The Leading Edge
The newsletter of the MIT Soaring Association
January 1998

Contents

News briefs

Mark Tuttle

Elections: The election of the next board of directors is coming up. This newsletter contains a nomination form that you can use to nominate yourself or others for board positions. Your nomination form must be signed by you and everyone you nominate (to confirm that they agree to being nominated), and must be received by Carl Johnson before February 14. The ballots will go out with the February newsletter. The coronation of the winners will be at the club's annual meeting. The annual meeting is scheduled for approximately March 15, so be sure to mark this date on your social calendar, because the MITSA annual meeting is one big party, and you're going to be pretty disappointed if you end up cleaning your kitchen the night of the party.

Winter operations: Our supreme leader, president Phil Gaisford, recently wrote to the club via email that, "The safety board has expressed concerns about operations at Sterling while obstructions in the form of snow and ice are present. This was discussed at length at the January board meeting. In view of the risk of damaging gliders in a collision with one of these obstructions, the board has decided to adopt the following criteria for winter operations with club gliders: the operational areas of the airport must be free of ice blocks and snow banks, and the tie down area is considered an operational area. We trust that this will contribute to avoiding damage to club gliders and the ensuing loss of availability and financial consequences."

Rob Playter: Rob Playter has recently announced that he is resigning as secretary and leaving the club. Rob is the father of two young children, and he also works long hours managing a small MIT spin-off company (www.bdi.com) that is growing rapidly. Rob says he will be remaining in the area, and hopes to return to the club when his children are older and his company's future is more secure. Goodbye Rob, and good luck.

Jim Reardon: Jim Reardon was a member of the club for a couple of years until he suspended his membership last season to finish his dissertation at MIT (and the first of eight planned chapters has already been submitted to his readers). Jim recently joined the track club I belong to — the Greater Boston Track Club practices once a week at the MIT track, if anyone else is interested — and he has been smoking. He recently ran 400 meters in 58.7 seconds at Brandeis and a mile in 4:40.77 minutes at Harvard. Geez, if I'd have know that he is this good, I would have asked him to retrieve the rope more often when I was serving as DO!

Members in the news: T. Guy Spencer recently wrote in an email message that, "'A woman for all Seasons' appearing in the current issue of *Soaring* is written by Basil Mott, who was an active member of MITSA in the early '70s. And, speaking of former members, take note that John Hansman is featured in the current episode of the PBS series *American Science Frontiers*. The segment is about 'mode confusion' in the commercial cockpit: what happens when the computer flying the aircraft isn't in the mode that the pilot assumes. John has developed an instrument that displays the calculated glide path during approach, taking into account such variables as automatic velocity limits that might preclude reaching a certain level at a certain waypoint."

Minutes of the Board of Directors

Phil Gaisford

These minutes have been edited for publication in the newsletter. —Editor

January 8, 1998

Directors present: Bruce Easom, Jim Emken, Phil Gaisford, Steve Glow, Al Gold, Carl Johnson, and John Wren. Also present: Bill Brine and Ian Clark.

Rob Playter: Rob Playter has resigned as club secretary, leaving a hole on the board until the next election.

Launches: Al Gold reported a total of approximately 717 launches from Sterling for 1997.

Annual meeting: Carl Johnson is organizing the party, and is in the process of checking out locations in the area for the party.

Officers: Rob Playter is resigning as secretary, and board members will approach a few people who might be interested in the post, but all other board members have agreed to stand for reelection. Phil Gaisford will take charge of getting out the nomination form, and it should go out with the next newsletter.

Finances: There have been no major sources of income or expenses recently, but the coming tow plane annual could be as high as $1,600.

Maintenance: The tailwheels and the tailwheel rubber bushings have been replaced on both Blanik L-23s. Bruce Easom plans to work on repairing tie downs, and reports that the 1-34 and 1-26 tie downs are done. There is a cracked canopy on one Blanik, and someone asked if it could be replaced with a spare. In any case, the spare canopies in the hangar need better protection, and Phil Gaisford will try to cover them with bubble wrap. Bill Brine has material suitable for fabrication of canopy covers, and Ian Clark volunteered to stitch new covers for the Blaniks. Ian has unspecified ideas for reviving the dead golf cart, and Jim Emken volunteered to help move the cart to Ian's engineering premises. The old Blanik wing is still lying on the ground, and this needs to find a sheltered home since it still has value. Steve Glow will give the second electric variometer to Jim Emken for installation in the other Blanik. The recent weight and balance results will be signed-off shortly by the A&P who did the weighing.

Chief instructor: Winter operations are currently hampered by airport conditions, including ice on the airport. Operations with club gliders require that the operation areas must be clear of ice and snowbanks. This includes the tie down areas. Remember that the pilot in command is responsible for damage to gliders, and is liable for the $500 deductible on the club's insurance policy. Ground handlers should beware of obstructions. Everyone on the field should beware of soft ground and the possibility of damaging the field by digging deep ruts in the grass with the gliders and golf carts that can become an obstacle for the entire coming season. The requirements for flying club gliders are in the process of being revised. These requirements will likely be linked to soaring badges. The goal is to encourage MITSA members to earn the badges, which are demonstrations of soaring ability that are highly portable to other gliding operations. John Wren gave some general information on our current instructor candidates.

Airport developments: An airport in New Hampshire is up for sale. The location is thought to be a few miles northeast of Hawthorne-Feather.

Private owners: Bill Brine has been doing some counting and observed that the number of private owners is increasing, we are short of space at the launch point, and that new ways of coping with the increased numbers and the launch grid need to be invented. A discussion ensued on airport areas that could be used if they were improved in some way.

Next meeting: Thursday, February 5.

Duty schedule

Al Gold

MITSA Duty Schedule
January through March, 1998

Date	DO	Instructor	AM Tow	PM Tow
1/3	Timpson	Baxa	Dershowitz	Easom
1/4	Tsillas	NA	Friedman	Fletcher
1/10	Watson	Moysey	Gammon	Gassett
1/11	Welles	Rosenberg	Poduje	Poduje
1/17	Brine	Wren	Hollister	Kazan
1/18	Emken	Baxa	Proops	Ryan
1/24	Wong	Bourgeois	Clark	Dershowitz
1/25	Evans	Rosenberg	Easom	Fletcher
1/31	Clayton	Baxa	Friedman	Gammon
2/1	Gaisford	Rosenberg	Gassett	Hollister
2/7	Watson (?)	Moysey	Kazan	Proops
2/8	Gold	Baxa	Poduje	Poduje
2/14	Koepper	Wren	Ryan	Clark
2/15	Kucan	Rosenberg	Dershowitz	Easom
2/21	Kwasnik	NA	Fletcher	Friedman
2/22	Loraditch	Rosenberg	Gammon	Gassett
2/28	MacMillan	Bourgeois	Hollister	Kazan
3/1	Marter	Baxa	Proops	Ryan
3/7	Nordman	Wren	Clark	Dershowitz
3/8	Tuttle	Rosenberg	Easom	Fletcher
3/14	Sovis	Moysey	Friedman	Gammon
3/15	Bleiden	NA	Gassett	Hollister
3/21	Stewart	Baxa	Kazan	Proops
3/22	Timpson	Rosenberg	Poduje	Poduje
3/28	Tsillas	Bourgeois	Ryan	Clark
3/29	Welles	NA	Dershowitz	Easom
4/4	Wong	Baxa	Hollister	Friedman
4/5	Brine	Rosenberg	Gammon	Gassett

Taxiing gliders

John Wren

John Wren, our chief instructor, sent the following message to the club via email. —Editor

This is an excerpt from an article I wrote for the newsletter back in September 1993. Recently a few members seem to be having problems with their landings. I would like to remind members that it is not a wise thing to taxi gliders into the tie down area or to use the T-hangars to stop their forward motion.

Taxiing gliders

It is very unusual to see *any* type of aircraft make a deliberate and abrupt change of direction while performing a normal landing. But, time and time again, I see MITSA pilots attempting 90 degree or greater turns to clear the grass area after landing.

A glider, while landing on the grass at Sterling, should be landed *straight* and level. Once the glider is firmly on the ground and under control, *and well slowed down*, it may be veered 20 to 30 degrees to clear the grass area.

I do not feel rules are a way to run an airfield and I do not like to set down an absolute "law." I do feel it is my responsibility to set the standards for club operations.

In the past few months, I have observed three incidents of extremely poor airmanship concerning taxiing of gliders. It is because of the seriousness of these incidents that I must make an unusually stringent policy concerning safety at the field.

1. Any pilot intentionally or unintentionally allowing a glider to change direction more than 45 degrees (unless in an emergency) while rolling out after landing will be asked to take a check flight with an instructor.

2. Any pilot taxiing a glider towards another aircraft, building, or obstacle and stopping within one wing span will have all MITSA flying privileges suspended for thirty days. After thirty days the pilot will have to apply to the chief instructor to renew his or her flying privileges. I will give private owners some lee way in rolling up to the rigging area but I can only stress that I have my limits.

3. Any pilot attempting to taxi down into the tie down area will be grounded and I will work very hard to have them expelled from the club.

Ground handling

Mike Baxa

Safety: first . . . middle . . . and last

If it weren't for the "untils," "buts," and "I don't knows," life would be easier!

The other day, upon arriving home late from work, my wife quickly ushered me into my son's room. My six-year-old had taken his colored pens and proceeded to add his artistic touch to every wall of his freshly painted room. How he got to some of the high areas still remains a mystery. His seven-year-old sister was eager to show me the evidence, while my boy remained hiding under his bed. When we sat down for the father/son talk about why he did it, his reply was consistent, simple, and honest: "I don't know."

Several years ago, a moderately experienced glider pilot was towing his machine back to the disassembly area. A student was helping by driving the vehicle and they were using a short club tow line. The driver sped up when they reached the asphalt and the sailplane easily accelerated. The pilot/owner on the wing tip shouted directions to slow down. The student abruptly did so (he stopped) and the glider rammed the vehicle. Everyone then gathered around to survey the damage, critique the situation, and pronounce guilt on the student. It is probably a good thing there aren't many pilots who are professional judges. Then again, our prisons wouldn't be so over-crowded with "ole sparky" getting a regular work out. When the pilot was finally asked the correct question of why he wasn't using another longer tow line, he replied, "I don't know. I always use my own rope for fear of something like this happening. It was close by. I just don't know why."

Club policy dictates that *ground tow ropes should be at least half the length of the glider*, and we should never ground-tow a glider faster than a slow walk. You can tow the glider slightly to the side of the tow vehicle, but not at an extreme angle as it puts undue stress on some glider tow release mechanisms. When moving a glider from the grass onto the asphalt, there is usually a small bump to jump. The line will go tense and eventually yank the glider onto the pavement. This can be a tricky time, especially for a glass ship, if the tow rope is short and someone is not in front to stop the glider. It will quickly gain speed with the line tension in combination with the wheel hitting the smooth surface. The man on the wing tip is helpless in preventing a ground-handling accident if he is alone. Club policy mandates *club gliders be towed on the grass* because the grass affords more resistance to acceleration. Club policy directs there always be *three people for moving a club ship* with one in the golf cart, one on the wing, and one in front next to the fuselage to prevent over acceleration. In the event of a tailwind, a fourth man should be on the tail to help hold it down. *When moving a glider, the wing tip man should be on the upwind wing*. According to those in the know, 70% of all glider accidents are the result of improper ground handling. I wonder why insurance rates are high?

One visual clue to distinguish the difference between a club operation, anywhere in this country, and a commercial operation is to look at the condition of the tie down ropes. I don't know why clubs, everywhere, let this slide. We take such pride in our equipment and give good attention to their upkeep, only to tie them down with ratty, weather-beaten lines. Sure, they were new when we put them on nine years ago! To a commercial operator his gliders are his livelihood and he will take no chances with a line snapping when the wind howls. His tie downs are always in good condition.

About four years ago, an old two-place trainer was air towed to another airfield here in New England for storage in a hangar. It was late evening when they got there and no one was around. The two highly competent and experienced pilots tied it down until morning. Again, the oldest ropes were used and the tail was not raised to keep the nose down. The elevator was secured by using the seat belt only, but the glider was in a somewhat sheltered area. A wind storm came up that night, the wind easily broke the lines, and the glider was blown over on its back and on top of a firmly anchored airplane. When the pilots were asked why they didn't do a better job of securing the ship, they responded, "But it was just for one night."

Tie down lines should withstand a minimum vertical pull of 2,000 to 3,000 pounds, or two to three times the gross weight of the sailplane. They should be replaced periodically due to natural deterioration. I would suggest replacement of tow lines every two years, if they are left outside during the winter. Rudder locks should be used and the tail elevated, if the glider is in an unsheltered area. Controls should be secured or tied down using the seat belt straps. With the tail on the ground, most gliders will develop enough lift to want to fly at well under 30 knots. This leads us to a third and final concern to keep in mind: unmanned glider flights.

Every club or operation must make an ongoing effort to prevent complacency from setting in, and this includes the routine of parking gliders and leaving them unattended. In about any situation where there was a blow over, the comments from those on the field will go something like this: "Gee, everything was fine, until the wind picked up." "Damn, it was a normal day until the wind shifted." "Crap, we saw the storm clouds coming our way, but thought they would by-pass us." The point is that of course we would do something preventive if we knew the results were going to be a negative outcome. However, we become complacent with routine.

In light to moderate wind conditions, a lightweight fiberglass glider should be positioned at 90 degrees into the wind with the upwind wing down and a tire or weight placed entirely on the wing tip. *A heavier glider such as an L-23 should be placed at 90 degrees to the wind with the upwind wing up*. The problem with tires being put on wings is that often they are placed half on the wing and half on the ground, the result being the glider wing easily working its way out from under the tire. More important, tires and weights are false security if winds are strong and/or shifting.

If the winds become strong, turbulent, and/or begin shifting, *the only safe course of action* is to place someone in the cockpit with the weight on the nose, hold the stick back to keep the tail on the ground, keep the air brakes open, keep the wings leveled with each wing tip manned, and tow the glider back to the tie down area and secure it. An added safety measure would be to push or pull the glider backwards into any headwind (the trailing edge of the wing does not present a good profile for airflow lifting action). The challenge for all of us is to take appropriate action to secure the gliders before something happens. It would also be my suggestion that *no glider on the "box" in the launch area be left unattended at any time, regardless of conditions*. The glider is at high exposure to a negative outcome for many reasons. A good rule of thumb might be that if the weather is looking suspect for continued flying, it is time to quickly and safely secure the gliders.

We are human, meaning that we forget, we become preoccupied, we convince ourselves it will be the other guy, we fall back into complacency or old habits, and so on. I have always thought the best highway safety sign would be a small white cross or star (miniature white cow if you are Hindu) wherever anyone had lost their life along the route. I am afraid we would see more reminders than we would like and there would be greater safety and courtesy on our roads. Think of any glider safety discussion in terms of little white markers or reminders.

Like the bumper sticker says, "stuff happens." We sometimes do things for which we have no rational explanation. It does not mean we have an excuse or that we are mentally impaired or that we should just throw up our hands in resignation. The dilemma for all aviators is that mistakes in our sport are far more costly than in other activities, and I don't just mean in terms of dollars. When things go wrong, they do so with great rapidity. When we walk on the field to enjoy ourselves and have some well-deserved fun, we must do so in a mind-set of full safety awareness, all the time.

By the way, the walls in my son's room will be repainted this winter. He has placed posters over his cave drawings. The posters are of motorcycles, military jets, and snakes. Wonderful. Ten years from now I suspect the child rearing issues may be a bit more complex than marked up walls.

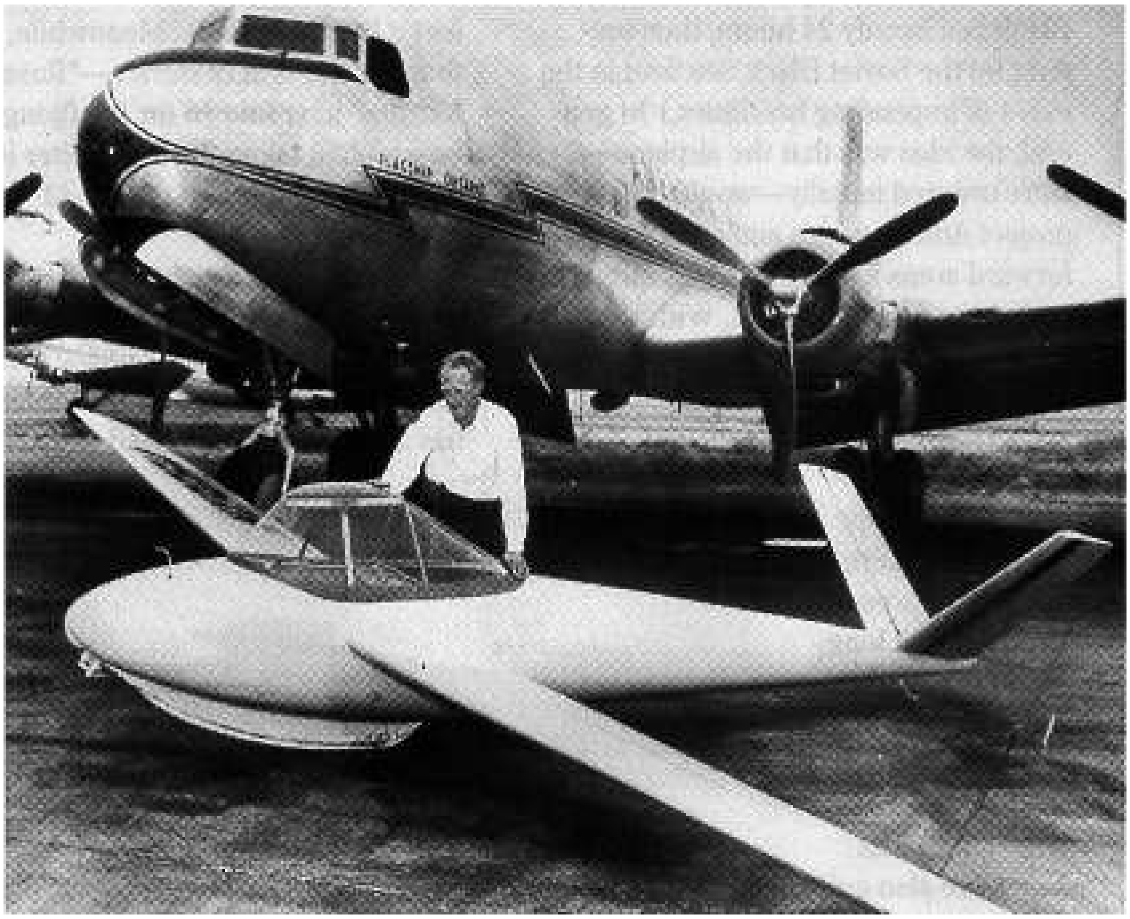

Figure 1: "Burbank, California, July 19 — a giant and a pygmy — posed with a giant DC-6 plane is what is believed to be the smallest all-metal glider yet constructed. Made from a P-38 drop tank, it was designed by Irving Prue (above) of Burbank, California. The odd V-shaped tail enables the craft to land without becoming entangled in weeds and brush." (Source: *Flight Journal*, February 1998.)

Gliders in WWII

Mark Tuttle

Phil Gaisford recently forwarded to the club's email list a message he received from a woman wanting information about the use of gliders during World War II. I forwarded his message to Bert Speranza, an active member of the club until two years ago, and he sent me the photograph reprinted on the last page of this newsletter with the following comment.

"Gliders served a very important function, which was to deliver troops and supplies across the English Channel to the front lines and mostly behind the lines. I have observed them after they were down on the ground in combat areas. I was a pilot flying B-24's with the Eighth Air Force (491st Bomb Group) and did not get to see their operation as we were high level (25,000 feet) and they were low level. However, from time to time, after we took off and while we were climbing out, they could be seen training or in actual assault formation. They were towed by C-47's (DC-3) which were capable of towing three gliders at a time. I remembered a picture from my photo book which was taken when we dropped supplies at tree-top level behind the lines (a really unusual job for B-24's) to the Allied troops in Holland-Belgium. There are gliders on the ground which probably carried heavy supplies (jeeps, guns, and so forth). Men were trained to fly the gliders on tow and then became part of the ground forces after landing. For more accurate information, contact the Soaring Society Museum, Harris Hill, Elmira, New York where there is a glider on display."

Even my father has a story about military gliders. He grew up in a large house near the Clay County fair grounds in Spencer, Iowa. When the doctors removed his appendix, they gave it to him in a glass jar, and he buried the jar behind the house. Years later, the military began using the fair grounds to train glider pilots. As my father watched the gliders being towed up into the air, only he knew that they were training right on top of his appendix.

Glider activities in 1933

Mark Tuttle

The following material comes from The Aircraft Year Book for 1934 *published by the Aeronautical Chamber of Commerce of America (New York), originally purchased by Omaha attorney William Hotz in 1934, and repurchased by Lincoln father Morrie Tuttle in 1997. —Editor*

Gliding and soaring proved of absorbing interest to an increasing number of enthusiasts in 1933. At the end of the year the Aeronautics Branch reported 149 licensed glider pilots, including two women. California led with 25. New York was second with 20 and Ohio third with 15.

Licensed gliders numbered 56, with 585 unlicensed gliders bringing the total to 641. Here, too, California led with 99. New York and Ohio each had 55. Michigan and Pennsylvania each had 47.

The two weeks of adventure at the annual meet in Elmira, New York in July, under the auspices of The Soaring Society of America, was replete with thrills. There was plenty of bad weather. Thunderheads appeared over the Chemung Valley without warning, and on occasion they were ridden over into the Finger Lakes region.

Among the winners of the various events were Emerson Mehlhose with 178 minutes aloft in a sailplane, R. F. Carey with 196 minutes aloft in a utility glider, and Richard C. DuPont rising to 4,334 feet in a sailplane and again riding 18.4 miles. Jack O'Meara, N. H. McDowell, and Warren Eaton made notable records in stunting.

One of the most interesting glider events of the year was Richard DuPont's expedition to the Blue Ridge Mountains in September. The Washington Glider Club had pioneered in that section. Mr. DuPont won the American distance record when on September 21, 1933, he traveled 121.6 miles in his Bowlus sailplane from Rock Fish Gap, Virginia to Frederick, Maryland, that distance approaching the world record of 136.8 miles.

The world record for duration with gliders was made August 3-4, 1933, by Kurt Schmidt in Germany. He remained up 36 hours and 35 minutes.

The same book contains comments on regulatory changes made during the year. Some changes sound like precursors to the recreational certificate and the Jessica Dubroff accident. —Editor

A new amateur grade of pilot license may be obtained after 25 hours of solo flying, provided the applicant passes the written examination and flight test. Prior to the creation of the amateur grade, students had to fly 50 hours to qualify for license, and could then take the test for either the private or limited commercial grade. The holder of an amateur pilot license is privileged to fly licensed aircraft on his own responsibility, and may carry licensed transport, limited commercial or private pilots, but no other passengers.

Student licenses are now valid for two years instead of one. Amateur and private pilots are required to undergo renewal physical examinations every two years — private pilots previously were examined annually. Applications for license renewals in the noncommercial grades (amateur and private) may be submitted by mail, relieving pilots of personally seeing inspectors, although in the commercial grades (transport and limited commercial) personal appearance before an inspector is still required. Persons under 21 years of age are required to obtain consent of parents or guardians before they can be issued any type of pilot licenses.

Private pilots now may operate aircraft carrying guests, executives, or employees of companies by which they are employeed, provided no payment is made for the transportation, and they also may demonstrate to prospective buyers aircraft in flight. Limited commercial pilots have been given a similar privilege with respect to operations outside their base areas; such flights previously were permissible for limited commercial pilots only within ten miles of their home airports.

The Air Regulation Division, besides effecting the foregoing changes respecting operations of private owners and noncommercial airmen, kept abreast of changes in other phases of aeronautics by making the necessary changes in regulations. Authority has been given for passengers to sit at controls of dual controlled aircraft, if operated by a pilot licensed in the higher grades and no passengers are carried for hire.

44th Bomb Group **Holland-Belgium** **March 1945**

Figure 2: A photograph from Bert Speranza showing gliders on the ground during a mission to drop troop supplies during World War II. Look carefully for the hand-drawn oval under the bombers labeled, “Gliders crash land every which way in fields.”

Nomination Form
1998-1999 MITSA Board of Directors

- President:
  - Phil Gaisford
  - Nominee: ______________________ Nominee's signature: ______________________
- Vice president:
  - Carl Johnson
  - Nominee: ______________________ Nominee's signature: ______________________
- Secretary:
  - Walter Hollister
  - Nominee: ______________________ Nominee's signature: ______________________
- Treasurer:
  - Steve Glow
  - Nominee: ______________________ Nominee's signature: ______________________
- Maintenance:
  - Jim Emken
  - Nominee: ______________________ Nominee's signature: ______________________
- Operations:
  - Al Gold
  - Nominee: ______________________ Nominee's signature: ______________________
- Logistics:
  - Bruce Easom
  - Nominee: ______________________ Nominee's signature: ______________________
- Membership:
  - Joe Kwasnik
  - Nominee: ______________________ Nominee's signature: ______________________

Your name: ______________________ Your signature: ______________________

The members explicitly named above have already agreed to run for the indicated positions. Feel free to nominate yourself or any number of other club members for board positions. Each person you nominate for a position must sign your nomination form to indicate that they agree to run for the position. You must also sign your form.

Your nomination form must be returned to Carl Johnson, 150 Islington Rd, Newton, MA 02166 before February 14, 1998.