

Editor—Bob Purdy

Happenings Dan Bott at AMA

Trans-Atlantic Model Photos/ Videos The Slow Roll is published by the Sun Valley Fliers by and for its membership to all others interested in the building and flying of radio control aircraft.





Inside this issue: Cover Photo by Bob Purdy on a Cool March DayOEAF Memorial DayTwin Electric SetupVintage WingsGlueSVF CLUB Starting 43 yearsSVF Photos

President Report Board Meeting & Minutes Birthdays in back SVF MEETING June 6 @ 7 PM

New Board Members/Officers





Presidents Report For June 2018

Hello all.

Well the election is over. I would like to welcome back Frank Moskowitz and John Gever to the Board the (2) Board positions filled. Thanks to all the other Nominees who took the time and effort to run. I would like to welcome Danny Smith as our new Treasurer! As for the rest of the Board it is all the previous incumbents. Thanks to Bob True and Bobby Santoro for a great election!!Thanks again to Steve Myers, Tom Kametz and Nate D"Anna for all their involvement in our club!!! Thanks guys!!

The Board has been working on New rules for High Altitude flying and spotting for our club. We been having too many problems on this topic and we are fine tuning the wording on these items. As soon as they are finished I will put out an email to the effect. In the meantime please make sure you are flying WITH A SPOTTER. If you are flying without a spotter you will be challenged by a Board Member! Remember this is your club please PROTECT IT! Be safe.

It is getting hot out now please to remember to hydrate and stay in the shade. Look out for one another!!

Our Membership meeting will be held on Wednesday June 5th at Deer Valley Airport Restaurant. It will be at 7:00pm. If you want to eat get there earlier.

Lou Pfeifer N. President



Membership Meeting Minutes 05-02-2018

Meeting called to order at 7:01 pm by Lou Pfeifer IV

Officers: President- Lou Pfeifer IV, VP- Andrew Schear, Secretary- Robert Poe, Treasurer-Nate D'Anna

Board Members: Jamie Edwards, Wayne Layne, Wayne Robinson, Bob Santoro, Bob True. **Absent:** Tom Kametz, Bryant Mack, Ernie Mack, Steve Myers.

Open: Tonight is the 2018 Election meeting. Lou thanked the incumbents and the nominees for their participation. He also thanked Bob True, Bobby Santoro and Dan Crum for running and overseeing the election.

Guests: None

New Members: None

Solo Pilots: None

Secretary's Report: Robert Poe

1) Minutes from 4/05/2018 were approved. 1) John Geyer 2) Harold Meeker

Treasures Report: Nate D'Anna

1) Minutes from **4/05/2018** were approved. 1) Jim Spice 2) Jamie Edwards - Lou also noted this is the last night for Nate as the Treasurer. Nate is off to Wisconsin to greener pastures literally.

Safety Officers Report: None

Membership Report: Bob True/Bobby Santoro. They reported that 140 members voted in the election and the electronic balloting was a complete success. They are also working on website renewal with GO Daddy and were able to negotiate a much lower yearly subscription price and faster speed as well. This will give the IT team some time to evaluate alternatives.

Old Business: Lou took time to review the tower call implications and other altitude related incidents. Huge possible implications and consequences for the Club if further violations occur. Pilots who fly high will be liable for the consequences and due process will be observed. Lou is taking the issue to the Board next week. He is advocating for a zero tolerance policy for altitude infractions, and the Board needs to come up with a decision on how to deal with the violations going forward. Andrew Schear reminded the members that the airspace is completely owned by full scale aircraft and our UAV/RC models have no legal right of way or standing.

New Business: Election results were announced and the votes tallies were read and passed around. If anyone wants to look at the tallies in detail, the Membership Committee and the Secretary have copies of all the reports. Thanks to the new Board for helping make the Club better going forward in 2018!

Door Prizes: Wayne Robinson, John Geyer, Norm Pilcher, Dan Bott, Lou Pfeifer Sr., Nate D'Anna 50/50: Lou Pfeifer

Show and Tell: None

Adjourn at: Meeting adjourned at 7:34pm by 1)Andrew Schear 2)Frank Moskowitz

Respectfully submitted, Robert Poe



Sun Valley Fliers BOD Meeting Minutes - 05/07/2018

Meeting called to order at 6:29 pm by Lou Pfeifer IV.

Executive Members in Attendance: President-Louis Pfeifer IV., Andrew Schear - VP, Treasurer- Dan Smith, Secretary- Robert Poe

Board Members in attendance: Jamie Edwards, John Geyer, Frank Moskowitz, Wayne Robinson, Bobby Santoro Absent: Ernie Mack, Bryant Mack, Wayne Layne, Bob True

Open: Returning Board Members Frank Moskowitz and John Geyer were welcomed. Our new treasurer Dan Smith was welcomed. Thanks to all of our incumbents that have returned to help the Club be a great club again for another year. **Members/Guests:** None

Guest Statements: None

Secretary's Report – Robert Poe

• **Minutes** from **04/09/18** meeting were reviewed and approved. 1) Andrew Schear 2) Frank Moskowitz. **Treasurer's Report – Dan Smith**

• Financial report for 04/09/18 were approved and on file for review. 1) John Geyer 2) Andrew Schear.

Membership Director's Report – Bobby Santoro.

- 212 members still to date, no change from April.
- Bobby reported that Bob True and he elected to remain with Go Daddy for hosting for another year as the Club got a promotional deal and this will give the Club time to evaluate hosting alternatives.
- Safety Officer's Report Ernie Mack Ernie absent, no report.

Old Business:

- 1. Lou signed a NEW five (5) year Use Agreement with Maricopa County and the City of Phoenix which is great news for the SVF Club. Many thanks to our liaison to all the agencies involved Wayne Robinson for the tireless hours he put in to get this agreement finalized!
- 2. Lou made opening remarks about the high altitude flying issue and the potential impact on the Club if the rules are not followed by SVF members. Other input from various attendees of the meeting was encouraged. After discussion, in recognition of the potentially severe consequences to the Club and its use of the field if the altitude rules are not followed, the Board voted unanimously for the following 3 motions (see next page):

Motion 1- Continuous high altitude flying Continuous high altitude flying is prohibited at all times at the SVF field. Pilots are prohibited from engaging in sustained high altitude (above 400 feet) flight, and the minimum penalty for violating this rule will be suspension of flight privileges for the remainder of the day. This rule will be enforced at the discretion of an SVF Board Member or Officer. Further violations of this rule may be subject to additional sanctions and penalties at the discretion of the Board. 1) Lou Pfeifer 2) Andrew Schear

Motion 2- DVT Tower call regarding UAV sighting by full scale pilot A violation of the high altitude flying rule accompanied by a phone call or other notification from the DVA tower of a controlled airspace altitude sighting by a full scale aircraft of a UAV will subject the pilot of said UAV/RC aircraft to an immediate 30 day suspension at a minimum. The SVF pilot involved in the incident will be required to appear at the next SVF Board meeting for a discussion of the incident. 1) John Geyer 2) Frank Moskowitz

Motion 3- Motion regarding spotters Every pilot flying at the SVF field MUST have a spotter at all times while in the air. A pilot flying without a spotter may be subject to disciplinary action by the SVF Board of Directors. A second offense of the spotter rule by the same pilot on the same day will result in that pilot being asked to cease flying for the day and he/she will be asked to attend the next SVF Board meeting to review and discuss the rule violation. 1) Wayne Robinson 2) Frank Moskowitz

New Business:

1. Lou thanked the 2018 Board for signing up again to make this Club better. Everyone looking forward to making it a great year!

Meeting adjourned at 8:10 pm 1) Dan Smith 2) Bobby Santoro

OEAF Members Honoring Memorial Day at Greenwood Memory Lawn Cemetery



















What's Happening



The SVF gang at the Central Arizona Modlers Annual May Fun Fly.



Tony, Wayne, Ray F-86 1/3.7 Scale 124" Wingspan 74 lb Wet Tomahawk brand kit. Built and painted by Trond Hammerstad of Skien, Norway





Choosing the Right Glue



Published on *Model Aviation Written by Terry Dunn*

There's a television commercial that reminds us to shop around for car insurance every six months, lest we miss out on a better deal. Maybe we should apply similar logic toward the glues we use. If you haven't scanned your hobby shop's glue shelf in a while, you may be unaware of some contemporary offerings.

As new materials have been ushered into the modeling realm, so have new adhesives. Likewise, new modelers are often unfamiliar with some of the classic hobby glues that have stuck around.

This article is not intended to be a comprehensive catalog of modeling glues, but is meant to serve as a broad overview of what's available. This article also avoids the technical aspects of how and why glues work and behave the way they do. Chemistry never was my best subject, so I'll stick to the basic properties and practical applications for each of the listed glues.



Polyurethane glues expand as they dry and fill gaps. This is useful when repairing damaged models.

In no particular order, the glues I've chosen to discuss are:

Cyanoacrylate (CA): This is the most popular type of glue in all of modeling. I'm comfortable making that assumption. Thick, thin, foam-safe—at least one type can be found on nearly every modeler's workbench.

Yet, CA is also one of the most hazardous glues on the list. Who among us has not glued his or her fingers together, ruined a pair of jeans, or cried from the fumes?

Most of us are willing to accept and manage that risk for the reward of strong and immediate glue joints. **Polyvinyl acetate (PVA):** Most of us have been using (and perhaps eating) PVA glue since grammar school. Whether you call it Elmer's Glue or white glue, you already know that it is ideal for attaching raw macaroni to construction paper. It is also useful for gluing balsa airframes together.

Yellow Carpenter's Glue is also a PVA glue. It tends to be a tackier than white glue when wet, which is often useful.

Canopy glue: Although canopy glue looks similar to common white glue, it performs differently. Canopy glue bonds well to nonporous materials and remains flexible when dry. These properties are what make canopy glue well suited for attaching plastic parts (such as a canopy) to the skin of a finished model.

Goop: This household glue has a strong odor until it dries into a rubbery consistency. It sticks to nearly anything, but it will dissolve some foams (always test first). It works great on vibration-prone joints.

Cellulose glue: Modelers have been using cellulose glues such as **Ambroid** for decades. It is still a favorite adhesive for weight-conscious and/or nostalgic builders. Cellulose glues can be thinned with acetone to the desired consistency and applied with a syringe for extra precision. When dried, the glue is lightweight and easily sands.

Contact cement: There are many types of contact cement but they work in the same basic way. Glue is separately applied to each of the mating parts and allowed to dry, then the parts are combined for a quick bond. This is a popular adhesive for sheeting foam wings and building foamies.

Epoxy: A longtime favorite for high-stress joints, two-part epoxy is hard to beat when strength is the main objective. It requires careful mixing to ensure proper curing and deliberate application to avoid excess weight. Epoxy is available in versions with various working times (5-minute, 30-minute, 1-hour, etc.). There is an art to dispensing each part in equal amounts and also sizing the batch to have the right amount of epoxy for the job. **Hot glue:** Hot glue is applied using a gun-like, heated applicator. The low-temperature versions of hot glue can



be applied directly to sheet foam without melting it. The quick drying (cooling) time of hot glue makes it ideal for assembly of flat foam models. Keep in mind that hot glue joints can get brittle in freezing weather.

Hot glue is handy for quickly assembling sheet-foam models. This fancy glue gun has a variety of applicator tips. Even inexpensive glue guns are effective.

Polyurethane glue: This glue expands as it dries, making it ideal for repairing crashed models. Bond strength can be improved by poking holes in the mating surfaces. It can also be used for initial builds. Water (including humidity) is the catalyst that kicks off the curing process. Care must be taken to keep the bottle airtight between each use to prevent curing.

Water-based polyurethane: This easily applied, brush-on liquid can be found in the household paint section at your local hardware store. It provides a lightweight method for adhering fiberglass cloth to balsa or foam models, although it does not provide the same degree of structural rigidity of an epoxy-based finish. It can also be used to laminate foam sheets together.

You may have a favorite glue or two that isn't on this list. Be sure to share that secret adhesive with your flying buddies. More importantly, watch for new glues. It appears that there is always something new, and this week's release might be what you've been looking for!

Glue type	Common names	Common application	Drawbacks	Advantages
Canopy glue	Pacer Formula 560	Attaching plastic detail parts	Overnight drying time	Water soluble; dries clear and flexible to finished models
Cellulose glue	Ambroid, Duco Cement	Wooden airframe assembly	Flammable when wet because of acetone	Lightweight and easily sanded
Contact cement	GWS Glue, UHU por	Applying wood sheeting to foam wings	Requires a two-step process	Bonds are typically instant and permanent
Cyanoacrylate	CA, Super Glue, Zap, Hot Stuff, Jet Glues	Nearly everything	Can be an irritant; joints are brittle	Fast cure time
Ероху	Z-Poxy, two-part epoxy, 5-minute epoxy, finishing resin	Bonding high-stress joints; applying fiberglass cloth	Heavy; requires precise mixing	Robust
Goop	Amazing Goop, Shoe Goo	Joining vibration- prone components	Strong odor; somewhat heavy	Strong, flexible joints
Hot glue	Hot glue, low- temperature hot glue	Sheet-foam models	Brittle in cold weather	Allows for fast building
Polyurethane glue	Gorilla Glue, Elmer's Pro-Bond	Crash repairs	Typically has a short shelf life	Expands to fill gaps
PVA glue	White glue, Elmer's Glue, carpenter's glue, aliphatic glue	Wooden airframe assembly	Slow drying; other glues do not stick well to cured PVA	Non-toxic; strong bonds
Water-based polyurethane	Minwax Polycrylic, Rust-Oleum Varathane	Applying fiberglass cloth	Finish is prone to dings and hangar rash	Lightweight; inexpensive; easy to apply

Learn more about building!

[Editor's note: Because there are so many types and brands of adhesives, we don't have the space to list websites for them all. A search of the Internet or a visit to your local hobby shop or home improvement store should provide any additional information you might need.] —Terry Dunn

AMA International Flight Headquarters

Attached are photos from my trip last week to Muncie. Acting as Chairman of the AMA Foundation Board I inducted new board members and presented our progress to the AMA executive council and then we toured headquarters and the museum.



A DAY IN MAY AT SUF



























Setting Up Multi-Motor Electrics

John Reid

It is no secret that the advantages of electric motors used with multi engine airplanes far outweigh the disadvantages when compared to glow

power. First there is the clean factor; you never have to wipe oil off of your plane when using electric power, unless of course you flew too close to the overly rich glow plane or landed in an oil spill. The other thing is reliability; you never have to worry about getting both motors started and there is only a very rare chance of a motor autiting during the flight. So, let's see what we need to do to properly set up a good running electric multi-motor plane.

WHAT TO LOOK FOR IN A TWIN

The first thing you need to consider is having an easy-to-reach compartment for the battery pack(s). As with all electric planes, you want to be able to easily remove and install battery packs for changing. The plane just has to have an open area that would be able to fit the packs; you may or may not need to make some type of removable hatch for easy access to this area. It would be a good idea to have the battery compartment somewhere near the CG so the additional weight of the batteries will not need to be compensated by more weight to balance out the plane. Many twin planes will have a center fuselage that will be perfect for this. If the plane you are considering for E-conversion only has space for the batteries near the rear of the fuselage, you may want to consider using a different model.

The second thing to think about is easy access to the motor location or nacelles, especially for ESC placement, which should have some type of airflow going through it. There should also be some easy pathway through the wing for all the wiring you will need to run to the battery and receiver. Once your plane has met these requirements you are ready to install the E-power system.



Generally, adding an electric motor to a glow kit is much easier. They take up less room, have fewer cutouts on the cowl, and are easier to install. Here are the motors mounted on the VQ models A-26 using an adjustable mount.

WHAT TO USE

One of the hardest parts of doing an electric setup is just trying to figure out what motor combination to use for your plane. Fortunately for us modelers, many manufactur-

ers are more than willing to help you out. A simple phone call is all you need to make to find just the right motor for your conversion. Many hobby shops and manufacturers can tell you what motor will be right for your plane if you let them know what size gas or glow motor the plane is made for. You will generally have a couple of equivalent motors that would work well for your application. For me, I like to use the stronger of the selections just to make sure the motors are never over-stressed, which could happen if you pick the weaker motors and rely on their maximum performance all the time just to fly the aircraft.

ESC SELECTION

Once you have the motors selected the rest falls into place. The ESC needs to be the right type for the motor (brushed or brushless) and be able to handle the maximum about of current the motor will require. For example, let's say you have a motor that normally runs at about 30 to 40 amps but has a maximum limit of 50 amps; you



should get an ESC that can handle 50 amps.

This A-26 is the perfect candidate for electric conversion. Plenty of room to run the wires through the wings and the batteries are located under the center hatch on top of the wing.

Battery Packs

Depending on how you wire up the system, the battery pack will either be used for one or both of the motors, or you will have two packs feeding power into all motors. When using one battery for both motors (or four if you have a heavy bomber) you will need a battery that can handle the power draw of all the motors. First, consider the voltage requirements of the motors. If your motors can run on four to five cells then that is all the battery will need to be. You will not need eight to 10 cells because you are running two motors.

However, the amp draw will need to be doubled or quadrupled depending on how many motors you have. For example, if you have two motors, each one draws 40 amps continually so you will need a battery that can keep up with an 80A continuous draw. How do you find out the amp draw of a battery? You must multiply the battery pack's capacity by its "C" rating. If I have a 4000mAh LiPo battery pack that is rated at 15C, that pack can only have a maximum of 60000mAh (15×4000 = 60000mAh) or 60 amps pulled from it at any time. This means that this battery pack will not work for an 80A setup. But, if that same LiPo pack has a 20C discharge rate (20×4000 = 80000mAh) it could support an 80A draw. The only problem with this pack combination is if the motors pull more than 80 amps, you run the risk of heating up the pack from drawing too much current and puffing it, thus ruining the battery pack. I like to pick my battery power combination with a little extra breathing room so if my power system pulls more amps than expected I have some reserve amps in the pack. In this example I would use a LiPo pack or combination of packs that would equal 5000mAh at 20C allowing me to pull up to 100 amps from the pack at any time. The advantage here is if the system does pull more then 80 amps the batteries can handle it, and because the batteries are not performing at their maximum peak they run a lot cooler.

WIRING

The beauty of using LiPo batteries for power is that they are lightweight, give longer running times and can be wired in any combination. This is very advantageous for us when we are running more than one motor. When connecting your batteries in series you are doubling the voltage while maintaining the same capacity rating (amp hours). This is done by connecting between the negative of the first battery and the positive of the second battery. Then run the negative wire off the open connector of the first battery to the negative of the motor, and then run the positive off the open connector of the second battery to the positive of the motor. You would use this type of connection if your motor needs 22.2 volts to operate. Simply connect two 11.1V batteries (3-cell packs) together (with the same capacity), in series to make a 22.2V (6-cell) pack.

But in most cases, you will be wiring up the packs in parallel, which would double the capacity (amp hours) of the battery while maintaining the voltage of one individual pack. This can be accomplished by using a Y-connector between two or more batteries that connects the positives of both batteries and the negatives of both batteries together. Then have a positive and negative wire go from one of the batteries to the motor. This is how we can use two batteries together to meet the current draw required by our multi-motors. In our example above we could connect two 2500mAh 5-cell (18.5V) packs together in parallel and make a 5000mAh 5-cell battery. That would be more than enough to power the needs of our two motors.



Most twins, such as this OV-10D Bronco, have a roomy fuselage in the center of the wing that is a perfect place for a battery compartment.

MAKING CONNECTIONS

You do have a couple of options on how you can connect the battery packs to the motors. This first option is to connect a proper-size battery to each motor. The advantage here is that each motor has its own power source and a simple wiring setup. Just connect a separate battery pack (of the required size) to each motor/

ESC. The disadvantage is that as the battery packs get older they may discharge at different rates, causing one motor to be weaker than the other. This creates more torque on one side of the aircraft, and in some cases this could roll the plane over in a death spin, especially if one battery quits at slower speeds.

The other connection option is to use a Y-connector to join both motors to one larger pack of the required size to feed both motors. The advantage here is that when the battery is running low or is weaker, both motors will reflect that in their performance, maintaining equal torque on both sides of the aircraft at all times. The disadvantage is a little more complicated wiring setup. On a four-motor plane, such as a B-17, use a Y-connector to join the inboard motors to one battery pack and the outboard motors to another battery pack. That way even if one battery totally fails, you will still have motors on both sides of the plane working.

This Lancaster from ASM Models, has both the inboard motors attached by Y-harness to two batteries while the outboard ones are attached to two different batteries. All four battery packs are stored in the fuselage in the nose right in front of the CG point to balance out this large plane.

CONNECTING MULTI-MOTORS TO THE RECEIVER

Each motor on your multi-motor plane will need its own ESC. Don't try to connect one ESC to two or more motors, it will not work. But, you can use a Y-connector to attach all of the ESCs to the throttle channel or connect each one to its own channel on the receiver and mix them, through the radio programming, to the throttle channel. On my B-17 (4-motor plane), I used a Y-connector to attach the inboard motors to the throttle channel and connected the out-board motors to an open channel and mixed that one to the throttle channel. That way they would all operate as one in the air, but on the ground I could flip a toggle on the transmitter and only have the inboard motors operate while taxiing.

WRAP-UP

As you can see, wiring for multi-motor planes is not all that hard. Now you have no reason not to convert your next multi-engine plane to great E-power performance. Enjoy the reliability electric power offers and enjoy more flying time.

House of Representatives Passes FAA Reauthorization Act



http://www.vintagewings.ca/VintageNews/Stories/tabid/116/articleType/ ArticleView/articleId/606/Wildman.aspx

Trans-Atlantic Model Flight Equipment

In August 2003, Maynard L. Hill flew a model airplane, referred to as the TAM 5, from Newfoundland to Ireland. The total flight took 38 hours, 52 minutes and 19 seconds and covered 1,881.6 miles. To make the flight possible, Maynard spent years researching aeromodelling design and engine fuel mixtures. He also got input from electronics and computing experts to assemble an electrical system that could have the model remain in level flight as it tracked and maintained its path to Ireland.



Equipment installed in Maynard Hill's Trans-Atlantic Model. Display on loan from the National Electronics Museum.

In the January 2004 *Model Aviation article* "Two Sunsets and Still Flying," Maynard first notes that there was an "Aveox brushless motor core was used as an alternator to provide power for all of the electrical components." Those components were not just the traditional receiver and servos for ailerons, rudder and throttle, but also a "custom-designed autopilot, its harness, its piezoelectric gyro, its pressure sensor and a GPS receiver." The specialized equipment all together only weighed 8 ozs.



A close-up of the GPS system installed in the Trans-Atlantic Model. Display on loan from the National Electronics Museum.



A close-up of the gyro installed in the Trans-Atlantic Model. Display on loan from the National Electronics Museum.

The TAM 5 has been on exhibit at the National Model Aviation Museum since it was donated by Maynard in December 2003. It is now joined by an exhibit showcasing equipment from another TAM that has had its framework and covering removed so interior workings can be clearly seen. Also included is one of the four transmitters that were involved with the flight. This exhibit is on loan from the <u>National</u> <u>Electronics Museum</u> and will be available at the NMAM for at least a year.

JUNE 2018 SVF Birth Day Boys

Louis E. Pfeifer

Ernie Mack

Barry Finck

Jared Simmons

Joey Marranca

Joe Giammarino jr

Yuri Higuchi

Peter Dickinson

Tom Perkins

Hugh Duff

Loren Counce

Jerry Dolbow

Keven Resinger

Allen Casey

SPECIAL NOTICE TO PILOTS!

6

"Sun Valley Flyers Utilizes a 400ft ceiling for flying model aircraft allowing for only momentary breaks caused by non-sustaining maneuvers.



All pilots must utilize a spotter at all times and abide by AMA Rule 540d" (see and avoid procedures)

Any pilot willfully violating this rule is subject to loss of flight privelages.



Mon-Fri 9:00 AM — 8:00 PM SAT 10:00 AM —- 8:00 PM SUN 11:00 AM — 6:00 PM







THE SLOW ROLL

Club Officers 2018-2019 Lou Pfeifer IV, President Andrew Schear, Vice President Dan Smith, Treasurer Robert Poe, Secretary Safety Officer Ernie Mack

Bobby Santoro Website Supervisor Please check your Membership list for Phone numbers.



Board of Directors Wayne Layne '17-19 Jamie Edwards '17-19 Bryant Mack '17-19 Bob True '17-19 Wayne Robinson '18-20 Bobby Santoro '18-20 Frank Moskowitz '18-20 John Geyer '18-20 Ernie Mack '18-20



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