

Syracuse Thunderbirds Aero Radio Society

Plane Propwash

November 2013

Charter 473

NO MEETING FOR DECEMBER

The Next General Meeting will be January 8th, at 7:00 at Walt's

2014 Officers

Herb Moore, President
Carl Moore, Vice President
Bob Rowe, Treasurer
Jeff Wolsley, Secretary
Peter Seiffert, Safety Officer

Directors:
Chuck LeVine, 2011-2013
Peter Seiffert, 2007-08
Bill Orr

Volunteer Staff:
Jeff Wolsley, Propwash Editor
Michael Graham, SYG Administrator/Club Historian
Chuck LeVine, Webmaster
Herb Moore, Field Committee

The next STARS meeting will be at Walt's January 8th, at 7:00. As a reminder, the meeting is always the second Wednesday of the month. The STARS meetings will be at Walt's until spring.

Secretary's Perspective:

2014

There were no departing words from Chuck, so allow me to take a minute to address the membership.

Our newly minted President, Herb Moore, picks up the gavel on January 1st, or when Chuck gives it back. Let's all welcome Herb to the head of the STARS. The club awaits your first executive decision.

We would be remiss if we didn't say thanks to Chuck LeVine for his dedicated effort as our President. Under Chuck's firm guidance, we have completed many field improvements and made the Heli-Jam a successful annual event. I think I can speak for the entire membership when I say we wish you well in your post-Presidential activities and as the newest member of the Board of Directors (B.o.D.).

Thanks to Dan Williams for filling in on the BoD after Roy's departure.

The new VP is Carl Moore (no relation to the President). Carl has decades of experience influencing people. -nuf said there.

Bob Rowe continues to head up the Treasury. Peter Seiffert still wants us all to be safe, and I will still do my best to keep you informed of what's happening, despite the misinformation that I put here in the monthly publication of the Propwash. Hopefully Peter will continue to set me straight, or straighten me out. I can't remember which it is he's done it so many times.

We all look forward to the 2014 Flight Schools. May they have good weather and another successful crop of new pilots?

We also welcome Mike Graham as the first official Club Historian. His first official duty will be to fully document all of the 2013 historical events that went on. Good luck with that, Mike.

Remember- there's no December meeting. That's what the Christmas party is for. And there's no Propwash until after January's meeting either, because of the Christmas party in December.

Let's all be safe, healthy, and prosperous (and good pilots) in 2014.

Secretary, Jeff Wolsley

Please get your 2014 dues in. They can be mailed directly to:
Bob Rowe
211 Sedgwick Drive
Syracuse, NY. 13203.

Or pay them at the January meeting. Late fees apply after the January meeting.

Secretary's Report: Jeff Wolsley

The November 2013 STARS regular meeting was called to order at 7:00pm. There were 10 Open Members, 4 Associate, 1 guest, and 0 youth members in attendance.

Secretary's Report:

The Secretary's Report from the October 2013 meeting was submitted. Peter Seiffert made the motion to approve and 2nd by Mike Graham. Carried.

Treasurer's Report: Bob Rowe

Some MIA former members have come forward for their field share payoff. Motion to approve by Mike Graham and 2nd by Dave Jewell. Carried

Committee Reports:

Field Committee: Herb Moore

Field winterization is just about complete.

AMA: Peter Seiffert, AMA District II, AVP

The FAA has developed a roadmap to integrate drones into the airspace. R/C flying protected in the reorganization.

Phil Morgan suggested to review the club safety rules at the beginning of each meeting.

Nothing new to report on the MoST program.

Still will host the Boys/Girls Scouts. There are approximately 130 in attendance at these events. There are 4 dates scheduled for the last 2 weeks in Jan. and the first 2 weeks in March, 2014.

Peter will post the exact dates soon. 5 to 6 volunteers are needed to host these. Contact Peter Seiffert if you are interested. The format is a Q&A session with 1/2hr of flying. From 6:30pm to 7:30pm. Trying to resolve conflict with the WRAM show date.

Safety Report: Peter Seiffert

Can't say it enough- RANGE CHECK, RANGE CHECK,

RANGE CHECK! Even the military seems to have a problem with this. Note the recent loss of one of their drone over Lake Ontario. Had they performed a simple range check before flying the drone, they would have found out just how bad those orange transmitters and receivers can be. BTW- that's all our \$\$ at the bottom of the lake now.

All kidding aside, if you don't know how to range check your equipment, the instructions that came with the radio gear will spell out how to do a range check. If you can't remember the last time you did a range check, you need a reminder. Tape a note to the top or inside your flight box to remind you to do a range check before starting the engine or arming the motor. Repeat with an assistant, with the motor running in case the ignition system or motor electronics are creating interference.

Flight School: Bob Rowe

Both flight schools will continue as they have in the past.

STARS Web Site: Chuck LeVine

Please check out the new website listed in the Links section- Flyboysblog.com.

Volunteers are needed to help maintain the field cameras and other computer hardware. If you are interested, please contact [Chuck LeVine](#).

There are four (4) cameras now! Please view the field cam at <http://www.amadistrictiistars.org/>
<http://www.amadistrictiistars.org/scam.html>

This is an infrared cam so you can see some activity at night.

Old Business:

Club Officers:

Elections will be at the November meeting.

Peter Seiffert is the head of the elections committee. Please see Peter if you are interested in running for the President or challenge any of the other positions.

Christmas Party:

See the flyer attached. The date is 12/6 at RFH's Hideaway. Please get your choices to Herb Moore by 11/28 at the latest.

Gifts- guys are blue, girls are red.

STARS Club Hats and Shirts: Bob Rowe

Get your hats before the HeliJam. Bob has more hats! The price is \$ 15.00 Please see/contact Bob if you are interested in a STARS shirt. Bob has a catalog with the shirt styles, with the STARS logo embroidered on it. The price varies from 10.00-40.00 dollars. These are **nice** shirts.

Auction:

The STARS Auction will be Jan 17th. There is a 10% buyer's premium.

Model Aircraft Forum:

The MAF will be on Jan. 18th.

Walt's Secret Santa Sale:

The Secret Santa Sale will be November 23rd. The STARS will have a booth there. Volunteers needed to staff the booth. Kyle Stacy and Clay Wheaton will be there as well.

New Business:

Elections:

2014 STARS Club Officer Candidates were put forward to a vote. The candidates are:

President- Herb Moore Secretary- Jeff Wolsley
Vice President- Carl Moore Safety Officer- Peter Seiffert
Treasurer- Bob Rowe

A motion was made by Phil Morgan and 2nd by Dave Jewell to accept the officer candidates proposed for 2014. The Open membership in attendance approved the candidates for office for 2014. The STARS Secretary Confirmed the vote.

Facebook:

The STARS now have a Facebook page.

New Members:

No new members.

Adjournment:

The November regular monthly meeting of the STARS was adjourned at 7:23pm.

Secretary, Jeff Wolsley

After the Meeting Show and Tell

Phil Morgan brought some goodies for everyone to look at.



Multiplex Ultra Funjet- Phil purchased this at the 2013 NEAT Fair. First off, Phil was impressed with how well the model was packed. It was also a very easy build. There are lots of upgrades available for this model.

It has a 3c 3700ma battery, 2900kv Himax motor, 80a ESC, and HS metal gear servos. Phil says that it makes lots of noise. This model is hand launched (watch your knuckles!). All up, RTF, this model is around \$ 350.00.

Phil also showed off a neat, and very complete, LiPO voltage meter from Hobby King, for under \$ 10.00. It shows each cell individually, how much left, total voltage, high and low.

Also from Hobby King, a servo centering device for under \$ 10.00. If you don't have one of these, you should get one. It allows you to set up your servos and linkages without using the transmitter to center up the servo to correctly set the control surfaces.

Safety Officer Report: Peter Seiffert

Please range check and inspect your aircraft prior to takeoff! *(Remember- Takeoffs are optional- landings are mandatory).* If you don't, don't be surprised if you get heckled for kitting your ARF. Don't be an oxy**MORON**.

PLEASE remember to RANGE CHECK all aircraft before flight- GOOD! Range checking during flight-NOT so good!

Calendar of Events for November-January (and beyond) **Events:** *Editor's Note- Also watch your e-mail for sudden changes to events like cancellations or re-scheduling due to weather.*

November 23 Walt's Secret Santa Sale Event

March 2 STARS Snow Fly

December 6 STARS Christmas Party

Indoor activities have started. Look for additional indoor events and updates to indoor flying schedules!

January 17 STARS Auction at Walt's

January 18 Model Aircraft Forum

February 21-23 WRAM Show

Indoor helicopter flying at Walt's- 5:00-8:30 Wednesdays and Thursdays. For any additional information contact Walt's Hobby 453-2291

Flight Schools- Flight Schools open April 2014.

MoST Volunteer Schedule- Hibernating until interest resumes. However the Boys and Girls Scouts program continues. Starting again last 2 weeks of January and the first 2 weeks in March 2014. Exact dates and full details to follow. Please contact [Peter Seiffert](#) if you wish to volunteer.

Please visit the AMA DistrictII website or the Event Section in the back of Model Aviation for additional information on these and other event

Advertisements:

FOR SALE:



FMS Edge 540 blue, new in box, receiver ready. Includes brushless motor, esc, servos and prop, 52" wingspan length 50". This is there newest product as advertised in the November Model Aviation. \$200.00.

[Peter Seiffert](#), 635-6370

If you want to list modeling items for sale, R/C services offered, or a really neat R/C web site, this would be a good spot. Free for members. Send your advertisement by e-mail to jwolsley@ix.netcom.com. Please put STARS ADVERTISEMENT in the subject line.

Links-

New website to check out- <http://www.flyboyzblog.com/>

This site has articles pertaining to both full scale and model aircraft. Check it out.

how to build a rc jet B-1 Bomber # 173 pt 1

hornitpilot 404 videos Edit Subscription



A REALLY COOL WEBSITE- Thanks to former STARS member Rick Colvin for pointing this out at the June 2009 meeting-

For those of you who ever wanted to learn how to make a fiberglass plug and molds, this is the guy to check out. Even if the plane in the project doesn't interest you, the education from the process may. Bob Moore (B1 Bob) takes you through each process step by step, including the "Bob-o-neered" parts. He shows you how to make professional looking parts in his garage workshop. This includes carbon fiber composite parts as well as the use of light weight foam to produce so really impressive light weight but very strong parts. He shows all- the good and the bad, so you get to learn right along with him. If the YouTube hyperlink doesn't work, copy the following URL into your browser line and click go. It's over 2900 videos. Six kits have been sold. Bob is working through landing gear issues that he hopes to

have fixed this fall. The original B-1 is for sale on RC Universe. Bob promises that he will be starting on the improved B-1 in 2014.

How To Build A B-1 Bomber 10 Minutes At a Time. http://www.youtube.com/watch?v=HqTKJU6PlkA&feature=channel_page

This is the link to the web site- <http://www.b1modelproject.com>

Howard Blair found an interesting video from YouTube on micro flight

<http://www.youtube.com/watch?v=fuoFA2fKjEo&feature=fvst>

Tom Catalino pointed out this site recently. An excellent site for Lipo battery info-

<http://sites.google.com/site/tjnguytech/charging-how-tos/balance-connectors>

Peter Seiffert sent along the following web site- www.servodatabase.com/servos/all

Mike Graham has a torque conversion chart-



Arming Switch Information-

AMPΦ- Arming The Big Boys, by Greg Covey November 2007

http://www.rcuniverse.com/magazine/article_display.cfm?article_id=950

RunRyder- How To Make A Spark Arrestor for an ESC by Lucien Miller

<http://www.helifreak.com/archive/index.php/t-289393.html> look down to the post from gbidwell from 4-24-2011 0601am. That's the exact article that I have from RunRyder.

Note- Many of the newer ESC's have a built in spark arrestor. If you still see and hear the spark, this is a good idea to save the plugs.

The Link for the AMA is:

<http://www.modelaircraft.org/>

The link for the AMA DII Calendar is:

http://www.amadistrictii.org/amajoom/index.php?option=com_events&Itemid=56&task=view_month&month=8&year=2013

The link for the club yahoo users group is:

http://groups.yahoo.com/grjwoup/stars_club_members/ (Don't forget to sign in)

The link for the STARS club home page at DII is

<http://www.amadistrictiistars.org/>

The link for the STARS club web cam is:

<http://www.amadistrictiistars.org/scam.html>

The Propwash News Letter is also available at YAHOO GROUPS. The current news letter and previous years/months are viewable and printable from there.

Please contact Mike Graham tanjmg82@aol.com to join the STARS Yahoo group. Send Mike an email asking to join from your preferred email account. Mike will then reply with an invite to join the group. The invitation contains the links and instructions necessary to join.



STARS Field Satellite photo



Aero Radio Club of Syracuse
Syracuse Thunderbirds Aero Radio Society
Central New York Indoor Flying Society



Jointly Present the 18th Annual

***MODEL AIRCRAFT FORUM
and Electric Fly-In
[Swap Shop too!]***

**Saturday, February 01, 2014
9 AM to 4 PM**

at

Syracuse Academy of Science Charter School

1001 Park Avenue, Syracuse, New York, 4 blocks from Hiawatha Exit off 690 East

AMA Sanctioned! AMA license required to fly!

**ELECTRIC and RUBBER FLYING HELD IN 80' x 80' x 24' INDOOR FACILITY
in separate large room**

**AIRCRAFT STATIC DISPLAY and Swap Shop (no commission)
STARS/ARCS FLIGHT SCHOOLS and RC FLIGHT SIMULATORS
HOBBY VENDORS and WALT'S HOBBY SHOP
*Concession Stand open all day!!***

**Raffles held through out the day
(Prizes Donated by Vendors and Manufacturers)**

**Admission - \$4.00
Children 6 to 12 - \$1.00
Children 5 and under - free**

For more information, contact:

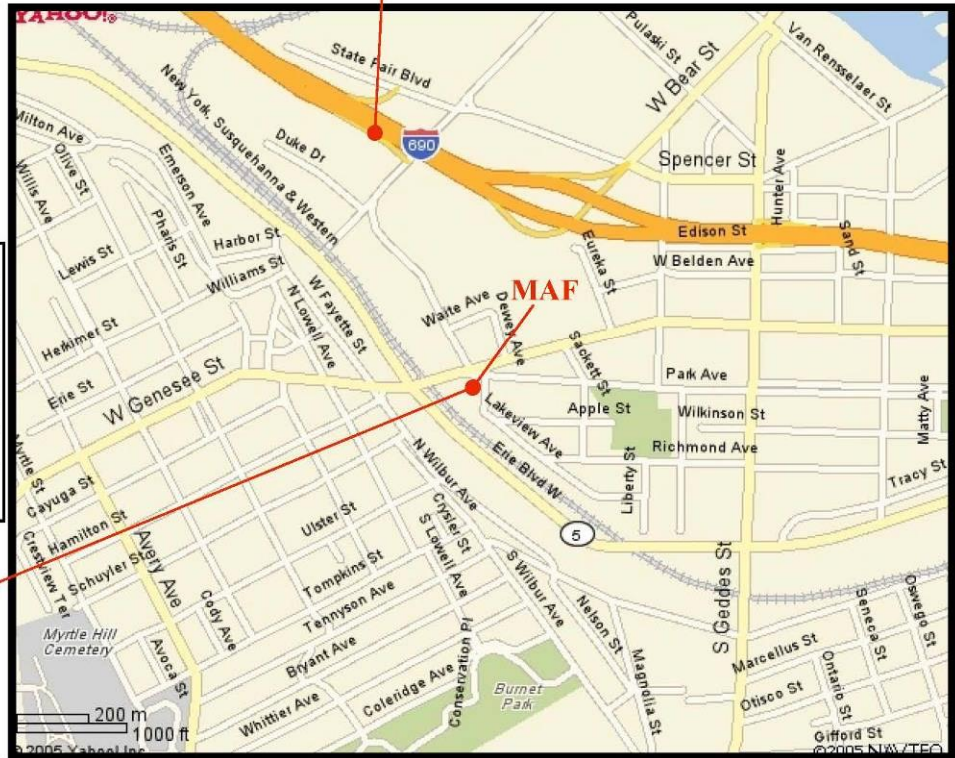
Peter Seiffert at 315/635-6370 or Herb Ziegler at 315/638-2824
pseiffert2@gmail.com and herbz1957@yahoo.com



Bring your Indoor Aircraft and Fly with Us

See back for map

Hiawatha Exit



The location of the Syracuse Academy of Science is just off West Genesee Street. Parking is off street and immediately outside the gymnasium on the school grounds.

76° 10' 51" W , 43° 03' 12" N



Plenty of room for flying your indoor models here!! Tables will be setup on the stage for working on models and charging them.

If you have models to display or a booth to set up, the room below the flying area can accommodate all your needs. Concession stand will be open during the day for hot sandwiches and cold drinks.





S.T.A.R.S.

Auction 2014



When?

Friday, 17 January 2014

5 PM to 9 PM

Bidding starts at 6:00 PM

Where?

Walt's Hobby

No Admission Fee!!

Only Modeling Aircraft and Related Items will be Auctioned

10 % Commission will be charged on all Sales

Sellers will not be permitted to bid on their own Equipment

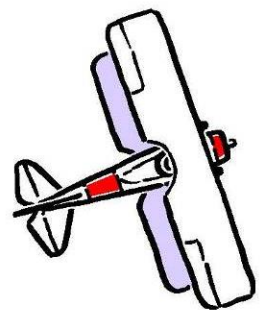
A Minimum acceptable bid will be required on each item up for Bid

5:00 PM to 6:00 PM — Setup and Preview

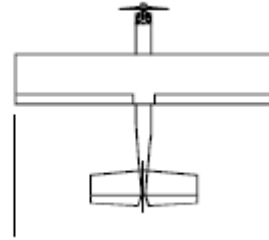
Auctioneer: Phil Morgan

For more information, contact:

Phil Morgan: 457-3674



S.T.A.R.S. Field Rules



1. General:

- A. License: All pilots, students, and flying guests *must* have a current membership in a nationally recognized model aircraft association in order to fly. Those pilots participating in the Park Pilot Membership Program must fly models that weigh two pounds or less and be incapable of reaching speeds greater than 60 mph. They must be electric or rubber powered, or of any similar *quiet* means of propulsion.
- B. Spectators: Only those people essential to flight operations will be permitted in the pit area; all others will remain on the spectator side of the fence. Impound: All pilots, students, and flying guests must place their transmitter(s) in the impound area immediately upon arriving at the field.
- C. Vehicles: Vehicles will not be permitted *on* the flying field.
- D. Crash Debris: Pilots must retrieve all pieces of their aircraft after a crash. Particularly, attention must be made to obtaining all pieces of aircraft that land in the neighboring fields under cultivation.
- E. Trash: All members will take home their own trash.
- F. Alcoholic Beverages: Members will not consume alcoholic beverages prior to, nor during, participation in any *modeling* operations.
- G. Smoking: Smoking will not be permitted in the pit area or on the flight line.
- H. Mowing: Flying on the field will not be permitted if the field is being mowed or maintained.

2. Transmitters:

- A. Frequency Control (*For non 2.4 GHz transmitters only*): All members, students, and guests *must make use of the field frequency control system*. Each pilot will obtain the correct frequency flag (or pin) from the impound board and attach it to his/her transmitter before attempting to fly.
- B. Range Checks: Each pilot will conduct a successful radio equipment ground range check before flying a new or repaired aircraft and prior to each flying session.

3. Engines:

- A. All internal combustion engines run at the field will have a silencer (except for small displacements of .09 cubic inches or less).
- B. When running an engine in the pits, keep neighboring personnel behind the prop arc.

4. Flying:

- A. Boundaries: Flying over the pit area or the spectator side of the fence is prohibited, unless beyond the control of the pilot(s).
- B. Taxing: Taxing is prohibited in the pit area!
- C. Flying:
 - (1). Pilots will initiate their first turn after takeoff away from the pit and spectator areas.
 - (2). Engines will not be started before 9 AM Monday through Saturday and 11 AM on Sunday, unless approved by the Event Director.
 - (3). No more than three aircraft will be permitted in the air at one time.
 - (4). All flying will be conducted from the designated flight boxes.
 - (5). Hand launching of aircraft is prohibited from the pits.
 - (6). Flight operations will cease during electrical storms.

5. Guests:

- A. All guests must have a current membership in a nationally recognized model aircraft association in order to fly.
- B. Guests may fly at the field only with the approval of a member in good standing and only as long as a sponsoring member *remains at the field*. Guests will not fly unattended.
- C. A local guest will be allowed to fly at the field on three (3) separate occasions and then will be asked to join the Club.
- D. An out-of-town guest may make arrangements with the Club to fly at the field while visiting the area. The Club Officers and the Safety Officer will handle each out-of-town visitor on a case-by-case basis.
- E. *All guests are required to extend every courtesy to current members sharing the same flying frequency*. But when there is a conflict over who shall fly, the Club member will have the first option to fly. Both the guest and the members should use common sense while sharing the flight line or using the same radio frequencies.

6. RC Aircraft Utilizing “First Person View” Systems (AMA Document 550):

A. GENERAL:

- (1). FPV flying of radio control model aircraft by AMA members is allowed only for noncommercial purposes as a hobby/recreational and/or competition activity.
- (2). All FPV flights must be conducted in accordance with AMA’s current National Model Aircraft Safety Code and any additional rules specific to the flying site/location.

B. OPERATIONS – REQUIREMENTS - LIMITATIONS:

- (1). AMA FPV novice pilots must use a buddy-box system with an FPV spotter while learning to fly FPV.
- (2). All FPV flights require an AMA FPV pilot to have an AMA FPV spotter next to him/ her maintaining VLOS with the FPV aircraft throughout its flight.
- (3). The FPV pilot must brief the FPV spotter on the FPV spotter’s duties, communications and hand-over control procedures before FPV flight.
- (4). The AMA FPV spotter must communicate with the FPV pilot to ensure the FPV aircraft remains within VLOS, warning the FPV pilot of approaching aircraft, and when avoidance techniques are necessary.
- (5). The FPV spotter may at any time during an FPV flight acquire the transmitter from the FPV pilot and assume VLOS control of the aircraft.
- (6). If the FPV pilot experiences a problem due to a loss of video link, orientation, or is unable to safely fly, he/she must abandon FPV mode and fly VLOS or pass the RC transmitter to the FPV spotter to assume VLOS control of the aircraft.
- (7). Before initial FPV flight and after any flight system changes or repairs, FPV model aircraft must be test flown by conventional VLOS to determine that flight systems are working properly.
- (8). FPV model aircraft must use frequencies approved by the FCC for both the RC system and the wireless video system. Pilots must meet applicable FCC licensing requirements if they choose to operate the RC flight control system or the wireless video system on Amateur Band frequencies.

C. RANGE – ALTITUDE – WEIGHT – SPEED:

- (1). One of the requirements in Federal Law (Public Law 112-95 Sec 336 (c) (2) February 14, 2012) for model aircraft to be excluded from FAA regulations is that model aircraft be flown within VLOS of the operator.
- (2). Model aircraft flown using FPV must remain at or below 400 feet AGL when within 3 miles of an airport as specified in the AMA Safety Code.
- (3). Model aircraft flown FPV are limited to a weight (including fuel, batteries, and onboard FPV equipment) of 15 lbs. and a speed of 70 mph.

15Nov13

STARS Club Rules End

STARS

Field Protocol

Dedicated to responsible
RC fun with safety by
choice, not chance.

1. General:

- A. Civil and courteous behavior is required at the field at all times.
- B. Safety is paramount and everyone's business. Use common sense in all matters.
- C. It is strongly recommended that you do not fly alone.
- D. Learn where the First Aid station is located and inform the Field Committee if material has been issued from it.
- E. When opening or closing combination locks, *always* set the wheels to 0000.
- F. Last member out must close and lock the refrigerators, pavilion, and main gate.
- G. Cell phones are not to be used on the flight line or in the pavilion near the transmitters.

2. Engine Courtesy:

- A. Long term tuning and initial break-in should be conducted away from the pits and spectators (usually at the engine break-in stand).
- B. Do not direct prop wash at other modelers, their aircraft, equipment, or bystanders behind the pit fence. Kindly inform those bystanders near the fence that you intend to start an engine before you do so.

2. Flying Courtesy:

- A. Any person wishing to enter an active flying field or runway to cross same or to retrieve an aircraft, must loudly announce their intention to all fliers on the flight line.
- B. A "landing" aircraft has the right of way over an aircraft "taking-off".
- C. A "dead stick" aircraft has the right of way over all others.
- D. All take-off and landing attempts must be announced to other pilots on the flight line. Take-offs are normally announced by saying "taking off", and landings are announced by saying "landing" or coming in". Dead stick landings are announced clearly to all pilots in the pits and on the flight line by saying "dead stick".
- E. A pilot having difficulty in controlling his/her aircraft must announce to all in the pits and on the flight line that he/she is experiencing radio or mechanical problems. Pilots on the ground preparing to fly will turn off their transmitters and wait for the problem to be resolved before continuing to fly. Fliers in the air will stay clear of the aircraft in distress and will land, if possible, as long as it does not contribute to the crisis. All personnel near the pit area must be alerted to the situation.
- F. If a crash occurs on the field or in the pits, all flying will stop until the accident has been investigated and the debris has been cleared from the field.
- G. Normal flight duration is 10 minutes. Obviously, flight time may be extended if there are no other pilots waiting to fly or waiting for a particular radio channel.
- H. When you have finished flying, please return your transmitter to the impound.

3. Good Earth Policy:

- A. Place recyclables in the appropriate container in the pavilion.
- B. Turn off all pavilion lights when departing the field for the night.
- C. The field does not have a trash removal service. If you carry anything to the field, carry it back out.
- D. If a pilot or guest brings a pet to the field, he/she will be responsible for supervising the animal's conduct while at the field. Please observe all appropriate Field Rules.
- E. If you smoke, please place all cigarette butts in the butt cans in the field.
- F. Do not throw cans or bottles or any other trash in the outhouse pits.
- G. DO NOT DRINK THE WELL WATER. Well water is to be used for washing only.

4. Replacement Courtesy:

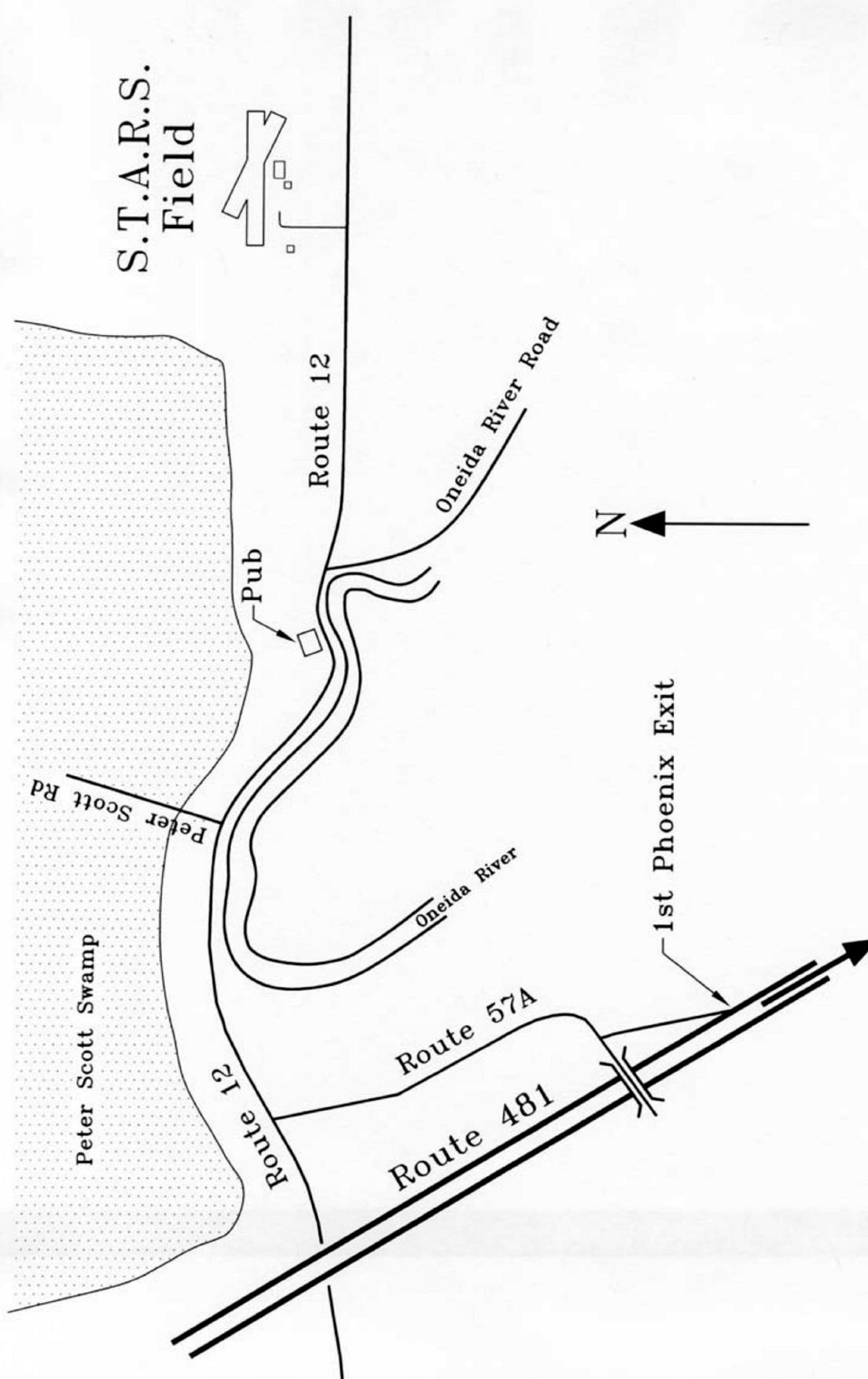
- A. Where an individual's plane or property is damaged by the actions of another individual, it will be the responsibility of the two parties to resolve the situation in an appropriate manner.

STARS POLICY REGARDING PHOTOGRAPHY

- STARS is a membership organization organized under the laws of the State of New York.
- The STARS flying field, located in Phoenix, New York, is owned by STARS, and as such, is privately owned property.
- The purpose of this policy is to limit and restrict the reproduction of images, in any form, of the STARS property and the activities which occur thereon.
- While the STARS property is privately owned, members, guests, and the general public are welcome at the field during published field hours of operation. Members, guests and the public must adhere to all rules imposed by STARS regarding entry upon and/or the use of STARS property, including the STARS policy on photography.
- The reproduction of images of the STARS field or the activities thereon, in any form, is a privilege and not a right.
- Except as provided below, the reproduction of images of the STARS field or activities thereon in any form, including, but not limited to film and digital still photography, and video photography in either film or digital form, is strictly forbidden.
- Violation of this policy will result in immediate expulsion of the violator from the STARS premises, and may subject the violator to criminal and/or civil sanctions and penalties.
- Members in good standing of STARS shall be exempt from the above requirements so long as any images or video produced of the STARS premises or the activities thereon are for personal and non-commercial use.
- Guests and the general public may be permitted to photograph or video the STARS property and activities thereon, but only for personal and non-commercial use, and only with the prior written consent of the Club's executive board.

Map to the STARS

starsmap.dwg
rev 12 Feb 03



To No. Syracuse
and Route 81

Map to S.T.A.R.S. Flying Field in Phoenix, New York

Plane Propwash

Syracuse Thunderbirds Aero Radio Society
Monthly News Letter
November 2013