



President—Frank Moskowitz Vice President—Tony Quist Treasurer—Gene Peterson Secretary—Rusty Fried

## **JUNE 2009**



Editor—Bob Purdy rcbobsvf@aol.com

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 Joe Balabon...Prez report... Minutes... June B'Days & Treasurer Report...Safety article reprint....SVF Members & Election photos...How to Land....LiPolys reprint.....D.Pits is back...Caiif Scale Fly In Flyer..& MORE...ENJOY!



### THE PRESIDENTS CHANNEL

#### FRANK MOSKOWITZ





Welcome to Junes Slow Roll.

Elections are over and for those of you that weren't in attendance at the election meeting in May, the results are as follows: All of our current club officers; (President, Vice President, Secretary and Treasurer) were elected to hold their current positions. I thank those of you that voted for me to continue as President. Howard Kennedy

was voted in as a new board member. He will be replacing Tony Holden. I wish Howard good luck and am looking forward to working with him and the rest of the BOD's to make Sun Valley Fliers Club the best RC flying club in Arizona!

Here is the most current list of your **Officers:** Frank Moskowitz – President, Tony Quist – Vice President, Gene Peterson – Treasurer, Rusty Fried – Secretary.

**Board Members:** Charlie Beverson, Mike Peck, Howard Kennedy, Ron Thomas, Paul Steinberg, Dan Jacobsen, Eric Stevens, Bruce Bretschneider and John Geyer. *Editor: Photo gallery of these members elsewhere in the newsletter.* 

**Joe Balabon** has volunteered and was unanimously accepted by the board to become our new safety officer. He will be replacing **Tony Holden** who has done an excellent job as safety officer. Thank you Tony for all your input and ideas on helping our members stay safe.

Mike Peck received an "Outstanding Service Award" for his 32 years (1977-2009) of service and dedication to the Sun Valley Fliers Club. Your one of a kind Mike! Thank you again.

Remember our next meeting is **Wednesday June 3<sup>rd</sup> at 7:30 pm.** If you want to eat I suggest you arrive no later than 6:30 pm. **Location is Deer Valley Airport Restaurant.** (7<sup>th</sup> avenue and **Deer Valley Road). Lots of great food and a smoke free environment.** The Club meetings get better every month. We will always have more than one raffle prize and the 50/50 could make you very happy \$\$\$. You never know what might happen, and you don't want to miss it.

Have fun out there!

Frank Moskowitz

President

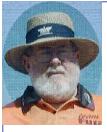
SV7meeting June 3, 2009

#### **WANTED!**

Please if you have this CD/DVD please contact Bruce Bretschneider at 623-334-4760 or brucebr1@cox.net

Bruce will appreciate it!





#### Sun Valley Fliers Club Meeting Minutes Date, May 6, 2009

The meeting was called to order at 7:32 pm by President Frank Moskowitz. There were 50 members in attendance.

Guests: Mr. Ed Klein

New Members: Mike Marranca & Joe Marranca, Welcome.

New Solo Pilot: Mitch Tauber & Bob Wainman received there solo pilot certificated, great job guys.

Secretary's Report: Voted and approved as published.

Treasurer's Report: Gene Peterson Voted and approved as read.

1. As of this meeting we have 289 paid members for 2009.

Safety Officer Report: None.

#### **Old Business:**

1. Mr. Val Roqueni and John Gever counted the election ballots and the results are as followed:

President Frank Moskowitz

Vice President Tony Quist Secretary Rusty Fried Treasurer Gene Peterson

**Board Members elected or reelected:** 

Eric Stevens
Paul Steinberg
Howard Kennedy

Mike peck

**Ronald Thomas** 

2. The field will be closed for a half a day on Saturday May 9, 2009 for quarterly field clean up.

#### **New Business:**

- 1. The SVF has an opportunity to receive a large generator as a donation.
- 2. Gene Peterson talked about doing a swap meet or auction in May. The membership was not very interested and the idea was shelved for the time being.
- 3. The upcoming float fly was canceled due to high water and no beaches that are out of the water.

Door Prize Winners: Fuel Tony Quist, Gloves John Geyer, Epoxy Joe Kiszczak, Fuel Val Roquein, Fuel Jack Jasperson, Glue Howard Kennedy, Fuel Jay Steward, Battery Mike Marranca

#### 50/50 Drawing Winner:

Was won by Nate D'anna and he received \$74.00.

Show & Tell: Dave Linne talked about Dremel's new cut off wheels. Available at Lows Home Improvement stores.

Bruce Bretschneider would like his DVD of the World Scale Championships back. Please slip it into a brown paper bag and leave it on his door step at midnight no questions asked!

Meeting adjourned at: 8:06pm.

Rusty Fried, Secretary

## **\$ TREASURERS REPORT \$** with Gene Peterson

TREASURERS REPORT \JUNE 2009



Finally getting some good flying weather with out the gale winds. Hope you are getting time to go burn up the sky some.

Just wanted to point out some new members that have joined our club in the past two months. If you run into one of them at the field, PLEASE WELCOME THEM. Some are new to RC and some have just been out of it for a while or just moved here.

Bob Hass Darrin Jeffries Ed Klein Michael Marranca Michael Smith

We're working on the a place for the new Generator and some fencing fix ups so you should see some of that happening in the next few weeks.

See you at the General Meeting, June 3rd.

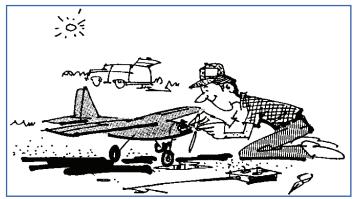
Have a nice month and fly safe.

Regards, Gene Peterson, Treasurer

#### **JUNE SVF BirthDay Boys**

First name Last name	Member type	Dob
Roy McNeil	Senior	06/01/1939
Jerry Kolins	Senior	06/03/1931
Philip Mahoney	Regular	06/05/1950
Richard Litt	Regular	06/05/1956
Tom Perkins	Regular	06/06/1964
<b>Mark Morris</b>	Regular	06/07/1961
Jared Simmons	Regular	06/07/1983
Ward Emigh	Senior	06/09/1934
Keven Resinger	Regular	06/09/1962
Lucky Mitchell	Regular	06/10/1944
Joseph Kiszczak	Regular	06/13/1954
Rob Keller	Regular	06/13/1969
Richard Wildey	Regular	06/14/1971
Allen Casey	Senior	06/15/1940
Yuri Higuchi	Regular	06/16/1969
Paul Donovan	Senior	06/17/1932
Scott Zeller	Senior	06/18/1942
Ryan Archer	Junior	06/20/1993
Robert Whipple	Senior	06/24/1932
Robert Ilseman	Senior	06/28/1921
Louis Pfeifer IV	Regular	06/28/1952
Dave Wartenberg	Regular	06/30/1955





### **SVF Elected Officers and Board Members**



**President Frank Moskowitz** 



**Vice President Tony Quist** 



**Treasurer** Gene Peterson **Board Members** 



Secretary Rusty Freid



**Charlie Beverson** 



**John Geyer** 



**Dan Jacobsen** 



**Bruce Bretschneider** 



**Mike Peck** 



**Ron Thomas** 



Howard Kennedy Dr. Paul Steinberg



**Eric Stevens** 

### VF MEMBERS PAGE

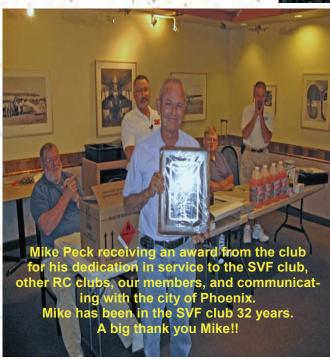


SVF Meeting & Election night Photos with Marty camera















# SCALE FLY-IN



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www.scalesquadron.com for more information & Directions

## JUNE 6 & 7, 2009 - Sat & Sun

Chino, California - Held at the beautiful Pomona Valley Model Airplane Club field in the Prado Dam Recreation Area. Newly paved 800' x 50' runway with paved taxiways. The Chino Airport, Planes of Fame Museum and Yanks Museum are only 5 miles away.

All Scale or Stand Off Scale Aircraft are Invited, including sport scale,
Built up, ARF's, Kits, Electric, Glow, Gas or EDF Jets.
(No Turbines or Profile Aircraft) - AMA Sanctioned Event - 400' Ceiling
Announced by the Voice of Top Gun: Sam Wright

Landing Fee \$15.00 with 2009 AMA Membership. (You can join AMA on site) Includes Pilot Raffle, ZAP Repair Kit, & Pilots Friday Night Tap Room

#### Awards 1 thru 3rd Presented For:

Best Military, Best Civilian, People's Choice.

#### 1st Place For:

Best of Show, Best Detailed Arf, Best Electric Prop, Best EDF Jet, Best Realistic Flight Performance, Commander's Award and NASA Flight Achievement Award. **Proudly Sponsored By** 





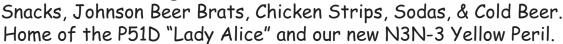






## ZAP TAP ROOM Friday Night

For Registered Pilots, Crews & Guest



Contest Director: Randy Wilbur 949-683-9662 or rwilbur@videotecheng.com

#### Overnight Camping:

Dry Camping - No Hook Up available at the flying site. \$10.00 per night. You will need current vehicle registration & Proof of insurance.



SVF members at Joe Nall Photos by Marty



#### Summer Safety at Your Flight Site. Any place!

Guarding yourself from mosquito and tick bites is also important during this season as both bugs can spread disease.

These important facts can help prevent the spreading of these diseases and can help reduce the risk of mosquitoes and ticks ate your flying site.

The Facts about Mosquitoes and Ticks:

#### **Mosquitoes:**

- Only female mosquitoes bite
- · Not all kinds of mosquitoes bite humans, many feed on only animals
- Mosquitoes need water to breed. Almost anything that will hold water for one week can breed mosquitoes
- The mosquitoes that carry West Nile virus do not fly far from where they breed.

#### Ticks:

- Ticks are commonly found in shady areas, moist ground litter, tall grass, brush, low tree branches, and along trails in the woods. They are also found in backyards that back up to woody areas.
- Ticks do not fly or jump
- Not all ticks carry diseases
- Ticks must be attached for a few hours to transmit disease

#### **Common Mosquito**



- Wear light-colored clothing so that ticks can be seen easily and removed.
- Weather permitting; wear long pants, a long-sleeved shirt with tight-fitting cuffs, and a hat when hiking, camping, or visiting tick-infested areas, or when mosquitoes are biting.
- Tuck pants into socks and shirt into pants, and wear a hat. Pull long hair back.
- When hiking, walk in the center of the trail to avoid overhanging grasses, weeds, and brush.
- Use insect repellant with DEET on exposed skin and products containing permethrin on clothes. Follow label directions. Do not use products that contain more than 10% DEET on children, or more than 30% DEET on adults. Consult a physician before using DEET on infants or pregnant women. Wash treated skin when mosquito and tick exposure has ended.
- Do tick checks frequently during the day and a full body tick check at the end of the day. Use a mirror and check behind ears, behind knees, underarms, and groin. Ask someone to help you check your back and scalp. Take a shower and wash your hair before going to bed.
- Do not sit directly on the ground—use a blanket or towel.
- Remove excess brush and keep grass mowed around your site.

#### **Common Tick**

#### How to Remove a Tick:

Grasp the tick as close to the skin surface as possible with fine-tipped tweezers. Pull the tick straight out slowly.

Wash and treat the bite area with a disinfectant. See your doctor if you develop early symptoms of tick-borne disease within the next 30 days.

Tick-borne diseases can be treated with antibiotics, but early treatment is important. Serious illness or death can occur if not treated promptly.

DO NOT squeeze the tick, twist the tick, light the tick on fire, or cover the tick in petroleum jelly, nail polish, alcohol, or kerosene. These "home remedies" may increase the chances of transmitting the bacteria and becoming infected with a tick-borne illness. •

—Information provided by survival-center.com and the Gerogia Division of Public Health.





#### 101 Ways to Stop a Spinning Propeller

By Don Nix, Insider Safety Column Editor

Unfortunately, we are limited to only a single safe one: Stopping the engine.

Yeah, yeah. Everyone knows that. Right? Well, if so, then why are more than half of all model accidents caused by model propellers—while turning? Because we do very stupid things sometimes. Because we get careless. Because we get too casual. Because we are inexperienced. Because we are so experienced we think common sense safety is for beginners. Because, because, because.

Well, that be the cause!

K&B engines might not be very familiar to newcomers to the hobby, but oldsters will remember that K&B was the leading American manufacturer of model engines for decades, having been started by Johnny Brodbeck back in 1946.

About 20 years ago, I was flying at the pilot's station next to one occupied by my good friend, John Brodbeck; the "B" of K&B engines, and son of Johnny, the founder. John was test flying an engine sent in by a customer seeking a solution to a puzzling problem. (Yes, company owners really used to do such things.) John had made a couple of laps around the field, but felt the engine was too lean, so he landed and taxied to the front of the pit to change the needle setting.

Now here's a fellow who is the owner of a model engine company, who had probably been weaned from Mama Brodbeck to a baby bottle filled with glow fuel, and had been around and using model engines since the earth cooled. One would think he would be extra careful; be sure the model was secure and tune the engine from behind. Instead, wanting to get on with the test, he reached across the propeller from the front. I can tell you it stopped the engine. However, flying was over for the day for both of us because I had to drive him to the emergency room to have a deep 3-inch gash in his forearm neatly stitched.

Yes, he was hurt, but said the worst pain was the embarrassment of being an engine manufacturer who would do such a dumb stunt (his words, not mine) at Southern California's busiest flying field in front of about 60 modelers.

My guess is, there are very few modelers who have been flying more than a couple of years who have not donated a little blood and possibly flesh to carelessness with propellers. For some of us, once is enough. Others have a little slower learning curve. It would be bad enough if their carelessness just injured themselves, but all too frequently an innocent person is hurt; sometimes more than just stitches.

I think I'll cut this column shorter than I had planned to allow you faithful readers (all six) to submit some of your own experiences that might quite possibly make others think twice before doing something stu ... er, illadvised.

Always glad to hear from you: flyerdon@aol.com or flyerdon@ yahoo.com

#### NOTE FROM AMA TECHNICAL EDITOR

A short time ago, a modeler wrote Ed McCollough (your humble technical editor) the following:

"Noticed and noted on the foot of page 66 of March Model Aviation underneath the picture of the Spektrum/JR flight logger, it is recommended that six-volt battery packs be used on ALL 2.4GHz receivers.

Called Horizon Hobby on the phone; they confirmed this statement. It was suggested the same six volt usage for other brands also.

Would like to suggest the general membership be made aware of this when 2.4 GHz receivers are used in glow/gas airplanes/helis to preclude possible in-flight loss."

When I read this, I agreed with him and wrote him I would get on the problem. Please, read what he wrote and consider it very, very carefully. Unfortunately, the answer to his question hasn't been that quick or easy, but for the time being, here it is:

If you are flying a 2.4 GHz system, follow the manufacturers' specifications for the voltage. If you are using a separate voltage pack for the receiver, be absolutely sure it has enough voltage to run the receiver. A common 5.0-volt receiver pack may not have sufficient voltage to run your particular receiver. Actually, if you used a six-volt pack and it was adequately charged, it should be sufficient, regardless of the manufacturer.

There is one problem, when using a six-volt pack if it isn't required by the manufacturer of your system. That problem will likely happen if you are using digital servos. If you drive some digital servos with six volts, there is a high probability you will damage the servos because of the higher voltage. Remember, if the servos fail, it won't make much difference that your receiver is still working.

You always need to be flying with a functional receiver pack, one that is as close to fully charged as possible. Remember, insufficient volts to the receiver and you crash.

Lastly, as in all things, and in all cases, read the instructions

## SVF MEMBERS PAGE



Photos by Frank, Marty, & Ron













Ron Peterec new Mustang

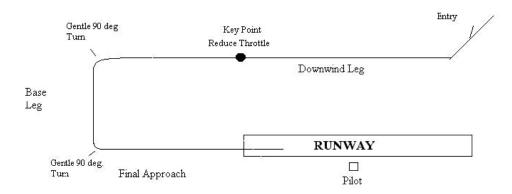
## BASIC LANDING TECHNIQUES PART ONE

Of all the possible landing techniques, only two seem to be the most taught at model fields today. We'll cover the easiest to fly, and most useful, here in Part One. This first landing technique follows the full-size landing pattern. Part Two will cover the "Great Circle" Approach that is harder to fly and less useful, but has good visual appeal.

The standard pattern approach (Fig. 1) has been finalized during the last 75 years of full-size flying. It is useful in several ways. One is easy traffic separation at busy airports. While good for full-size, traffic separation is rarely critical at RC model fields where the pilots are standing within a few feet of each other. In addition, most RC pilots have truly impressive vocabulary tools they employ when another plane comes too close to theirs!

But the traditional full-size pattern approach has other major advantages for the RC pilot. A normal landing requires the pilot to manage several important aircraft parameters such as speed control, descent rate, attitude (the plane's, not the pilot's), wind correction, approach position and touchdown point. Managing these tasks while the plane is close to the ground and in the short time available before landing is sometimes difficult.

The traditional landing pattern separates these piloting tasks into single, discrete operations. This pattern also provides the pilot extra time in which to plan and adjust the approach as it develops. To see how this happens, we'll break each major section of the landing pattern into its component parts. For now, consider there is no wind and the plane is a standard 40-60 size trainer. Take a look at Fig. 1:



The first part is the pattern entry into the pattern's first section, or "Downwind Leg". While shown at a 45 deg. angle in the diagram, entry position is not as critical for RC. Entry can be made from almost any safe angle, even from the runway side (a "crosswind entry"). The plane should complete the entry at about an altitude of 200 feet, at half throttle and located 1-200 feet to the pilot's right (or left side if the approach is flown from the opposite end, a "Right Hand" pattern). The pilot flies the first part of the Downwind while maintaining straight, level flight. With no wind, the Downwind leg should be about 200 feet out from the runway.

No other piloting task is required during this section, just straight, level flight. When the plane reaches a point opposite the runway end, the Key Point, the pilot reduces throttle to 2-3 "notches" above idle. The plane's nose will drop some and the plane will begin to descend. The pilot adjusts the descent angle by holding some "up" elevator while the plane is still flying straight. No other task is required at this time except to achieve the proper descent attitude. (Your instructor will help you achieve this attitude the first few times). Again only a single piloting task is required.

The pilot has 150 feet of straight flight to achieve the proper descent attitude. Usually, the fuselage is just slightly pointing downwards in most trainers. If the plane is at the proper attitude, but is descending faster than you would wish, add a notch or two of throttle. Do not raise the nose. Always remember, at any approach airspeed, throttle controls descent rate, elevators control airspeed. Raising the nose will only slow the airplane's speed due to increased drag and then the plane will descend MUCH FASTER. In fact, it may stall and then really descend faster.

Adding throttle provides extra air under the wing's center section and also over the tail. The extra lift slows the descent rate but doesn't really increase airspeed as long as the descent attitude is maintained. This seeming contradiction is harder for RC pilots to comprehend than it is for their full-size counterparts. Full-size pilots have only to feel the increased lift that the throttle provides, and watch their descent meter slow (actually called "rate-of-climb" gauge) while their airspeed indicator remains steady, to understand.

RC pilots just need to try this "up high" a few times at first. Fly past yourself about 250 feet high, at quarter throttle, in a sight descent and apply extra up elevator. Like a car going uphill, the plane gains some altitude but slows dramatically. Then the nose drops and the plane begins a steep descent. Make another pass in a shallow descent and apply a little extra throttle instead of elevator. The nose remains steady but the glide path becomes shallower.

Sorry for the digression, but that concept is important to every RC pilot, especially when flying high performance airplanes. We left the approach with the plane descending slightly and the throttle set 2-3 notches above idle. Next comes a gentle, max. 45 deg. bank, 90-degree turn into the "Base Leg". The same descent rate is maintained in the turn, add a notch of throttle if required. The turn is only 90 degrees; which is the easiest part of any turn since it is in the second 90 degrees of a turn where the plane slows and starts to drop. Actually this turn is over before the pilot realizes it. Again, just one piloting task is needed at any given time. The pilot only has to maintain straight, descending flight all through the Base Leg.

Then the plane is turned toward the runway with another gentle 90-degree turn. The plane is now headed towards the runway in straight descending flight. If the plane's touchdown point appears short of the point opposite the pilot, add throttle. If the landing might be past the pilot, called "long", remove those last 2-3 notches of throttle. Always maintain the descent attitude. If the airspeed appears too fast, add a little up elevator. If the plane is flying too slowly, you'll notice a very steep approach developing so add throttle and then release some up elevator. On the critical final approach, the pilot is only

managing the touchdown point. Everything else has already been accomplished. Once within 2-3 feet of the ground, just raise the nose slightly with up elevator, keeping everything else the same, and the plane will land main gear first in a straight line, right in front of the pilot. We did this approach with a trainer, but the same technique works for every plane from a scale fighter to a high performance Extra 300.

This all sounds great, but what about the wind? Thanks for asking. The pattern lets the pilot automatically adjust for crosswinds or for winds right down the runway, without any change in landing management. Consider a wind almost down the runway. All the pilot needs to do is to shorten the Downwind Leg after the Key Point! This shortens the Final Approach, reducing the amount of ground the plane has to cover. Since the plane has a slower ground speed on Final Approach, it covers the shorter distance in the same time. Therefore the identical descent rate works for wind or no wind conditions (Fig. 2).

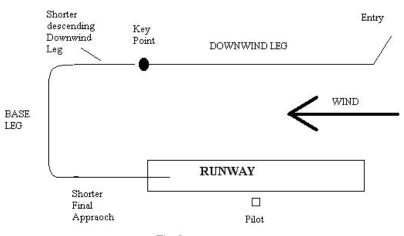
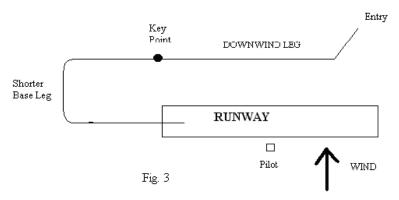
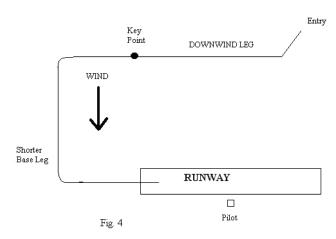


Fig. 2

How about a crosswind? Just move the Downwind Leg closer to, or further away from, the runway. This adjusts the length of the Base Leg. A shorter Base Leg reduces the distance the plane needs to fly if the Base Leg heads into the wind.



In Fig. 3, the wind is from behind the pilot. Obviously, the plane's groundspeed during the Base Leg will be reduced. So the Downwind is flown closer to the runway to compensate for the Base Leg's reduced ground speed.



If the crosswind is towards the runway (Fig. 4), fly the Downwind further away. The longer Base Leg compensates for the higher groundspeed. In cases where there is a 45degree head/cross wind, move the Downwind and adjust its length as required.

There is one final wind adjustment. In order to compensate for any crosswind component, the plane must be flown headed slightly into the wind, especially on final approach. This has the effect of increasing the ground distance since the plane's movement is not all directed in a straight line. In this case, reduce throttle to 3-4 notches above idle at the Key

Point instead of 2-3 notches. Remember more throttle means a slower descent rate and

this compensates for the extra "distance".

That's it! The pilot needs to complete only one task at a time, no matter the wind conditions or the aircraft being flown. One size does fit all. Is it any wonder that full size pilots use this pattern?

There is even an easy way to teach, or to learn, how to fly this approach. Again, there is only one change required. Raise the Downwind altitude from 200 to 300 feet. The student flys the approach as described. Instead of landing however, the plane crosses the intended touchdown point while still 100 feet high. The student then adds full throttle, climbs back to 300 feet and re-enters the Downwind. As the student becomes better at flying the pattern approach, begin to lower the Downwind's altitude about 25 feet at a time.

Most times, student pilots make their first landing without even realizing that they are landing! This eliminates the dreaded "fear of the ground" syndrome that affects some students when they see their plane and the ground in their sight picture for the first time. They are down before they even realize what is happening.

In addition, the full-throttle climb recoveries to Downwind altitude teach the student pilots how to do a proper "go-around" or "missed approach" if their landing attempt starts to go the wrong way. The constant approach and climb practice even makes "touch and goes" easier for students to learn.

One other note, what happens if the little fan thingy in front of the engine stops during the approach? Anywhere past the Key Point, turn towards yourself, or the middle of the runway, immediately. If short of the Key Point, make a very small standard pattern and land.

Trainers glide slowly but do not cover a lot of ground distance in the glide. Apply only enough up elevator to maintain the same descending attitude used on the powered approach. If the plane appears to be landing short of the runway, <u>LOWER</u> the nose (release some up elevator) by about 10 degrees. <u>DO NOT</u> apply up elevator. More up elevator will slow the plane and make it land even shorter. Lowering the nose increases the airspeed and therefore the ground distance covered. Most trainers will make the runway from anywhere in this pattern if the engine quits.

The best landing engine rpm varies with the plane being flown. Most 40-60 sized trainers should be set so that the high trim idle is 2800-3000 rpm on the ground. Moving the throttle trim to half way should result in 2300-2400 rpm. Full low throttle trim should shut the engine off. Fly with the high trim to insure the engine doesn't quit during the flight. Reduce the trim to halfway just before entering the landing pattern. Shut the engine off before picking up the plane.

In Part Two, we'll cover the "Great Circle" approach. This landing approach was originally developed to land propeller driven aircraft onto straight deck aircraft carriers in the late 1920's. It is no longer used by navies today, but does have useful RC applications.

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## SVF MEMBERS PAGE



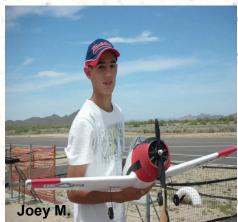
Photos by Joe B..

























## SVF MEMBERS PAGE



Photos by Joe Balabon, ?

















#### FROM THE PITS

With D. Pits

Why is it we usually see the same members showing off their aircraft in the SVF Members page. Does the editor favor these members or photographers?? *H.M.* 

Dear H.M., I did talk to the editor about that and he mention this.. He stated that when he is ready to do a new month issue he puts out a call to all members (those members that are listed with Gene P.) asking for articles and photos. He does not favor any member or photographer! All members are welcome to send in those articles/photos related to R/C Aircraft. For those that send in photos, I'll get them in the SR.

Photos he would like are from digital cameras. He did mention there are times other articles will be accepted that will be of interest to the members.

H.M., I hope that this will put you at ease and please send in a photo, your airplane that is.

Editor: Pits the MEMBER LIST is the list that Gene Peterson has, will inform those that the Slow Roll is looking for articles/photos. When the SR is finish he will notify those on the list that its up on the SVF website. To be added to that list give Gene your e-mail address @ az49er@cox.net

#### **Li-Poly Battery Basics**

by Paul Gentile

The popularity of electric-powered aircraft has soared (pun intended) over the past few years. Part of the reason behind the recent popularity has been the advent of Lithium Polymer or Li-Poly batteries.

Li-Poly batteries pack a high energy-to-weight ratio when compared to their Ni-Cad and NiMH battery cousins. This stored energy has good and bad potential, and we will touch on both here.

Li-Poly battery cells are 3.7 volts, as compared to Ni-Cad and NiMH batteries which are 1.5 volts per cell.

When Li-Poly batteries are wired in parallel, they do not discharge like other batteries. In addition, when you wire cells in parallel, each cell only sees half the total current, or amp draw.

Total current is very important for Li-Poly batteries and is identified with a C rating. You may see Li-Poly batteries advertised as 3C, 6C, 8C, 10C.

This means that a 3C 1500 mAh (1.5 amp) Li-Poly battery pack should never be discharged at a rate higher than 3 x1500 mAh or 4500 mAh (4.5 amps).

Discharging a Li-Poly beyond this rating could cause damage to the cells or even fire. A very serious concern.

Changing a propeller on your airplane can change the current draw and cause higher than expected discharge rates. So it is beneficial to have a current meter on hand. The manufacturer's specifications for the motor, speed control, and propeller combination you are running also come in very handy.

The other letters on Li-Poly packs refer to S for serial wiring of cells and P for parallel wiring of cells.

A 3S pack would be 3.7 volts x 3 cells = 11.1 volts. A 3P pack would mean three parallel cells, or 3.7 volts and a higher C rating. A 3S 3P pack would have 3 cells in serial (11.1 volts) and 3 cells in parallel.

Li-Poly batteries also do not require cycling, or discharging like other batteries. In fact, you never want to cycle down Li-Poly batteries. You should always leave a partial charge, to avoid damage.

Chargers and speed controls should always be rated for Li-Poly use. Do not attempt to use your Ni-Cad or NiMH equipment. An improper charge rate could cause a Li-Poly pack to explode and burn at over 2000 degrees. A non Li-Poly rated speed control could cause over discharge and cell damage.

Here is a list of dos and dont's for your Li-Poly packs: • Never put your Li-Poly packs in water and never put water on the packs. • Don't leave your Li-Poly batteries unattended while charging. See www.modelaircraft.org for this year's list of people whose cars and houses have burned down while leaving packs unattended during charging.

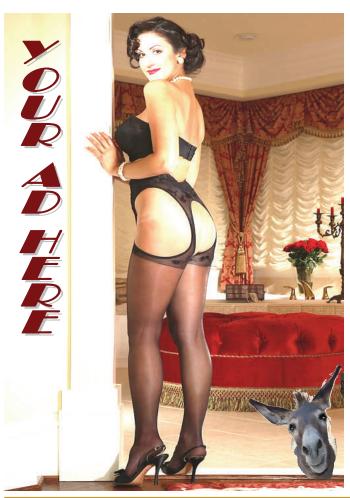
- Don't puncture or short out Li-Poly batteries. Don't fully discharge your Li-Poly packs, this will damage the cells.
- Don't put the Li-Poly battery in your car, or leave it in your airplane after a crash. If the battery is damaged internally, you may not notice. According to the AMA, several members' cars have already burned up this year due to this scenario.
- Do use common sense and respect the energy that is stored in that little package. Do follow all manufacturer ratings and specifications for use and storage. Do store your Li-Poly packs in a fire-proof container.

Li-Poly batteries are used everyday safely in cell phones, laptops, consumer electronics, and iPods. In our hobby, we are pushing these batteries to their limits, charging and discharging them at high rates and sometimes smashing them into the ground at high speeds. We need to respect their potential and keep it safe.

Enjoy the power and convenience of electric flight with Li-Poly batteries; I do. Just respect the energy stored in that little Li-Poly package and it will reward you with some of the fastest, 3-Dest (if that is a word), most fun flying you will have. • Li-Poly Quick Reference Li-Poly Cell Voltage

 $C = Current Cells \times 3.7 = voltage$ , S = Serial 1 cell = 3.7 volts, P = Parallel 2 cells in series = 7.4 volts 3 cells in series = 11.1 volts

mAh = milliamp hour rating of a battery's capacity under load. 1000mAh = 1 Amp







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#### **Next month Issue**

I see there is a scale meet in Calif and if anyone is going please take some photos!

If you got something going let me know. Be the *SR* field reporter, great job and good benefits, like free fresh air. Maybe we can throw in some sun screen lotion & NEET. See you then.

Would you like to be notified when the SLOW ROLL new issue is available? Give Gene your e-mail address.

AZ49ER@COX.NET

#### This Month Issue

A good safety article to read. How to land PART 1. If you make it there's Part 2 next month.

D. Pits is back. Lots of member photos. Please return that CD to Bruce as its from Poland!

Send those articles and photos in!

Remember to **ZOOM** the **PDF** page to see more.



## THE SLOW ROLL

Club Officers 2009-2010 Frank Moskowitz, President

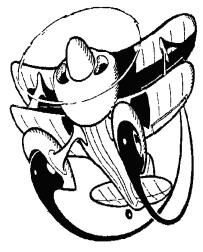
**Tony Quist, Vice President** 

**Gene Peterson, Treasurer** 

**Rusty Fried, Secretary** 

Walt Freese, Website Supervisor

Please check your Membership list for Phone numbers.





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