad weather or other conditions beyond the control of the club. Member's dues expiration date is indicated on the club roster. Members will send their dues (payable to Soaring Tigers, Inc.) to the address designated by the club Treasurer. Members may NOT fly unless their dues are current.

Annual dues are payable each January 1<sup>st</sup>. Members who join the club mid-year pay full-year dues on the day their membership becomes effective; their initial renewal will be pro-rated to cover the period extending from their first anniversary until the next January 1<sup>st</sup>.

## REQUIRED SSA MEMBERSHIP DUES

In addition to our club's membership fee structure, ALL Soaring Tigers members are also required to become and maintain active membership in the Soaring Society of America (SSA).

Please advise us of your SSA membership number and membership expiration date.

SOARING is the Society's official journal. Membership in the SSA is open to anyone interested in the art, the science or the sport of motorless flight. Membership and dues (as of [April 2024](#)) are:

LIFE MEMBER	\$2,000 (can be paid in full or in 12 monthly payments of \$166.67)
FULL MEMBER	\$ 80
ASSOCIATES MEMBER	\$ 65
YOUTH MEMBER (under 22 years old)	\$ 45
FAMILY MEMBER	\$ 50

The SSA address is: Soaring Society of America, Inc. P.O. Box 2100 Hobbs, NM 8241-2100, 575-392-1177 [membership@ssa.org](mailto:membership@ssa.org). Check SSA Web site at <http://www.ssa.org> for current information.

Full and life members receive a subscription to SOARING and other member benefits. Student members (full time students, age 22 or under) receive SOARING magazine and have voting privileges. Family members have voting privileges but do not receive a magazine subscription.

## FLIGHT CHARGES

The club does not currently charge members for the hourly rental of club ships or for flight instruction, both of which are free of charge to members.

In addition, all club members are fully responsible for the cost of their tows. Tow fees are paid directly to the Fixed Base Operator (FBO) at Van Sant airport in Erwinna, PA. A current tow fee schedule is available from the FBO. [Tow costs as of March 2024 are the same as in the past few years.](#)

Simulated Rope Break (SRB)	\$40.00
1000' AGL	\$45.00
1500' AGL	\$50.00
2000' AGL	\$52.00
2500' AGL	\$55.00
3000' AGL	\$60.00
3500' AGL	\$65.00
4000' AGL	\$75.00
4500' AGL	\$90.00
5000' AGL	\$95.00

Members are personally responsible for **PAYING FOR THEIR TOWS TO THE VAN SANT FBO BEFORE LEAVING THE FIELD EACH DAY.**

Members are also responsible for **ENTERING DETAILS FOR EACH OF THEIR FLIGHTS IN THE**

FORM THE FBO PROVIDES ON A SMALL CLIPBOARD WITH THE 2-33A. Members must enter the date of their flight(s), the ship that they flew, and the duration of the flight. This information is used to update the ship's logbook.

## **WHO PAYS THE COST OF A TOW?**

- 1) Our Soaring Tigers club members with commercial glider ratings (and only those) may allow another member, prospective member, or guest as passenger to pay 100% of the tow costs directly for an out-and-back (not a cross-country) flight;
- 2) Our members with private glider ratings may only share tow costs up to no more than a pro-rata basis (i.e., no more than 50% in a two-place 2-33) with such a passenger on an out-and-back flight, provided that the private pilot would have made that particular flight anyway. If such a person requests a flight, and a private pilot agrees, that pilot may not allow that person to pay any costs whatsoever;
- 3) If two private pilots or two commercial pilots or one private/one commercial pilot wish to share tow expenses on a single flight, please contact me. The answer will depend on who will be PIC, or whether that responsibility will be changed during the flight;
- 4) No other form of direct or indirect payment (including non-cash items) of any kind is allowed in the case of commercial or private pilots. These regulations do not apply to CFIs giving legitimate flight instruction; otherwise, glider CFIs fall into the same category as other commercial glider pilots.

These regulations may seem questionable to some of you, but we assure you that the FAA takes them very seriously.

## **MEETINGS**

The club meets periodically during the year. Meeting agendas are published in advance and often focus on safety, club operations, membership, soaring topics of interest, financial reports, etc. Meetings are sometimes held on a weekday evening, weekend days, sometimes at the airport and at other times at a restaurant at dinnertime. We also have family picnics at the field during the summer. Check your e-mail for the time and place of upcoming meetings.

## **MEMBERSHIP APPLICATION**

All prospective Club members are required to complete the Membership Application Form (included in this manual) and return it to the club treasurer. All statements made on this form must be complete, accurate and truthful.

## RELEASE FROM LIABILITY

All prospective members, all current members and all passengers and guests must read and sign three copies of the *Soaring Tigers Member Release From Liability* document on an annual basis prior to participating in any club activities. This important form must be included with an application. It is kept on file. Non-members passengers must also fill out the *Soaring Tigers Non-Member Release From Liability* form before each flight. Copies are kept by the club officers and one or more club instructors.

Individuals who are younger than 18 years old must also have their parent or legal guardian co-sign this form. Copies of these forms are provided in the back of this manual (feel free to make copies) and additional copies are available from the membership officer. Members are required to either hand deliver or immediately send these completed forms (for themselves and for all passengers) to the club.

## INSURANCE OVERVIEW

### **As respects sailplane uses other than sightseeing rides for hire:**

Any pilot maintaining a PRIVATE or more advanced pilot certificate who has demonstrated to the Named Insured's appropriately certified flight instructor the piloting skills required for the sailplane being flown.

Any pilot not having a glider pilot certificate or rating must remain under the direct supervision of an appropriately certified flight instructor for all flights. This also includes solo flights after receiving the instructor's appropriate written endorsement(s) for the same make and model sailplane being flown.

### **As respects sailplane uses defined as sightseeing rides for hire:**

Any pilot maintaining a COMMERCIAL GLIDER or more advanced pilot's certificate and has demonstrated the Named Insured's appropriately certified flight instructor the piloting skills and license required for the sailplane to be flown.

## SSA REQUIRED MEMBERSHIP FOR SHIP INSURANCE

As you can see in the letter below, the Soaring Society of America understandably requires all Soaring Tigers members to currently hold some form of SSA membership at all times. It's a requirement for our ship insurance.



Costello Insurance Associates, Inc.

May 15, 2023

Soaring Tigers Inc  
c/o Rob Elliott  
39 Linden Place  
Summit NJ 07901-3439

RE: SSA MEMBERSHIP COMPLIANCE

Dear Club Officers:

The Soaring Society has asked our assistance in helping glider flying clubs utilizing the SSA's Group Hull and Liability Insurance program adhere to SSA membership guidelines. Provided below is an overview of the membership criteria.

A condition of participation in the Soaring Society of America's Group Hull and Liability Insurance Program by any organization performing non-commercial flight operations is that each individual member of said organization also hold some form of SSA membership at all times.

If you have any questions pertaining to membership in the SSA, please give the Soaring Society of America a call at (575)392-1177.

Please complete the statement below and return this form. The SSA and Costello Insurance thank you for your cooperation.

Best regards,

*Pat*

Pat Costello  
S

Please check the statement that applies to your club.

- I certify that all members of the club maintain some form of membership in the Soaring Society of America at all times.
- Not all club members are members of the Soaring Society of America but it is the club's goal to rectify this with the SSA within the next 30 days.
- Not all club members are members of the SSA nor will we require them to be.

5/21/23  
Date

Rob Elliott Treasurer  
Club officer signature Title

ROBERT ELLIOTT  
Printed name

P. O. BOX 28280 / 428 E. SOUTHERN AVENUE / TEMPE, AZ 85285-8280  
TEL: 480-968-7746 / 800-528-6483 / FAX: 480-967-3828 / insure@aviation.com

# AIRCRAFT INSURANCE CERTIFICATE

This is an overview of our Costello Insurance Associates, Inc, and Soaring Society of America policy for our Airport Insurance that includes negligence insurance of up to \$1,000,000 Soaring Tigers, Inc. is the actual policy holder for these policies.

Following are the terms of our insurance from March 20, 2024 until March 20, 2025.

<b>AVIATION COMMERCIAL GENERAL LIABILITY DECLARATIONS</b>	
POLICY NUMBER: SS 038293880-04	PREVIOUS POLICY NUMBER: SS 038293880-03
<b>ISSUED BY:</b> COMMERCE AND INDUSTRY INSURANCE COMPANY 1271 AVE OF THE AMERICAS FL 37 NEW YORK, NY 10020-1304	<b>PRODUCER:</b> COSTELLO INSURANCE ASSOCIATES INC. P.O. BOX 28280 TEMPE, AZ 85285-8280
<b>NAMED INSURED:</b> SOARING TIGERS, INC. AND INDIVIDUAL MEMBERS THEREOF	
<b>MAILING ADDRESS:</b> 39 LINDEN PLACE SUMMIT, NJ 07901	
POLICY PERIOD: FROM <u>March 20, 2024</u> TO <u>March 20, 2025</u> AT 12:01 A.M. TIME AT YOUR MAILING ADDRESS SHOWN ABOVE	
<b>IN RETURN FOR THE PAYMENT OF THE PREMIUM, AND SUBJECT TO ALL THE TERMS OF THIS POLICY, WE AGREE WITH YOU TO PROVIDE THE INSURANCE AS STATED IN THIS POLICY.</b>	
LIMITS OF INSURANCE	
EACH OCCURRENCE LIMIT	\$ <u>1,000,000</u>
DAMAGE TO PREMISES RENTED TO YOU LIMIT	\$ <u>100,000</u> Any one premises
MEDICAL EXPENSE LIMIT	\$ <u>5,000</u> Any one person
PERSONAL & ADVERTISING INJURY AGGREGATE LIMIT	\$ <u>1,000,000</u>
GENERAL AGGREGATE LIMIT	\$ <u>NOT APPLICABLE</u>
PRODUCTS/COMPLETED OPERATIONS AGGREGATE LIMIT	\$ <u>1,000,000</u>
HANGARKEEPERS LIMIT	
EACH AIRCRAFT LIMIT	\$ <u>NOT COVERED</u>
EACH LOSS LIMIT	\$ <u>NOT COVERED</u>
HANGARKEEPER'S DEDUCTIBLE	\$ <u>NOT APPLICABLE</u> Each aircraft
DESCRIPTION OF BUSINESS	
FORM OF BUSINESS:	
<input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> TRUST	
<input type="checkbox"/> LIMITED LIABILITY COMPANY <input checked="" type="checkbox"/> ORGANIZATION, INCLUDING A CORPORATION (BUT NOT INCLUDING A PARTNERSHIP, JOINT VENTURE OR LIMITED LIABILITY COMPANY)	
BUSINESS DESCRIPTION: <u>SOARING CLUB</u>	

**IMPORTANT: Please contact the club treasurer for the most recent copy of the insurance policy. The terms of this policy can change.**

## SHIP INSURANCE

All club members and all three of our aircrafts are covered under an insurance policy with Costello Insurance Associates / AIG. These insurance fees are paid for by our club’s membership dues. Soaring Tigers, Inc. is the actual policy holder for these policies.

## **PILOT WARRANTY SOARING CLUBS-GLIDERS**

When in flight, the aircraft will only be operated by the pilot/s specified below who are members of the named insured soaring club and possess the current and valid ratings and certificates for the aircraft to be flown, and if required a current and valid medical certificate.

**As respects sailplane uses other than sightseeing rides for hire:**

- a. For sailplanes meeting Light Sport-Glider certification—
  1. Any pilot maintaining a Sport Pilot-Glider or more advanced pilot certificate who has demonstrated to the Named Insured's appropriately certificated flight instructor the piloting skills required for the sailplane being flown.
  
  2. Any pilot not qualified as a Sport Pilot for gliders and that does not have a Private Pilot certificate or better for gliders must remain under the direct supervision of an appropriately certificated flight instructor for all flights and prior to solo has received the instructor's appropriate written endorsement(s) for the same make and model glider.
  
- b. For all other sailplanes—
  1. Any pilot maintaining a Private or more advanced glider pilot certificate who has demonstrated to the Named Insured's appropriately certificated flight instructor the piloting skills required for the sailplane being flown.
  
  2. Any pilot not a Private or more advanced glider pilot certificate must remain under the direct supervision of an appropriately certificated flight instructor for all flights and prior to solo has received the instructor's appropriate written endorsement(s) for the same make and model glider.

## DAMAGE TO CLUB SHIPS

Club member are personally responsible for the cost of any and all damage that occurs to club equipment (including aircraft, instruments and trailers) that they are using either in flight, on the ground, or while an aircraft is being towed, up to the cost of repairs or the amount of the insurance deductible, whichever is less. In such cases the Board of Directors will make a binding determination of responsibility.

In all cases club ships must be returned to fully operational status as soon as possible. The aircraft maintenance supervisor, in consultation with the club's officers and Board of Directors, is responsible for determining the materials and method of repairing all damage to club ships.

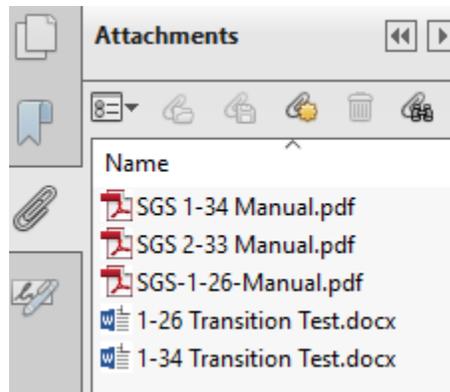
In the case of damage to a canopy resulting from failure to lock it down according to the checklist the club will not make an insurance claim. Instead, the member(s) is personally responsible for the FULL REPLACEMENT COST including all shipping charges and installation. When repairing canopies, only pre-cut and pre-drilled Plexiglas will be used.

To further educational goals of the club and to promote safe operations, those responsible for the damage are required to provide a written account to the membership of how the aircraft was damaged. This account must include a thorough description of the events that led up to the damage and how this could have been avoided.

## SCHWEIZER SGS 2-33 FLIGHT MANUAL

Here is a complete copy of the Schweizer flight manual for the SGS 2-33. Click the link below to display this important Schweizer published document. All pilots are responsible for reading this manual and adhering to all of the aircraft manufacturer's flight specifications and recommendations.

*[SEE THIS FILE'S ADOBE READER ATTACHMENT LIBRARY TO DISPLAY THIS SGS 2-33 MANUAL](#)*



## Schweizer SGS 2-33 N658867 Weight and Balance

All pilots must carefully review the published weight and balance information for our Schweizer SGS 2-33A N65867 as shown below. All pilots must strictly comply with all of the described weight and center of gravity limitations and use the approved ballast as necessary, for installation in the front cockpit of the aircraft when required.

The Schweizer SGS 2-33A N65867 ship occupants' maximum combined clothed weight of the pilot and another ship occupant is 385 lbs.

These weight limits must be adhered to at all times.

### SCHWEIZER 2-33 & 2-33A PARTS and MAINTENANCE

WEIGHT AND BALANCE CALCULATIONS SGS 2-33 or 2-33A

ITEM	WEIGHT	ARM	MOMENT
Sailplane empty weight & empty C.G.	655	93.24	61072.2
Front Pilot Weight	220	43.80	9636.0
Rear Pilot Weight	165	74.70	12325.5
Ballast, if used	26	14.75	383.5 <i>Not including ballast</i>
<b>Total Moment</b>			<u>83033.70</u>
<b>Total Weight</b>	<u>1040</u>		

<u>Total Moment</u>	<u>83033.7</u>	<u>Total Moment</u>	<u>79.84</u>	Actual flying
<u>Total Weight</u>	<u>1040</u>	<u>Total Weight</u>		CG

SERIAL NO. 351

1. Is this between the CG limits? YES
2. Is total weight less than 1,040 lbs.?

SCHWEIZER AIRCRAFT CORPORATION  
ELMIRA, NEW YORK 14902

WEIGHT & BALANCE, MODEL NO. SGS 2-33A SER. NO. \_\_\_\_\_ REG. NO. \_\_\_\_\_ DATE \_\_\_\_\_

Form 1-4127-1

Empty Wt =  $W_1 + W_2 = 640 + 15 = 655$  lbs.  
 Empty C.G. Dist =  $W_1 \times 96.29 + 66.75 + W_2 \times 196.25 + 281.0 = 93.24$

SHIP AS WEIGHED INCLUDES EQUIPMENT LISTED ON 1-427-3  
 NOTES: See Slicer Data Sheet No. C3EA - Front Pilot C.G. at Sta. 43.80 - Rear Pilot C.G. at Sta. 74.70  
 CLASS II UTILITY: C.G. Limits - Sta. 78.20 to Sta. 98.10, or, 11.86" to 15.78" Ah Datum.

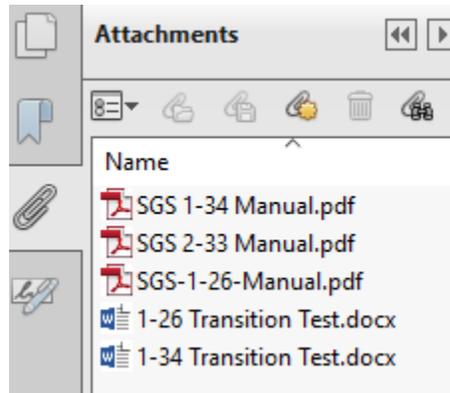
*George Taylor*  
5-16-15



## SCHWEIZER SGS 1-26 FLIGHT MANUAL

Here is a complete copy of the Schweizer flight manual for the SGS 1-26. Click the link below to display this important Schweizer published document. All pilots are responsible for reading this manual and adhering to all of the aircraft manufacturer's flight specifications and recommendations.

*[SEE THIS FILE'S ADOBE READER ATTACHMENT LIBRARY TO DISPLAY THIS SGS 1-26 MANUAL](#)*



### Schweizer SGS 1-26B N389BR Weight and Balance

All pilots must carefully review the published weight and balance information for our Schweizer SGS 1-26B N389BR as shown below. All pilots must strictly comply with all of the described weight and center of gravity limitations and use the approved ballast as necessary, for installation in the front cockpit of the aircraft when required.

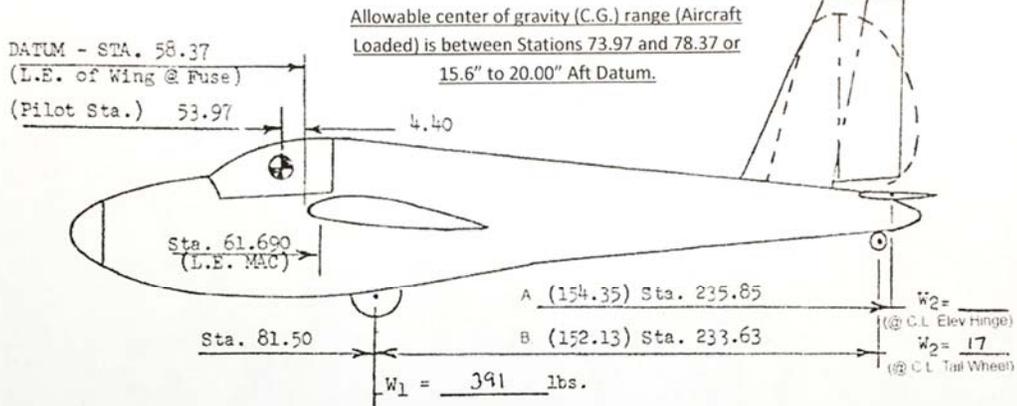
The Schweizer SGS 1-26B N389BR minimum clothed pilot weight is 158 lbs. (with optional ballast) and the maximum clothed pilot weight is 192 lbs.

These weight limits must be adhered to at all times.



Weight & Balance

Model: 1-26 B Serial No.: 389 Registration No.: N389BR



- 1.) Empty Weight:  $W_E = W_1 + W_2 = 391 + 17 = 408$  lbs
- 2.) C.G. Empty:  $CG_E = \frac{W_2 \times (A \text{ or } B)}{W_E} + 81.50 = \left( \frac{17 \times 152.13}{408} \right) + 81.50 = \text{Sta. } 87.84$
- 3.) Minimum Weight Pilot:  $= \frac{(CG_E - 78.37) \times W_E}{78.37 - 53.97} = \frac{9.47 \times 408}{24.40} = 158$  lbs
- 4.) Maximum Weight Pilot: = Max. Gross Weight - Empty Weight = 600 - 408 = 192 lbs

Max. Gross Weight	SGS 1-26 & 1-26A: 575 lbs	SGS 1-26D: 700 lbs
	SGS 1-26B & 1-26C: 600 lbs	SGS 1-26E: 700 lbs

5.) Maximum Weight Pilot:  $= \frac{(CG_E - 73.97) \times W_E}{73.97 - 53.97} = \frac{13.87 \times 408}{20.00} = 283$  lbs

Placard Limits: Min Weight Pilot (From Step 3) = 158 lbs

Max Weight Pilot (Use Lower Weight From Step 4 or 5) = 192 lbs

Calculated By: Bruce A. Weber

Date: 09 June 2016

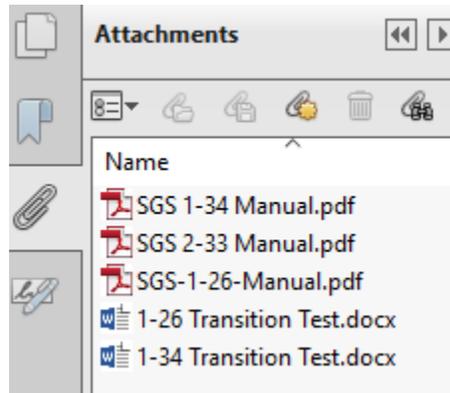
Checked By: [Signature]

Date: 10 June 2016

## SGS 1-34 FLIGHT MANUAL

Here is a complete copy of the Schweizer flight manual for the SGS 1-34. Click the link below to display this important Schweizer published document. All pilots are responsible for reading this manual and adhering to all of the aircraft manufacturer's flight specifications and recommendations.

*SEE THIS FILE'S ADOBE READER ATTACHMENT LIBRARY TO DISPLAY THIS SGS 1-34 MANUAL*



### Schweizer SGS 1-34 N76JP Weight and Balance

All pilots must carefully review the published weight and balance information for our Schweizer SGS 1-34 N76JP as shown below. All pilots must strictly comply with all of the described weight and center of gravity limitations and use the approved ballast as necessary, for installation in the cockpit of the aircraft when required.

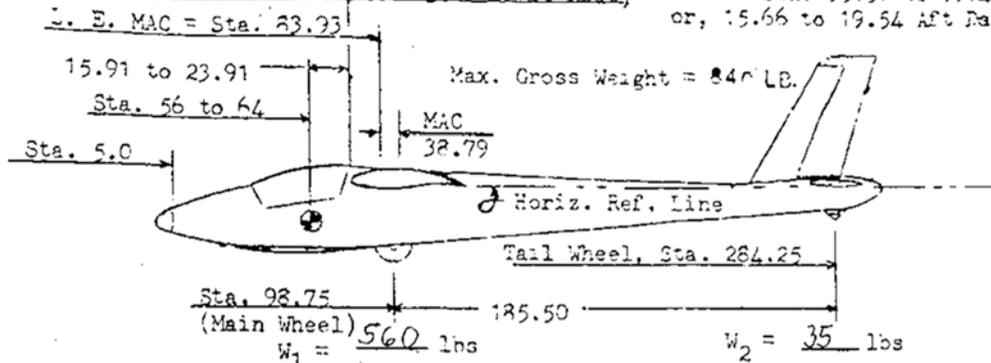
The Schweizer SGS 1-34 N76JP minimum clothed pilot weight is 140 lbs. (with optional ballast) and the maximum clothed pilot weight is 212 lbs.

Schweizer Aircraft Corp.  
Elmira, New York 14902

Form I-4518-1  
1-70  
REV. 6-71

WEIGHT AND BALANCE

MODEL: DGS 1-31 SER. NO. 76 REG. NO. N761P CG LIMITS: 30% to 40% MAC, or  
Datum = Sta. 79.91 (Wing L. E. at Root) Sta. 95.57 to 99.45,  
L. E. MAC = Sta. 83.93 or, 15.66 to 19.54 Aft Datum



Empty Weight =  $W_1 + W_2 = 560 + 35 = 595$  lbs  
(Empty Weight includes equipment as listed on I-4518-2)

C. G. Empty =  $\frac{W_2 \times 185.5 + 98.75}{W_1 + W_2} = \frac{35 \times 185.5}{595} = \frac{10.91}{595} + 98.75 = 109.66$

Step 1. Minimum Weight Pilot (Seat Fwd) =  $\frac{(C.G. Empty - 99.45) \times Empty Weight}{43.45}$   
 $\frac{10.21 \times 595}{43.45} = 140$  lbs

Step 2. Minimum Weight Pilot (Seat Aft) =  $\frac{(C.G. Empty - 99.45) \times Empty Weight}{35.45}$   
 $\frac{10.21 \times 595}{35.45} = 171$  lbs

Step 3. Maximum Wt. Pilot = Max. Gross Wt. - Empty Weight =  $840 - 595 = 245$  lbs

Step 4. Maximum Weight Pilot (Seat Fwd) =  $\frac{(C.G. Empty - 95.57) \times Empty Weight}{39.57}$   
 $\frac{14.09 \times 595}{39.57} = 212$  lbs

Step 5. Maximum Weight Pilot (Seat Aft) =  $\frac{(C.G. Empty - 95.57) \times Empty Weight}{31.57}$   
 $\frac{14.09 \times 595}{31.57} = 266$  lbs

Placard Limits: Min. Wgt. Pilot (Use Lwr. Wgt. from Step 1 or 2) = 140 lbs

Max. Wgt. Pilot (Use Lwr. Wgt. from Step 3, 4, or 5) = 212 lbs

Calculated by Mr. C. W. [Signature] 11 Jul 2016  
Date

Checked by:

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# TRAINING

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The Soaring Tigers provides sailplane flight training for both newcomers to the sport and experienced sailplane pilots interested in learning to fly cross-country. Ground school programs are offered for both club members and the public (at no charge) each year. More than 150 club members soloed since the club was founded. In addition, 100+ Private, 15 Commercial, and 15 Certified Flight Instructor certificates have been earned through the club. The club currently has 1 CFI instructors.

Pre-solo student pilots are encouraged to try and fly with one CFI, as much as possible, during the first 15 training flights. Our experience suggests that students who are familiar with the aerodynamics of flight, and have become knowledgeable of all parts of JOY OF SOARING and the SSA SOARING FLIGHT TRAINING MANUAL progress significantly more quickly during the practical air work phase of flight training.

Students are encouraged to study for and take the private sailplane written examination as soon as possible. Contact a club CFI to prepare for this test. A CFI endorsement is required before taking this written test.

## REQUIREMENTS FOR GLIDER PILOT LICENSING

The Federal Aviation Administration (FAA) oversees U.S. aircraft licensing, including sailplanes. This is done according to a system of license certificates (student through instructor) and ratings (Airplane, Free Balloon, etc.). Ratings relevant to sailplane flying are: Glider, Glider Aero-tow only and Glider Ground-tow only, according to the type of launch demonstrated on the practical test.

Certificate requirements are based on criteria of knowledge, experience, proficiency, and physical fitness.

### General Requirements

Pilots must be able to read, speak and understand the English language. You must certify that you have no medical defects that make you unable to pilot a glider.

### Solo Pilot

1. Minimum age of 14.
2. Demonstrated proficiency in all flight operations.
3. Oral test (the club substitutes a written one).
4. Student Certificate endorsed for solo flight.

## **Private Pilot**

1. Minimum age 16.
2. Demonstrated proficiency in all flight operations.
3. Successful completion of ground instruction or a home study course.
4. Successful completion of the FAA written test.
5. If the applicant for a private pilot certificate with a glider category rating has not logged at least 40 hours of flight time as a pilot in a heavier-than-air aircraft, the applicant must log at least 10 hours of flight time in a glider in the areas of operation listed in FAR Sec. 61.107(b)(6), and that flight time must include at least—

(i) 20 flights in a glider in the areas of operations listed in Sec. 61.107(b)(6) of this part, including at least 3 training flights in a glider with an authorized instructor in preparation for the practical test that must have been performed within the 60-day period preceding the date of the test; and

(ii) 2 hours of solo flight time in a glider in the areas of operation listed in Sec. 61.107(b)(6) of this part, with not less than 10 launches and landings being performed.

If the applicant has logged at least 40 hours of flight time in a heavier-than-air aircraft, the applicant must log at least 3 hours of flight time in a glider in the areas of operation listed in Sec. 61.107(b)(6) of this part, and that flight time must include at least—

(i) 10 solo flights in a glider in the areas of operation listed in FAR Sec. 61.107(b)(6); and

(ii) 3 training flights in a glider with an authorized instructor in preparation for the practical test that must have been performed within the 60-day period preceding the date of the test.

6. Successful completion of the FAA flight and oral test administered by a FAA examiner.

## **Private pilot rear seat flying review and signoff**

In addition to meeting all of the FAA private glider pilot requirements, Soaring Tigers also requires all glider private pilots who want to fly from the rear seat to take passengers for rides to also have all of the following before they can fly our club ships this way.

1. experience flying (5-10 flights) from the front seat taking passengers for rides,
2. a Soaring Tigers CFIG administered briefing to include a review of flying safely with a passenger (briefings, traffic awareness, etc.) plus methods of flying safely from the rear seat with additional safety briefings for a front seat passenger,
3. a Soaring Tigers CFIG administered flight test operating a two-place glider from the rear seat to take non-pilot passengers for rides, and
4. a written pilot logbook signoff from a Soaring Tigers CFIG.

## **Commercial Pilot**

1. Minimum age 18.
2. Demonstrated proficiency in all flight operations.
3. Successful completion of ground instruction or a home study course.
4. Successful completion of the FAA Commercial Glider Pilot written test.
5. Minimum of 25 hours pilot in command (minimum of 20 in gliders) and 100 glider flights as pilot in command, including 25 flights during which 360 degree turns were made, - *or* - 200 hours pilot in command in heavier than air aircraft including 20 flights in which 360 degree turn we made.
6. A person who applies for a commercial pilot certificate with a glider category rating must log at least--
  - (1) 25 hours of flight time as a pilot in a glider and that flight time must include at least 100 flights in a glider as pilot in command, including at least--
    - (i) 3 hours of flight training in a glider or 10 training flights in a glider with an authorized instructor on the areas of operation listed in Sec. 61.127(b)(6) of this part, including at least 3 training flights in a glider with an authorized instructor in preparation for the practical test within the 60-day period preceding the date of the test; and
    - (ii) 2 hours of solo flight that include not less than 10 solo flights in a glider on the areas of operation listed in Sec. 61.127(b)(6) of this part; or (2) 200 hours of flight time as a pilot in heavier-than-air aircraft and at least 20 flights in a glider as pilot in command, including at least--
      - (i) 3 hours of flight training in a glider or 10 training flights in a glider with an authorized instructor on the areas of operation listed in Sec. 61.127(b)(6) of this part including at least 3 training flights in a glider with an authorized instructor in preparation for the practical test within the 60-day period preceding the date of the test; and
      - (ii) 5 solo flights in a glider on the areas of operation listed in Sec. 61.127(b)(6) of this part.
7. Successful completion of the FAA flight and oral test administered by a FAA examiner.

## **Adding a Glider Rating for those who already hold a Private Pilot, Commercial, or ATP Certificate**

Those pilots already certificated (for most aircraft categories) wishing to add a Glider Rating will not have to take an FAA knowledge test. A practical test with an FAA Examiner or DPE is required, and the specific aeronautical experience requirement varies with the certificate level being sought and the amount of flight time the applicant has in heavier-than-air aircraft. See, FAR 61.109(f) for private pilots, and FAR 61.129(f) for commercial or ATP pilots.

### **Private Pilots - FAR 61.109(f)**

- 2) If the applicant has logged at least 40 hours of flight time in a heavier-than-air aircraft, the applicant must log at least 3 hours of flight time in a glider in the areas of operation listed in 61.107(b)(6) of this part, and that flight time must include at least -

- (i) 10 solo flights in a glider in the areas of operation listed in 61.107(b)(6) of this part; and
- (ii) 3 training flights with an authorized instructor in a glider in preparation for the practical test that must have been performed within the preceding 2 calendar months from the month of the test.

### **Commercial or ATP Certificate - FAR 61.129(f)**

**(f) For a glider rating.** A person who applies for a commercial pilot certificate with a glider category rating must log at least -

- (1) 25 hours of flight time as a pilot in a glider and that flight time must include at least 100 flights in a glider as pilot in command, including at least -
  - (i) Three hours of flight training in a glider with an authorized instructor or 10 training flights in a glider with an authorized instructor on the areas of operation listed in 61.127(b)(6) of this part, including at least 3 training flights in a glider with an authorized instructor in preparation for the practical test within the preceding 2 calendar months from the month of the test; and
  - (ii) 2 hours of solo flight that include not less than 10 solo flights in a glider on the areas of operation listed in 61.127(b)(6) of this part; or
- (2) 200 hours of flight time as a pilot in heavier-than-air aircraft and at least 20 flights in a glider as pilot in command, including at least -
  - (i) Three hours of flight training in a glider or 10 training flights in a glider with an authorized instructor on the areas of operation listed in 61.127(b)(6) of this part including at least 3 training flights in a glider with an authorized instructor in preparation for the practical test within the preceding 2 calendar months from the month of the test; and
  - (ii) 5 solo flights in a glider on the areas of operation listed in 61.127(b)(6) of this part.

### **Flight Instructor**

1. Minimum age 18.
2. Holds a current Glider Commercial Rating.
3. Successful completion of the FAA CFI Glider (CFIG) Pilot and Fundamental of Instruction written tests.
4. Successful completion of the FAA flight and oral test administered by a FAA examiner.

***Note: The above requirements are minimums - most people need more time. Pilots rated in powered aircraft have significantly reduced requirements.***

## **CLUB PILOT CLASSIFICATIONS**

In addition to FAA classifications Soaring Tigers has:

DUAL pilot classification that refers to pilots (either FAA Student pilots or licensed pilots) who are receiving training with a club CFIG, and

SOLO classification that refers to pilots who are either FAA licensed and current pilots and/or Student pilots who are endorsed for local supervised solo operation of club ship(s).

## **SAILPLANE FLIGHT TRAINING SYLLABUS**

### **Purpose and Content**

The purpose of the Sailplane Flight Training Syllabus is to provide a guide for both the student pilot and instructor up to and including solo. It is a guide of maneuvers and knowledge that should be mastered before solo. It also serves as a supplementary text for the student.

### **Flight Syllabus Study References**

#### SOARING TIGERS FLIGHT TRAINING SYLLABUS

JOY OF SOARING

Conway

SSA SOARING FLIGHT MANUAL

Jeppesen Sanderson, Inc.

THE FEDERAL AVIATION REGULATIONS (FARs) - containing parts 61 & 91 are needed for use with this syllabus. Each lesson has a recommended reading assignment with review questions.

FARs FOR GLIDER PILOTS

Doris Grove

PILOTS HANDBOOK OF AERONAUTICAL KNOWLEDGE

AC 61-23B

AVIATION WEATHER

AC-00-6A

Each lesson is designed around four flights. Student progress and weather conditions may allow the lesson objectives to be met in only one flight. Different learning rates, time between lessons and varying weather conditions all influence the number of flights a student will need before solo. Generally, the more frequently a student can fly, the quicker the student can expect to solo. Merely completing the assigned number of flights does NOT necessarily mean that a student is ready for a first solo flight. Going solo also requires judgment and confidence, not just the ability to do maneuvers on command.

## **Student Pilot Responsibilities**

In order to derive the maximum benefit from each lesson, you should:

1. BRING your Soaring Tigers Flight Training Syllabus, your log book, and student pilot's license with you each time you fly.
2. READ the assignments and answer the questions prior to your lesson.
3. ASK your instructor to review your answers and explain the maneuvers, techniques and procedures to be covered in your flight lesson before flying.
4. ASK your instructor to evaluate your performance following each flight lesson.
5. ASK your instructor to clarify any area that you do not understand.
6. USE the student progress checklist included in the front of the logbook and/or the back of the syllabus. These checklists will be used by Club CFGs to insure that you have covered all required maneuvers.

## **Student Pilot Certificates**

Our student pilots (student in the flying, not educational sense) will need an FAA Student Pilot Certificate (license) before being allowed to solo.

First, you need to register on FAA's IACRA website. Then you can meet with our club's CFG, bringing along your laptop and your IACRA "FTN" username and pw. Our club CFG can then approve and complete your application. This can be accomplished that right at Van Sant airport. Here's more info:

### **IACRA:**

<https://iacra.faa.gov/iacra/HelpAndInfo.aspx?id=5>

### **Procedure for obtaining student pilot certificate:**

<https://iacra.faa.gov/IACRA/HelpAndInfo.aspx?id=6>

*(Don't forget to save your IACRA FTN and password)*

## **Remote Pilot UAS Certificates**

If anyone with a private certificate or higher and a current flight review is interested in obtaining a UAS certificate to allow commercial (i.e., for any form of compensation) operation of 'small' (under 55 lbs.) drones, please take a look at this site:

[https://www.faasafety.gov/gslac/ALC/course\\_content.aspx?cID=451&sID=726&searchresults=true&preview=true](https://www.faasafety.gov/gslac/ALC/course_content.aspx?cID=451&sID=726&searchresults=true&preview=true)

If you take the online course and pass the online exam, you can work with our club's CFG or another instructor through IACRA and obtain a new certificate. Even if you have no plans to operate a drone commercially, I think you'll learn a lot about this rapidly growing field of aviation.

Incidentally, a Part 107 UAS certificate, like a Part 61 pilot certificate, does not expire. To be current, you need only take an online refresher course/exam every 24 calendar months.

## SOLO FLIGHT

A student pilot may solo upon successful completion of the club pre-solo written (score at least 70%) and oral tests consisting of material from GLIDER BASICS; the FARs for Glider Pilots (parts 61, 71, 91); club and FBO standard operating procedures; NTSB regulation part 830; SGU 2-33E critical performance speeds and placard limits, and when:

1. The student demonstrates familiarity with the flight rules of Part 91, FARs.
2. The student has received ground and flight instruction in at least the procedures and operations cited in FAR 61.87(4):
  - a) Flight preparation procedures, including preflight inspections, towline rigging, signal and release procedures,
  - b) Aero tows and/or ground tows,
  - c) Straight glides, turns, spirals,
  - d) Flight at minimum controllable airspeeds, and stall recognition and recoveries,
  - e) Traffic patterns, including collision avoidance precautions, and
  - f) Normal landings.
3. The student pilot license (obtain from FAA Examiner) and the student's logbook are endorsed by a CFI who, within the preceding 90 days:
  - a) has given the student instruction;
  - b) finds that the student has met the requirements of FAR 61.87;
  - c) finds the student competent to make a safe solo flight in that aircraft.

Two additional requirements for solo are for you to be prepared to have your shirt-tail cut off and to be doused with water (exceptions MAY be made in freezing weather).

A student logbook will only be endorsed for "local supervised solo only". This means that a club INSTRUCTOR MUST BE PRESENT AT THE FIELD BEFORE ANY STUDENT FLIGHT MAY BE MADE. Solo students should always check in with the club CFI before each day's flying and also make every 5th flight with an instructor so that their progress can be monitored.

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# OPERATIONAL PROCEDURES

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## FLIGHT REVIEWS

### FAA Flight Reviews

Part 61.56 of the FARs states that every 24 months pilots are required to have a flight review. The FARs go on to say that: A flight review consists of a minimum of 1 hour flight instruction and 1-hour ground instruction. The review must include:

1. a review of the current general operating and flight rules of part 91 of the FARs; and
2. A review of those maneuvers and procedures which, at the discretion of the person giving the review, are necessary to demonstrate the safe exercise of the privileges of the pilot certificate.
  - a) Glider pilots may substitute a minimum of three instructional flights in a glider, each of which includes a flight to traffic pattern altitude in lieu of the 1 hour of flight training [otherwise required. (See FAR 61.56 (b)

Club requirements go somewhat beyond the bare FAA regulations. Members who wish to fly with a club CFI in a club aircraft for a Flight Review required under FAR 61.56 must have completed at least one WINGS program within the last 12 calendar months. A report of the pilot's WINGS program completion must be sent to the club CFI conducting the Flight Review either via email or via a printed copy in advance of the flight review.

### Club Flight Reviews

All FAA rated club members and all affiliated members are required to pass an annual club flight review for all members administered by a club CFIG. This also applies to new club new members and other pilots who haven't flown a glider in the past 90 days. This is an additional flight review that is separate from the FAA's flight reviews. The club flight review is conducted:

1. for all pilots when flying commences in the spring, and
2. at any time during the year for new members, and
3. for pilots whose 90-day currency has lapsed.

However, this Club Flight Review would not be necessary if the licensed pilot successfully completed a Biennial Flight Review (BFR) conducted by a Soaring Tigers CFIG within the past 90 days.

## **FAA WINGS Program**

We strongly encourage everyone, especially student pilots and certificated pilots new to gliders, to log onto FAA Safety.gov and take some online courses. The courses that you take don't even have to relate specifically to gliders; those who fly only gliders can benefit and become better and safer pilots overall even by learning about other aspects of general aviation flying. You may be surprised how much commonality there is between risk factors in flying airplanes and flying gliders. Besides, if you want a club CFI to give you a 61.56 Flight Review, you'll need to comply with the club's requirement described above that you have completed at least one *WINGS* program within the last 12 months.

There are other benefits to the *WINGS* program. Through continuing education, it will help the club and each of us promote a "culture of safety" like airlines and corporate flight departments strive for. Your completing a "Phase" (not just a single course) of *WINGS* counts as a Flight Review, assuming you're within 24 calendar months of your last Review.

So, especially for the non-professional pilots in the club, take a look at the *WINGS* Pilot Proficiency User Manual and related advisory circular:

[https://www.faasafety.gov/documents/Wings\\_Manual.pdf](https://www.faasafety.gov/documents/Wings_Manual.pdf)

[https://www.faa.gov/regulations\\_policies/advisory\\_circulars/index.cfm/go/document.information/documentID/903551](https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/903551)

## **SAFETY MEETINGS**

Safety meetings will be held annually and will be considered to be part of the club flight review. The safety meeting may be part of an annual club meeting and will consist of a review of club rules, operational procedures, and FARs, as well as pertinent safety information. All Soaring Tigers club members (regardless of membership type) will be required to attend one of these scheduled safety meetings in order to serve as pilot in command (PIC) of any club aircraft. In special cases, 1:1 or small group in person safety meetings will be offered by a Soaring Tigers club CFI to members who cannot attend one of the scheduled group meetings. This special session can be done at any time during the year. However, until a member either attends a club safety meeting (preferred) or the 1:1 session they may NOT serve as PIC and take the controls of any Soaring Tigers club ship.

## **SIGN-UP AND SCHEDULING PROCEDURES**

The club operates and offers instruction many (but not all) weekend during the spring, summer, and fall. Typical hours of instruction are from 9:30 a.m. – 2:00 p.m. subject to CFI availability. The afternoon flying schedule is also available for licensed pilots and dual students flying supervised solo. Only paid-up members in good standing may request to be scheduled to fly.

Van Sant airport is also open from Wednesday to Sunday each week for Soaring Tigers FAA licensed private and commercial glider pilots to reserve our ships and to schedule tows for glider flights on days when the weather is suitable. Soaring Tigers members have sign-up rights each week for scheduling the ship for instruction, solo flight and flight reviews.

On each Tuesday afternoon, our club CFGs will notify all members via email which days in the coming weekend they will be available to provide instruction, supervise solo flights, provide check rides, and conduct flight reviews (previously called BFR for Bi-annual Flight Reviews).

Active club members should then call Bird of Paradise (610) 847-1119 or e-mail [BarAndDannie@866mustfly.com](mailto:BarAndDannie@866mustfly.com) to schedule your flights.

You may sign up for:

SGS 2-33A	1.5 hour/weekend morning and also in the afternoons
SGS 1-26B	Any available time
SGS 1-34	Any available time

Members with their Private or Commercial Glider Ratings may also fly at any other available times either on weekends or on weekdays. Please call (610) 847-1119 or e-mail [BarAndDannie@866mustfly.com](mailto:BarAndDannie@866mustfly.com) at The Bird of Paradise to confirm and schedule tow plane availability.

## **CHANGES TO THE SCHEDULE**

Whenever a club member schedules, re-schedules, or cancels scheduled time in any of its ships, including the SGS 2-33A (other than pre-announced dual schedules), that member is required to immediately notify everyone else by email.

This one simple email would be a courtesy to other members and prevent disappointing and annoying conflicts because one member didn't know that another had planned to be flying a certain ship at a certain time. It'll also promote greater use of our ships.

## **CLUB FLYING STATUS**

Club members may call the FBO or the CFG on duty that day to determine local weather conditions and the club's flying status on any given instructional day.

You should assume that you will be flying on a given day unless one of two things happens:

1. You call Van Sant airport and they advise that the club CFI has canceled flying for the day,  
- or -
2. You receive a call from the club CFI canceling flying due to weather or some other reason.

It is the CFI's responsibility to contact or leave a message for students at their home phone or e-mail (as specified on the club roster) to advise them when instruction is canceled. Students are responsible for ensuring that their phone number is current and/or to advise CFIs of alternate numbers where they can be reached on weekends that they are scheduled for instruction.

## **ABUSES OF THE SCHEDULE**

Club members that act irresponsibly and exceed their scheduled flight time in a sailplane will be

required to COMPENSATE the next scheduled pilot for the cost of a sailplane tow to 3000 feet.

Club members that abuse the schedule a second time will be subject to having their flying and membership status reviewed by the Soaring Tigers Board of Directors.

## **AVIATION WEATHER REPORTING**

The Millville Automated Flight Service Station (FSS) can be reached by calling 1-800-WX-BRIEF (1-800-992-7433). This number allows you to either talk to a weather briefer, or, if you have a touch-tone phone, you can listen to various recordings and to obtain current and near-term forecasts, including wind, sky cover, and visibility. Be sure to give the briefer the aircraft registration number when asked (SGS 2-33A: N65867).

Note on Greenwich Mean Time (ZULU): GMT-4 = EDT, GMT-5 = EST.

To listen to the recordings, press:

Southeast Pennsylvania = press 2 then 15

Soaring = Press 2 then 20

For a more in-depth understanding of daily weather conditions watch A.M. (Aviation) Weather on channels 12 and 52 as well as weather programs that are broadcast on cable channels.

Also check the Web site: <http://pweb.netcom.com/~pappa3/govcop.html>

There are also computer and smartphone-based FAA approved weather and other services from [www.duat.com](http://www.duat.com), [www.duats.com](http://www.duats.com) [yes, almost the same name] and the Aircraft Owners and Pilots Association.

## **GROUND OPERATIONS**

All club members are required to help the FBO staff in conducting normal operations at Van Sant airport.

### SSA Online Wing Runner Course

Bird of Paradise now requires all student and transition pilots to require the SSA wing runner course: <http://www.soaringsafety.org/learning/wingrunner/wingrunner.html>

Bird of Paradise will hold a copy of each person's certificate of completion of this course.

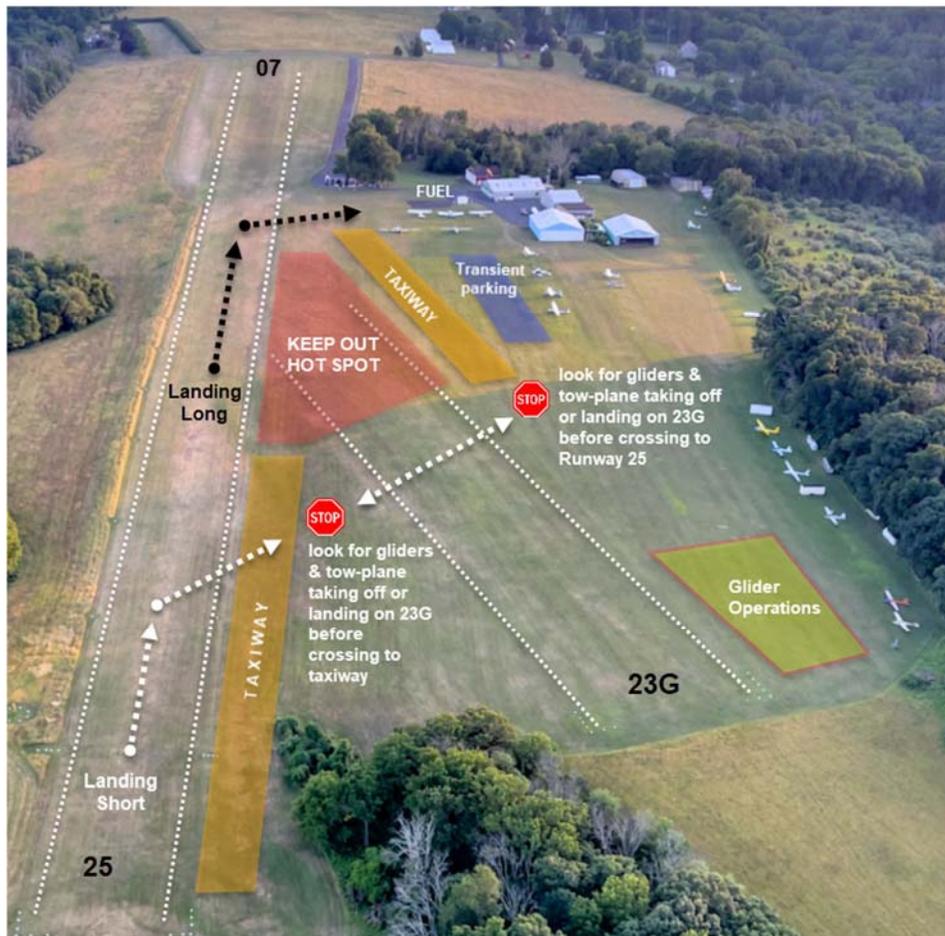
In particular, members are required to:

1. Stay behind the flight line unless you will be flying next.
2. Assist club members, FBO ground personnel, members of other clubs, and owners of private ships to launch and retrieve their ships safely.
3. Assist the FBO's ground personnel to keep all bystanders behind the stanchions and away from the flight line.

This also involves "running the wing" (assisting with the launch of a sailplane). Although the procedure appears complicated, a new member can typically get the hang of it after only one or two tries.

### Van Sant Airport Operation Map

Van Sant Airfield 9N1 - Operations briefing. Contact office at 610 847-1119 CTAF 122.8



## Pre-flighting a Sailplane

Follow the step-by-step instructions shown in this excellent video of a Schweizer SGS 2-33 preflight operation.

<http://youtu.be/s6QcOQ3olbE>

## Launching a Sailplane

1. Move the sailplane into position on the flight line. Make sure there is enough space between the sailplane and adjacent aircraft to permit a launch. If there is a wind present, place the upwind wing (the wing the wind hits first) on the ground.
2. Find out from the sailplane pilot how high he or she wants to go. The usual tow used for instructional flights is to 3000 ft.; in certain circumstances, a pilot may wish to practice flying landing patterns and may request a 1,500 ft. tow.
3. Wave over the tow plane. The tow pilot will taxi past the nose of the sailplane, dragging the tow rope behind it. Don't get too close to the tow plane: it has a huge spinning propeller on the front which could ruin your afternoon if you got too close to it. As the tow pilot approaches, he will watch you for a hand signal indicating the desired release altitude. For 3000 feet, show three fingers; for 4000 feet, show four fingers, and so on. For 1500 feet, show one, then five fingers; showing six fingers means 6000 feet. The tow pilot will typically nod once receiving the signal.
4. After signaling the tow pilot, walk over to the tow rope. As you approach it, look for kinks, knots, or damaged sections of rope (such regions could break during tow). Straighten out any kinks you find; stop the launch if you find any of the other damaged areas. The FBO people may get upset, but the sailplane pilot will (should) thank you.
5. Resist the urge to pick up the moving tow rope and let it slip through your fingers, or guide it with your feet. The braided nylon can cause a horrible rope burn, and if for whatever reason you got it tangled in your fingers or feet, you could be pulled over by the tow plane. Normally, just pick up the end of the rope and walk over to the nose of the tow plane. If the tow rope has an unnecessary "weak link" remove it and toss it off the flight line.
6. Show the end of the rope to the sailplane pilot. If you get a nod or the "hook up" signal (thumb and index fingers of both hands linked together to form two links in a chain), the rope is OK and you should proceed to hook up. If the pilot indicates that something is wrong with the rope, stop the launch and don't hook up.
7. Hook up the rope. To do this, look under the nose of the glider.
8. Call out "OPEN." The sailplane pilot will pull the release knob open and the back part of the hook will move back towards the tail of the plane. Slide the metal ring on the end of the tow line onto the front part of the hook and rotate the front part up towards the belly of the sailplane.
9. Call out "CLOSE." The sailplane pilot will let go of the release knob, and the back part should slide over the front part. It is possible for the back part to come too far forward; if this happens, call out "OPEN" and realign the front piece.
10. Grab hold of the tow rope a foot or two from the connection to the sailplane, and, while pulling hard, call out "CHECK." The sailplane pilot will pull the release knob, and the tow ring should fly free. If it doesn't fly free, call out "OPEN" and redo the hookup part. If the ring still doesn't release when you call "CHECK," something may be wrong with the tow release mechanism, and you should stop

the flight.

11. Call "OPEN," reattach the tow rope as described above, and call "CLOSE."
12. Walk over to the upwind wing of the sailplane. As you walk over, look around for people or aircraft that could get in the way of the launch. Look both on the ground and in the air for sailplanes and powered aircraft. It is usually O.K. to launch if someone is flying his or her downwind or base leg, but does not launch if someone is flying the final leg of the landing pattern. Remember that a sailplane can't abort a landing and come around again to try a second time. The pilots of the tow plane and glider don't have much visibility to their rear: they are relying on you to watch for other aircraft, people, and objects.
13. Stand past the end of the lowered wing of the sailplane. This is very important because you need to always be clear of the wing in the event that it comes forward quickly when the tow plane takes up slack. Place your hand on top of the wing, near the leading edge (don't press on the trailing edge as it is relatively fragile). As you keep looking around for problems, give the "take up slack" signal to the tow pilot: swing your free arm from side to side near the ground like the pendulum on a grandfather clock. The tow pilot will taxi onto the runway and take up the slack in the tow rope.
14. The glider pilot will then give a thumbs-up signal indicating that he/she is ready for you to raise the wings as appropriate given the wind conditions. IF YOU ARE SATISFIED THAT THE SITUATION IS SAFE, raise the wing of the sailplane. The tow plane pilot will then waggle the tow plane's rudder followed by the glider pilot confirming with a waggle of the sailplane rudder.
15. IF YOU ARE SATISFIED THAT THE SITUATION IS STILL SAFE, you may now give the "take off" signal: swing your free arm around in a wide circle. If the conditions aren't safe to launch, shake your head "no" at the glider pilot and DO NOT RAISE THE WING. Occasionally, the sailplane pilot will gesture madly at you, thinking that you haven't seen the "raise the wing; I'm ready" thumbs up signal. In this case, you may want to invent an interesting gesture to indicate that it isn't safe to launch.
16. The tow plane should start accelerating. As the sailplane picks up speed, run alongside it for a few steps until it acquires enough speed to make use of the control surfaces. Hold onto the wing very lightly and let go so as not to hold the wing back while launching. This can cause the glider to veer off to one side out of the glider pilot's control. On especially windy days, keep the upwind wing a little lower than the downwind wing and stay with the plane for a few more steps. Once the control surfaces on the sailplane start working, let go and watch the formation take off. Then remember: you're standing in the middle of an active runway used by 700-lb aircraft that don't make any noise when they land. Remain alert as you walk off the flight line.

If you have any questions, ask one of the flight instructors to explain the procedure. Although all of this sounds complicated, you'll get the hang of the launch procedure after a few attempts.

At all times, remain aware of what is happening around you, **both on the ground and in the air.**

As soon as you notice something is wrong, lower the wing of the sailplane immediately and give the stop signal by **waving both arms above your head.**

The pilots of both aircraft are **counting on you** to stop the launch if something seems to be wrong!

## Landing a sailplane

These sailplane landing instructions below apply to landing all sailplanes both at airports and for off field landings. These instructions specifically apply to landing gliders at Van Sant airport 9N1 in Erwinna, PA.

### You must check other airport landing patterns

If you're soaring at any another airport, it's required that you meet with the fixed base operator (FBO) running the operation before takeoff to fully understand their site specific glider and powered aircraft landing patterns. This needs to include landing on different runways and at both ends. Be sure to review landing pattern maps, discuss, and fully understand their contingency plans if you approach the landing pattern too high or too low.

DEFINITIONS:      IP = Initial point      AGL = Above Ground Level      MSL = Mean Sea Level

### Landing steps

#### 1. Landing checklist

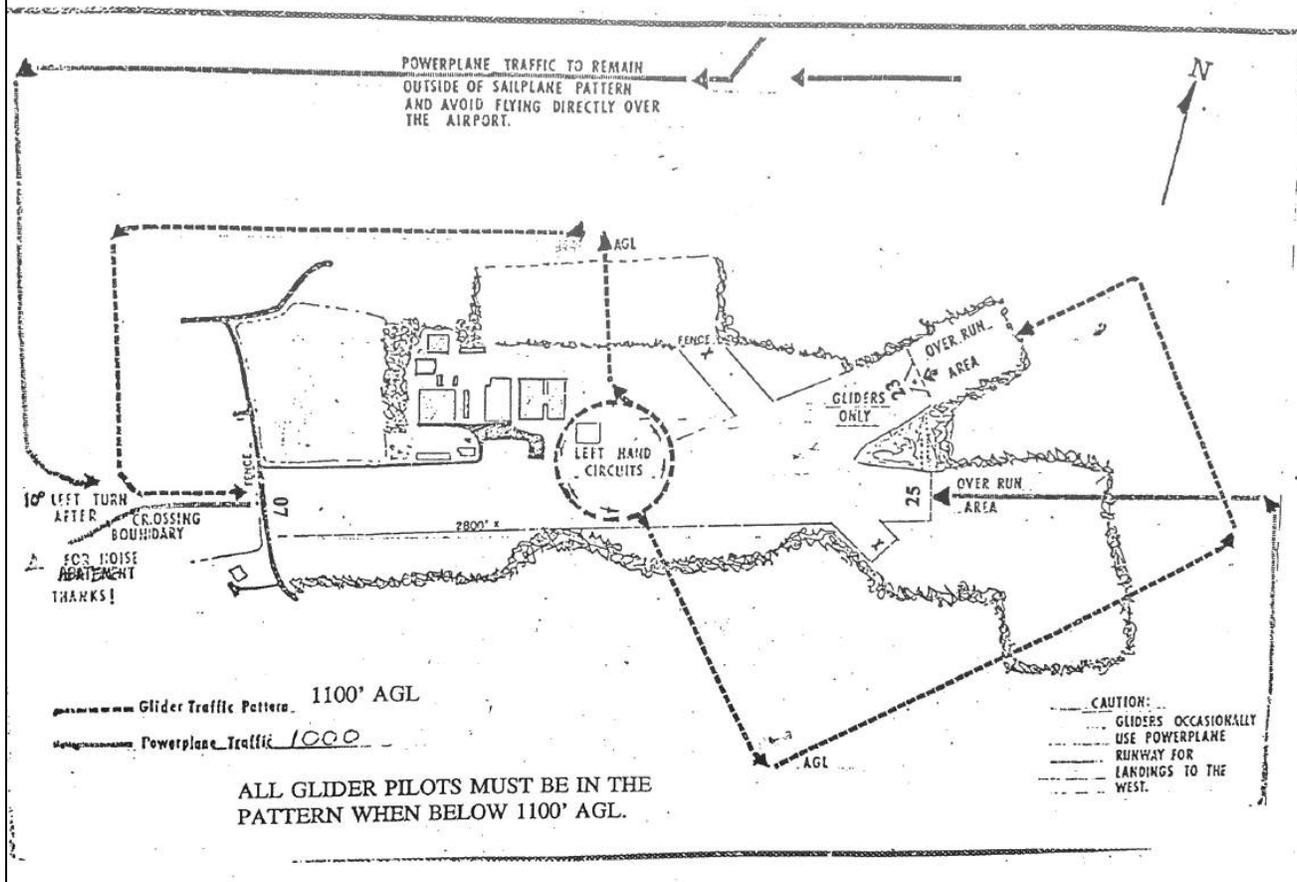
Complete your landing checklist as you approach the initial point (IP) in the landing pattern. Then carefully select and be sure to maintain your landing airspeed. It your ships minimum pattern speed plus  $\frac{1}{2}$  the wind speed.

#### 2. Choosing your pattern

Determine which end of the runway you will chose to land, what your pattern will be, how the wind it likely to impact your aircraft in each leg of the landing pattern, and what control adjustments you'll need to make.



# Van Sant Airport Traffic Patterns



### 3. Enter your landing pattern

Enter the pattern's IP at 1,300 ft. AGL / 1,700 ft. MSL and begin to circle counter clockwise. This ~400' difference is due to Van Sant's field elevation being 390' above sea level. The glider's altimeter is always kept at the MSL setting.

## ONCE YOU ENTER THE PATTERN YOU HAVE MADE A COMMITMENT TO LAND

### 4. Check for traffic and wind drift

While circling, check for air and ground traffic. Also watch and be sure to determine in which direction you may drift and how much. This will help you to crab appropriately in the pattern to maintain your pattern ground track.

### 5. Turn onto the downwind leg

While on the crosswind leg, keep looking at the field and turn to the downwind leg when the touchdown point is 45 degrees over your shoulder. The glider's altitude should now be 800 ft. AGL / 1,200 ft. MSL

### 6. Checking your altitude when opposite touchdown on the downwind leg

When on downwind and opposite the touchdown point, be no less than 600 ft. AGL / 1,000 ft. MSL as indicated on the altimeter. Adjust your use of the drive brakes and your pattern ground track accordingly.

### 7. **Turning onto base leg**

While on the downwind leg keep looking over your shoulder and make to turn to base leg when the touchdown point is 45 degrees over your shoulder. How is your altitude over the field? Adjust your use of the drive brakes, slip, and your pattern ground track accordingly.

*Are you sure that you will be able to comfortably reach your chosen runway (either 7 or 23). If not, then choose to fly to your backup landing spot. Don't be hesitant to land on runway 25!*

### 8. **Turning to final approach**

While on the base leg, turn to the final leg and fly straight down the runway ground path. Adjust your use of the dive brakes, slipping, and your pattern ground track accordingly.

### 9. **Flare and touchdown**

On the final leg use the dive brakes (either none, partial, or full) and possibly to also slip (with the upwind wing down) as necessary to have a good final glide to round out at about 5 feet and then to touchdown. Be sure to reduce your rate of descent as you approach the ground.

## **BE SURE TO ALWAYS . . .**

- Keep watching for air and ground traffic. Then adjust accordingly as necessary.
- Crab as necessary in each pattern leg to adjust for and accommodate any crosswinds.
- Anticipate and adjust for a slow ground speed if you'll be encountering a headwind in the pattern and especially on final.
- Use dive brakes and slip as necessary to adjust the glide angle in the pattern to accommodate lift and sink. But be sure to maintain sufficient conservative altitude and airspeed in the pattern.
- Don't hesitate to adjust your landing pattern if you're low or high. Land on the power runway 25 if there's any chance that you might not be able to make it comfortably and safely to runway 23.

Adjust your pattern and land either short of runway 7 or long elsewhere as appropriate if there's a chance that you might not be able to make it comfortably and safely.

## **First Pilot Responsibilities**

The first pilot each day will be responsible for untying the sailplane, securing the canopy cover + the stick lock + the rudder lock, pre-flighting the sailplane, and getting the sailplane out and onto the field.

## **Last Pilot Responsibilities**

The last pilot in each ship, each day is responsible for tying down the planes (REFER TO TIEDOWN CHECKLIST PRECISELY), clearing the runway of anything that might be left, notifying the club officers and the ship's crew chief for any repairs that need to be done on gliders.

## TOW ROPE

### Single Seater Weak Link

Below is a photo of weak link, which will need to be used with ALL SINGLE-SEATERS. Note the (intentional) knot in the middle, which is intended to limit the strength of the link to 750lb breaking strain. DO NOT ATTEMPT TO UNTIE THE KNOT! Weak link has Schweizer ring at one end and loop at the other.



## European Adapter and Possible Use of the Weak Link

Below is a photo of European adapter (these have been in use on the field for some time, and are needed for gliders with Tost tow hooks). **THIS IS NOT A WEAK LINK** – there is no knot in the middle.

None of our Soaring Tigers ships have Tost hooks, so this information is only relevant if you are helping to launch a glider owned by someone else.

Single seat gliders with Tost hooks will need towrope + weak link + adapter. Adapter has Tost rings at one end and loop at the other.



## RUNWAY OPERATIONS

### Runway 7 Operations

Runway 7 has a displaced threshold marked by the three white tires about 100 yards from the edge of Cafferty Rd. As specified in the FAA Airman's Information Manual, "*a threshold marking helps identify the beginning of the runway that is available for landing.*" This is designed for safety, especially, at Van Sant to provide a glide path that does not conflict with people, motorcycles, cars, or trucks on Cafferty Rd.

This is not merely a suggested or recommended procedure, it is mandatory. Plan your approaches to Runway 7 using proper airspeed and speed breaks so as to touch down after those markings.

That portion of Runway 7 between the threshold and Cafferty Rd. is available for take-off. Regardless of where you begin your takeoff, use caution to avoid contacting any of the tires that mark the runway edge of threshold. And make sure to have your aircraft well clear of the runway edge at all times except when actually taking off or landing so as not to interfere with other traffic.

## Runway 23 Operations

Although Runway 23 does not have a displaced threshold, safe practice requires that you DO NOT touch down at or very close to the approach end. Always plan and touch down at least 100 feet from the threshold. This will give you a greater margin of safety.

## All SGS 2-33 OPERATIONS

Proper airspeed must be maintained throughout the pattern, including final approach, until the flare: 55 mph IAS plus an amount related to wind conditions. The following is described in the Pilot's Operating Handbook, p. 11:

*"Extra speed is also used depending on wind velocity and gust conditions. It is good practice to add 1 mph to airspeed for each mph of wind. [note: another method is to add half of the headwind component and/or gust factor. The point is, more wind, higher approach speed.]*

*Approach should be made high, with use of dive brakes. Dive brakes increase drag, which in turn allows for a steeper and more controllable glide path."*

Too flat of an approach can make it harder to estimate the touchdown point, make you too low over Cafferty Rd. on Runway 7 approaches, and keep you in the turbulent area near the trees on approach to Runway 23 longer than necessary.

There is never a good reason to fly a slower approach. Even if landing downwind, proper airspeed must be maintained.

## SGS 2-33 Solo Operations Removal of Rear Seat Cushions and Latching the Harness

When flying the SGS 2-33 solo, the rear cockpit cushions must be removed to prevent them interfering with flight controls, and the rear harness must be secured. Leave the cushions on a tractor or on the ground, then replace them properly in the aircraft after your last flight.

## SGS 2-33 Rear Seat Passenger Checkouts

Any member with a private pilot-glider or higher certificate may wish to fly with passengers from the rear seat of the cockpit. Anyone interested should arrange a checkout with a club CFIG. Please note, in addition to the actual flying, you will always be expected to give full and proper briefing to any front seat passenger and to include all of the following before any flight.

- determining the combined clothed weight of the pilot and the passenger to ensure the aircraft's proper weight and balance
- proper use of the seat and shoulder belts
- the passenger's proper use of the canopy latch
- their pilot directed passenger operation of the trim at takeoff, after tow release and upon landing
- keeping off of the stick and rudder as specified by the pilot
- what to expect when the release is pulled, specifically the loud release noise plus the glider climbing to the right

## ELECTRIC VARIOMETER MANUALS

Using your web browser open and carefully review all of these files to understand the operation and control on these two electric variometers. The Tasman V1000 vario is installed in our SGS 1-26B. The Borgelt B40 vario is installed in our SGS 1-34.

### Tasman V1000 Variometer



#### Manual

[http://tasmaninstruments.com/documents\\_100205/Vario\\_ops.PDF](http://tasmaninstruments.com/documents_100205/Vario_ops.PDF)

#### YouTube Instructional Video

<https://www.youtube.com/watch?v=ux6w7W5GD2M>

### Borgelt B40 Variometer



#### Manual

<http://www.borgeltinstruments.com/B40man.pdf>

#### User Guide

<http://www.ddsc.org.au/documents/manuals/Borgelt%20B40%20Vario%20User%20Guide.pdf>

## **TIEDOWN CHECKLIST**

More sailplanes are damaged because of high winds and improper tie-down procedures each year than through accidents. It is **IMPERATIVE** that this checklist be followed **PRECISELY!** All tiedown hardware is stored at the wing tiedowns when removed from the aircraft.

### **SGS 2-33A**

1. Secure and inspect tie-down ropes on both wings
2. Secure tow release latch (1 chain)
3. Secure tail hook (1 rope)
4. Install rudder lock
5. Install the stick locking device (for the elevator and ailerons)
6. Close dive brakes
7. Lock canopy and rear door
8. Put on canopy cover
9. Install pitot tube cover, total energy (TE) probe cover (2-33)

### **SGS 1-26B**

1. Secure and inspect tie-down ropes on both wings
2. Secure tow release latch (1 chain)
3. Secure tail hook (1 rope)
4. Install rudder lock
5. Secure stick back with waist belt
6. Turn electric variometer and master power off
7. Install pitot tube cover, total energy (TE) probe cover
8. Install wing covers
9. Put on the canopy and wings covers

### **SGS 1-34**

1. Secure and inspect the double tie-down ropes on both wings – white on rings, yellow on wing-tip wheels
2. Secure tow release latch (1 chain)
3. Secure tail hook (1 rope)
4. Install rudder lock
5. Install aileron locks (1 per wing)
6. Secure stick back with waist belt
7. Turn electric variometer and master power off
8. Remove the vario/radio battery and connect it to the charger in the hanger
9. Install pitot tube cover, total energy (TE) probe cover
10. Put on the canopy cover

## SGS 1-26B Spoiler Lock on a Windy Day

There's a small loop of cord in the side pouch of our SGS 1-26B. This can be used to hold the spoilers open when the ship needs to be parked near the launch point on a windy day.

To use it, loop the cord through the left shoulder strap as shown on this photo:



Then hook the cord around the T-handle for the spoilers:



With the strap adjusted close to its shortest possible setting, this will hold the spoilers fully open.

## **CLUB MAINTENANCE MONITORING POLICY**

*Any club CFIG or member must ground an aircraft and post this on the aircraft instrument panel if the ship is suspected to be unsafe.*

*Under no circumstances may the ship be flown if any problems are found or suspected.*

### **Recording Maintenance Needs**

The club crew chief and club president should be notified by phone or e-mail (with acknowledgment) as soon as any maintenance need is identified (e.g., worn skid, low tire, missing rivets, torn fabric, stolen rudder) It is EVERYONE'S responsibility to notify the crew chief and president and to assist in getting any problems fixed as they arise, no matter how trivial. Untended little glitches tend to grow into safety hazards.

### **Fixing Maintenance Problems**

The crew chief for each plane is responsible for addressing expressed maintenance concerns with the assistance of that plane's ground crew and the aircraft mechanics. All repairs costing more than \$50 should be reviewed and approved by the Treasurer or another club officer before committing to the repair. If you are flying a particular plane on a regular basis, you should sign up for ground crew duties by calling the appropriate crew chief.

No previous experience is necessary to join a ground crew. Helping with routine maintenance is a necessary part of a good soaring pilot's education. Tools, spare parts and hardware are located in the club's cabinet.

All club members participating in maintenance should be aware that the FAA RULES DO NOT PERMIT PILOTS WHO ARE NOT A&P'S (AIRFRAME AND POWER RATED MECHANICS) TO DO ALL OF THE REQUIRED MAINTENANCE ON A SAILPLANE. A listing of the Federal Aviation Regulations (FARs) describing which repairs must be performed by A&P's and which repairs may be performed by anyone are found in the front of each maintenance notebook. As each maintenance complaint is addressed, the person responsible for the repair will notify the maintenance chief accordingly.

### **IMPORTANT NOTE ABOUT SHIPS USED FOR COMMERCIAL PURPOSES**

For any ship that is used for commercial purposes the list of maintenance items a private or higher rated pilot can perform is restricted.

## REQUIREMENTS TO FLY the SGS 2-33A

Active Soaring Tigers members are eligible to fly this medium performance (L/D of 23:1) two-place sailplane *locally* when they:

1. hold at least an appropriately endorsed student pilot certificate;
2. are otherwise in compliance with all FARs for solo flight in a glider;
3. demonstrate proficient solo operation of the SGS 2-33A and knowledge of the characteristics and critical performance speeds of the sailplane; and are appropriately endorsed by a club CFIG.
4. have passed a written test administered by a Soaring Tigers CFIG regarding the procedures (including pre-flight inspection procedures), flight characteristics, operational limitations, and weight and balance for the SGS 2-33A based on the Pilot's Operating Handbook and specific weight and balance information for the club's currently operating SGS 2-33A.

## REQUIREMENTS TO FLY the SGS 1-26B

Soaring Tigers active members are eligible to fly this medium performance (L/D of 23:1) single-place sailplane *locally* when they:

1. hold at least an appropriately endorsed student pilot certificate;
2. are otherwise in compliance with all FARs for solo flight in a glider;
3. hold a current active membership in Soaring Society of America <http://www.ssa.org/Join>
4. have a minimum of 20 solo flights in gliders with a minimum of 5 solo flights in the Soaring Tigers SGS 2-33, except that those with a private or higher airplane rating shall have a minimum of five solo flights in the SGS 2-33;
5. have a minimum of 5 flights in a glider within the past 60 days with at least 2 glider flights in the past 30 days prior to a member's first flight in the SGS 1-26; otherwise, a minimum of 3 flights in a glider within the previous 90 days;
6. have a minimum of 1 hour of thermaling experience;
7. have become familiarized with the cockpit layout and controls of the SGS 1-26 and the differences from mid-wing and high-wing ships during ground training;
8. in the case of student pilots, have passed, within the previous 18 months, the FAA written knowledge test for a private pilot-glider rating; and
9. have passed a written test administered by a Soaring Tigers CFIG regarding the procedures (including pre-flight inspection procedures), flight characteristics, operational limitations, and weight and balance for the SGS 1-26 based on the Pilot's Operating Handbook and specific weight and balance information for the club's SGS 1-26.
10. have received approval from a Soaring Tigers CFIG based on the member's demonstrated consistently safe and proficient operation of the SGS 2-33 (which may require dual flights at the discretion of such CFIG), provided that a student pilot shall also have a logbook endorsement from a Soaring Tigers CFIG as required under FAR 61.87(n).

## REQUIREMENTS TO FLY the SGS 1-34

Soaring Tigers active members are eligible to fly this high performance (L/D of 33:1) sailplane *locally* when they:

1. hold a private pilot-glider or higher glider rating, OR be a current power transition pilot with at least a private pilot-airplane rating;
2. are otherwise in compliance with all FARs for solo flight in a glider;
3. hold a current active membership in Soaring Society of America (SSA) <http://www.ssa.org/Join> ;
4. have logged, prior to a member's first flight in the SGS 1-34, a minimum of 10 flights in the SGS 1-26 (including a minimum of 5 such flights within the preceding 90 days) or, for current power transition pilots only, a minimum of 5 SGS 1-26 flights within the preceding 90 days;
5. have become familiarized with the cockpit layout, equipment, and controls of the SGS 1-34;
6. have passed a written test regarding the procedures (including pre-flight inspection procedures), flight characteristics, operational limitations, and weight and balance for the SGS 1-34 based on the Pilot's Operating Handbook and specific weight and balance information for the club's SGS 1-34.
7. have received approval from a Soaring Tigers CFGI based on the member's demonstrated consistently safe and proficient operation of the SGS 1-26 (which may require supervised solo flights in the SGS 1-26 at the discretion of such CFGI).

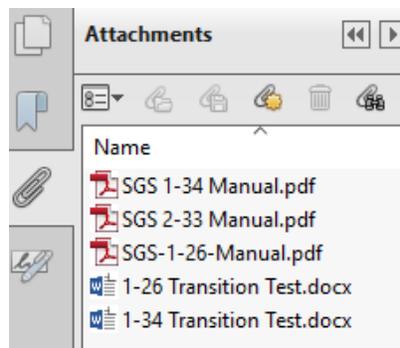
## SINGLE PLACE SHIP TRANSITION TESTS

For Soaring Tigers active members who wish to transition into the SGS 1-26B and, if qualified, the SGS 1-34, please schedule time with the club CFGI to review your qualifications and experience to meet our club's requirements.

In the prior sections of this membership manual are the *Schweizer Flight – Erection - Maintenance* manuals (aka Pilot Operating Handbook (POH)) plus the weight and balance (W&B) info for each of these aircraft.

As part of each ship checkout you will be required to complete this SGS 1-26B and the SGS 1-34 transition tests.

*VIEW AND PRINT COPIES OF THESE TWO TRANSITION TESTS IN THIS ADOBE ACROBAT ATTACHMENT SECTION*



Once you have complete them please send them to our club CFGI by e-mail at least 24 hours prior to any scheduled check-out.

## **GENERAL OPERATING RULES FOR ALL CLUB PILOTS AND ALL AIRCRAFT**

1. No member shall fly any club aircraft unless (s)he has SIGNED THE MEMBERSHIP APPLICATION AGREEMENT about having read and agreeing to adhere to the latest version of all club rules, FARs, the Soaring Tigers Release From Liability Form, and any other written and/or oral agreements.
2. No member shall fly if they are not HEALTHY, WELL RESTED AND ARE NOT UNDER THE INFLUENCE OF ANY DRUGS OR ALCOHOL per FAA regulations.
3. Check the CURRENT AND PREDICTED WEATHER FORECAST. This must include NOTAMS, wind speed, winds aloft, wind directions, turbulence, etc.
4. Checked the total CLOTHED weight of the pilot and all passengers and make sure that this is WITHIN THE WEIGHT AND BALANCE SPECIFICATIONS for the aircraft.
5. A COMPREHENSIVE PRE-FLIGHT INSPECTION (including a positive control check) will be done by the pilot in command BEFORE ALL FLIGHTS. Make sure that the operation of the cockpit controls (pitch, roll, yaw and dive brake) operation is correctly and completely linked to the actual movement of the aileron, rudder, elevator and dive brakes.
6. Ensure that both the aircraft and I have all of the FAA REQUIRED DOCUMENTS both on board and in my possession.
7. The TOW RELEASE will be checked BEFORE EACH PILOT'S FIRST FLIGHT OF THE DAY.
8. TAKEOFF AND LANDING CHECKLISTS will be followed at all times.
9. NEVER BE RUSHED DURING THE PREFLIGHT procedures. Never let the tow rope to be connect until after you have systematically and reviewed the preflight checklist. If this ever happens then immediately pull the release.
10. No pilot will perform an UNASSISTED TAKEOFF unless he or she has a written endorsement from an instructor and is familiar with the procedure.
11. Pilots flying cross-country should CARRY AN UP TO DATE COPY OF MEMBER AND AIRPORT PHONE NUMBERS.
12. After release immediately MAKE A 360 DEGREE CLEARING TURN TO CHECK FOR TRAFFIC and to verify the location of your "home" airport.
13. NO AEROBATICS MAY BE PERFORMED, by order Schweizer Aircraft Corporation for any of their ships. The only exception is spin instruction, with a CFG, that is within the aircraft's operating limitations.
14. Van Sant Airport's standard OPERATION PROCEDURES, INCLUDING TAKEOFF AND LANDING PATTERNS, MUST ALWAYS BE FOLLOWED.
15. Always be sure to HAVE A GOOD CHOICE OF LANDING FIELDS AND A SAFE PATTERN, even if you encounter sink and need to land someplace other than your home field.
16. BELOW 1000' AGL YOU MUST BE IN A LANDING PATTERN.
17. During landings ALWAYS LOOK AND PLAN FOR TRAFFIC, HEADWINDS, CROSSWINDS, WIND SHEAR, AND RUNWAY OBSTACLES, and then make mid course corrections as necessary.

18. When leaving the glider at the tiedown always be sure to set and leave the DIVE BRAKES CLOSED to try and keep out birds.
19. When leaving the glider on the runway always be sure to set and leave the DIVE BRAKES OPEN so that it won't so easily fly away.
20. NEVER LEAVE THE PLANE UNTIED ON THE FIELD UNLESS IT IS SUPERVISED and the clear responsibility of another Soaring Tiger club member.
21. ALWAYS RETURN BALLAST TO THE LOCKER after the last flight.

## RECKLESS FLYING

If, in the judgment of a club CFI, any club member demonstrates reckless or careless operation of a sailplane, then:

1. The club CFI will immediately ground the reckless pilot and suspend the pilot's club flying privileges for a period of 30 days.
2. The incident will be brought before the club CFI's for discussion and action at the next CFI meeting. The reckless pilot will be notified of the meeting and will be invited to attend and present a verbal and/or a written statement regarding the incident.
3. Soaring Tiger's CFI's will investigate the incident and determine if further action should be taken. The reckless pilot may be permanently suspended from the club.
4. The pilot and the Board of Directors will be notified of the actions taken by the CFI's.
5. The pilot will NOT be reimbursed dues for the 30-day suspension period pending the action of the club's CFI's.
6. Permanently suspended pilots will be refunded their membership dues on a pro-rata basis.

## SOARING TIGERS DEFINITION OF CROSS-COUNTRY

Cross-country soaring means flying below the altitude required to be within straight gliding distance of the airport of origin. Being within gliding distance to the airport is defined as the ability to return to the airport at pattern altitude from your current position under the local atmospheric conditions being experienced at any given time in the flight.

Soaring Tigers recognizes that determination of gliding distance is ultimately a judgment call, influenced by the conditions of the day. However, to provide a margin of safety for winds and unexpected sink, the club will generally interpret the altitude required for safe gliding distance in a conservative way, based upon the following formula:

$$\text{Required Altitude MSL} = \left( \frac{\text{Distance}}{\text{Corrected Glide Ratio}} \right) + (\text{Airport Elevation}) + (\text{Pattern Entry Altitude})$$

*Required Altitude MSL* - minimum altitude MSL to achieve safe glide back to airport

*Distance from the Airport of Origin* - best estimate of current position from the airport of origin in statute miles

*Airport Elevation* – Elevation of the airport of origin in ft MSL (e.g., Van Sant = 400 ft MSL)

*Pattern Entry Altitude* = Airport of origin’s pattern entry altitude (e.g., Van Sant = 1,300 ft. AGL / 1,700 ft MSL )

*Corrected Glide Ratio* – assumes the generally accepted correction of one half the glide ratio specified by the manufacturer; expressed in statute miles/1000 feet of altitude.

Here’s an example:

The Schweizer SGS 1-34’s (L/D 33:1) corrected glide ratio (L/D 16.5:1) is therefore, 3.1 miles / 1000 ft . When flying the SGS 1-34 away from the airport of origin, minimum altitude required (MSL in thousands of feet) reduces to:

Therefore, if you are 6 statute miles from the airport, you must be at an altitude greater than ~3,400 ft. MSL, otherwise you are flying cross-country.

$$\text{RequiredAltitudeMSL} = \left( \frac{\text{Distance}}{3.1} \right) + (1,500\text{ftAGL})$$

### Van Sant Airport Gliding Distances

	Schweizer SGS 2-33A and Schweizer SGS 1-26B	Schweizer SGS 1-34
Best Glide Ratio	L/D 23:1	L/D 33:1
Indicated Altitude MSL at Van Sant (feet)	Distance from Van Sant Airport – Statute Miles (assuming 50% of published glide ratio)	
1500	0	0
2000	1.1	1.6
2500	2.2	3.1
3000	3.3	4.7
3500	4.4	6.3
4000	5.4	7.8
4500	6.5	9.4
5000	7.6	11
5500	8.7	12.5
6000	9.8	14
6500	10.9	15.6
7000	12.0	17.1
7500	13.1	18.8

Pilots are expected to be constantly vigilant regarding their location relative to their airport of origin and the local weather conditions to remain within gliding distance of that airport.

The only exception to this is when a conscious decision has been made to “go cross-country” in accordance with the requirements for cross-country flight set forth by the Soaring Tigers flight instructors and Board of Directors as described below.

# SOARING TIGERS REQUIREMENTS FOR CROSS-COUNTRY FLIGHT

## *Prerequisites:*

1. Private glider license
2. Minimum fifty (50) hours total glider time
3. Minimum twenty (20) solo glider flights
4. Minimum of ten (10) flights in the single-place ship to be taken cross-country
5. Minimum five (5) hours in the single-place ship to be taken cross-country
6. Completion of the SSA Bronze Badge
7. Completion of the FAI Silver Badge Altitude and Duration legs
8. Completion of the FAI Silver Badge Distance (50km) Leg  
(unless the upcoming flight is an attempt at that distance badge)
9. During flight, each pilot must carry on board a cell phone w GPS, VHF handheld radio, and emergency survival gear.

Please see <http://www.ssa.org/BadgesAndRecords> for detailed badge specifications.

## *Successful completion of cross-country ground school and dual cross-country flight training which will include:*

1. Demonstration of thermaling proficiency
2. Demonstrate the ability to read a sectional while flying, setup good patterns and landings at different airports, and off-field landing site selection.
3. Demonstration of proficiency in spot landings in the ship that will be used for the cross-country flight
4. Landing at another field
5. Endorsement by a club CFI for the assembly, disassembly, and trailering of the ship to be used for the cross-country flight

## *Currency Requirement:*

1. A club flight review within the previous 12 months
2. 5 glider flights within the preceding 60 days in the single place ship that will be taken cross-country

## *Prior to any cross-country flight:*

1. The pilot must obtain approval for that flight by a club CFI
2. The pilot must make arrangements for a retrieve, including crew, communications, tow vehicle, and registered trailer
3. The crew and pilot must demonstrate assembly, disassembly, retrieval proficiency, and demonstrated reassembly of the ship that will be flown cross-country and be appropriately endorsed by a club CFI.
4. The pilot must review flight intentions with a club instructor before the flight. This is to ensure that good judgment is exercised and flight declaration forms have been completed correctly. This must also be done before attempting the 50km Silver distance flight. See <http://www.ssa.org/BadgesAndRecords?show=blog&id=938> to download and use these forms.
5. The pilot must make sure that the aircraft is not reserved by other members

To prepare for the cross-country, flying triangular courses around Van Sant airport is strongly recommended.

## **CROSS-COUNTRY RULES**

A cross-country flight is any flight where the aircraft is beyond straight gliding distance from its point of departure. Before a pilot can attempt to fly a club aircraft on a cross-country flight, all of the following requirements must be met.

1. Pilots must receive an initial cross-country endorsement from a club instructor in the ship to be used for the cross-country.
2. The pilot must have a minimum of a glider private license and club flight review in the past 12 mos.
3. The pilot must have completed the requirements for the SSA Bronze Badge. (No barograph required)
4. The pilot must meet the SSA Silver height (1000m), duration (5 hours) and distance (50km\*) requirements in a single place ship. (Barograph required)

\* The 50km prerequisite only is waived for those pilots making their attempt to obtain the distance leg of the SSA Silver Badge.

5. Demonstrate the ability to read a sectional while flying, and setup good patterns and landings at different airports.
6. The pilot must present a list of club members who have agreed to crew for the pilot.
7. The crew and pilot must demonstrated assembly, disassembly, and retrieval proficiency, of the ship that will be flown cross-country and be appropriately endorsed by a club CFI.
8. The pilot must review flight intentions with a club instructor before the flight. This is to ensure that good judgment is exercised and flight declaration forms have been completed correctly. This must also be done before attempting the 50km Silver distance flight.

To prepare for the cross-country, flying triangular courses around Van Sant airport is recommended.

## **TAKING CLUB SHIPS TO OTHER SOARING SITES**

All pilots must have a private license or one must be a CFI. Each pilot must have an instructor endorsement from a club CFI for each site the group is visiting. A minimum of two club members are required. The group must satisfy the assembly/disassembly rules as described in the Cross Country Rules section above.

## **LOG BOOKS**

You are required by the FAA to keep an accurate logbook and keep a record of each flight. Each student pilot dual flight requires that CFI's signature. Student pilot solo flights are entered as both pilot in command (PIC) and solo flights. The logbooks currently in use feature a training checklist in the front and space for endorsements in the back, and may be purchased in the Bird of Paradise office.

## **BAROGRAPH**

We now have many pilots who are trying to earn FAI awards (Silver C, etc.). This is great, BUT before you go rushing off and waste a five-hour ride or a long (32 mile) trip, **READ THE RULES!** The complete FAI rules are available in the Schweizer Soaring School Manual and the SSA Soaring Directory. One of the big problems is the use of the club barograph, here are some tips on how to use it:

1. Ensure that the barograph has been calibrated within the past year by an approved facility, or have it done immediately after the flight.
2. Put the barogram paper in correctly. Use double sided Scotch tape and make sure that the paper overlaps in the direction of the drum rotation so that the scribe doesn't catch on the overlap.
3. Before you seal the barograph, turn the switch ON and rotate the drum one whole revolution to scribe a baseline.
4. Wind the barograph and seal it. Be sure to abide by all the FAI rules concerning the barograph calibration and official observer's duties. Observers must hold a B badge or better.
5. Don't use a barogram that is cluttered with other traces. Use a clean part of a barogram or a new one.
6. Be sure to notch the barogram trace by diving slightly, spoilers open, after release from tow (need about 200' loss). This is best done after the first turn in a thermal. Shallow the bank for the notch and tighten it back up to re-center the thermal.
7. After you've landed, turn off the barograph but wait for your official observer to unseal it.
8. If everything comes out okay, complete the application for your badge and mail it as soon as possible (void after 6 months!).

## **RADIO OPERATING PROCEDURES**

Our club ship SGS 2-33A does not currently have a radio installed, however the following information may be useful if you fly the club's SGS 1-34, carry a handled radio, or crew for club members in contests or rent high performance ships with radios.

Gliders with radios typically use frequencies of 123.3 and 123.5 MHz. These channels are designated for sailplane AND flight school use. Basic rules of radio use are: Listen all you want, but talk as little as possible. Compose your thoughts before keying the mike. Wait for a lull in the "traffic". Name your intended listener first and identify yourself second. Go ahead and transmit your message, don't endlessly seek contact. Remember you will be broadcasting to all sailplane pilots and flight schools listening within line-of-sight to 30 miles or so.

Pilots are reminded that when suitable radio equipment is available FDC NOTAM 4/4386 requires us to monitor the GUARD (emergency) VHF frequency 121.5.

Keywords such as THIS IS, OVER, OUT, ROGER, SAY AGAIN, etc. may be useful.

And lest ignorance of the phonetic alphabet keep you from the ranks of Sky King, Amelia Earhart, and Chuck Yeager, here it is:

Alpha, Bravo, Charlie, Delta, Echo, Foxtrot, Golf, Hotel, India, Juliet, Kilo, Lima, Mike, November, Oscar, Papa, Quebec, Romeo, Sierra, Tango, Uniform, Victor, Whiskey, X-Ray, Yankee, Zulu.

While on the subject of radio use, many pilots are not familiar with the AIM when it comes to how to appropriately identify their aircraft. The AIM gives us several options, but the Soaring Tigers CFIG recommend technique is to first identify the aircraft type as a “glider” and then all letters and numbers after the “N” in the n-number. Letters are spoken using the phonetic alphabet. For numbers, nine is spoken “niner”, but while the AIM still includes the recommendation to speak three as “tree” and five as “fife” these are no longer used in practice. So, for our current fleet the recommended aircraft identification on the radio is:

- SGS 2-33A N65867 - “glider six five eight six seven”
- SGS 1-26B N389BR - “glider three eight niner bravo romeo”
- SGS 1-34 N67JP - “glider six seven julet papa”

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# SSA, BADGES & CONTESTS

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## SOARING SOCIETY OF AMERICA

The Soaring Society of America is a nonprofit organization of enthusiasts who seek to foster and promote all phases of gliding and soaring on a national and international basis. The Society is also a division of the National Aeronautic Association (the U.S. national aero club) which represents the U.S. in the Federation Aeronautique Internationale (FAI, the world sport aviation governing body comprised of national aero clubs). NA has delegated to the SSA the supervision of FAI-related soaring activities such as record attempts, competition sanctions, issuance of FAI Badges, and the selection of a U.S. team for the biennial World Gliding Championships.

SOARING is the Society's official journal. Membership in the SSA is open to anyone interested in the art, the science or the sport of motorless flight. Membership and dues (as of [March 2023](#)) are:

LIFE MEMBER	\$1,875 (can be paid in full or in 12 monthly payments of \$156.25)
FULL MEMBER	\$ 75
ASSOCIATES MEMBER	\$ 62
YOUTH MEMBER (under 22 years old)	\$ 42
FAMILY MEMBER	\$ 45

The SSA address is: Soaring Society of America, Inc. P.O. Box 2100 Hobbs, NM 8241-2100, 575-392-1177 [membership@ssa.org](mailto:membership@ssa.org). Check SSA Web site at <http://www.ssa.org> for current information.

Full and life members receive a subscription to SOARING and other member benefits. Student members (full time students, age 22 or under) receive SOARING magazine and have voting privileges. Family members have voting privileges but do not receive a magazine subscription.

## ALL SOARING TIGERS CLUB MEMBERS ARE REQUIRED TO JOIN THE SSA

SOARING magazine alone is well worth the investment! Furthermore, you MUST be an SSA member to be eligible for ABC badges and FAI awards.

## REGION TWO SOARING COUNCIL

The Region Two Soaring Council is an association of soaring groups in SSA's Region 2 (New Jersey, Eastern Pennsylvania and Southern New York). The council organizes a yearly banquet, seminars, and informal contests and publishes a bi-annual magazine and newsletter each.

## **COLLEGIATE SOARING ASSOCIATION**

The Collegiate Soaring Association is a network of College and University affiliated soaring clubs, whose members include MIT, Michigan, Illinois, Penn State, Soaring Tigers, Tennessee, UCSD and others. Membership is by institution only. CSA publishes a quarterly newsletter, "College Soaring" and sanctions soaring meets for students.

## **SOARING PUBLICATIONS**

You will need to study the following publications. Copies of some are for sale in the FBO's office. Most are also available by mail order from the SSA and Ridge Soaring, Inc. See your latest copy of SOARING for pricing and ordering information.

THE JOY OF SOARING, Conway

THE SOARING FLIGHT MANUAL, SSA (the Written Exam "bible"), Jeppesen Sanderson, Inc.

FEDERAL AVIATION REGULATIONS FOR GLIDER PILOTS (PARTS 61,71,91 and NTSB part 830)

AVIATION WEATHER

SAILPLANE PRACTICAL TEST STANDARDS, SSA

FAA PRIVATE PILOT QUESTION BOOK, ASA Ground Schools

*Also recommended are:*

GLIDER BASICS, FROM FIRST FLIGHT TO SOLO, Knauff

GLIDER BASICS, FROM SOLO TO LICENSE, Knauff

JUDGMENT TRAINING IN GLIDERS

THE ART AND TECHNIQUE OF SOARING, Wolters

PRIVATE PILOT QUESTION BOOK, Knauff (Glider only)

SOARING ACCIDENTS THAT ALMOST HAPPENED, Dupont

## **SSA STANDARD ABC TRAINING PROGRAM**

Badge applications are available from club instructors. All badges and pins are issued by the club SSA Instructor upon completion and submission of application to the instructor.

You must be a current member of the SSA to be eligible for all badges.

### **Requirements for the A Badge**

Applicant holds:

1. Valid FAA student sailplane pilot certificate
2. Suitable log book

Applicant has knowledge of:

#### **\* Preflight Phase \***

1. Sailplane nomenclature
2. Sailplane ground handling procedures
3. Sailplane preflight check
4. Airport rules and FARs
5. Tow equipment, signals and procedures
6. Hook-up of tow rope or cable
7. Take-off signals
8. Pilot responsibilities

#### **\* Pre-solo phase \***

1. Familiarization flight
2. Cockpit checkout procedure
3. Effects of controls, on the ground and in flight
4. Take-off procedure, cross-wind takeoffs
5. Flight during tow
6. Straight and level flight
7. Simple turns
8. Circuit procedures and landing patterns
9. Landing procedure, downwind and cross-wind landings
10. Moderate and steep turns up to 720 degrees in both directions
11. Stalls and stall recovery

12. Conditions of spin entry and spin recovery
13. Effective use of spoilers/flaps and slips
14. Emergency procedures
15. Oral exam of FARs
16. Solo flight

### **Requirements for the B Badge - *Practice phase***

Demonstration of soaring ability by solo flight of at least five minutes duration above point of release or starting point (low point after release), OR; thirty minutes duration after release from 2000 ft. tow (add 90 seconds/100 ft. tow above 2000 ft.)

### **Requirements for the C Badge - *Pre-cross-country phase***

1. Dual soaring practice, including instruction in techniques for soaring thermals, ridges and waves.
2. Have knowledge of: (a) cross-country procedures recommended in the American Soaring Handbook (b) sailplane assembly, disassembly and retrieving, (c) dangers of cross-country flying.
3. Solo practice (two hour minimum)
4. Demonstration of ability to carry out simulated cross-country landings in restricted areas without reference to altimeter.
5. Demonstration of soaring ability by solo flight of at least 30 minutes above point of release or starting point (low point after release) OR 60 minutes duration after release from 2000 ft. tow (add 90 seconds/100 ft. for tow above 2000 ft.)

### **Requirements for the Bronze Badge - *Cross-country phase***

1. Complete the ABC program with the C badge.
2. Log at least 15 solo hours in gliders, including 30 solo flights of which at least 10 are flown in a single-place glider.
3. Log at least two flights of 2 hours duration or more.
4. Perform at least three solo spot landings in a glider witnessed by an SSA Instructor (check with our club's CFIs to see who has this separate designation). Minimum accuracy and distance parameters are based on the glider's performance, current winds, runway condition and density altitude. As a guideline, a minimum distance of 400' would be acceptable for a Schweizer 2-33. (This is a land-and-stop in a specified zone requirement.)
5. Log dual time in gliders with an instructor, during which at least two accuracy landings (same as above) were made without reference to an altimeter to simulate off-field and strange field landings.
6. Pass a closed-book written exam covering cross country techniques and knowledge. Minimum passing grade is 80%.

## **INTERNATIONAL SOARING AWARDS (FAI)**

### **SILVER C BADGE**

1. 5 hour duration flight
2. 50 kilometer flight in a straight line (31.1 miles) plus altitude adjustment factor
3. 1000 meter height gain (3,281 feet)

### **GOLD C BADGE**

1. Silver 5 hour duration flight
2. 300 kilometer distance flight (186.4 miles)
3. 3000 meter height gain (9,842 feet)

### **DIAMOND**

A diamond may be added to the Gold or Silver Badge for each of:

1. A flight to a pre-declared goal of 300 kilometers
2. 500 kilometer distance flight (311.1 miles)
3. 5000 meter height gain (16,404 feet)

A special FAI "Diplome" will be awarded for a flight of 1000 km.

**IMPORTANT NOTE** (don't say we didn't warn you!): It is required that the altitude loss from release to landing not exceed 2% of the distance flown. This means that release for a Silver C flight may be no higher than 500 meters (1,640')--or else fly further (**READ THE RULES!**).

## **KOLSTAD AWARDS**

In memory of Paul Kolstad, who won the Gold Badge with two Diamonds by the age of 17 in the mid 1960s, these awards are now administered by SSA, and are open to pilots between the ages of 14 and 20.

## **CENTURY AWARDS**

Certificate and badge to acknowledge cross-country soaring flights of 100 km ("Century I"), 200 km ("Century II") and 300 km ("Century II"). Apply using FAI badge procedures and forms.

## **ANNUAL SCHOLARSHIP**

Open to pilots with either the Century I award or FAI Silver Badge, age 14-20. As of 1987, amounts to a grant of about \$1,000, to go towards tuition at an academic institution. Application is by letter to SSA, accompanied by club/operator recommendations.

## **GUS SCHEURER TROPHY**

Sponsored by the Aero Club Albatross in honor of their late founder, this is a "traveling trophy" that goes home with whatever pilot soars the longest handicap distance across Region Two to come get it (minimum handicap distance of 100 miles).

## **CONTESTS**

Soaring Contests are regularly sponsored by SSA, CSA, Region Two and various clubs. Most score only cross-country speed, the Collegiate CSA contests being the exception (other events include spot-landing and duration). All feature a handicap category that is "winnable" with any sailplane type. Advanced club members have entered these with club ships, and less advanced members are always welcome as "crew", soaring being the team sport that it is.

## **RECORDS**

SSA awards certificates for altitude, distance and speed records in each State. Categories include multi-place, junior and female - for which many of the records have yet to be established or (frankly) could be easily beaten.

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## **Soaring Tigers *Member* Release From Liability**

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This is an important and legally binding document which limits the liability of Soaring Tigers, Inc., an IRS Section 501(c)(3) charitable organization (“the Club”), its officers, board members, members and flight instructors, and their respective successors, heirs and assigns. PLEASE READ THIS CAREFULLY BEFORE SIGNING.

Flying in gliders, also known as soaring, and related ground operations involve, like all aviation activities, inherent risks which may be related to, among other causes, negligent or otherwise improper operation by a pilot, negligent or otherwise improper instruction by a flight instructor, weather conditions, airworthiness and condition of the glider, airworthiness and condition of a tow plane and tow rope, irregularities and obstacles on the runway and other surfaces of the airport, mid-air collisions with other aircraft, off-airport landings, controlled or uncontrolled flight into the ground, collisions with persons or vehicles or equipment on the ground, incapacitation of a pilot, and collisions between persons and aircraft, other persons, vehicles or equipment while on the ground even while assisting with or observing flight operations or ground-handling of gliders (collectively, “Glider Operation Risks”).

**ALL OF THESE RISKS INCLUDE THE POSSIBILITY OF ACCIDENTS INVOLVING SERIOUS OR FATAL INJURY.**

By participating in the activities of the Club, including but not limited to flight and ground operations and activities, I agree as follows:

1. I understand that participation in the activities of the Club exposes me to Glider Operation Risks, and I voluntarily accept all such risks and agree not to sue the Club or any of its officers, members, board members, flight instructors, or agents (or any of their respective successors, heirs and assigns) if I am injured in any way during any Club related activity, regardless of any negligence on the part of the Club or any of its respective flight instructors, officers, board members, members, flight instructors, or agents.
2. I have read and reviewed this document carefully and understand that I am agreeing not to assert legal rights that I might otherwise have the right to assert in the event I suffer personal injury or death as a result of my participation in the activities of the Club.
3. I execute this document in partial consideration of the benefits provided to me as a result of my membership in the Club, including but not limited to use of the Club’s aircraft (according to my experience and FAA and Club regulations) and assistance from other Club members, including its flight instructors, each of whom provides such assistance, and, in the case of its flight instructors, flight instruction, on a volunteer basis without compensation by the Club or me.

I also understand that, independent of the terms of this document, the provisions of the Volunteer Protection Act of 1997 may preclude me from recovering damages for harm I may suffer caused by the acts or omissions of any volunteer while acting within the scope of his responsibilities for a charitable organization.

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

If under age of 21, Signature of Parent or Legal Guardian:

\_\_\_\_\_

PLEASE PRINT AND SIGN THREE ORIGINAL COPIES OF THIS DOCUMENT  
AND KEEP ONE SIGNED ORIGINAL FOR YOUR RECORDS

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## **Soaring Tigers *Non-Member* Release From Liability**

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This is an important and legally binding document which limits the liability of Soaring Tigers, Inc., an IRS Section 501(c)(3) charitable organization (“the Club”), its officers, board members, members and flight instructors, and their respective successors, heirs and assigns. PLEASE READ THIS CAREFULLY BEFORE SIGNING.

Flying in gliders, also known as soaring, and related ground operations involve, like all aviation activities, inherent risks which may be related to, among other causes, negligent or otherwise improper operation by a pilot, negligent or otherwise improper instruction by a flight instructor, weather conditions, airworthiness and condition of the glider, airworthiness and condition of a tow plane and tow rope, irregularities and obstacles on the runway and other surfaces of the airport, mid-air collisions with other aircraft, off-airport landings, controlled or uncontrolled flight into the ground, collisions with persons or vehicles or equipment on the ground, incapacitation of a pilot, and collisions between persons and aircraft, other persons, vehicles or equipment while on the ground even while assisting with or observing flight operations or ground-handling of gliders (collectively, “Glider Operation Risks”).

**ALL OF THESE RISKS INCLUDE THE POSSIBILITY OF ACCIDENTS INVOLVING SERIOUS OR FATAL INJURY.**

By participating in the activities of the Club, including but not limited to flight and ground operations and activities, I agree as follows:

1. I understand that participation in the activities of the Club exposes me to Glider Operation Risks, and I voluntarily accept all such risks and agree not to sue the Club or any of its officers, members, board members, flight instructors, or agents (or any of their respective successors, heirs and assigns) if I am injured in any way during any Club related activity, regardless of any negligence on the part of the Club or any of its respective flight instructors, officers, board members, members, flight instructors, or agents.
2. I have read and reviewed this document carefully and understand that I am agreeing not to assert legal rights that I might otherwise have the right to assert in the event I suffer personal injury or death as a result of my participation in the activities of the Club.
3. I execute this document in partial consideration of the benefits provided to me as a result of my participation in Club activities as a non-member, including but not limited to flight in the Club’s aircraft and assistance from other Club members, including its flight instructors, each of whom provides such assistance, and, in the case of its flight instructors, flight instruction, on a volunteer basis without compensation by the Club or me.

I also understand that, independent of the terms of this document, the provisions of the Volunteer Protection Act of 1997 may preclude me from recovering damages for harm I may suffer caused by the acts or omissions of any volunteer while acting within the scope of his responsibilities for a charitable organization.

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

If under age of 21, Signature of Parent or Legal Guardian:

\_\_\_\_\_

PLEASE PRINT AND SIGN THREE ORIGINAL COPIES OF THIS DOCUMENT  
AND KEEP ONE SIGNED ORIGINAL FOR YOUR RECORDS

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# Membership Application Form

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*PLEASE COMPLETE AND SIGN BOTH SIDES OF THIS FORM AND ATTACH A CHECK  
PAYABLE TO "SOARING TIGERS" FOR DUES IN THE AMOUNT LISTED IN THE  
CLUB MEMBERSHIP MANUAL*

## Personal Information

Name: \_\_\_\_\_

Home Address: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Business Phone: \_\_\_\_\_

Cell Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_ Fax: \_\_\_\_\_

Birth date: \_\_\_\_\_ Weight (clothed) \_\_\_\_\_

## COVID-19 Inoculation Information

Which type of COVID-19 vaccine have you taken for your Soaring Tigers required inoculation?

- Pfizer
- Moderna
- J&J

What was the day / month / year of your last vaccination? \_\_\_\_\_

## Emergency Contact Information

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

Address: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Business Phone: \_\_\_\_\_

Cell Phone: \_\_\_\_\_

## Status and Occupation

High school student: \_\_\_\_\_

Institution/Class: \_\_\_\_\_

Full time college/university student: \_\_\_\_\_

Institution/Class: \_\_\_\_\_

Graduate student: \_\_\_\_\_

Date studies to finish: \_\_\_\_\_

Occupation: \_\_\_\_\_

Employer: \_\_\_\_\_

Professional expertise: \_\_\_\_\_

## SSA Membership

To be covered by our insurance policy ALL Soaring Tigers flying members MUST also be current SSA members. If you are not, then you MAY NOT FLY until this occurs.

SSA membership number: \_\_\_\_\_

Date of SSA membership expiration: \_\_\_\_\_

## Flight Experience

*Glider rating(s)*

Solo: \_\_\_ Private: \_\_\_ Commercial: \_\_\_ CFIG: \_\_\_

Total glider hours: \_\_\_\_\_ Total glider flights: \_\_\_\_\_

Sailplanes & sights flown: \_\_\_\_\_

What is the date of your last 61.56 glider Flight Review? \_\_\_\_\_

*Please review the club's WINGS credit requirement for completing a Flight Review with a club instructor. Also, on [www.soaringtigers.org](http://www.soaringtigers.org) please see the MEMBER INFO / Soaring Tigers Membership Manual / Club Flight Review section.*

*Power rating(s)*

Solo: \_\_\_ Recreational: \_\_\_ Private: \_\_\_ Commercial: \_\_\_ Instrument: \_\_\_

Total power hours: \_\_\_\_\_ Total power flights: \_\_\_\_\_

Aircraft flown: \_\_\_\_\_

Have you ever been a member of another flying or soaring club? If so, then please describe:

\_\_\_\_\_

\_\_\_\_\_

Have you ever had an aircraft accident? If so, please explain:

\_\_\_\_\_

\_\_\_\_\_

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Have you ever been rejected for a pilot's license or had a license revoked? If so, please explain:

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What skills or interests do you have that will be useful to the club? (e.g., Web page design, mechanic, graphic design, legal, insurance or investment expertise)

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## Agreement

\_\_\_\_\_ I have read the complete "Soaring Tigers Membership Manual" and agree to comply with the applicable Federal Aviation Regulations, club insurance policy, airport rules and regulations, and the club rules as set forth in this manual.

\_\_\_\_\_ I have read, completed, signed, and attached the "*Soaring Tigers Member Release From Liability*" document.

\_\_\_\_\_ I understand that the Soaring Tigers is a club and that as a member I am obligated to provide a reasonable amount of time each year to do my share to assist in the operation of the organization.

All statements that I have made are accurate and true.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_