GBSC Operations Manual

V10.0 January 2025

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Second Printing	February 2008	• Information update
Third issue	March 2017	• On-Line version Only
Fourth Issue	December 2018	• Minor updates
V7.0	February 2021	• Removed instructions related to FBO hangar access, door operation, etc. • Consolidated tie-down instructions; simplified cushion storage instructions • Revised instructions for removing a tow rope from service. • Replaced text on rope adapters and links with reference to Membership Manual.
V7.1	March 2021	• Updated launch signals images • Replaced Part 830 definitions with reference. • Added Definitions section • Corrected tow signals image in section 10.
V8.0	April 2022	• Added Operations Coordinator (OC) duties; OC replaces SFO and Logger. • Replaced sections “Senior Field Officer (SFO) duties” and “Logger duties” with “General Club Member’s Role”
V9.0	April 2023	• Changed title from “Ground Procedures Manual” to “Operations Manual”. • Changed file format to Google Docs • “Glider Fleet Status” section moved here; was “Aircraft Status Board” in the Membership Manual • “Grounding an Aircraft” section moved here; was in the Membership Manual • Revised Emergency Procedures section • Other updates needed to for consistency with the updated Membership Manual
V10.0	January 2025	• Moved flight instruction topics from the Membership Manual to the bottom of this document (Section 30) with the intention of moving them to a new GBSC Flight Instruction document in the future. • Added photographs of ropes, rings, weak links and adapters. • Updated links for knot illustrations.

		• Replaced content on launch details with links to the SSA Wing Runner Course and the GBSC launch video. • Extensively revised material on OC duties

Operations Manual

1. Introduction

This book provides GBSC members with information on club ground procedures, emergency procedures, launch rules and recommendations, care and use of club equipment, glider preflight checklists and related topics.

Other documents and material such as recommendations and procedures for *First Flights*, the pre-solo flight test, the spring safety presentation and readiness exams are generally available from one of several sources including; i) the GBSC Operations web site, ii) club instructors, iii) the club safety officer.

Disclaimer - The information provided in this manual is not a substitute for any part of a student's flight lesson program conducted by a CFI-G. Indeed, some of the material in this manual is subject to interpretation and can be best explained as part of a flight instruction program. Talk to an instructor for a full understanding of procedures and material presented in this manual.

If any portion of this manual is in conflict with Federal Aviation Regulations (14 CFR), 14 CFR obviously takes precedence. As always, the pilot in command (PIC) is responsible for compliance with all Federal Regulations.

The PIC of any GBSC aircraft must possess any required identification while on the airport property. In addition, all members must stay up to date regarding temporary airspace restrictions due to national security. All pilots are expected to get a complete preflight briefing before each day's flying..

This Operations Manual is a companion to the GBSC Membership Manual available on the GBSC web site for download. It is critically important that all GBSC members be familiar with both. Together they provide much of the information necessary for safe, efficient and enjoyable glider operations. They are useful references for both new members and veterans.

Contents

Want other suggestions? Talk to club members, tow pilots, current pilots, owners and of course the club instructors. It probably goes without saying, but we will say it here anyway, make sure you also read and are familiar with the material in the pilot operating handbook (POH) for every glider you fly.

Welcome to the Greater Boston Soaring Club!

2. Read This Material Every Year

- **Always think *Safety!* *Everyone* is responsible.**
- 5673 for all GBSC combination locks: office, shed, trailer. *Reminder:* matches the Bird Dog (L19) tail number: N5673B.

Carts

- NEVER turn an electric cart on with the charger plugged in.
- Drive very carefully around gliders, slowly and with full situational awareness!
- ALWAYS set the brake and turn the ignition off before you leave a cart
- NEVER cross/enter a runway/taxiway area without looking for moving aircraft.
- NEVER drive over a tow rope. Not with a cart, not with a glider, not with your feet .... Nothing!

Glider Preflight and Towing

- Check the glider's status using the Glider Fleet Status webpage. If it is grounded, leave it tied down.
- UNTIE the glider, perform a PREFLIGHT INSPECTION and do a positive control check.
- NEVER leave an unattended canopy open.
- ALWAYS secure the elevator in preparation for tow out (does not apply to ASK 21 and ASW 19)
- BE ATTENTIVE to aircraft activity on the runway and taxiway.
- STOP towing when landing, launching or taxiing aircraft are passing.
- Only traverse the grass runway after you have towed the glider to a point opposite the grid. This minimizes the time crossing and obstructing the grass runway.
- Always YIELD to taxiing powered aircraft.
- NEVER overlap parked glider wings.
- Remove the tail dolly (if attached) before leaving a glider unattended.

Grid

- Never walk onto the grid without checking for approaching aircraft.
- If you are not supposed to be on the grid (fetching ropes, moving gliders, crew, etc.), don't be there.
- No gridding unless a glider is preflighted and ready to fly!
- Pilots should be ready to go once their glider is #2 on the launch grid. If two tow planes are operating, pilots should be ready once their glider is #3 or #4.

Rings and Launching

- NEVER put a TOST ring in a Schweizer hook.

- Connect Schweizer gliders with the short white Nylon rope adapter. (For 1-26, use a yellow ¼" poly adapter as a weak link). See Wings and Ropes below.
- Extra help on the grid should stand back-to-back with the Wing Runner, watch base and final legs, and advise Wing Runner if final is still clear or to hold launch for landing aircraft.
- Bird Dog: a white adapter is required at tow plane end.
- Glider Pilots: try to start your rudder waggle as the last of the slack comes out of the rope

Only experienced or closely monitored club members may launch gliders.

1. HOOK UP	"*Air brakes closed and locked?*" *"Canopy locked?"*
2. TRAFFIC CHECK	Check field and pattern, *carefully*
3. ANNOUNCE	"*Pattern and field clear!*".
4. THUMBS UP?	*wait for*.... then Lift Wing
5. SLACK OUT	continue to monitor traffic
6. RUDDER WAGGLE?	*wait for*.... then Launch!

End of Day

- Confirm that all pilots have returned safely
- CHECK the field – everywhere – and retrieve all equipment
- TIE DOWN gliders using a Trucker's Hitch . Know how to tie and use the Trucker's Hitch. See Tie Down Knots
- Golf carts: clean, put away, turn off, and plug into chargers; top off the gas in the gas cart.
- Close and lock the club hangar.
- Close and lock the green shed.
- Place payments and paperwork in the "Payments and Forms" box in the Battery Room (on the inside window sill)
- Make sure no Juniors are left behind
- One last look around.
  - Everything put away properly?
  - Everything secured?
  - Check the launch area for tow ropes, adapters and weak links.

Note: The "Battery Room" is the GBSC equipment room attached to the FBO.

3. Getting Started

- Try to understand why the procedure is described the way it is.
- If you don't know or are not sure, STOP and ASK. Corollary: you can't know everything about every glider, every operation, every procedure.

3.1. Safety

- Always consider and think *Safety*. Safety for you and for others. Safety on the ground and in the air.
- EVERYONE is responsible for safety.
- Accidents are RARELY a result of a single event! Break the accident chain!
- Everyone MUST take responsibility for everything they do at the field.
- Be polite, be nice, be safe. *Don't be paranoid*.

> Some of the procedures and rules described in this manual will vary depending on a pilot's preference, type of glider and so forth. Be careful to understand the difference between a *need* or *requirement* and a *request*. The former (need) is a function of safety, type of glider or launch profile, or another factor that is quantifiable and unique to the situation. The latter (request) may or may not be a good idea. Judgment is extremely important.

Note: In this manual you will often see the words NEVER and CLUB PROCEDURE. Such rules and procedures are generally applicable, but it is important to keep one's brain engaged. There will be times when a procedure or a safety issue requires action contrary to a club procedure or a NEVER edict.

3.2. Locks

- 5673 is the combination for the locks on the Green Shed, Battery Room, GBSC Hangar, GBSC Trailers. *Reminder:* it matches the Bird Dog (L19) tail number: N5673B.
- Emergency Keys for golf carts are located in the Battery Room beside the door, attached high on the wall.

<u>Moving Carts, Gliders and Tow Planes in the Hangar</u>

It is imperative that all hangar operations be done carefully with complete situational awareness.

- Moving aircraft inside the hangar requires great care and attention. Refer to the instructions posted in the hangar.
- Move carts in and out of the hangar VERY SLOWLY and have a spotter if at all possible.

3.3. Getting Carts Ready

Carts can be damaged by improper power/charger management.

- NEVER turn a cart on with the charger plugged in.
- NEVER run over a power cord; the cord will be damaged and will eventually fail.
- Check tire pressure, broken items, missing parts, anything that is obviously in need of attention. Try to fix minor problems (inflate a low tire, for example) so that it does not get worse, but NEVER try to fix something if you are not competent to do so.
- Make sure that the OC knows of any cart issues (damage, repairs, etc.) so that they can be noted in the summary email at the end of the day and/or a responsible person can be notified to address the issue(s).
- When pushing or towing a cart, the Run/Tow switch must be in the TOW position. Failure to do so makes the cart harder to push AND may damage the controller.

3.4. Driving the Carts

The reliability of the carts affects all phases of ground operations. The golf carts are assets of GBSC that cost real money (your dues!) to maintain, repair if damaged and significantly more money to replace if they die at a young age!

- Carts are not dune buggies. Avoid rough ground.
- Only club members may drive carts (required by our insurance).
- No outside riders on any carts.
- Carts are NOT for personal use
- If someone is driving irresponsibly, let the OC and/or instructor know immediately. Better yet, say something to the driver

3.5. Driving Carts Around Gliders or Near Grid Operations.

- NEVER drive under a glider wing: go around gliders.
- NEVER cross or enter a runway or taxiway area without looking for landing, launching and moving aircraft.
- NEVER drive over a tow rope.

> Don't aim a cart toward anything you don't want to pay for. ALWAYS approach a glider, person or other object in such a manner and direction that there will be no damage if the brakes fail or the cart slips.

Real World Case: a cart ran into the side of a glider (at very low speed) because the brakes were not working. Fortunately, no damage was done, but it could have resulted in a severely damaged glider.

3.6. Glider Fleet Status

The OC must check online for the status of all gliders at the beginning of the day. Any member taking a glider from its tie-down must first check its status online.

The Operations web site has pages for Glider Fleet Status, Tow Plane Status and Towplane Squawks. The Glider Fleet Status shows the glider's N number, ship captain name, date of most recent annual, and the aircraft's status. All status issues are noted, including grounding, major problems, repairs, as well as minor problems. Additionally, the Glider Fleet Status page provides contact links to the documents such as the POH, instrument manuals, flight notes etc.

3.7. Grounding an Aircraft

Any member may ground a glider. The two reasons for grounding an aircraft are:

- The glider is not airworthy. Possible causes include damage, incorrectly functioning components, and overdue annual inspections.
- Further use of the aircraft might cause damage to the aircraft.

It is the responsibility of all members to communicate aircraft problems (squawks) by:

- Placing a red "GROUNDED" placard on the pilot's seat. Include a note describing the squawk or the reason the aircraft is grounded. Placards are available in the Green Shed.
- Notifying the OC, if an operation is active at the time
- Notifying the Ship Captain, Maintenance Director, or Chief Pilot. The notified individual will then inform the others and Board Members

3.8. Preparation for Tow Out

- Check the Glider Fleet Status page to see if the glider is grounded
- Check with the OC, instructor for the day and tow pilot to determine which end of the runway to use (no sense towing gliders to the wrong end).
- Ask if specific gliders should come out first
- Get a checklist for the glider(s) you plan on taking out.
- LOOK at the glider. Is the glider damaged? Does it have a placard saying it is grounded? Was it put away incorrectly? Is there ANYTHING unusual about the glider that should be of concern?
- Talk to an instructor and resolve ALL issues BEFORE you take the glider out.
- Take a few moments to mentally think through what you are going to do so that all movements are done safely.

Prepare to Untie a Glider (this is *NOT* a preflight checklist!)

- Remove the canopy cover. If there is a "GROUNDED" placard on the seat, STOP.
- If the canopy cover is wet, hang it out where it can dry but will not blow away. If dry, put it behind the cockpit seat if there is space. Otherwise, fold it up and put it in the tie-down area where it will not be damaged, blown away, get wet or be difficult to find later.
- Remove all control locks. Put them on the ground where they will not be run over, damaged or lost. Generally, it is best to put mechanical control locks near the wing tie downs.
- Remove protectors from pneumatic ports (static, pitot, TC). These typically go into a pocket in the glider cockpit. If the device is a basting bulb, put it by the wing tie down but make it obvious so it is easy to find at the end of the day, after dark.
- Install the TE Probe. If it is removable and was left in, there may be water in the system if it rained.
- Put a battery in the glider.
- If seat cushions are not in the glider, retrieve them from the Green Shed.
- Are the ballast weights in the glider? Remove ballast weights unless directed otherwise by the next pilot to fly. When removed, the weights go near the operations desk.
- NEVER leave an unattended canopy open
- NEVER lift a canopy by the slide vent.
- NEVER reach through the slide vent to release a tow rope; open the canopy instead.
- Clean the canopy. There are kits and instructions for doing this correctly. See Canopy Cleaning section, below.
- Untie the glider, perform a Preflight Inspection, and do a positive control check (PCC).
- If in doubt or if there are concerns about ANYTHING, talk to an instructor or the OC.

3.9. Glider Preflight Inspection

The preflight inspection is critical to safe operation of any aircraft. For GBSC gliders, detailed preflight instructions are in the glider's flight manual. Copies are stored in the gliders and are also available on the GBSC members-only web site.

> CRITICALLY IMPORTANT REMINDER: It is imperative that absolutely no one preflight a glider until they have been taught how to properly do so, what to look for, how to check instruments, how to complete a positive control check (PCC) or how to perform a critical assembly check. Talk to an instructor or knowledgeable club member to learn how to do this, *and always use a checklist*!

The following is a suggested preflight checklist.

PREFLIGHT INSPECTION CHECKLIST

Preparation

- check online status for squawks
- battery, cushions, parachute(s)
- clean canopy
- check/fill tire to the proper pressure

Overall

- untie ropes, remove locks
- install probes
- check static ports (not clogged)
- check aircraft (damage, dings)

Cockpit

- canopy (condition, clean, yaw string, emergency release, hinges, etc.)
- seats (adjustments, condition)
- belts (pins, condition, ends)
- instruments (set, operational)
- trim (works, no binding)
- airbrakes/spoiler
- radio (frequency set, works)
- airsickness bags
- proper documentation, AROW: Airworthiness, Registration, Operating Limitations, Weight & Balance
- ventilation (no bugs)
- pedals (adjustment, cable, slack)
- control stick(s) (slack, movement, binding, etc.)

Wing

- main spar pin(s), spar pin lock
- wing gap properly sealed
- general damage, leading edge dents
- air brake (closes flush, smooth op, screws, safety wires, slack)
- wing wheel and wing tip
- shake wing (skin movement? noise?)
- aileron (tight fabric, movement, control linkage, bearings, range, patches, slack)
- spoiler (flush closed, smooth op, screws, safety wires, slack)
- trailing wing root

Rear Body

- condition, damage, dings
- inspection ports (wires, mice, water, other)
- tail wheel (bearing, spring, rubber surface, overall condition)

Rudder

- fabric (tight, damage, wear, etc.)
- movement (do not force! cable connections, hinges)

Elevator

- connections (installed correctly, safety wired if appropriate)
- L23: lift front gently, movement/slack, *do not torque end*!
- fabric (tight, damage, wear, etc.)
- elevator movement (end-to-end, full range, gently)
- trim tab (secure, fabric condition, cable condition, *do not move*!)

Wing

- same

Canopy, Hinges, Front/Wheel

- inspection door (cables, mice, water, dirt, etc.)
- front damage (skid, around wheel, dings, etc.)
- release mechanism (damage, anything amiss, smooth operation)

Other

- Critical Assembly Check (CAC) following each assembly; daily CAC for ASW 19.
- Positive Control Check (PCC) daily; with every pilot change for ASW 19.

1-800-WX BRIEF - - (800) 992-7433
https://www.1800wxbrief.com

3.10. Canopy Cleaning

There are several reasons to clean a canopy

- A clean canopy is much nicer to look out of, especially when the sun is low in the sky.
- A clean canopy may save your life, when you don't mistake a converging airplane for a spec of dirt on the canopy.
- A clean canopy will last longer, the dirt will not build up on the canopy and the surface will be less scratched.

The "approved" method to clean a canopy is simple and will not result in any harm to a (very expensive) glider canopy.

1. Start with plenty of water. Simply wash off the dirt and grit on the canopy. Make sure you use *lots* of water.
2. Finish with clean, soft towels (not paper, unless the paper towel is a laboratory cleaning towel).
3. After the canopy is dry, use an approved canopy cleaner on the inside and outside surfaces. Again, use non-scratching (soft) towels or, better, clean dry cloth wipes.
4. Never use an ammonia or alcohol-based product on a canopy. These materials will eventually cause the canopy to dull and cloud, or worse.
5. If you drop a towel on the ground, put it aside and continue with a clean towel.
6. If you see damage on a canopy, tell the OC, flight instructor of the day and others who can help you judge the nature of the damage and whether it would be a reason for grounding the glider until fixed.

4. Fabric Hangar

4.1. Hangar Use & Limitations

Per agreement with Sterling Air Inc:

Storage:

- Only golf carts, gliders, tow planes, trailers and associated equipment may be stored in the hangar. The Maintenance Manager has final say on what associated equipment may be stored in the hangar.
- Space may be rented to GBSC members only
- No storage of gasoline, diesel, propane or other fuels in any quantity. Gas for the carts is to be stored in the Green Shed or FBO hangar (with FBO manager permission).
- No storage of grease, oils or solvents in containers greater than quart size

Usage:

The hangar may be used for minor maintenance such as:

- Glider annual inspections (not powered airplanes)

- Minor maintenance such as those allowed by FAA 14 CFR 43.3(g), Preventative Maintenance by private pilots (e.g. cleaning/waxing, replacing tires, lubrication, small cosmetic surface repairs, seat belt replacement, etc.).
- Case-by-case approval must be obtained from Sterling Air for activities other than the above. Contact the Maintenance Manager prior to requesting any such approvals

Limitations

- No open flames, BBQ-ing or welding allowed inside the hangar
- Either close or tie open the personnel door to avoid wind damage
- Never attempt to chip ice or remove snow from the bottom of the hangar fabric door due to risk of damaging the fabric.

4.2. Hangar Door Operation

- Refer to posted instructions for raising and lowering the large fabric door. Instructions are also posted on the GBSC website.
- Do not over tighten the door once the tie-down hooks are attached. There should be 2-3 inches of side play on the center vertical cable.
- Do not raise the door above the 9 ft mark (red tape on right door roller guide), as that is sufficient to clear all the gliders and tow planes.
- Close and tie down the hangar door when winds are forecast to exceed 20 knots
- Door should raise and lower with moderate effort. If the door hangs up, STOP and investigate. The winch has substantial mechanical advantage and has the potential to damage the door.

4.3. Loading and unloading gliders and tow planes

- Refer to posted instructions for maneuvering gliders and tow planes into and out of the hangar.
- For gliders, two persons MINIMUM are required to move a glider, one at each wingtip. A third is strongly recommended to monitor clearance for glider tails and noses.
- Only use the dolly marked for glider use on the gliders. The other dollies are for trailers.
- Always remove the dolly after moving the glider or trailer. This will prevent putting dents in the asphalt and flat spots in the tires.
- Take care to avoid rolling over the hangar door tie downs with the dolly.
- Stow the gliders such that the ASK-21 is on the left side (facing in) of the hanger with its right wing up (and left wing under the opposing glider's right wing). It is a tripping hazard to have the ASK-21 right wing down.
- Note the markings on the hanger asphalt to help you properly position the gliders for stowing.
- Once positioned, glider wing stands are MANDATORY to avoid wing-to-wing contact where there are overlapping wings.
- Leave a small gap between the wing and the wingstand. Wingstands can make a permanent dent on the underside of the wing if the glider main tire goes flat, (or the wheel dolly is lowered after the wingstand is put in place.)
- Place a drip mat under the Pawnee engine to catch leaking fuel/oil.

5. Glider Ground Handling

- Do not leave an unattended canopy open. A wind gust can slam it shut causing bent rails and latching mechanisms, or even a shattered canopy.
- Before ground tow, tie the (front) control stick back with the safety harness to hold the elevator in a neutral position. It's a good practice to tie the stick back immediately upon exiting the glider, unless you expect to use the harness to pull the glider off the runway.
  - Do not stress the control linkages by tieing the stick back tight against the back stop.
  - The ASK 21 and ASW 19 are exceptions: do not tie the sick back. The elevator will hold a neutral position on its own.

NEVER tie back the rear-seat control stick in a two-place glider: **tie the front-seat control stick only**. Doing otherwise poses a danger of the glider being flown solo with the controls locked.

- NEVER rotate a glider while a wing is on the ground if that wing will be going backwards. The trailing edge of the aileron can catch on the ground and be damaged.
- When towing, only ONE person should walk the wing. On the grid, however, it is not uncommon to have a second wing walker near the other wingtip for safety reasons, or to help position a glider.
- DO NOT try to steer any glider (except one with a pivoting tail wheel or dolly) by pushing or pulling on the wing as you walk a glider. The side-load can damage the rear wheel housing and assembly.
  - The L23 has a pivoting tail wheel, but the suspension is fragile. When turning in place, always take some weight off the tail wheel by either having someone sit on the cockpit rail or lifting the tail handle. *Do not* push down on the L23's nose cone.
  - The Schweizer gliders have fixed tail-wheels which can be damaged by improper handling. Holding a wing back to turn the glider during ground tow exerts a large side-load on the tail wheel. To turn the glider, stop the tow and raise the tail by either pushing down on the nose rod (for the 2-33) or by sitting on the cockpit rail (for the 1-26 and 1-34). *Do not* push down on a Schweizer's nose cone.
- The ASK 21 and ASW 19 have removable tail dollies. Use the tail dolly for all ground handling. Remove it once the ship is parked in the hangar or moved to the grid.
- When pushing a glider backwards the rudder is extremely vulnerable. It is imperative that there be a person watching the bottom of the rudder for clearance. STOP immediately if you see anything that the rudder bottom might not clear.
  - DO NOT push an L23 backwards without lifting the tail wheel off the ground.
  - NEVER push a Schweizer backwards without first tying the stick back or lifting the tail. It is far too easy to snag the low hanging elevator.

- When putting the 2-33 away, before getting to the tie downs, line the glider up first and then back in. DO NOT rotate the glider at the tie down.
-

6. Ground Tow

Typically, two people can safely tow out a glider (one in the golf cart, one on the wing), but 3 may be needed on windy days.

The cart tow ropes are 35' long so that if the glider turns abruptly, the wing will not hit the tow cart. All cart tow ropes have both Schweizer and TOST rings. Use the correct ring for the glider.

DO NOT TAKE CHANCES. It is better to have too many people than too few when towing out a glider.

Remember the following.

- Before towing out from the tie-down, pivot the glider just slightly to get the tailwheel away from the tiedown divot it sits in or the tire it rests on.
- Pull the glider relatively straight out from the tie-down. Do not pull out by golf cart at an angle as it causes the glider to quickly pivot and the fast moving wings may impact something or, worse, somebody.

> Real World Case - Many glider rear wheels have been damaged by overzealous ground operators pulling the gliders away from their tie-down locations with a cart without first moving a glider clear of ground anchors, control locks, cushions, and similar obstacles on the ground.

<u>Which Wing do I Walk?</u>

- One suggestion is to walk the wing on the <u>runway side</u> of the glider. If a glider starts to weathervane as a result of a crosswind, the wing walker can prevent the glider from turning into other gliders or obstacles. Several accidents have been prevented by in-control wing walkers when a glider has started to weathervane.
- Another suggestion is to <u>stay off the active runway</u> and walk the "obstruction side." This puts a large mass between you and an incoming aircraft, gives you a better escape route, and allows you to see your wing tip's proximity to obstructions. There have been several accidents in which the opposite wing tip of a glider collided with obstructions (including other gliders) when walked from the runway side. Some were expensive for the wing walker.
- Of course, the question always comes up about "*What if a launching glider ground-loops or a landing glider is in imminent danger of colliding with my glider or with me?*" The answer is of course: <u>*Run Like Heck! Protect yourself, not the glider!*</u>
- Situations arise that make one rethink conventional wisdom. For example, which wing would you walk if taking a glider to runway 34 with a strong crosswind? Answer: have enough people on hand to safely and fully control the glider.

- There should be a person at each wingtip, but only one person should hold a wing. There should be a positive verbal exchange such as “YOU have the wing!” and the reply “I have the wing!” to ensure that there is a positive change of control.

> Real World Case - I was helping bring out the L-13 Blanik and I was walking the wing away from the runway. As we were crossing the cross-field taxiway, the glider started to roll forward and the tow vehicle stopped. I held the wing back to prevent it from hitting the tow vehicle, but all that did was cause the glider to rotate towards the power plane tie-downs. Fortunately, everything came to a stop with 2 feet to spare, so there was no damage. But I did learn that the runway side is best, and if you need to stop a glider, *drop the wing tip and do the stopping from the wing root*.

Cart Drivers and Wing Walkers

- WATCH for traffic, both on the ground and in the air.
- STOP towing when landing, launching or taxiing aircraft are passing.
- Put the runway side wing DOWN for aircraft landing and departing on the grass.
- YIELD to taxiing powered-aircraft by first moving the glider away from the taxiway and then lowering the wing nearest the taxiing aircraft.
- CHECK for clearance and any safety situations as powered aircraft pass. It is also a GOOD PRACTICE to walk to the taxiway (stay clear of the powered aircraft of course!), check for clearance and clearly indicate to the power pilot that there is clearance by giving a very positive and obvious thumbs up to let him/her know you are watching and that the glider is clear of the passing power aircraft.
- Cart drivers MUST observe the wing walkers and MUST watch for other traffic. Wing walkers and cart drivers should be able to talk to each other (put away that music player!).
- When approaching the grid ask the OC (or Instructor) where to put the glider.
- NEVER walk onto the grid without full situational awareness. You are crossing an active runway; check for landing traffic.
- Watch the far wing! For most gliders that wingtip is 50 feet or more from you. Accidents have happened when the far wing hits a tree, another aircraft or person.
- As soon as the glider is released from the golf cart, promptly get yourself and the cart out of the towrope drop zone.

Parking or Moving a Glider into Final Position

- Release the tow rope when in position, turn the glider by hand and move it as the OC directs. There are many variations on this and it is perhaps best to demonstrate how to do this in its many forms and with sufficient help. The glider must be FULLY UNDER YOUR CONTROL at all times.
- NEVER overlap parked glider wings.
- ALWAYS space gliders so that there is *absolutely no possibility* of gliders pivoting into each other while parked on the side of a runway.
- Be fully aware when in the rope-drop zone. Watch for landing aircraft and rope drops. Spend as little time in this area as possible.

Which Wing to Put Down?

- The 2-33 and the 1-26 should have the spoilers open at all times when unattended. A gust can lift these gliders and do serious damage, as the 2-33 has a very high wing and the 1-26 is light.
- Different ships will behave differently when parked and exposed to a crosswind. Club ships with mid and high wings will probably be best served by keeping the upwind wing DOWN and weighted to minimize cross section. This is, however, not always the case. As a result,

> The *best* policy is to have someone near the parked gliders keeping an eye on them during windy conditions.
>
> On the flightline, NEVER leave a glider unattended.

What about Extremely High Wind Situations?

Real World Case #1 - The best solution is to have one person on the wing, one on the nose and a licensed pilot in the aircraft. At least one GBSC member had the exciting (?) experience of flying a 2-33 from the wingtip on a gusty day. The glider got nearly 10 ft off the ground before it settled down and landed on the main wheel.

Real World Case #2 - A GBSC instructor has had the distinction of "launching" an L23 from behind a tow cart on a windy day. Think about watching that in your cart mirror!

> A glider is YOUR responsibility until you "hand it off" to another person.

7. Glider Movement on the Grid

The OC decides when and where gliders are put on the grid.

- The OC should be consulted before moving gliders onto the grid.
- Never walk onto the grid without checking for approaching aircraft.
- If you are not needed on the grid, why are you there? Volunteers are appreciated, but too many volunteers can be a safety hazard.

Other Grid Movement Issues

- Never run over a tow rope! Not with a cart, not a glider, not with your feet ... nothing!
- Watch for prop blasts: they can turn a glider and kick up stones.
- KEEP YOUR EYES OPEN for ground loops, short landings and any other potential safety issue.

> Everyone on the grid is responsible for situational awareness. If you see a situation developing, see a safety issue or are concerned about anything, *speak up*!

Real World Case - Several GBSC pilots have had airplanes and people cross the landing zone when they were on final approach. What if one of those glider pilots was particularly short on landing (it happens, just watch!) or lost significant altitude as a result of wind shear near the end of the runway? Don't take chances!

8. Helping Pilots

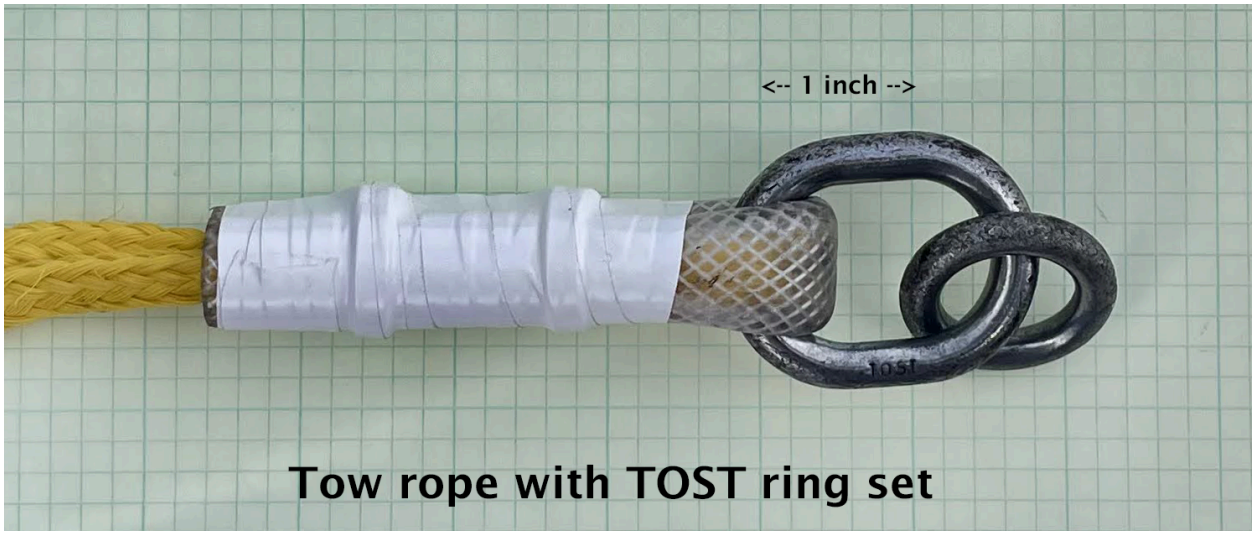
- To expedite launch operations pilots (including instructors and their students) should be in their ship, ready to go when their glider is #2 on the grid. When two tow planes operating, the glider in the #3 position should also be ready.
- Pilots in gliders cannot move themselves. Help out where and when you can.

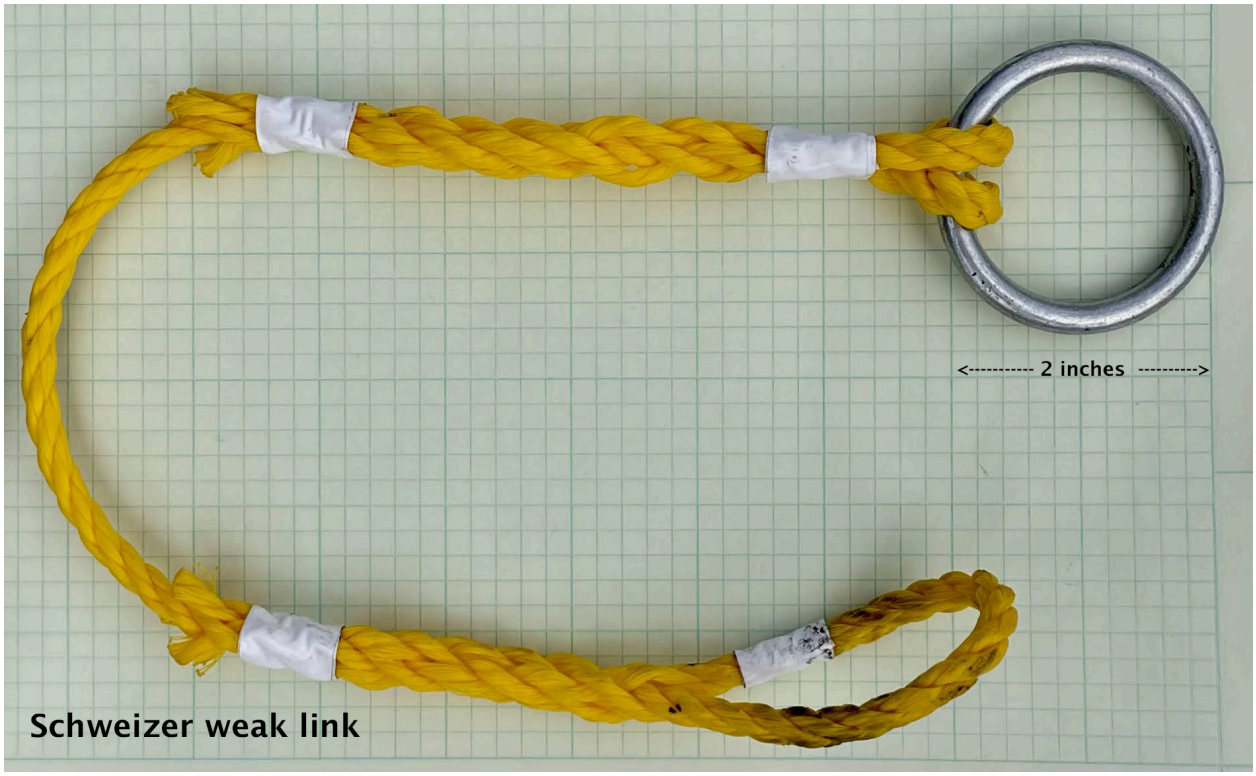
NEVER turn a glider without first lifting the tail.
NEVER push on the trailing edge of any wing.
Each Glider is Different.
Make sure you know the procedures for each club glider.

9. Rings and Ropes

- NEVER put a TOST ring in a Schweizer hook (includes the tow plane).
- Know the difference between an adapter (white rope and a Schweizer ring) and a 1-26 weak link (yellow rope and a Schweizer ring).
- Know how to close the Bird Dog tow release.
- Inspect the rope:
  1. No knots.
  2. Tell-tale visible.
  3. Rope ends in good condition. This is a bit of a judgment call. If unsure, ask. A few broken strands are ok. The PIC has final say.
- Questionable ropes, weak links and adapters should be placed on the table in the Green Shed, tagged with a carabiner clip with a "Bad Rope - Do not Use” tag. Clips and tags are found on a nail by the windows. Do not cut the rope. The rope team will determine if the rope is repairable.
- Don’t repair a rope unless you are a properly trained member of the rope team.. These ropes are our “lifelines”.

The GBSC tow ropes consist of 200’ of 5/16” hollow-braid yellow polypropylene rope (rated at 1,500 lbs.) with a TOST ring pair at each end. Per CFR 14 91.309, this rope is acceptable for gliders with a Maximum Certified Operating Weight (MCOW) between 1875 lbs. and 750 lbs. This is suitable for all club ships except the Schweizer 1-26E (MCOW of 700 lbs.). Consequently, a weak link is used with the 1-26E. The weak link consists of a 1 ft long section of 1/4” 3-strand yellow polypropylene rope (rated at 1130 lbs.) with a Schweizer ring at one end and a loop at the other. Per CFR 14 91.309, this weak link is acceptable for gliders with a MCOW between 565 lbs. and 1412 lbs. The PIC is responsible to ensure that the tow rope and weak link/adapter is appropriate for the glider he is flying.




<---------- 2 inches --------->
Schweizer weak link


<---------- 2 inches ---------->
Schweizer Adapter

Schweizer adapter attached to tow rope

9.1. Adapters and Weak Links

Glider tow releases also come in two different types: TOST and Schweizer. The TOST release uses a small (~1 in) ring with a larger ring that is attached to the rope. The Schweizer release uses a single large (~2 in) ring which is attached to the rope. As one might guess, Schweizer gliders use Schweizer releases. Almost all other gliders use the TOST release. Use of the wrong ring(s) on the wrong release can cause malfunction.

To keep our procedures as consistent as possible, our tow ropes are equipped with the TOST rings at both ends.

To connect a Schweizer glider to the tow rope, a weak link or adapter must be used.

- The 1-26 requires a weak link (1 ft long, 1/4” yellow poly rope). It has a loop at one end and a Schweizer ring on the other end.
- The 1-34 and the 2-33 require the white adapter (1 ft long, 3/8” white nylon rope). Again, the adapter has a loop at one end and a Schweizer ring on the other. The adapter is far stronger (rated at 3240 lbs.) than the towrope.
- All other club gliders require the TOST Ring (smaller ring on the end with two rings).

The adapter and weak link are attached to the tow rope in the same manner. Attach the adapter/weak link by passing the loop of rope through the TOST ring and then pulling the Schweizer ring through that loop. This will result in a ring hitch (or cow hitch).

10. Hook Up and Launch

Only experienced or closely monitored club members should launch gliders. "Closely monitored" means that someone watches what the person is doing, makes suggestions for how to complete the procedure, and ensures that all actions and decisions are safe and follow standard practices.

Watch GBSC's launch procedure video and take the Soaring Safety Foundation's Wing Runner course.

Additional notes:

- Use the BAT to signal the tow pilot. Using your hand or hat is not adequate; the tow pilot cannot see them clearly
- How far you run with the glider depends on factors such as wind speed and direction, type of glider, if the glider has water ballast, how physically fit you are and how attentive or experienced the PIC is.
- When running with the wing, do not push it, pull it, lift it or shove it down. Run and release it from a neutral position as the glider accelerates and the PIC gains lateral.
- If a safety problem develops, such as a runway incursion, or a person in front of aircraft or under aircraft, place the wing back on the ground and call "Release, Release, Release" to the pilot.

Memorize This

1. HOOK UP	Ask "Canopy closed/locked?" *Ask* "Airbrakes closed and locked?"
2. TRAFFIC CHECK	Check field and pattern *carefully*: scan a full 360 degrees, look down-runway for obstacles, scan all approaches
3. ANNOUNCE	*Say* to the glider PIC "Pattern *and* field clear!" Watch for PIC thumbs up; if no thumbs up ask PIC if s/he is ready
4. THUMBS UP?	Lift the wing **after** PIC gives thumbs up
5. SLACK OUT	Make sure NO ONE is in front of the glider wing or elevator! Remain observant of the pattern. Balance glider for no up or down loads.
Note: If required to hold at the end of slack out, use SSA signal	
6. RUDDER WAGGLE?	Launch! (watch for rudder waggle; if no rudder waggle, ask PIC for the waggle - don't assume!)

If you are unsure about how to
safely and correctly launch a glider, ask for help.

10.1. Pilot in Command Responsibilities

- When flying with water ballast, the PIC must personally ensure the tow pilot knows you are heavy and specifically discuss the speed you need for a safe takeoff. In addition, the PIC must give specific instructions to the wing runner about leveling the wings well before the takeoff roll to allow the water to reach equilibrium in each wing.
- If the PIC does not consider the wing runner able to assist in a safe launch, the PIC should request a replacement.

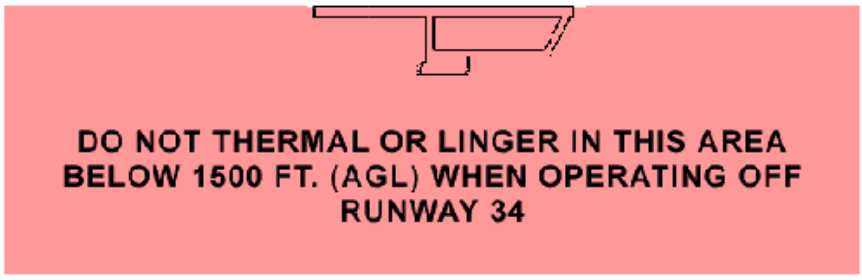
11. Launch and Tow Signals

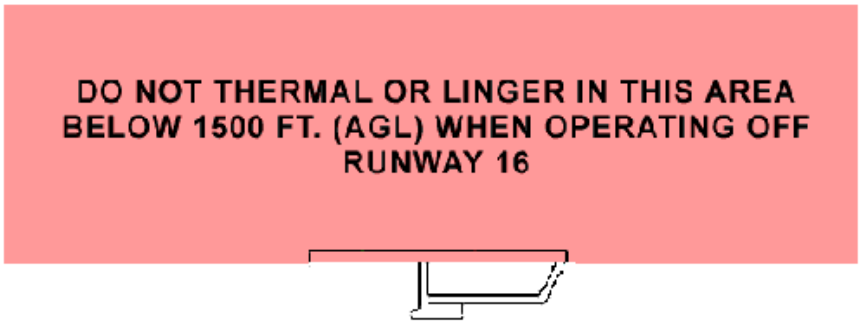
Refer to FAA Glider Flying Handbook, Chapter 7 and the published errata.

12. High Traffic Areas

There are two zones in which glider pilots should not linger or thermal to keep out of the way of landing and departing power aircraft. DO NOT thermal or linger in the traffic pattern!

The shaded areas below indicate high traffic areas.





13. Landing Patterns

These are general descriptions of the standard landing patterns for both power and glider traffic at Sterling Airport.

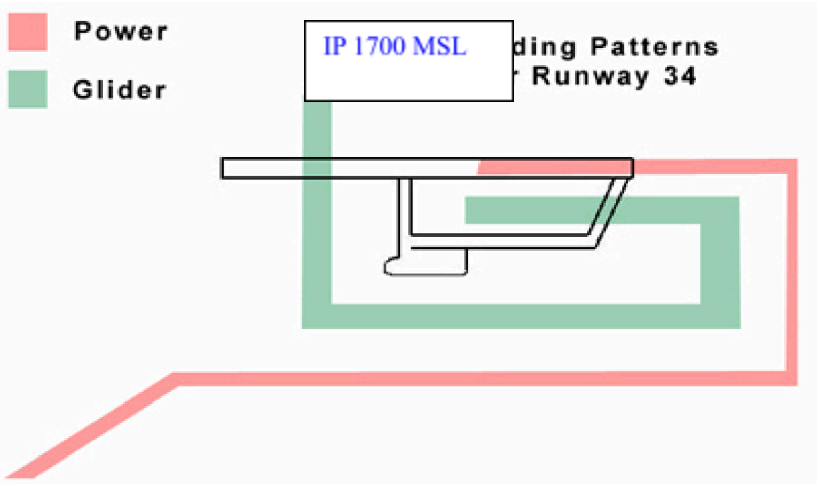
In general, all power traffic will make left-handed patterns. Gliders will follow the standard patterns described below. There are situations where a glider pilot may not be able to follow the standard pattern due to lack of height or other conditions. In these cases, it is up to the pilot to make the correct decision to keep proper separation and land safely, but these cases should be rare. A glider pilot making low or unsafe patterns may be asked to complete further training or take a check ride with an instructor.

If for any reason it is safer to make a different pattern, there shouldn't be any hesitation or reluctance to do so because of reproach from instructors or other club members. Use appropriate radio calls in the pattern to inform Sterling traffic about the non-standard pattern.

In some cases, instructors may ask pilots to perform non-standard patterns during training or check flights. If you have any questions about different patterns, please talk to an instructor.

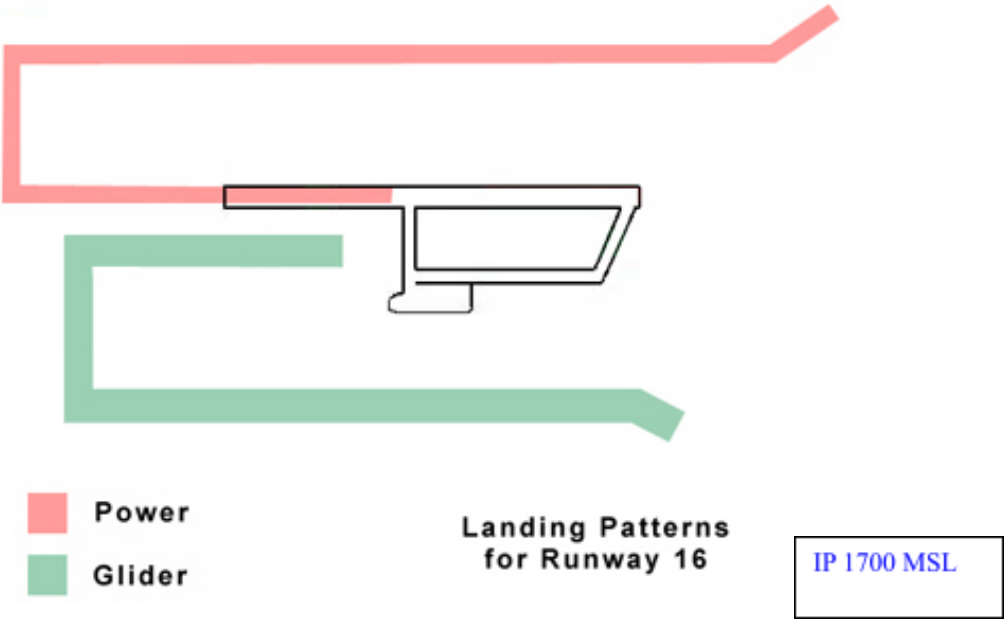
13.1. Patterns for Runway 34

Pilots landing gliders on runway 34 will fly a left-hand pattern, inside the normal power pattern:



13.2. Patterns for Runway 16

Pilots landing gliders on runway 16 will fly a right-hand pattern.



13.3. Cross Country Pilots

Remember, there are training flights going on throughout the day. In a lot of cases, there will be pilots with low experience in the area around the field. It is your responsibility to ensure good separation if you choose to merge into the pattern after returning from a cross-country flight.

No low level / high speed "contest finishes" are allowed within 1 mile of the airport. A pilot practicing such a maneuver away from the airport must complete the practice finish and return to pattern altitude before entering the pattern area. High-speed pull-ups to crosswind, downwind, or base pattern legs are prohibited.

14. Glider's Last Flight of the Day

A member taking a glider's last flight of the day is responsible for securely tying down the glider. Check the signup sheet to see if yours is the last flight.

15. Grid Safety

- Ground loops - you can be seriously injured or killed by a wing of a ground-looping glider. The glider may turn abruptly and at high speed.
- Short landings - always cause for concern. When they happen, they ALWAYS call for a reevaluation of procedures, methods and PIC training.
- Power traffic - although gliders are supposed to have the "right of way" we share the air with power traffic and need to be respectful of all traffic, both in the air and on the ground. Powered aircraft frequently land on the grass. Stay alert!

  Real World Case - A power pilot taxied across the midfield taxiway as the glider was touching down on the grass. What would you do? Did you think it could not happen? What could have been done to minimize or prevent this from happening? How about the helicopter that turned over and burst into flames in the middle of the grass runway while gliders were in the landing pattern?
- Rope drops: stay clear of the towrope drop-zone or behind or under a wing for protection.
- Help on the grid: there is a time and place for training on the grid. During peak launch times, too many helpers can be a hazard to operations.
- Visitors and equipment: Things not needed for launch should be moved off the grid, whether visitors or equipment.

  There are often too many visitors on the grid. We all need to be aware of this and move our guests and ourselves off the runway, preferably to the safe areas south of the taxiway for Rwy 34, trees Rwy 16. Picnic tables and benches in the shade are safe areas.
-

16. Putting Gliders Away

- Moving gliders into the hangar requires great care and attention. Refer to the instructions posted in the hangar.

- At night it is difficult to see obstructions in the tie-down areas. WALK the area when you get close. Locate all tie-down points, wheel tubs and obstructions BEFORE you move a glider into the tie-down area.
- Use the Trucker's Hitch to secure the gliders. The tie-down ropes need not be so tight that the ship cannot move, but they must be snug and secure so that they don't come loose during the week.
- NEVER tie a glider down with rope around a wing, tail or elevator. Every glider in the club fleet has specific tie-down points for the wings and tail area. Ask where to tie the rope to if you are not sure.
- Remove the battery, take it to the Battery Room, and put it on a charger.
- Canopy covers should be put on carefully. Check for dirt so that you don't scratch a canopy.
- Generally, cushions remain in the glider, and canopy vents are left open.
- Check and double check everything.

Real World Cases - I have seen i) rope tied around a rudder, ii) ropes tied so loosely that the wings could flop a good foot or two, iii) canopy covers inside the cockpits (does a lot of good there), iv) dead batteries and equipment still turned on in club ships, v) canopies not secured, vi) cushions in the middle of the grass runway (in the rain), vii) tow ropes and ring adapters on the side of the runway, viii) radios left on picnic tables, and ix) cushions in gliders with the side vents open soaked so badly I wondered if they were destroyed.

Tie-down checklist (not in hangar):

- wings secure
- tail tied down
- aileron and rudder locks on
- elevator secured with the harness, or preferably with a proper control lock
- pitot tube covered
- canopy closed and locked
- turkey baster bulb (or equivalent) inserted into the air intake in the nose of the Schweizers to prevent insect nesting
- canopy cover on
- Do a thorough walk around after the tie down is completed, just to make sure nothing is forgotten.

Putting Carts Away

Use caution when putting carts away at the end of a day. It can be dark and hard to see in the hangar, so turn on the hangar lights.

- Clean the carts, removing water bottles, paper towels, cans, etc.
- Fill the gas tank (Yamaha gas cart only).
- Put all carts in the GBSC Hangar

- Drive in VERY SLOWLY.
- Do NOT run over any power cords.
- When in position turn the key to OFF and put the parking brake ON.
- Set the “Run/Tow” switch (underneath the bench seat) to the “Tow” position (Yamaha gas cart excluded)
- Connect the battery charger

17. End of Day

Do a final walk-around inspection, especially if you are the last one to leave the field.

- Check the Field: is everything off the field? Ropes, weights, links, radios, cushions, adapters, etc.?
- Has equipment belonging to a private owner been left on the field (dolly, parachutes, radios, and clothing)?
- Have the tow ropes been put on a plastic spool and then put in the shed?

18. Tie-down Knots

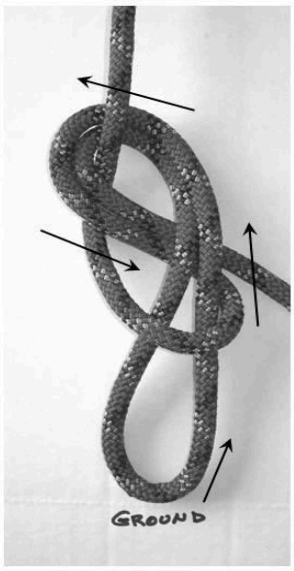
Need some additional help? Check out NetKnots.com.

Ground Tie-Down Knot

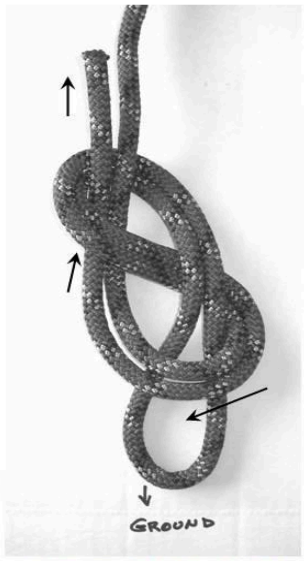
Figure 8 Knot

Probably the all-around best knot for securing a tie-down rope to a ground anchor is the Figure 8. A figure 8 knot is exceptionally strong and reliable, used almost exclusively by climbers to tie a rope to a harness, and is easily removed.

Start with figure 8 knot.



Loop the bottom rope through ground hook, then follow back through the figure 8 knot.



Continue paralleling the end of the rope around the original figure 8 knot.

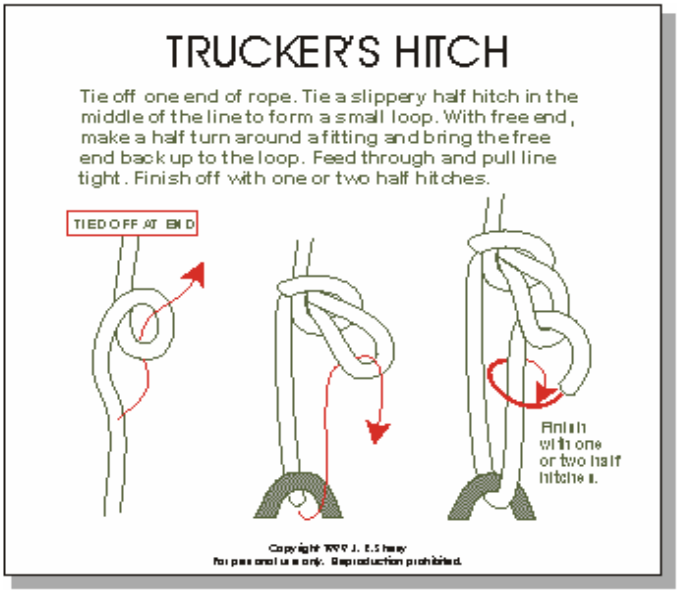
Pass the end of the rope through the ground anchor eye, tie a figure eight knot in the end of the rope, then an overhand knot around the anchor eye, and pull tight.

Wing Tie-Down Knot

The recommended knot for a wing tie-down is a trucker's hitch. A trucker's hitch is reliable, won't come loose in high-winds, is easy to tie, and will hold up to heavy loads (it is, after all, a *trucker's* hitch!). An excellent source to understand the trucker's hitch is NetKnots.com where the knot is explained as follows.

TRUCKER'S HITCH

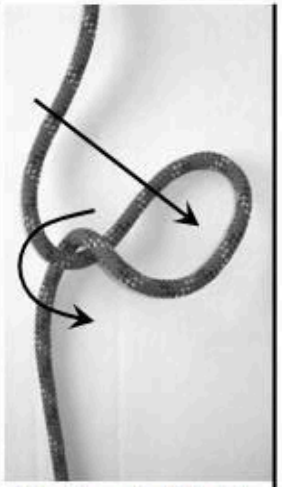
The Trucker's Hitch is one of those knots that once you learn it, you wonder how you ever got along without it! Use this knot to cinch down a load on your car top, boat, horseback, you name it. This combination of knots allows a line to be pulled tight as a guitar string!



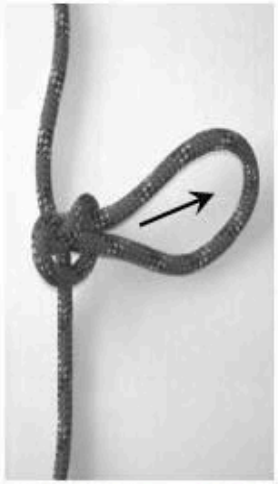
Generally, you do not want to pull the wing tie-down rope too tight (the trucker's hitch acts like a pulley and can easily put significant stress on the wing) , but you also don't want the wing to be flapping in the breeze. Simply snug down the tie-down rope, not tight, not lose (no slack).

The following page shows (again) how to use a trucker's hitch to secure a wing tie-down point.

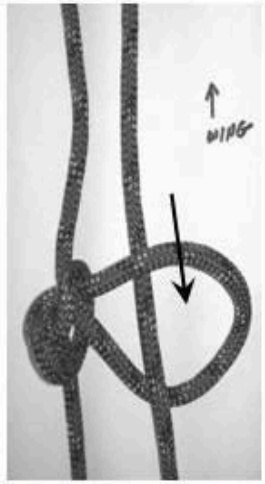
Start with a simple loop.



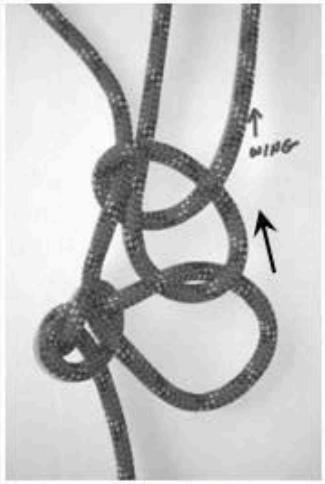
Put in a half twist and pull the upper rope through the loop formed.



Pull the loop tight so that there is no slack in the loop knot.



Pass the upper rope through the wing tie-down, then back down through the loop formed.



Snug down the tie-down rope, then finish with two or more half hitches around both upper loop ropes.

19. Parachutes

Parachutes serve two purposes. First, they save lives. Second, in some gliders they are designed to be the "seat cushion" as well.

- Never let a parachute get wet or come in contact with oil or grease.
- Never store a parachute out of its case.
- Never store a parachute in a glider - mice will enjoy the nesting material.
- Never leave a parachute in the sun for any length of time - UV will eventually damage the parachute.
- Never use a parachute for a wing weight, wheel block, or other dumb application.
- Never put a parachute directly on the ground - it can get wet, dirty and banged around. Would you want to trust it with your life?
- Always put a parachute down on the side with the straps.
- If you see a problem with a parachute, tell the OC, Instructor or Tow Pilot.

Real World Case - I thought a fellow club member was going to have a heart attack one day when he saw a parachute, not in a bag, lying on the wet ground. He didn't, but he sure had a lot to say (not very pleasant) to the member who left it there!

20. Guests and First Flights

Guests should be directed to stay at the side of the launch area in the general vicinity of the operations desk until their flight is ready. Under no circumstances should guests be permitted to wander around the field or back and forth to the flightline, unescorted.

First flight procedures are outlined in the GBSC Membership Manual.

21. Operations Coordinator's (OC) Role

Overall, the OC keeps watch on the operation looking for gaps, directing people to fill the gaps, and stepping in when needed. The OC makes sure that all the work gets done and the operation is safe. The bulk of the operation is managed by members present. The OC should not run the flightline. The flightline will manage itself, with all members contributing to the tasks and duties on the following pages.

OC responsibilities

- Oversees operations for safety and efficiency and coordinates activities as needed
- Checks the status of all gliders on the Glider Fleet Status page.

- Does not allow grounded gliders to be flown.
- Ensures launch procedures are followed correctly
- Enforces No-Fly List
- Keeps list of, and awareness of, flights aloft
- Supervises Juniors and assigns tasks
- Is main point of contact for
    - Emergencies
    - Interaction with non-members
- Monitors club cell phone/radio
- Has authority to suspend operations if critical tasks are not performed
- At end of the day
    - Assures all pilots have returned
    - Remains at the field until all Juniors have left
    - Gathers Intro Forms, payments, and FAST coupons and places them in the “Payments and Forms” box the Battery Room (on the inside window sill)
    - Confirms that end-of-day tasks have been completed (see end of next section)
    - Audits LoggerStation entries the following day and reminds members who have not logged their flights to do so

The OC may assign any of these duties, as appropriate.
The OC role may be transferred to another member during the day.

While members are responsible for logging their own flights, a best practice is to also maintain a written flight log at the flightline. This log keeps you aware of flights aloft and helps you establish that all pilots have returned at the end of the day.

22. General Club Member’s Role

- Start-of-day tasks: open hangar, inspect ropes, get ops cart in place, preflight club gliders
- Provide ground handling
- Manage flight operations: fetching ropes, moving gliders, launching gliders, maintaining the log sheet, etc.
- Members must log their own flight(s) within 24 hours, preferably the same day.
- Host visitors and new members.
- Talk with visitors regarding Intro Flights, provide paperwork, ensure its completion and accept payments.
- (Guest forms are the PIC’s responsibility).
- End-of-day tasks: put away all equipment, tie down gliders, close and lock hangar and battery room

The following sections provide additional detail.

22.1. Start-of-day Tasks: preparing all equipment for operations

- Morning crew should arrive at the field by 9 a.m. for a 10 a.m. start of operations.
- Select the active runway based on the weather and forecast.
- Enter hangar by side door and open hanger door (instructions by hand crank)
- 5673 is the combination for the Hangar, Green Shed and Battery Room locks – *Reminder:* matches the Bird Dog's tail number: N5673B)
- Carefully move tow plane out of the hanger to access gliders
- Have at least one 2-place glider preflighted and ready to fly by 10 a.m.
- Get ground radios and cell phone from the Battery Room
- Put out the operations desk and Signup sheet as soon as possible.
- Place Stop the Bleed kit on the operations desk. The OC should remind members of the kit's location and use.
- Erect canopy tent over operations desk
- Put the gas generator near the operations desk. Check the gas level.
- Get clipboard and fresh log sheets.
- Start a log sheet; write today's date and the names of the Juniors present
- Get ropes and adapters out and inspect. This is a good job to do with the juniors
- Review launch signals with juniors.
- Place pylons to prevent people walking onto the taxiway or tow plane pads.
- Set up Welcome sign & one pylon to block cars while allowing Visitors & Guests to approach the operations desk.
- Setup "Glider Rides Here" sign on road near entrance.
- Have remaining ground tow vehicles retrieved and put to use.
- After the tow pilot has done a warm-up flight, get a verbal report on flight conditions.
- If all previous steps are taken, and there are no issues with flight conditions, start operations.

22.2. Flight Operations from Start to Peak

- Maintain the sign-up sheet.
- Use the sign-up sheet to determine who is next to fly a club ship.

- Allow pilots and ships to the grid in the sign-up order.
- Confirm PCC completed.
- Manage the grid and run the launch procedure
- Ensure that pilots on the grid are prepared for flight. Pilots should be in their ships, ready to go at least one glider ahead of the glider ready for launch; two gliders ahead on busy days.
- Instructional flights should be scheduled 2:1 (two non-instructional flights for each instructional flight) or, if backlogged, 1:1.
- Only essential people are allowed on grid – pilots, passengers, instructors and students.
- NO unauthorized gathering of people on the grid.
- Ensure ropes dropped on the runway are retrieved *immediately* - but exercise caution with the active asphalt runway!
- Ensure landing gliders are retrieved as quickly as possible. Club gliders used for training should always be given priority for retrieval.
- Ensure gliders and tow vehicles transit the grass runway quickly and safely.
- When driving a tow vehicle (golf carts, cars or trucks) past the aircraft tie downs, use extreme caution or divert into the grass when passing any aircraft with its propeller turning. They may pull out at any time, and you can be hard for them to see.

Changing the Active Runway

Downwind takeoffs are strongly discouraged. If downwind conditions develop, the OC should immediately consult with the tow pilot and instructor. If either is uncomfortable with wind direction, the OC should send someone to consult with the FBO or flight school (if available) on weather conditions and request changing the active runway. The OC may halt operations until a decision is reached. Upon deciding to change runways, immediately inform all gliders aloft that the active runway changed. Move operations to the now-active runway.

22.3. Flight Operations at Peak Times

- If it is a busy day and there is only one tow plane operating, “draft” another before noon.
- For a very busy day, encourage a third tow pilot, if possible. Note that a third pilot is usually only needed for a short time to clear the grid.
- During peak launch period, you are strongly encouraged to restrict everyone to 2,000-foot tows.
- Tightly enforce in-cockpit readiness for 3 ships at head of the line.
- When the grid is down to several ships with few waiting, release additional tow pilots.

22.4. Flight Operations from Afternoon to end of flight day

- Ensure a commercially licensed pilot is available for each intro flight.

- As the end of day approaches, remind the last pilots signed up for club ships to “land long” to ease putting ships away.
- The last pilot to fly a club ship should return it to the tie-down area and tie it down.

22.5. End-of-Day tasks: putting away and securing all equipment

- Confirm that all pilots have returned
- Log landing time of last flight.
- GRID AREA
  1. Remove all tow ropes from grid and wind upon reel
  2. Return launch flag (or paddle),weak links/adapters and rope reel to Green Shed
  3. Remove weights, cushions, trash and personal items and return to proper location
- OPERATIONS DESK AREA
  1. Put clipboard and unused forms back in the Logger Box and return to the Battery Room.
  2. Return operations table, chairs and canopy and generator to the Green Shed
  3. Remove traffic cones and put in Green Shed (if operating on runway 34)
  4. Lock Green Shed
  5. Empty Trash Can into the dumpster next to the main hangar.
- GOLF CARTS
  1. Return all carts to hanger and confirm all are in “OFF” position
  2. Plug in all electric carts to charger(s)
- HANGER
  1. Carefully move tow plane into hanger after gliders have been properly put away
  2. Lower hanger door and secure pavement anchors
  3. Lock side door
- GLIDER TIE-DOWNS
  1. Confirm all gliders have been tied down and put away properly
  2. Put away any gliders that are not tied down
  3. Return all batteries to Battery Room
- BATTERY ROOM
  1. Ensure all radios and cell phones turned off before putting in chargers
  2. Put handheld radio and cell phone on their chargers in the Radio Room
  3. Make sure all batteries and phone have been returned and plugged into chargers
  4. Turn “Intermatic” timer knob to the 12-hour position to turn on power to chargers
  5. Lock Battery Room

23. Common Operations Questions

Q: Where are tow vehicles allowed to drive?

A: Ground tow vehicles are not allowed on the grass landing area – except when towing. Ground towed gliders must promptly make way for taxiing power traffic when it is safe to do so.

Q: Who is “essential” on the grid?

A: Duty personnel, and pilots and passengers of ships on the grid. Visitors are not allowed in the operational area without an escort.

Q: Who can operate club property?

A: Only GBSC members may operate club property.

Q: What is GBSC policy regarding signup? Who *must* sign up?

A: Pilots who wish to fly should place their names on the signup sheet. Of course, some private pilots may arrive before the signup sheet is out, so some pilots’ names may not appear on the list.

Q: Who gets launched when?

A: The sign-up sheet is a source of information for determining launch order on the grid. It is especially helpful for determining order of flights of club gliders and instructional flights. For private ship owners, it is primarily “first come, first serve.” Also, some private pilots arrive before a sign-up sheet is out, so some pilot’s names won’t be on the sign-up sheet. Pilots in the staging area who are ready (fully prepared to fly) get moved to the grid ahead of pilots who are not ready. This is true of all flights – those ready and present move to the grid. Do not hold up the operation to look for “missing” pilots. Loggers keep the sign-up sheet current by “scratching” pilots from the list when they takeoff.

Q: Am I responsible for getting private ships towed to the staging area?

A: All club members should have access to the club’s tow vehicles. Do not ignore their requests for ground tows.

Q: May the OC temporarily halt ground tows to the staging area?

A: Try to keep the operation operating as smoothly as possible and allow ground-towed gliders to safely travel to the staging area. If, however, the grid and staging area have reached capacity, you may *temporarily* halt ground-tow traffic and request that they hold north of the cross taxiway (“Sterling” painted on the pavement). Allow two or three gliders to clear the grid, then commence ground tows. In general, make any ground tow halt as brief as possible.

Q: What if someone says they should be moved to the grid before someone else?

A: Are they ready? Whoever signed up first and is ready gets to the grid first.

Q: May instructional flights get moved to the head of the line?

A: Yes. GBSC uses a 2:1 ratio (non-instruction : instruction) to facilitate instruction when multiple tow planes are operating and private pilots wish to launch.

Q: What if a pilot is on the grid but not ready to fly?

A: You may move their ship off the grid and to the staging area until they are ready.

Q: What if I see an unsafe and/or short landing in the area of operations?

A: Find the instructor of the day and/or OC and inform them. File a GBSC Safety Report if appropriate.

Q: Who decides to change runways if the wind changes?

A: Downwind takeoffs are strongly discouraged. If downwind conditions develop, the OC should immediately consult with the tow pilot and instructor. If either is uncomfortable with wind direction, the OC should send someone to the FBO to consult on weather conditions and request changing the active runway. The OC may halt operations until a decision is reached. If the FBO approves the change, immediately inform all gliders aloft that the active runway changed. Move operations to the now-active runway.

Q: Who makes safety decisions on the field?

A: Safety is the responsibility of *all* members. If as OC you have a question about safety, consult with the instructor(s) of the day, the tow pilot, and with a member of the club safety committee if one happens to be at the field. The point is: don't hesitate to consult with these members. If a situation is deemed unsafe, you should halt operations at any time.

24. Emergency Procedures and Incident Reporting

In the event of an incident or accident at the airport:

- If there is a serious injury
    - call 911
    - administer first aid if able
    - get AED from the FBO if appropriate
    - get Stop The Bleed kit from Logger Desk if appropriate
- If any runway is unsafe, notify Sterling traffic on 122.9
- Notify the Airport manager, 978-422-8860
- Notify the OC and Duty Instructor
- Notify the GBSC club president and Chief Pilot
- DO NOT notify the FAA or NTSB; a club officer will determine if it is a reportable incident.
- DO NOT talk to reporters or others in the new media; refer them to the Airport Manager
- The Airport Manager remains responsible for all activity at the airport, including the first responders. You may be asked to help by:
    - Posting members at the Main, North and South entrances to direct emergency traffic
    - When emergency vehicles arrive, try to keep them well clear of the runways if gliders are still aloft (see diagram below)

Club contacts may be found on the GBSC Contact Us web page.
Sterling Airport: 978-422-8860

Overdue or Missing

If an aircraft is overdue or missing, have the tow plane(s) try to make radio contact from altitude on Sterling Unicom (122.9 MHz) or the air-to-air glider frequency of 123.3 MHz while making a visual search of the local area.

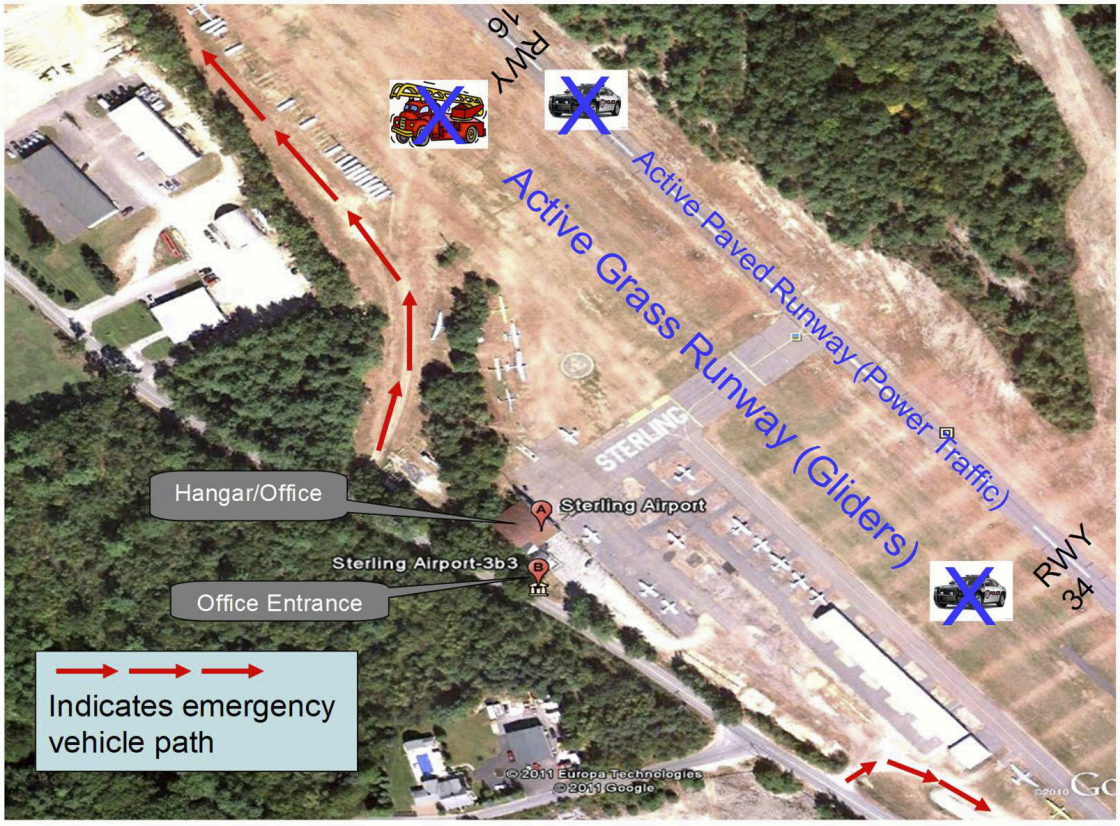
See if the missing member has a tracker listed at https://www.soargbsc.net/trackers. If so, determine the last location. Monitor for glider progress (maybe slow flight progress back to airport.)

Pilots should call the GBSC cell phone, 978–990–2268, if they land out and need a retrieve, or the airport telephone number, 978-422-8860.

If unable to locate the missing aircraft, notify the FAA and if necessary, the State Police. Also, if necessary, call the GBSC President or Chief Pilot and the emergency contact for the person(s) involved.

FAA Flight Service Station:	(800) 992-7433	
State Police, Holden Barracks:	(508) 829-8420	or 911

Sterling Airport Emergency Vehicle Traffic



25. Policies for Flight Operations

25.1. Sign-up

25.1.1. E-Signup

The club uses an online registration system called E-Signup located on the Ops website. E-Signup lets members signup for an operation more than a week in advance. Members are expected to enter a signup for any operation they expect to join. The signup list provides an indication of how busy the day is likely to be.

Pilots must still add their name to the paper signup sheet before they fly.

25.1.2. Signing up for a Glider at the Field

A sign-up list is kept near the launch grid. All members are required to sign up prior to flying. Sign up procedures for club gliders and private tows are simple. The pilot does the following:

- Adds his/her name to the bottom of the list
- Adds the requested tow height (e.g., Pattern tow, 2k, 3k, 4k)
- Places a check in the “instructor” column if an instructor is needed
- Places a check in the desired aircraft column or writes in the contest or N number for the private ship being flown.

NOTE:

- Pilots are responsible for ensuring that their flight review or 90-day solo endorsement has not expired prior to adding their name to the signup sheet for a solo flight.
- When taking a passenger, it is the rated pilot's responsibility that at least 3 takeoffs and landings in a glider have been accomplished within the past 90 days and that his/her flight review has been completed within the past 24 calendar months.

Non-student pilots may only enter their name once on the sign-up sheet. After a flight, a pilot may sign up for another flight. Primary student pilots may sign up for two consecutive instructional flights, the total duration of which shall be within the one-hour limit, by filling-in two consecutive lines on the signup sheet. An instructor is assigned for each scheduled operation. To optimize instructor and aircraft utilization, the pilot needing an instructor takes the initiative in making contact with the instructor prior to the flight.

Note: Pilots requiring an instructor for a Flight Review must develop a plan with the instructor in advance. Pilots requiring an instructor for more than one flight need to coordinate such activity with an instructor.

25.1.3. Junior Signing up on Scheduled work day

A junior's primary responsibility during their scheduled work shift is to provide ground support to the day's operations and assistance of a general nature as directed by the day's duty crew. If the situation presents itself that would allow the junior to fly during that time, he/she is encouraged to do so subject to the following limitations and ground rules:

1. Permissible times that an 'on duty' junior may take a flight are as follows:
    a. In the morning, before full operations begin
    b. At the end of the day prior to putting the gliders/equipment away
    c. During the shift if there is no one waiting for the instructor and/or glider and with the OC's permission. Those waiting include members, guests, Intros, and FAST flights.
    d. At any time, at the discretion of the OC

2. It is the junior's responsibility to monitor the flight list to determine if there is an opportunity to fly prior to the end of the day. If there is an opportunity to fly, he/she may then check with the OC to determine if they can be spared for the duration of their flight. If the OC determines that there is sufficient ground support available and gives permission, the junior may place their name on the flight list and then fly.

3. Juniors are required to sign out when they are not performing their assigned duties. If there is time remaining in the day's operation at the completion of their flight, they may sign back in and receive credit for time worked.

On extremely busy days, it may not be possible for an assigned junior to take a flight. Keep in mind that on a non-duty day, a junior has the same priority as any other member. They put their name on the next open line on the signup sheet and fly when their turn comes.

25.2. One Hour Flight Limit

Flights in GBSC gliders are limited to one hour. There are five exceptions to this rule:

1. The ASW 19B and the L-33 are limited to two hours.
2. A two-place ship with two members (both on the sign-up sheet) sharing the flight is limited to 2 hours.
3. The limiting of flight times on busy days,
4. Extended flight times when there is no demand for the glider,
5. Reserving a glider for cross country or badge flights.

The third exception usually occurs on those days when the soaring is exceptionally good and the waiting list for various gliders is quite long. At the discretion of the assigned instructor and/or OCs, flight time limits can be applied to certain gliders. Flight times may be reduced to 45 or even 30 minutes, depending on the size of the waiting list. If the line at the grid is getting unmanageable then flight times

may be extended in order that the tow pilots may get caught up and reduce the number of gliders in the grid.

The fourth exception occurs when there is no waiting list for a particular type of glider. In this case, pilots can continue flying until someone wants to use the glider. Flying beyond the one-hour maximum must be done in the following way:

- The glider pilot ascertains that nobody is waiting for the glider.
- The glider pilot informs the OCs of their intention for an extended flight.
- Just prior to one hour, the pilot contacts GBSC ground on 122.9 to verify there is still no waiting list. If GBSC ground is not responding on 122.9, the pilot lands.
- Beyond one hour, the pilot monitors 122.9 for the duration of the flight and lands within 10 minutes of being called.

An adjunct courtesy to the above rule is that no pilot should be called down if an airworthy equivalent glider is available (even if it needs to be untied and preflighted).

The fifth exception applies for XC flight plans that require more than the standard limits for club gliders. In such cases, the glider may be reserved for as long as necessary to execute the specific flight plan, which may be all day. Put your reservation request in the comments section of your E-Signup and also send a message to the Business subgroup.

25.3. Towing Other Gliders

In addition to towing GBSC club-owned gliders, GBSC can tow any other glider piloted by a qualified GBSC member, regardless of whether the pilot personally owns the glider. This includes temporary 1-Day members who are using their own glider, a borrowed glider, or a glider from another club. Temporary 1-Day members must be SSA members as do all members of GBSC.

25.4. Introduction to Soaring Flights

GBSC offers the general public and persons interested in joining the club the opportunity to experience glider flying in a two-place glider with either a commercially rated pilot or flight instructor on weekends during the normal season. The tow is to 3000 ft AGL.

SSA FAST flights have the same priority as Member instructional flights. After 2:00 pm, Intro Flights have the same priority as Member flights.

The Introduction to Soaring Flights are for the exclusive purpose of introducing prospective new members to the club.

The OC should give first priority to the duty flight instructor if there are no students waiting for instruction. Second priority is given to any flight instructor or GBSC approved commercially rated pilot that has informed the OC they are available for Intro flights. The commercial pilot must be approved by GBSC's Board of Directors, and the list made known to the duty officer.

Fly A Sailplane Today (SSA FAST) program
Intro flights with FAST vouchers require ground instruction and flight instruction with a GBSC certificated glider flight instructor. The SSA directly supplies the FAST participant a flight log book, Everybody's 1st Gliding Book, a copy of the SSA Soaring magazine, and 3-month membership in the SSA.

Payment is by cash, personal check, GBSC gift certificate, or a FAST program voucher. If the passenger decides to join GBSC, the intro flight is charged at the member rate, and the remainder of the payment is credited toward a future flight(s).

Members can purchase gift certificates for the price of a 3K tow and the glider rental fee. The primary purpose of this privilege is to allow the member to donate a glider flight to a charity event at a reduced rate. Gift certificates are available from the Membership Chairman.

It is the responsibility of the PIC to ensure the passenger's paperwork (FAST, Intro, Guest) is properly & completely filled out and payments are in the possession of the OC. If the OC is not available, the PIC will make sure flights are logged and paperwork & payments are in the payment box.

Additional information about these flights and GBSC Introductory Flight gift certificates may be obtained from the membership chairman via email to `membership@soargbsc.com` or on the GBSC website.

26. Ground Operations

26.1. Definition

Ground Operations consists:

- pre-flightline operations
- flightline operations
- post-flightline operations

To ensure efficient and safe operations an OC will be assigned to coordinate and control these activities for each scheduled flying day. The scope of their duties is covered in detail in Section 26, "Operations Coordinator and Juniors".

Typically two members of the MITSA Juniors Program are assigned to assist with grid operations and the retrieval of gliders. These young people are NOT expected to do all the work. Other GBSC members will be required to assist with any tasks necessary to keep operations running smoothly, safely, and efficiently.

26.2. Start of Operations

Pre-flightline operations consist of the activities necessary to have at least one of the two place gliders ready for flight by 10:00 a.m. on a scheduled flying day. This includes:

- opening the Green Shed
- placing the GBSC sandwich board near Greenland Road
- setting up the logging table
- placing the red "Stop the Bleed" kit on the logging table
- placing the orange pylons to guard the tow plane pads
- readying the golf carts
- setting out and inspecting tow ropes
- preflighting at least one two-place glider and moving it to the staging area

For the most part, these tasks will be performed by GBSC members and Juniors with oversight from club members. Other members preflight the other gliders. The first member of the flying day to use one of the other gliders will be responsible for performing the initial preflight inspection.

Tow pilots assigned for AM SLOT should be ready to tow at 10 am.

Note: It is ALWAYS the responsibility of the PIC to preflight his or her glider prior to use. Do not assume that because the glider flew before, it is okay.

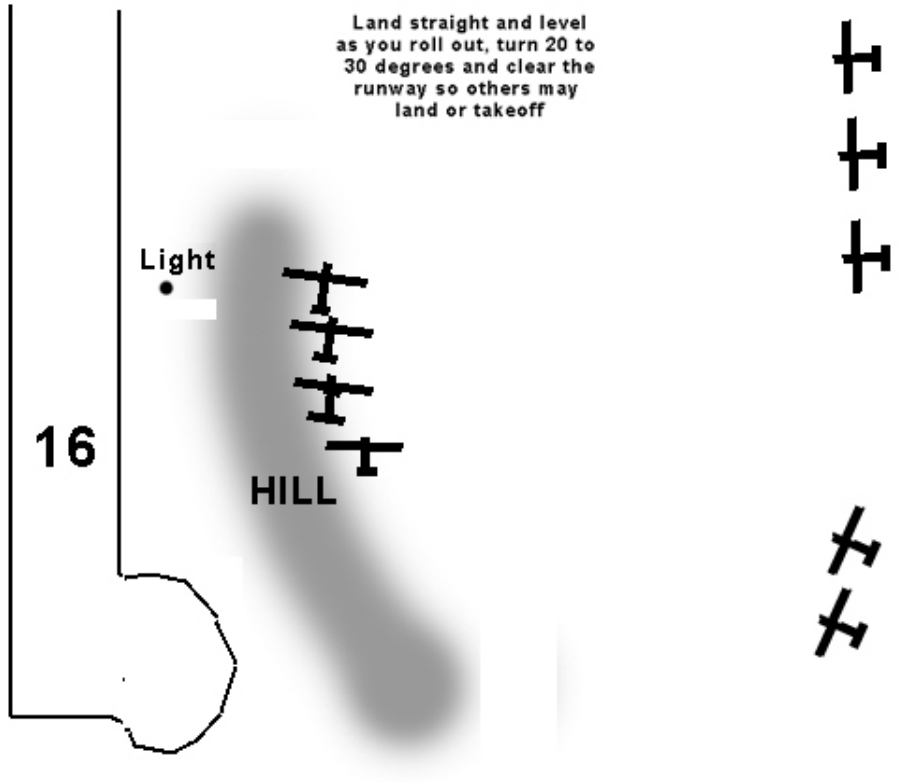
Appendix D has the pre-flightline and post-flightline checklists for ground operations.

26.3. Moving a Glider to the Grid

Gliders should not move to the grid until they are ready for immediate launch. When the grid is full, gliders may be parked between the taxiway and the street at the southern end of Runway 34. Private gliders should remain in the assembly area until both pilot and aircraft are ready to fly.

No vehicular traffic is allowed on the airport operating area. Carts are accepted, but no cars, trucks or vans, may be used for ground tow unless equipped with factory recommended tow out gear.

For runway 16, the staging area is on the northwest end of the field close to the trees.



Care must be taken in moving and parking gliders in these areas. Park the gliders such that there is no possibility of collision due to sloppy movement or the wind moving them. Position the aircraft with the downwind wing on the ground, dive brakes deployed, and the canopy closed.

Carts are used to move gliders. The directions for operating the carts are on the vehicle.

26.4. Flightline Operations

Once all pre-flightline operations are completed, the OC and MITSA Juniors will turn their attention to the flightline and launching gliders. The OC is in charge of the overall operation. His/her primary duty is to ensure that the operation is safe and efficient and conducted in accordance with the procedures spelled out in this manual. Cooperation by all GBSC members is essential. Again, the OC and Juniors are not expected to do everything. Experienced members will be asked to help with hookups, wing running, glider retrieval, or any other tasks deemed necessary.

Juniors can also assist with logging.

26.4.1. Launch Order

The sign-up list establishes the basic launch order. For club gliders, it also establishes the order of pilots using the glider.

The OC has the authority to change both the launch order and the order of pilots using club gliders.

You must be ready to fly. It is the pilot's responsibility to monitor the grid and to be fully ready when it is his/her turn to launch. It is considered "bad form" to keep the tow pilot waiting. If a pilot is not ready or decides not to take a flight when their name comes up, the next pilot on the list will be reassigned to the flight (and glider). The pilot who declined to fly then becomes the next pilot in line.

The pilot's name is entered in the log after takeoff. The pilot's name is crossed off from the sign-up sheet after launch. This helps keep the sign-up order up-to-date.

To maximize use of our instructors, instructional flights may be given priority over other flights in the launch sequence. This does not mean always launching them next, but it does mean attempting to maximize their utilization. Typically, an instructional flight is inserted into the launch sequence after two non-instructional flights. Additionally, be aware of special circumstances, such as Practical Test flights in progress. These should be given priority.

26.4.2. Pedestrian Controls

No one should be standing on the edge of the taxiway, or in active areas of the airport, such that any aircraft must maneuver around the person. All need to be aware of infringing the operating areas of the airport. In addition to being aware of ourselves, we need to be truly diligent about other spectators in the area. If you see someone unescorted by a member of our club, approach them and direct them to stand off the taxiway at, or north of, the picnic tables (for operations on 34). If you see someone that looks lost out in the operating area, react as if you saw a toddler approaching a swimming pool. They need to be saved from themselves.

26.4.3. Moving a Glider onto the Grid

As room becomes available on the grid, the OC will direct the next glider in the launch order to reposition from the staging area to the back of the grid. Once on the grid you should never leave the vicinity of your aircraft. Don't be distracted by others in line and concentrate on what you need to prepare for takeoff. On a busy day with 2 tow planes running, you should be seated in your glider no later than the 3nd place from the front of the line. You should not be rushed for takeoff, and the best way to avoid this is to be ready for launch before it is your turn. Don't worry about moving up in line as the MITSA juniors and other pilots farther back in the queue will help push you up.

26.4.4. Hookup

GBSC currently uses a TOST tail release on the Pawnees and a Schweizer release on the Birddog tow planes. NOTE: Since the tow ropes are made up with a TOST ring at both ends, the WHITE ADAPTER must be used on Birddog end.

26.4.4.1. Tow plane releases and tow ropes

The tow plane will drop the rope near the paved runway on its return. If the rope is dropped on the paved runway it should be retrieved to the near side of the runway as soon as safely possible. The rope on the runway could present a hazard to arriving or departing power traffic. Once a tow plane has arrived at the grid, the tow rope needs to be attached. After attaching the tow plane, return to the glider to connect that end. It is always a good idea to walk back with the rope sliding through your hand so you can better examine the rope for knots or abrasions.

26.4.4.2. Glider hookup

When you have configured the tow rope as needed for the glider, “present” the end you will be hooking up to the pilot of the glider. She/he has the final say about the proper configuration, and condition of the rope. When she/he signals you to hook up, do so, indicating with an open hand and then closed hand to open and close the release. Ask if the pilot would like a test release. If they indicate they would like one, apply tension to the rope as they pull the glider release. Reattach the rope, and give it a good tug, to be sure it is firmly attached.

26.4.5. Wing runner signals

See FAA Glider Flying Handbook

Use the orange bats to aid visibility of SSA approved hand signals.

26.4.6. Running Wings

All members should complete the SSF Wing Running Course. SSA instructors have "Wing Runner Course Graduate" pins available to club members presenting a course completion certificate.

Also watch the launch video on the GBSC web site.

26.4.7. Flight Limitations

26.4.7.1. Reduced Flight Time (See section One Hour Flight Limit)

26.4.7.2. Bad Weather

If the weather takes a turn for the worse, the OC confers with the assigned instructor and assigned tow pilot about shutting down flight operations. The assigned instructor has the final word on instructional flights. The tow pilot has the final say on towing. In any case, all regulatory limitations contained in CFR 14 part 91 and the aircraft POH regarding wind, ceiling and visibility must be observed.

When severe weather is approaching, club gliders should be moved to the hangar or tie-down areas and secured.

26.5. Post-Flightline Operations

This activity consists generally of securing the gliders, the hangar and the green shed. Again, while this is coordinated by the OC, the tasks are performed by other members. Specifically, **the last member to fly a glider is responsible for tie-down**. Check with the OC to determine if you are the last flight of the

day for that glider.

Appendix D contains a post-flightline checklist for reference.

27. Assigned Tow Pilot

Three tow pilot shifts are assigned and scheduled:

- AM shift is 10-2
- Midday shift is 11-3
- PM shift is 2-6.

AM pilots must be ready to tow starting at 10:00 a.m., anytime the conditions are VFR with acceptable winds. The Midday pilot must be ready to tow at 11:00 unless the day is non-soarable in which case the start time is 1:00. The tow plane should be fueled, preflighted, and ready to go by the start times.
The assigned tow pilot is responsible for the tow plane on that day including:

- Preflight inspections
- Oil level
- Cleaning the windows
- Wiping down exterior oil streaks and bugs
- Reporting/logging mechanical problems
- Securing the airplane between tows
- Post-flight inspection
- Properly tying down the airplane

It is the tow pilot's prerogative to refuse a tow for safety or operating limitation reasons.

All other things being equal, because of economy of operation and concerns about noise for the local community, the Pawnee tow planes are the preferred tow planes for normal use.

GBSC's L-19 is an excellent tow plane and quite enjoyable to fly, but should be considered the last aircraft to utilize in normal weekday/weekend operations. Tow pilots should consult the tow plane maintenance coordinator before using the L-19. It is also expensive to maintain. Variations in pilot technique can greatly affect the reliability and condition of the tow plane. Tow pilots are expected to handle and operate the tow plane thoughtfully and with explicit actions taken to minimize wear and tear.

The L-19 should not be flown with the front seat windows open due to the difficulty involved with replacing the window hinges. Flying with back seat windows open is permitted. (The rear seat hinges are different.)

Since GBSC is a soaring oriented club, tow demand tends to come in bursts. That is, even when a second tow plane is available, the tow pilot must be ever vigilant to not "fall behind", as even short delays tend to accumulate, cause congestion, and eventually limit the amount of flying accomplished. On busy days, unassigned tow pilots should offer relief to the assigned tow pilot as their time permits.

The tow pilot remains attentive to the flight line, to be available on demand. Make fuel stops during lulls in the activity, as opposed to waiting for the tanks to get low, and possibly needing to refuel when gliders are ready to launch. During busy times, it is important to maximize the tow rate by climbing in lift, descending in sink, and minimizing ground time; all while being safe and gentle with the airplane.

28. Operations Coordinator

28.1. Definitions and Duties

The OC coordinates all field operation activities and keeps the flightline running safely and efficiently as described in section 25, Ground Operations. The OC is normally found on the grid or at the logging table, ensuring that only the appropriate people are there, and doing their jobs correctly. The OC ensures that there is a logger on duty at all times of operations. OCs are scheduled for all weekend operations.

28.2. Weekend Operations

The OC coordinates three phases of the weekend operations, Pre-flightline, Flightline, and Post-flightline, with all attending members contributing to tasks and duties throughout the day.

28.2.1. Pre-Flightline Operations

Pre-flightline operations consist of the actions necessary to have at least one of the two place gliders ready for flight by 10:00 a.m. on a scheduled flying day. For this to happen, the assigned OC and MITSA Juniors must be at the field by 0900. The OC is responsible for coordinating the activities listed in Appendix D of the Membership Manual.

28.2.2. Flightline Operations

Flightline operations consist of the ground activities necessary to launch gliders and have them safely return to the staging area. This includes the following:

- Moving gliders to the staging area
- Controlling the sign-up list and launch order sequence
- Moving gliders to the launch grid
- Managing the safety and efficiency of the grid
- Launching gliders
- Prioritize training flights to keep instructors fully utilized
- Retrieving tow rope after it is dropped by the tow plane
- Retrieving gliders that have just landed
- Keeping a log of all flights

28.2.3. Post-Flightline Operations

At the end of the day, the members are required to accomplish the duties listed in Appendix D of the Membership Manual. The OC is responsible for verifying that all tasks have been completed.

28.2.4. Additional OC Responsibilities

OC responsibilities typically not assigned to members:

- Confirms all scheduled instructors, tow pilots and juniors are aware of their assignments
- Monitors the e-signup page to determine the extent of the operations for that day noting demand for tows, demand for instruction and any flight tests or reviews
- Checks the status of all gliders on the Glider Fleet Status
- Talks with the scheduled instructor and tow pilot to confirm current weather information; also check with the FBO, if it is open.
- Determines active runway with FBO and/or instructor
- Starts a new flight log sheet (enter date, OC name, Instructor, and tow pilot(s), plus Junior names when they check in
- Enforces No-Fly List
- Supervises Juniors and assigns tasks
- Is main point of contact for
    - Emergencies
    - Interaction with non-members
- Monitors club cell phone/radio
- Has authority to suspend operations if critical tasks are not performed
- Ensures launch procedures are followed correctly
- At end of the day:
    - Assures all pilots have returned
    - Remains at the field until all Juniors have left
    - Gathers Intro Forms, payments, and FAST coupons and places them in the “Payments and Forms” box in the Battery Room (on the inside windowsill)
    - Confirms that end-of-day tasks have been completed (see end of next section)
    - Audits LoggerStation entries the following day and reminds members who have not logged their flights to do so

28.3. Log Sheet

Members take turns maintaining the log sheet throughout the day. If there is not a logger at any time during an operation, the OC will ask a member to fulfill this duty or take on this task on themselves.

Accurate information must be recorded on each and every flight! Logging is critical for keeping accurate records that will be used for glider/towplane usage data, billing, pilot flight times, etc., therefore log sheets must be legible.

28.4. Logger Instructions

- Refer to the sample log sheet if unfamiliar with recording the data. See Appendix C
- All information recorded must be accurate, complete and legible
- Once the operations have concluded and the log is completed, the OC takes a photo of the completed log sheet and sends it to GBSC Business.
- The OC confirms all pilots have logged their flights correctly on LoggerStation and notify any that have not completed this task.
- Once all members have logged their flights on LoggerStation and all flight confirmed, the OC will “Close out the Day”

Each member is responsible for entering their flights into LoggerStation after the data is posted to GBSC Business.

28.5. Regarding New and Prospective Members

GBSC is always looking for new members, whether they are new to soaring or experienced pilots. Greet them kindly and supply them with the GBSC informational brochure, SSA literature, and if a membership form is requested, direct them to the GBSC website soargbsc.com or the membership coordinator’s email address, membership@soargbsc.com. Find other members to talk with the prospective member and have them explain in more detail the workings of the club.

All GBSC members are expected to welcome and make prospective members feel comfortable. Do not let newcomers stand around and be ignored or they will go away with bad feelings about the club and soaring. If they wish to take an introductory glider lesson, guide them to the OC or experienced club member to fill out an Introductory Membership Form.

29. Final Thoughts

There is a lot to learn, but remember that every single person in the club started out not knowing anything about club operations. We have all helped each other to learn proper procedures. We depend on each other, we need each other and we support each other by learning how to be safe through adherence to standard, accepted and safe procedures.

Welcome to the club!

30. Instructional content removed from the Membership Manual

This material should be moved to a separate document in the next revision.

30.1. Cross-country (XC) Flights in GBSC Gliders

GBSC supports members wishing to fly XC using club gliders. These guidelines define the procedures for using club ships. It does not address flight skill development as members should work with the instructors as required for their own situation. The SSA badges through Bronze are excellent training templates (although not required).

For this section, the definition of XC is "any flight that extends beyond 50% of the best no wind glide performance of the glider from the takeoff airport". (For example, L33 Solo = 32:1 = 6 sm per 1000', and 50% of that is 3 sm per 1000' above field elevation plus pattern altitude, assuming no wind.) While admittedly arbitrary, this rule is simple and unambiguous (no excuses for not knowing if the XC rules apply). If you work the scenarios a bit, it feels about right. Expanding the last example, if you are over Fitchburg in the 1-34, you are 9 miles away from Sterling and need 3000’ to cover those 9 miles, plus 1700’ MSL pattern altitude, which adds up to 4700’ MSL to make it home (again, in no wind conditions).

Of course, this definition is just for enabling these rules, and the pilot must always consider the actual flight conditions for safely returning to the field.

Members making XC flights in club ships are required to review their flight plan with an instructor prior to the flight and after the flight. A Private License or higher is required. Flight plan reviews are necessary until the member receives instructor approval for unsupervised XC flights. The specifics of the review are determined by the instructor and no logbook entry is required. The idea is to keep in touch but allow the pilot to do what he thinks is right.

Land-Outs: Land-outs at airports for an aero retrieve are most desirable. If aero retrieves cannot be ensured, the member should ensure that a proper ground retrieve has been planned (trailer condition, crew, etc.). To encourage new XC pilots to venture away for the home airport, the retrieval fee for the very first land out at an airport will be paid for by the club (aero tow fee still applies).

Aero Retrieves: For safety reasons, GBSC will not allow aero retrieves from any location that is: privately owned, or unpaved, or marked as "closed" or "abandoned" on the current sectional chart, or has a paved runway less than 2500' per the current sectional chart. There are no exceptions. Both the glider pilot landing out and the retrieving tug pilot are responsible for compliance with this policy. Tug pilots may decline an aero retrieve at any time even after flying to the retrieve location. This policy can be waived only by a tug training instructor or the Chief Pilot.

Specifics: The foregoing will prohibit aero retrieves from all of: Spencer MA, Zim NH, Brookline NH, Mason NH, Intervale NH, Garbedian (the "unknown" paved airport at Rts 495 & 90), Crow Island, Passport, Ware, Toutant and Woodstock CT. The Committee understands that we have done aero

retrieval from some of these locations in the past but we believe that the risks of doing so outweigh the benefits.

Cross Country: Pilots flying club gliders x/c must give the OC a note containing:
1) The "intended" route

2) The name of whom they have made arrangements with for an auto retrieve (should it become necessary) or a statement that the pilot intends always remain within gliding distance of airports capable of aero retrieves.

3) The pilot's cell phone number (if available). Weekday pilots must attach the note to the daily flight log. This requirement is mandatory for all x/c flights in club ships that will not be completed in one hour and encouraged for those less than an hour.

30.2. Spoilers Deployed on Tow or Ground Roll

There is much concern and debate over unintentional glider spoiler deployment while on tow. Glider pilots need to monitor their climb rate on tow and periodically verify their spoilers are closed. If a glider's spoilers are deployed, GBSC tow pilots may do any or all of the following:

- alert the glider pilot via radio
- alert the glider pilot by rapidly wagging the tow plane rudder
- wave off the glider (near the airport and at a safe altitude, if possible)
- release the glider (near the airport and at a safe altitude, if possible)
- Note that some private gliders intentionally start the launch with the spoilers deployed but close them soon after

30.3. Class D Airspace

Small airports, such as Worcester, with operating control towers, are Class D Airspace.
See a current sectional chart for details.

An aircraft must establish radio contact with the control tower prior to entering Class D Airspace.
Failure to do so is a violation of CFR 14.

30.4. Radio Procedures

This section applies specifically to radio procedures when operating out of Sterling Airport. An overview of radio usage is provided in Appendix E, *Radio Usage*.

The Common Traffic Advisory Frequency (CTAF) for Sterling Airport is **122.9**. It is important to keep transmissions clear and short to avoid congestion.

Set your radio to the Sterling CTAF when doing the following:

- taking off

- on tow
- landing
- communicating with the tow plane
- within two miles of Sterling Airport
- contacting GBSC base operations

For communications between gliders beyond 2 miles from Sterling, the proper frequency is **123.3**.

30.5. Boxing the Wake

The accepted technique for boxing the wake is to first descend through the wake followed by going clockwise around the wake. This technique allows the tow pilot to differentiate glider steering from the initial movement when boxing the wake.

Alternate wake boxing techniques may be used upon Tow Pilot notification.

30.6. Glider Steering

Glider pilots steer the tow plane by pulling the tail of the tow plane to the left or right. The tow pilot establishes a shallow turn in the yawed direction and waits for the glider to return to the centerline, before leveling out and establishing a new heading. It is recommended to contact the tow pilot first via radio for specific direction requests.

30.7. Rope release technique

Do not release from tow unless the airport is in sight or the glider position is fully understood via ground references, and within gliding distance of the airport. Release should occur with normal load on the rope, avoiding high loads and light loads. Rope release should be visually verified prior to initiating a shallow, level right turn.

30.8. Expectations and Requirements for Post Solo Students

Ok. You have taken your first solo and have received your SSA A Badge. Now what comes next? GBSC encourages you to focus on gaining the requisite experience to prepare you for your practical test. This involves taking both additional solo flights and flights with an instructor to continue your flight education in preparation for your practical.

FAR 61.109(f) stipulates the minimum experience needed prior to taking the private pilot's practical test. (For commercial pilots, see FAR 61.129(f)):

(f) ***For a glider category rating.***

(1) 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 § 61.107(b)(6) of this part, and that flight time must include at least—

(i) 20 flights in a glider in the areas of operations listed in § 61.107(b)(6) of this part, including at least 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; and

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

(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.

Note that the FAR above specifies the **minimum** requirements for your practical. It is highly likely you will fly more than the minimum before an instructor will sign you off to take the practical.

So taking into account the FAR above plus continuing your flight training to achieve practical test proficiency expect:

1. An instructor must be present on the field to supervise your solo flight, and that you (student or power-transition pilot) must receive an approval from that instructor before flying solo that day.
2. That a transition pilot must be Flight Review current (per 14 CFR 61.56) to act as Pilot in Command.
3. For the first 5 solo flights expect to first take an instructional flight that day.
4. After a few solo flights in the two seater, you will likely move to a single seat glider.
5. The training period after your solo is to gain proficiency needed for the practical test. Therefore, moving to several different single seat gliders is discouraged.

6. When you are close to taking the practical test, you should restrict your flying to the 2-seater in which you will want to take your practical.
7. The above may be modified at the instructor's discretion.
8. After your early solos, expect additional instruction in off field landing techniques, cross country flights, etc.
9. Expect that your instructors will train you beyond the PTS (Practical Test Standards).
10. You should work towards your SSA B,C and Bronze badges.

30.9. Landing

30.9.1. Landing Area

Sterling has one runway (34 & 16) with an asphalt section on the east side and a grass section on the west side. Gliders normally land on the turf runway. The pavement is absolutely viable if it is safer than the grass environment, such as in winter flying or when someone stops right in the middle of the grass when you are on final. Pay attention to runway lights and power traffic. The PIC needs to use their judgment and follow the safest course of action. Some training in unusual landing situations is probably beneficial to glider students who don't normally do nearly as many landings as power students.

Generally, one or two gliders on the grass do not constitute an emergency. There is a lot of area and you should be able to land with little trouble.

Although Sterling does not have significant vertical obstructions on approach to either runway, there is major ground congestion consisting of people and gliders, and no guaranteed open space short of the displaced threshold. Approaches are to be high, with a steep descent angle and airspeed well controlled (a normal obstacle clearance landing). Available options for runway conflicts include the paved runway and/or landing beyond the cross taxiway. The minimum vertical and horizontal clearance over any obstruction on the field (Glider/Person/cart etc.) is 30 feet. On runway 34 , come in at or above the light pole opposite the grid. Do not fly directly over gliders staged on the grid. Shallow, low-energy final approaches will not be tolerated.

Please review Notes on Flying Short Final on the club web site.

If the 30' clearance is maintained gliders landing on runway 34 will generally be landing after the south end of the blue hangers.

NOTE: The grass is not exclusively a glider landing area. Power planes can and do use the grass for takeoff and landing. In the case of a power plane staged to take off on the grass, it may be wise to land on the asphalt if you are sure it is clear.

For runway 34, if a tow plane is staged to take off from the grass, it will usually be well off to the right side. When using runway 16, the tow plane will be well off to the left side. In either case, there should be plenty of room to land on the grass.

If you know there are other gliders landing behind you, land long and give them space to land. It is of paramount importance to clear the runway as much as possible on the rollout when it is safe to do so.

When clearing the runway during the landing roll, make sure the glider is not headed toward an object which could be damaged if there were a mechanical failure, such as loss of wheel brake effectiveness.

30.9.2. Rollout

Gliders should land STRAIGHT and level on the grass. Once the glider is firmly on the ground and under control, AND WELL SLOWED DOWN, it may be veered 20 to 30 degrees (no more) to clear the grass area.

It is important that you clear the center of the runway so that others may land after you. Once stopped, get out immediately and move your glider to the side of the runway. Do not wait for a crew to assist you. Most pilots can move even the largest glider the distance required to clear the runway.

Do not leave your glider unattended.

30.10. RADIO USAGE

30.10.1. General

Most club gliders, as well as the tow planes, are equipped with two-way radios operating in the VHF aeronautical radio frequency band. Radios in the gliders are powered by rechargeable (i.e., storage) batteries. Typical uses are:

- position reports
- condition reports
- traffic alerts
- "bring the club glider back" requests
- along with more general soaring communications such as saying hello to a friend 100 miles away or pointing out landing areas to a flying companion.

The radios in use are half duplex on a single frequency. This means:

- the radio transmits and receives on the same frequency
- the radio cannot transmit and receive simultaneously
- only one radio in the area can transmit at a time
- you cannot hear messages while transmitting
- you must listen on the frequency before transmitting to ensure that no one else is transmitting

30.10.2. Frequencies

The frequencies of 123.3 and 123.5 MHz are assigned to flight schools and glider operations. The soaring community uses 123.3 and 123.5 for glider to glider as well as glider to ground communication. 123.5 is used when 123.3 is too busy. 123.3 is also used as the "company" frequency for various FBOs and flight operations.

If a contest is operating on one of the frequencies, use the other one as there are probably a lot of

ground transmissions you cannot hear which you will "step on". (Contests are indicated by the calling out of many contest numbers with no other information being transmitted.)

30.10.3. Common Traffic Advisory Frequency

Airports without a control tower, (magenta colored airport symbols on the sectional), utilize a Common Traffic Advisory Frequency (CTAF) on which all traffic, landing or taking off, broadcast their intentions.

No replies are expected on this frequency. The goal is that all aircraft operating in the area will hear these broadcasts and be aware of the traffic. The CTAF frequency is charted on the sectional. The Sterling CTAF is 122.9.

30.10.4. Air-to-Air

The only FAA/FCC supported frequency for air to air communication is 122.75. This frequency is typically unusable due to non-stop chatter between power pilots. It is a good frequency to use if you need to have a long conversation.

30.10.5. Emergencies

121.5 is a dedicated emergency frequency. Do not transmit on 121.5 unless there is an emergency. Preface your transmission with "MAYDAY, MAYDAY, MAYDAY." 121.5 is monitored by commercial aircraft and airports.

30.10.6. Usage

30.10.6.1. Phraseology

Normal aircraft radio identification is via the aircraft registration number. When communicating with Air Traffic Control (ATC), use your full registration number, preceded by "glider". For example, say "Glider seven six PAPA SIERRA," to identify a glider with the registration N76PS. Note that the initial "N" is implied and not spoken. When speaking letters of the alphabet, such as a glider registration number, use the phonetic alphabet.

Once communication is established with ATC, the last three characters of the registration are usually sufficient. Glider to glider communications usually use the contest numbers or the last two characters of the registration.

When initiating communication, first state the entity trying to be reached, followed by your identification number.

GLIDER: *Nashua tower, glider one three zero charlie alpha.*

30.10.6.2. Frequency Congestion

The message capacity of a frequency is really quite limited. It is not unusual for the frequency to be full, i.e., almost continuous transmissions. A full frequency not only limits your ability to use the radio for your needs but is very annoying to listen to. While there may be a strong urge to turn off the radio to avoid the chatter, a better solution is fewer transmissions.

The range of a glider radio at a few thousand feet off the ground is approximately 150 miles! This means many gliders are sharing the frequency and everything said is heard by a lot of people.

Conversely, when transmitting on or low to the ground, it is not possible to receive (hear) all the traffic on the frequency. The frequency may sound quiet, when in reality, gliders in the air may be receiving many transmissions. Therefore, keep ground transmissions to a minimum.

30.10.6.3. Takeoff and Landing

The CTAF is used to broadcast landing and takeoff intentions and positions. The tow plane usually handles the takeoff transmissions. However, prior to takeoff, the glider pilot may want to tell the tow pilot to "take up slack" and "ready for takeoff".

GLIDER: *Bird-dog, glider four one sierra, take up slack*.

TOW PLANE: (may or may not acknowledge, but takes up slack)

GLIDER: *Bird-dog, glider four one sierra, ready for takeoff*.

TOW PLANE: *Sterling traffic, Bird-dog with glider in tow rolling on runway 34*.

After releasing from the tow plane, glider pilots may also inform the tow pilot they have released:

GLIDER: *Bird-dog, glider four one sierra, off and clear*.

Listen to the frequency a minute or two before entering the pattern to determine the current traffic situation. Enter the pattern at the proper place and time. Do not hesitate to cut inside power traffic, if their patterns are too wide for you to follow.

GLIDER: *Sterling traffic, glider seven six papa sierra entering left crosswind runway three four Sterling.*

GLIDER: *Sterling traffic, glider seven six papa sierra turning final runway three four Sterling.*

It is also good practice when operating in the vicinity of an airport, to monitor other traffic and periodically announce your position:

GLIDER: *Fitchburg traffic, glider seven six papa sierra circling at two thousand feet, one-half mile north of runway three two Fitchburg* .

Be aware that not all traffic in the pattern will have a radio. Be aware that many airports share the same CTAF frequency.

Note: Before exiting the cockpit, turn off the radio and any other electronics. The club member(s) tying down the glider at the end of the day turns off the electronics, turns off the master switch, and removes the battery and puts it on a charger in the battery shack.

30.10.7. Operating Procedures for Controlled Areas

There is not much need to talk to Air Traffic Control (ATC) from our gliders. Those areas where it might be necessary are when entering Class D Airspace (such as Worcester) or entering Class C Airspace

(such as Manchester). When operating near the GDM VOR above 6,000 ft, advising Boston Center on 123.75 is recommended.

30.10.7.1. Class D Airspace

Prior to entering Class D Airspace, call the tower and state position and intentions. They will permit scratching (at a reasonable altitude) as long as they are kept informed. If a landing is imminent, let the tower know.

GLIDER 130CA: *Nashua tower, glider one three zero charlie alpha.*

NASHUA TOWER: *glider one three zero charlie alpha, Nashua tower.*

GLIDER 130CA: *one three zero charlie alpha is three miles west descending into your airspace, heading southeast, searching for lift.*

NASHUA TOWER: *glider zero charlie alpha, roger, report any change in your intentions.*

GLIDER 130CA: *zero charlie alpha, will keep you informed.*

30.10.7.2. Class C Airspace

Entering Class C Airspace requires two-way radio communication and a transponder with ADS-B out. Without a transponder, permission to fly through Class C Airspace is unlikely. Call approach and ask. If they are not busy, they may permit entry. The tower frequency is on the sectional, in the blue boxes outside the Class C Airspace circle.

GLIDER 130CA: *Manchester Approach, glider one three zero charlie alpha, one two miles southwest at four thousand two hundred, heading northeast negative transponder.*

While there are some Federal Regulations taken more seriously than others, flying in Class C Airspace without permission is one not to be taken lightly.

30.10.7.3. Position Reports

Position reports are perhaps the most common usage of 123.3. Unfortunately, it can be one of the most frustrating exchanges due to inaccurate or vague responses. When two gliders are trying to locate each other, very accurate and specific position reports are needed. Nothing consumes more airtime and irritates others on the frequency more than a continuous exchange of: "where are you", "I'm right here", "I don't see you". If you are trying to join with another glider address that glider by call sign and then provide your position. This indicates your desire to join and provides the other glider needed information without adding additional radio calls.

Position reports should consist of a bearing and a distance from a charted landmark, along with altitude to the nearest 100 feet, such as:

GLIDER 1A: *Bravo one, one alpha, 5 miles northeast of Lakewood at six point three.*

GLIDER B1: *Bravo one is three miles northeast of Lakewood at five point six*

Poor position reports:

GLIDER B1: *ah...er... I'm near Milford*

GLIDER B1: *just north of the lake*

GLIDER B1: *under this big cloud*

Probably the most common error in position reports is actually realizing your true position. At 5000 feet AGL, it does not take much angle to be several miles off, which will make a rendezvous very difficult. Unless you are in a steep circle, if you can see it, you aren't there! Look straight down. As for judging distance, Sterling airport is 9 statute miles from Fitchburg airport. Next time you fly, get a feel for how it looks from different altitudes.

30.10.7.4. Traffic Alerts

When flying closely with other gliders, there are two types of traffic alerts that are sometimes useful - power traffic, and close soaring traffic. It's usually better to use a direction rather than a "clock" position unless the two gliders are flying straight and level together.

GLIDER B1: *One Alpha, jet traffic, one mile west, level*

In the case of two sailplanes flying together where pull-ups and thermal entries cause the two planes to keep coming within a couple hundred yards of each other, very brief messages are used, usually without call signs because you recognize each other's voice.

GLIDER B1: turning right

31. Definitions

Battery Room: the GBSC equipment room attached to the FBO

CAC: critical assembly check

CFI: Certificated Flight Instructor

CFI-G: CFI for Gliders

FBO: fixed-base operator (the airport office)

Green Shed: GBSC's small storage building near the parking area nearest runway 34.

Grid: the area at the start of the runway where gliders are lined up for launching.

MITSA: MIT Soaring Association. MITSA and GBSC merged operations in 2022 (see the History section of the GBSC Membership Manual) but MITSA continues to exist and owns the 2-33, L33, Bird Dog and Pawnee 09P

OC: Operations Coordinator; the person responsible for the day's operation

PCC: positive control check

PIC: pilot in command; this term comes from FAA regulations, see 14 CFR § 91.3.

POH: Pilot's operating handbook (aircraft flight manual)

PTTT or PT^3: premature termination of the tow, more commonly known as a "rope break"

SFO: Senior Field Officer; the person responsible for the day's operation. This role was eliminated in 2021 when the OC role was implemented