



Palomar R/C Flyers, Inc.

Transmitter

August 2022



AMA Charter 141

President's Column August 2022

I hope everyone is enjoying their summer. Great to see so many of you at the Independence Day festivities. Thanks to all who helped especially Ron and Andy Schuyler, Bill and Ellie Hill, Lorie Azar and Mark and David Olarsh for making the delicious and refreshing snowcones.



The latest word on our time left at Johnson Field is the end of October into November. Very possibly it may be longer when I get the next update from the Pappas group. We did receive the news last week that the City of San Diego said no to our request to use the Old Milky Way site in the San Pasqual Valley. Immediately afterwards we received an email informing us of a large 400 acre site in Valley Center. This was an old orange grove that has had all the trees removed and been returned to its natural state. While we are still pursuing the Old Milky Way site by trying to get an in person meeting with Councilwoman Marni von Wilpert, we decided to contact the landowner of this new Valley Center site about its availability. The original Valley Center landfill site is still available if the others don't work out. More information will be coming soon on our search progress.

Coming up at our August and September Club meetings are some special guests. When I get confirmation I will send out the information because I know you'll all want to be there.

See you at the field.

Joe Villarreal

President PRCF

July 4, 2022 Trifecta



President Emeritus Steve Gebler on the 4th!



Chuck Riley—Father of Charlie Riley USMC



V.P. Charles Lewis kept score for the Trifecta on the 4th



Timothy Hichcock the master-combat flyer



Doesn't Joe Villarreal look extra darling?



Spot-landing contest. Closest to the orange cone wins.



Randy Brunette, Steve Gebler, Tim Hitchcock, Eric Armstrong, William Taft, Scott Ralston, Chuck Riley, Joe Villarreal

**7/4/2022
Trifecta
Winners**





Kathleen and Joedy Gregory Jim Gallacher Parvis Kamiab



July 3, 2022 Trifecta winners

**L/R Tim Hitchcock
3rd, Randy Brunette
1st, William Taft
2nd**

**Photo courtesy of
Steve Gebler**



The Long Walk of Shame



Angela and Vic Lerum



William Taft



Joe and Barbara Villarreal were presented with these aprons @ the July 2, 2022 club meeting which was really the June meeting delayed. We thank them for their cooking great food!

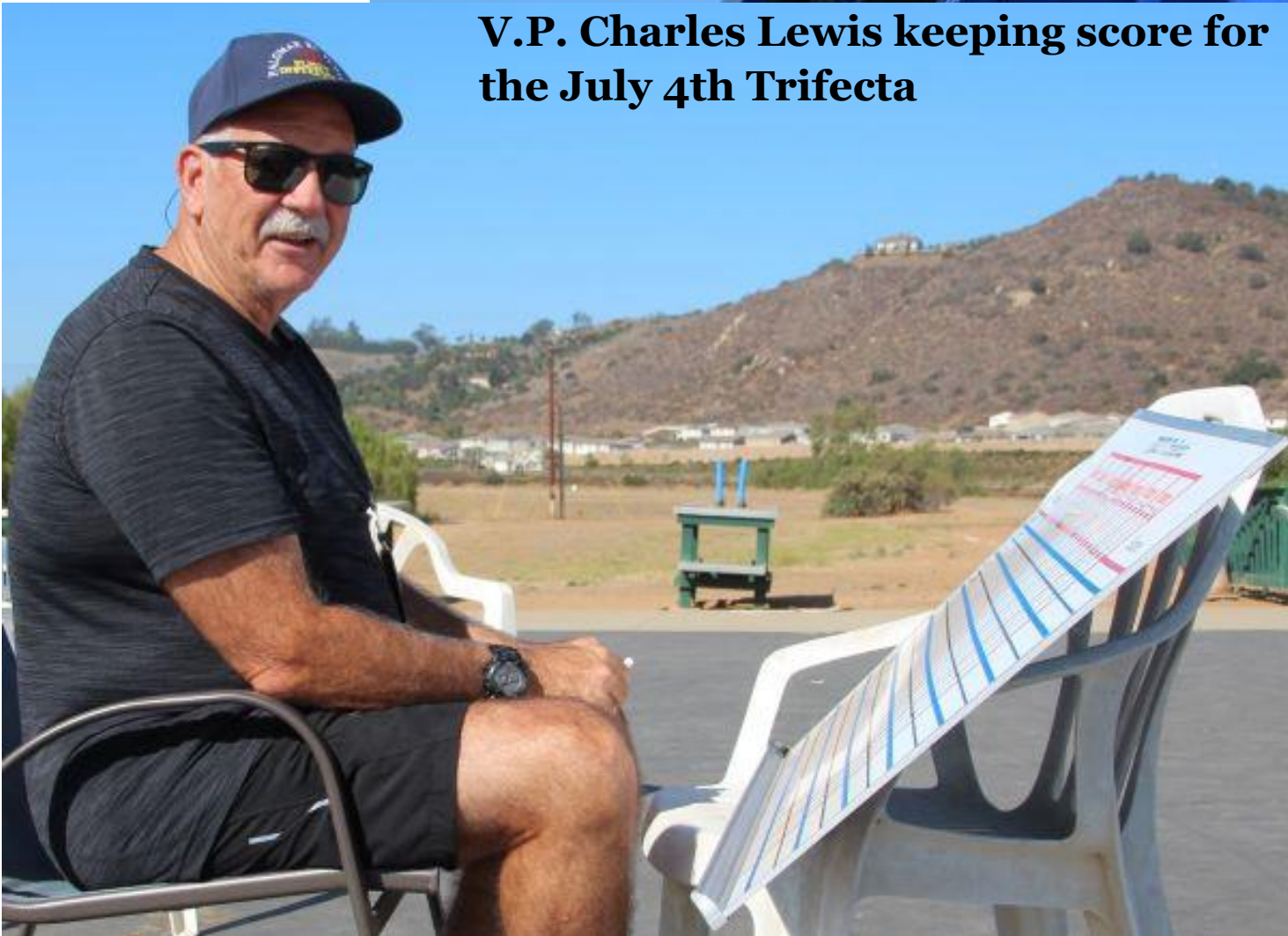


George Tuers flies this P-61 Black Widow, a night fighter. It was named for the North American spider, *Latrodectus mactans*. Aren't you glad to learn this? Now you is smart!

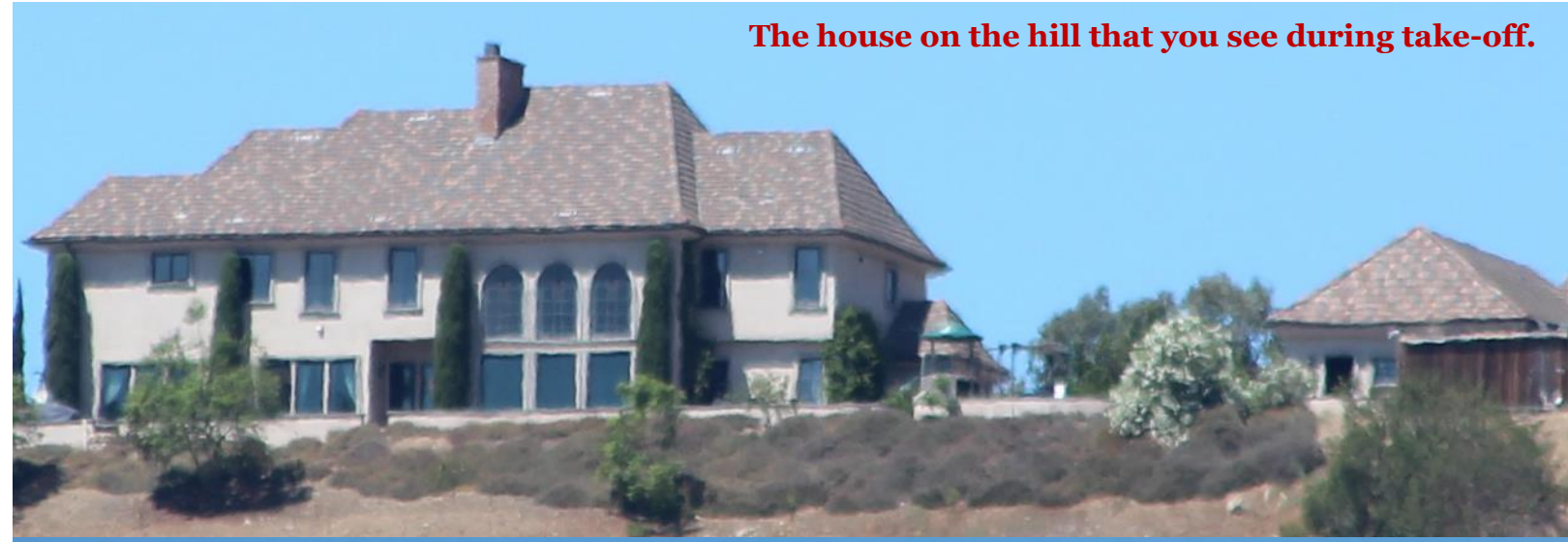
Randy Brunette



V.P. Charles Lewis keeping score for the July 4th Trifecta



The house on the hill that you see during take-off.



Bill Hill launching the Conscendo



Jim Gallacher's sailplane



Webmaster Richard Torres designed this scene. The R/C jeep pulls the Mustang.





Nieuport 28 from 1917 and a Stinson Reliant SR-9



Tim Dougherty and Elise Schneider with Eric Armstrong waving.



Curtis Kitteringham brought a museum quality Stinson SR-9 to the club meeting. It was crafted by Ron Peterka, a master builder whose planes are exhibited at the San Diego Air and Space Museum! Ron is a former club member.



This Stinson Reliant is a past Grand-Champion at the AMA Team-Scale Nats.

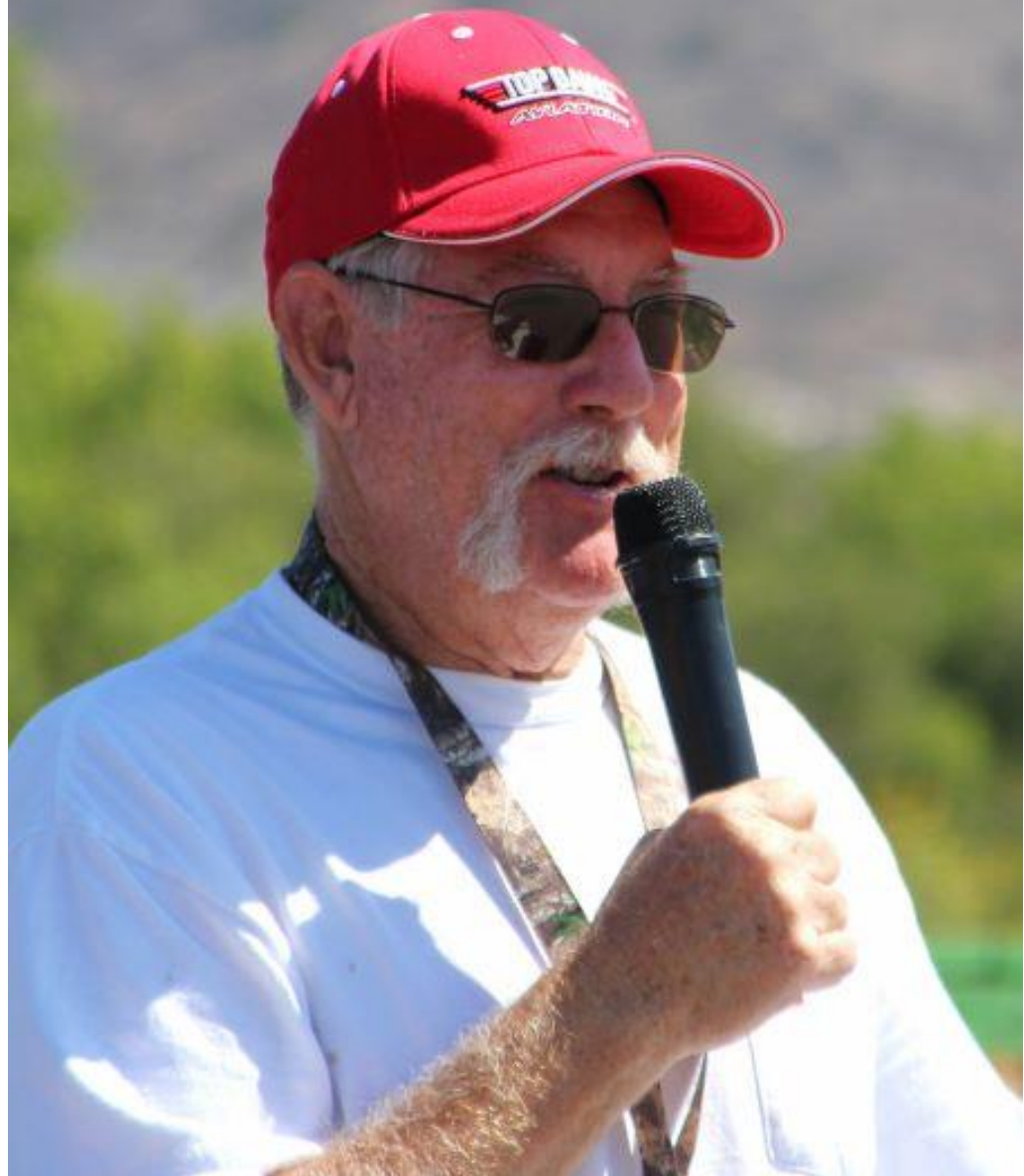


John Cutler was on a cruise ship sailed by Palomar Royal Cruises International. He looks relaxed on a bright, sunny day. That was what I was going to write, but the truth is he was at the field on July 2, 2022 attending our club meeting. The blue tarp looks like the ocean and the light brown background looks like part of the side of the ship. Looks can be deceiving,



John Hartsells above

Prsident Joe Villarreal



Jay Wooten may be last listed on our roster, but he is number one when it comes to heli's.



Lori Cosio



George Tuers



Mike Lonneker's sailplane



Tom Minegar

Mike Lonnecker won Model-of-the-Month for his exquisite workmanship on his sailplane! No matter what Mike puts his expert hands to, it results in excellence! Great going to you!!





We had large attendance at our July club meeting!





Treasurer Dave Ellis is one of our unsung heroes. His duties include: Pay monthly bills for trash and waste pick-up; deposit membership funds monthly in our bank account; pay for our annual AMA club charter; report our taxes even though we are a 501 C3; pay bills as for the monthly plaques for the Model-of-the Month; keep the books and checkbook etc. These tasks must be completed and Dave completes these and other duties well. We only see him giving his monthly report at the club meetings, which comprises but 1% of his duties, Thanks Dave for your unseen work! We appreciate you! Great western hat! It becomes you!



Vic Lerum



**Joedy Gregory
won the raffle.**



Scott Page and Patty White



The ever youthful Chris Avellino



Chow-line on July 2, 2022

Claude Sirgant



Battery C Ratings - Manufacturers Lie!

by Steve Gebler

In the sometimes bewildering array of battery technology and terms, we often need to select a battery that is powerful enough and affordable to fit the requirements of the aircraft.

There are three major variables that must be considered when selecting the correct LiPo battery:

Amperage

This is basically the size of the “gas tank” in the battery. For instance, a 1000mAh battery has 1/4 the power of a 4000mAh battery. In theory an aircraft capable of flying with the 1000mAh battery could fly for four times longer with the larger battery if weight were not a consideration.

Number of Cells

You will see a designation of “S” ratings on your batteries. Each S value indicates that the battery has one cell that has a fully charged potential of 4.2 volts per cell. Hence, a 3S battery would provide 12.6 volts of power when fully charged. Why is the designation S? The S indicates that the cells in the battery are in SERIES.

C Rating

This is an indication of the maximum charge *and* discharge capability that the battery possesses. This is where the battery manufacturers lie and do so proudly! There is NO official standard for determine the C rating for batteries. So, in the pursuit of trying to outdo their competitors, the manufacturers have chosen to inflate their C ratings to appear to possess better performance.

In theory, the C designation represents the maximum current output that the battery possesses under load. For example, if you were to fly a trainer airplane that had a 2200mAh battery where you were not performing any heavy aerobatics, you would likely only require a 10C battery as the likelihood of needing a lot of “punch” from the motor is slim. However for high performance 3D planes and helicopters, you would need a lot more *sustained* power to meet the demands of the aerobatics. For those higher performance flights, you would likely choose a battery that has a 40C rating or higher to sustain the flight under heavy load.

A 40C battery can produce four times the maximum sustained power output than a 10C battery.

Simply put, it’s like the difference of trying to drain a pail of water through a drinking straw vs. a fire hose. The higher-C ratings allow for nearly instant transfer of power under load.

This drawing of power under load is also applicable to charging the batteries. In theory, you can charge a high-C rated battery faster than a low C-rating. Again, in theory, you might be able to charge a 20C battery at twice the current of a 10C battery potentially halving the time that it takes to fully charge the battery. However, there is no free lunch. Heat is the major cause of LiPo failure over time. It is strongly recommend that you never charge a battery at an amperage rate that is higher than its Amperage designation or at a 1C level. For example, a 4000mAh battery should be charged at 4000mAh and should take approximately one hour to complete.

I have batteries that have had hundreds of charges on them that are more than five years old that still perform well as I make sure to *never* discharge them below 3.7 volts per cell and then store them at 3.85 volts. Further, I always charge them at the 1C rate.

Testing the Lies

So, how do you know the *real* C rating of your batteries?

First, you need to determine the Internal Resistance (IR) of the cells inside the battery. There are two ways to do this.

First, many of the newer battery chargers have the capability of measuring the IR.

Secondly, some battery voltage checkers have the ability to measure IR.

Finally, you can purchase a dedicated IR meter.

The cell that has the *highest* IR is the weakest link in the chain. It has the hardest time passing the voltage along through the other cells. When this occurs, the result is that the weakest cell generates heat. If the IR were high enough compared to the other cells in the pack, this heating of the weak cell has the risk of starting a fire in the pack.

Next, you need to run a little formula that will determine what the *actual* C rating of the battery pack is. I have linked a small spreadsheet that contains the formula that you need here:

<https://www.palomarrcflyers.com/copy-of-free-flight-training>

There is one for MS Excel and one for Apple's Numbers app. Scroll down a bit on the page to find the calculators.

I recently did a comparison of the many batteries that I own to determine the true C ratings on the batteries. I was astounded to find that *none* of my batteries possessed the advertised C ratings! I checked new batteries and older batteries. Some from big name battery manufacturers that many of us use some from some of the lesser known brands and *all* of them failed to match the advertised C rating.

Here's an example of a *brand new* 2200mAh 50C 4S battery that I just purchased. You will note that the cell with the highest IR was 3.1 milliohms and the advertised value of the pack was 50C. After running the algorithm, the actual C rating of the pack was just above 30! And, this was on a brand new, brand name pack. As your packs age, clearly, the C ratings of the pack will decline.

C Rating Calculator

Date Tested	July 8, 2022
Pack mAh	2200
Pack C Label	50
Highest Cell IR	3.1
Actual C Rating	30.3
C Difference	-19.7

Summary

Don't be fooled into believing what the manufacturers tell you about C ratings.

Test your batteries periodically to determine the IR values — the best indicator of how reliable your batteries truly are. I get in the habit of checking my IR values about every six months and mark the side of the battery with a sharpie marker indicating the date of the test, the highest IR value, and the actual C rating. In that way I can see if the pack is declining to the point of a need to replace it. Should you find your packs calculated C rating falling below 15, for example, it's probably time to replace the battery.

Good flying!

Geb

Eric Armstrong spoke about heli's during the June club meeting held on July 2, 2020





Master builder John Cutler's impeccable Taylorcraft

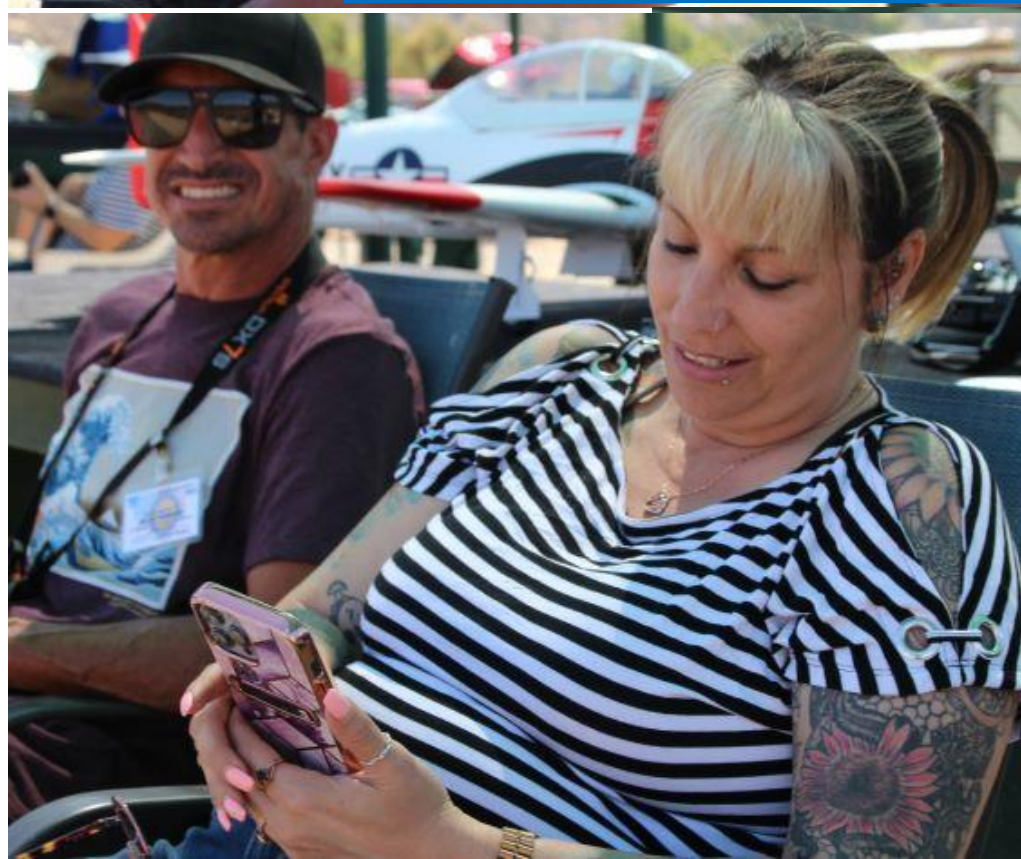


Hal Meeker

BOB BAUERSFELD



Waleed Moubarek and President Emeritus Steve Gebler



Miles and Leena Padberg



Steve Staudenmeir



Patrick Pranica

Lord Creedon is capable of smiling! Here is the proof!

Curtis Kitteringham flies his Cub truly scale.



Steve Nelson





P-38 Lightning on July 2, 2022



Betty Skelton's Pitts Special at our field on July 2, 2022



Scott Ralston's jet

Suzanne Orcutt, her husband is your editor, meets Scott Ralston. Suzanne's grandmother's last name was Ralston but Suzanne and Scott are not related. One of her cousins, Jack Ralston, was a football coach for Stanford University and later for the Denver Broncos!



James D'Eliseo and Claude Sirgant



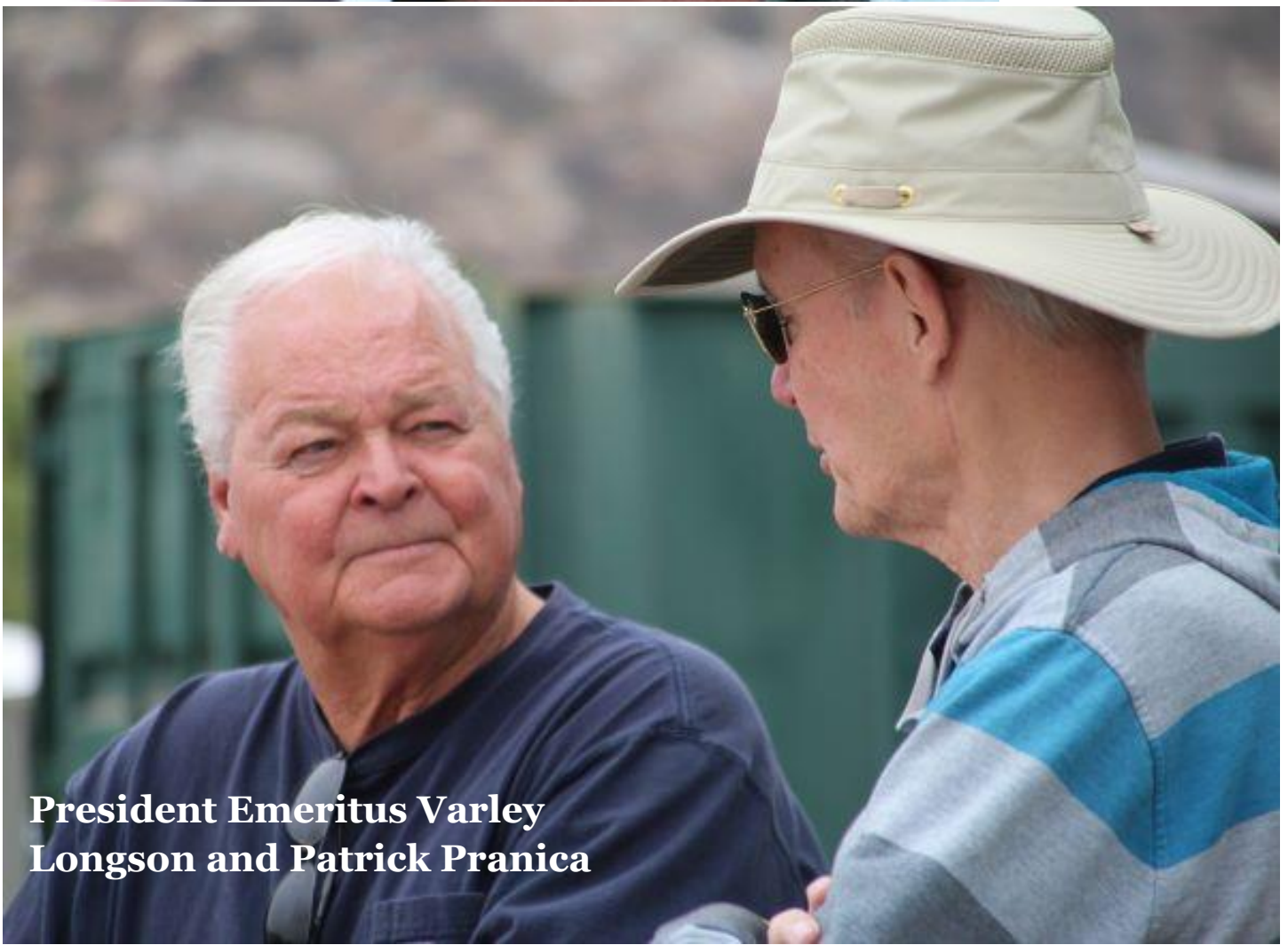
Patrick Pranica and James D'Eliseo



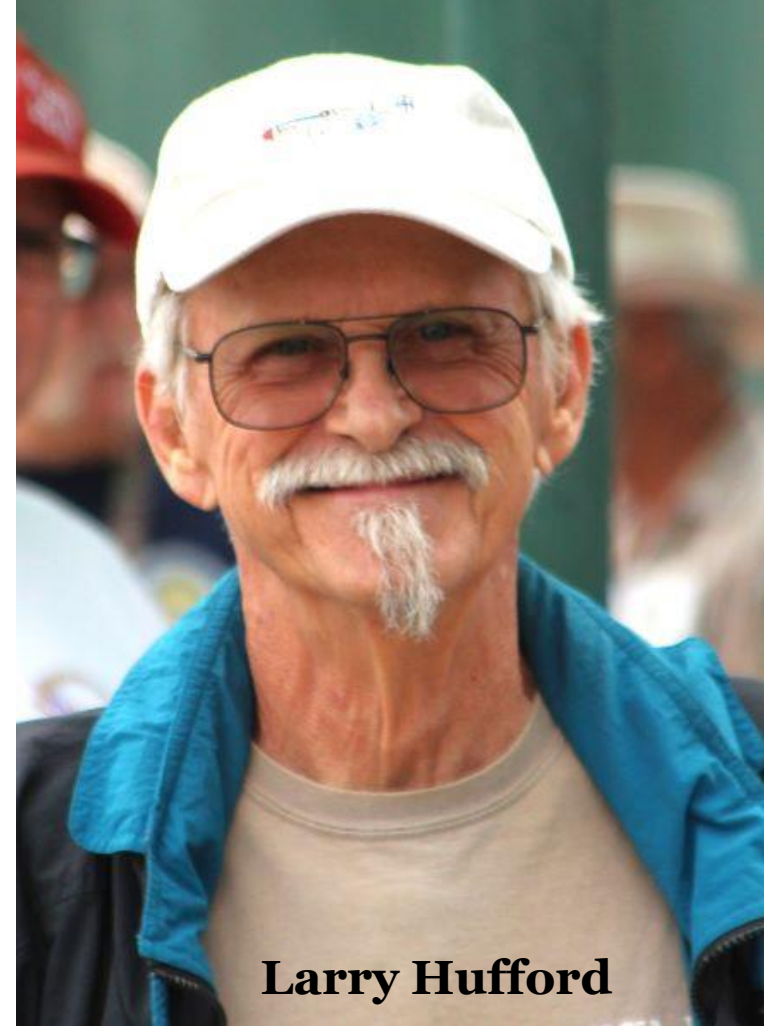
New student pilot, Charles Meece



Rick Heymann



**President Emeritus Varley
Longson and Patrick Pranic**



Larry Hufford



Don White

**Head Instructor-
Don Davis**





John and Traci Petrash with little Bella.



Lou Governale



Joedy Gregory won Model-of-the-Month for his Windward, a sailplane designed by Mark Smith who used to own Mark's Models in San Marcos in the 1970's! I still have my Windward from that era.

July 2022 Minutes

Palomar Radio Control Flyers Inc.

Board of Directors Meeting Minutes

Compiled by: Patrick Pranica, Secretary PRCF

President: Joe Villarreal **Vice President:** Charles Lewis, **Treasurer:** David Ellis, **Secretary:** Patrick Pranica. **Safety Officer:** Jim Christy

Board members: Charles Riley, Hal Meeker, Doug Abel, Don Davis, Scott Dedic, Steve Gebler **Additional Roles:** **Chief Flight Instructor:** Don Davis, **Membership Chairman:** Steve Kerrin. **Webmaster:** Richard Torres

Call to order: July 14, 2022, 6:30 PM Via Zoom.

Treasurer's Summary for July 2022

(Summarizes transactions for month of June)

Total Income: \$195.00

All Membership

Total Expenses: \$1,663.74

Big items:

\$1,200 4th of July

\$450 Field Maintenance items

Net income: -\$1,468.74

End of Month Balance: \$119,858.38

Membership report: Current membership has hit 260 members.

Safety: Freeway incursion continues to be reported with no proof provided. Incursions are showing to be rare or less frequent. Call outs are improving.

Heli Update: Nothing new to report.

Monday Night Flight Training: Continues to do well despite high winds at night. Lots of training has moved to weekdays providing more stable conditions. Seeing more families attend with children.

Independence Day weekend recap: Exceptional turn out throughout the weekend. Fun had by all. Clean up crew did an excellent job restoring the property. Kudos to all that participated in the event.

Membership survey (Steve Gebler): 85% of the members agree the San Pasqual site to be the most favorable. Negotiations continue.

Johnson Field preparations for move: Continue with the question of how to remove and dispose of the runway as owners have stipulated. Bids will be sent out along with member search for possible solution to the matter.

Field search news: Valley Center continues to be our back up or bridge plan. San Pasqual has moved to the city council phase. Negotiations continue.

July 23 Club Meeting

August 6 Aerotow

August 7 Trifecta

Meeting adjourned: 7:10 PM



Patrick Pranica's 15 year old Corsair



President Emeritus George Dawe

Lookin' good.



Mike Paurazas The plane he is flying is the following photo.





Bill Hill wondered if this plane's covering was from Victoria's Secret! It actually costs \$100!





Mark Orlarsh and his loving son



I took this photo of a cardinal 35 miles north of NYC near the Hudson.



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Monday-Friday 8 am to 6 pm
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SECRETARY Patrick Pranica 442-224-0032
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BD MEMBER Scott Dedic 858-442-0388
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BD MEMBER Doug Abel 858-674-4626
BD MEMBER Trent Stadick 657-464-0440
BD MEMBER Chuck Riley 760-716-8391
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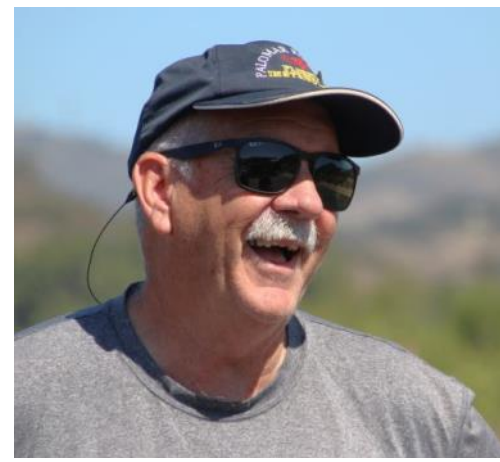
2021 Club Officers



Treasurer Dave Ellis



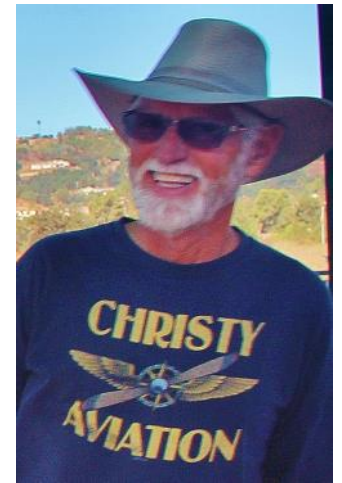
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Vice Pres Charles Lewis

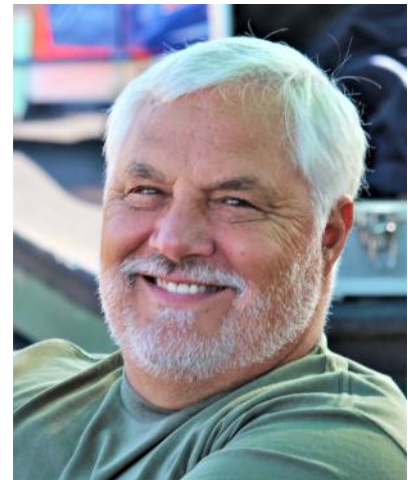


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Safety Officer James Christy

Board Members



Scott Dedic



Chuck Riley



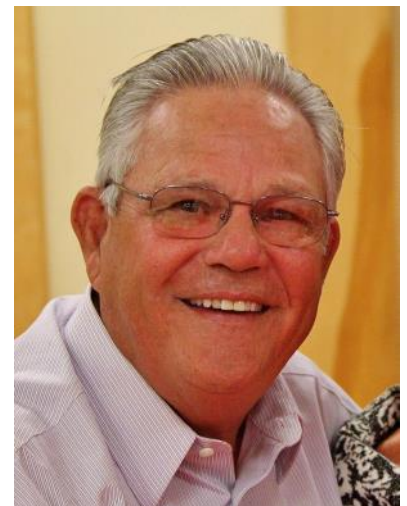
Doug Abel



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