

NEWSLETTER PENINSULA CHANNEL COMMANDERS INC

Jan/ Feb 2024 **Next Meeting:** **Deferred** **AMA Chartered Club # 139**

Web Site: <http://flypcc.org/> **P.O. Box 812, Half Moon Bay, CA 94019**

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<i>Flight Proficiency Chairman</i>	<i>Open</i>	<i>Looking for it....</i>	<i>TBD</i>
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What's Happening ...



Next Meeting.....



MEETING SUSPENDED

http://www.flypcc.org

Cuti Room

Millbrae Library

4500 S. Elgin Avenue, Millbrae, Ca.

January XX, 2022 7:30 p.m.

Atmospheric River

The “atmospheric rivers” left a trail of broken startup tables, rip carpet and blew the chairs and bbq grill all over the flying field. The over 100 mph wind did a number on the antenna at PCC field too (that’s why we lost the camera feed and the weather station data). The photos on the front cover showed the damages it caused.

The field is very soft at the moment, please **DO NOT DRIVE OFF** the paved path, or you will damage the grass area and worst, you will get stuck in the mud!



PCC flying field is not an off road dirt track. DO NOT Drive off the road.

No Dogs Allowed @ PCC

Dogs are not allowed at PCC flying site. Dogs were spotted in several occasions on camera. Please inform the pet owners (if they are not PCC members) that dogs are not allowed at the flying site for the safety of the dogs and club members.



PCC Flying Site is a NON SMOKING Facility. Please do not smoke at the flying field.

No Trash Service at PCC.

Please take your trash home with you.

Thank You.

PCC Current Affairs

Remember, PCC has the “NO BADGE, NO FLY” rule. You are not allowed to fly if you don’t not display your current PCC badge.

If you see someone without a badge, ask to see it. Don’t be shy. It is the responsibility of every member to keep the flying field safe.

Yes, you do need the stinking badge to fly at PCC! This rule is to protect our flying field. Thank you for your understanding.



PCC in need of a Field Safety Officer, a requirement from AMA. Please let one of the officers know if you are interested. If no one volunteer, then we will have to assign the duty to anyone on the roster.



New and improved PCC Web site is almost ready to take flight. Just a little more fine tuning and it will be ready to have the debut. Stay tuned.

2024 Dream Machines



2024 Pacific Coast Dream Machines Show Grounded By Permitting Delays

HALF MOON BAY CA (January 22, 2024)

Organizers of the Pacific Coast Dream Machines announced today that there will be no 2024 Pacific Coast Dream Machines Event this Spring due to delays in the permitting process through the Federal Aviation Administration (FAA).

The Board said, “With a heavy heart we must inform you that our beloved Pacific Coast Dream Machines Event will not be moving forward this year. After seven months of pre-planning, we must cancel the event due to aberrant delays in the permitting process with the FAA. We are no longer able to continue moving forward for a 2024 event at the Half Moon Bay Airport.”

This decision does not come lightly, but with the event show date just three months away, the financial risk of proceeding is becoming too great since there is still a possibility that the permit may be denied. The Pacific Coast Dream Machines is a charitable fundraiser for the Coastside Adult Day Health Center.

Since the event is held at an active airport, organizers must work with the Federal Aviation Administration (FAA) to get an event approval. Considerations include ensuring the safety of patrons and aircraft, and keeping the active airfield open. Regulations continue to evolve; the committee has worked hard to be nimble to meet any new requirements put forth by the FAA.






Regarding the possibility of any future Dream Machines event, the planning committee is working to explore options for receiving an FAA response within a useful time frame in future years. The Pacific Coast Dream Machines committee is hopeful for a return in 2025 in order to ensure that this cherished event has a long-lasting future within the Coastal community and as a fundraiser for the Coastside Adult Day Health Center.



Field Rules Reminder

Editor

Just a friendly reminder of some of the PCC field rules.

1. Smoking NOT allowed at the PCC field. 
2. NO Alcoholic beverages can be consumed at the PCC field. 
3. PCC Flying field operation hours are from Sunrise to Sunset. Field is closed to all activities from Sunset to Sunrise. 
4. No Taxi in the pit. Walk the plane to the runway by holding onto the fin after engine started. No electric motor running in the pit.
5. Keeping the field safe is the responsibility of every PCC members.
6. Slow down when driving into and leaving the field, Maximum speed 10 mph. If you see dust (or splashes) in your rear view mirror, you are driving too fast. Same go for entering the highway, do not kick up the rocks, we paid good money for them! 
7. Lock the gate when you are the last one out. Close the shackle and rotate the dials so the unlock code is not visible. 
8. Turn off the power switch and remove the red key when you are the last person using the charging station and are done charging.
9. Keep the PCC clean by removing all the trash from the field, take home what your bring to the field; including all trash (your own or someone else's), broken airplanes/ parts and young children/pet.
10. Safety is the responsibility of all PCC members.



***PCC membership badge MUST BE displayed on you while you are at the field.
Remember "NO BADGE, NO FLY" rule applies 24/7/365 at PCC.
No Exception!***

Battery: Rated Capacity and Functional Capacity.

Brian Chan

We all use NiXX, LiXX batteries to either power the electronics or the electric motors in our miniature airplanes.

We all know the rated capacity of the battery we are using, as stated on the package by the manufacturers. The rated capacities are usually the energy (in mA-Hr) that you can draw from a fully charged battery to an "empty" battery (the lowest voltage the battery can go without causing irreversible damages).

When you need to know how long the battery pack will last; you measure the current draw of the motor/propeller setup, divide the current measured by 60, that's the amount of current/minute. Divide the capacity of the battery by the current/minute number, you will get the flight time, in minutes, by the given battery pack until it is "emptied". Now here is the tricky part, you really need to know the "functional capacity" of the battery pack you are using. Then you will get the more accurate flight time of your system.

What I call functional capacity is the amount of energy (mA-hr) one can draw out from the battery to a minimum voltage that your power system will still function as needed.

For example, I have an airplane that operates on a 6S4000 Lipo battery. When it is fully charged, the voltage is 25.2 volt. In theory the battery can be discharged to 18 volt (3 volt per cell) without causing damages to the Lipo battery. When I fly, I usually terminate my flight when the airplane requires about 75% throttle to maintain level flight. This gives me a few landing "go-around" possibilities. After I landed, I checked the battery with a battery capacity checker to see how much was left in the battery. The readings usually show the voltage of each cell is about 3.8 volt. This is nowhere near the "empty" voltage of

the battery. The most I can charge back into the battery is around 1800-2100 ma. This is what I call "**Functional Capacity**", the battery is rated 4000 mah, but only about 2000 mah can be used and then the voltage gets too low for my airplane to function, i.e. maintain level flights. So, when measuring the current draws of the motor, using that number to estimate available flight time from a specific battery is not totally correct. I can probably squeeze a little more out of the battery, but I am risking not being able to bring the airplane back to landing on the runway safely.

Same applied to the NiCad, Nimh that powers the electronics in the airplanes. The NiXX battery capacity is rated from a fully charged battery (~1.45 volt per cell) and most manufacturers will terminate discharge test at 1.0 volt per cell. Some receivers can be operated as low as 3.5 volts supply voltage, but with reduced reception range. And for the servos, the given output torque is rated at 4.8V, 6V, 7.2V or 8.4V (see individual servo specification supplied by the manufacturers). When the voltage drops below the required voltage, the output torque can be significantly reduced. So if you are using a 4-cell battery (5.6-5.8 volt fully charged), the rated capacity given is measured all the way down to 4 volt. Will the servos and receiver work at the voltage? How much will servo torque reduced on the servos and how much will range be reduced in the receiver? I would probably stop flying when the voltage under load reaches about 5.0V-5.2V (for 4 cell NiXX batteries) as reported by your telemetry, or when testing before flight under load. At that voltage, you will be in danger of in flight failure, even though you haven't reached the rated capacity of the battery pack.

Buyers beware!



Battery Charger Essentials

When you are searching for a charger for charging your batteries, the specification of the charger can be confusing or downright misleading sometimes. For example, the maximum voltage and the maximum current are not the only information you should look at, but you also have to look at the output power rating of the charger.

Some basic electrical information,

Power Law Equation: $P = I \times V$.

V= Voltage (Volts), I = Current (Amperes or Amps),
P = Wattage (Watts)

Wattage is the product of Current and Voltage, P (Watts) = I (Amps) x V (Volts).

(Are you still reading on? Too much techno-Talk?)

The specification will state the maximum number of cells (Volts) and maximum charging Current (Amps), but the most important part is the power output rating. Typically chargers will have a power output rating of 80 to 200 Watts.

For example the IMAX B6 **80W** 6A Charger gives this specification:

DC Input Voltage: 11 - 18 VDC

Charge Current Range: 0.1A - 6.0A

Li-Ion/LiPo Cell Count: 1 - 6 cells

NiCd/NiMH cell count: 1-15 cells

Output Power (Watts): 80W(Max)

The specification states it can charge 1-6 cells (1S-6S) @ 0.1 - 6.0 Amp. So when you charge a 3S5000 lipo pack at 1C, 12.60V X 5A= 63W. The power rating is 80W, so that is not a problem. However, if you are charging a 6S5000 pack, then you will not be able to charge at the maximum current rating! A 6S pack has an ending voltage of 25.20V, charging at 1C, 5.0 Amp will push the power to 126W! So with the power limit is at 80W, the max current that you can charge is 3.17A, at the maximum voltage (25.20V).

So you see the problem here. You need to know the

maximum size of batteries in your current (*pun!*) inventory, and what is in your near future. You don't want to need a new charger when you upgrade to larger size batteries, so a little consideration of your future needs will save money and having too many chargers!

Another concern is how are you powering your charger. If you have an AC/DC charger, meaning you can plug it into your house 110V power or a DC source, life is easier.

Just make sure the charger power rating with 110VAC input is higher than what you need, as some of the AC Chargers have a lower power rating on AC power than on DC power.

If you have a DC powered charger, you will need a power source to supply power to the charger. If you use a 12V DC power supply, you will need to figure out how much power you will need to feed to the charger. Again, the same formula, $P=I \times R$ is used to calculate the amount of power you will need. Using the 6S5000 battery example, you will need 126 Watts to charge the battery. To get 130 Watts at 12VDC, you will need 130W (ha!) or 11 Amp (130W/12V). So you will need a power supply rated for 130W @ 12V or 11 Amps @ 12VDC.

So now you know.



Drone Charges!

Man Faces Felony Charges for Flying Drone Above Chiefs vs. Ravens NFL Playoff Game

A Pennsylvania man is facing felony charges for illegally flying a drone over M&T Bank Stadium in Baltimore during the AFC Championship Game between the Baltimore Ravens and Kansas City Chiefs on Jan. 28.

According to a press release from the United States Attorney's Office District of Maryland, 44-year-old Matthew Hebert has been charged with crimes related operating the drone. If convicted, he faces up to three years in prison for knowingly operating an unregistered Unmanned Aircraft System (UAS) and for knowingly serving as an airman without an airman's certificate, and a maximum of one year in prison for willfully violating United States National Defense Airspace.

In the press release, it is noted that temporary flight restrictions are always put in place for major outdoor sporting events, including NFL games, MLB games, Division I college games and races in NASCAR and IndyCar.

Temporary flight restrictions begin one hour before an event and end one hour after an event, and they prohibit anyone from operating a UAS within a three nautical mile radius of the venue.

NFL security was forced to temporarily stop the game when a drone was flown over the stadium during the AFC Championship Game, and the drone was traced back to Hebert by Maryland State Police troopers.

Hebert told the troopers that he purchased the drone from a company called DJI in 2021, and that he used the DJI app, which did not prevent him from flying the drone, prompting him to claim that he didn't know he was prohibited from flying it.

It was also noted in the press release that Hebert did not register the drone and did not have the remote pilot certificate required to fly it.

Later this month, Hebert's first appearance in court and his arraignment will be scheduled.

<https://bleacherreport.com/articles/10108223-man-faces-felony-charges-for-flying-drone-above-chiefs-vs-ravens-nfl-playoff-game>

Protect Yourself from Hazardous Materials

By Chris Myers

From The Beacon, Miramar Radio Control Flyers, San Diego, California

If we caught our kids out in the garage sniffing paint or glue, we would send them to counseling. Yet, as adults we do this and call it modeling.

Last year I read an article about a man who was working with acetone in his house. After using it, he almost collapsed. Getting out of the room and lying down, he returned to normal.

When I look at the shelves in my work room, the chemicals stored there range from Balsarite to various spray cans, paint, lacquer, pesticides, etc., to CA to acetone, along with a couple cases of fuel. In addition to this, I use balsa and do a lot of sanding, creating particles to clog my lungs.

In the process of repairing and maintaining our aircraft, our hands come in contact with several hazardous materials. Our body absorbs these chemicals, and consistent exposure to them can be a danger to your health.

If you dissect our hobby, it quickly becomes apparent that we often spill fuel and CA on our hands. We sniff the paint and glue fumes and use grease and oil in our maintenance. It all gets on our hands. If you are an active modeler, you have a lot of exposure to hazardous materials. Below is a list of a few items you may want to keep around

the workshop. They should help minimize the risk of exposure to hazardous materials.

1. Get a fire extinguisher.
2. Go to an auto paint and body shop and pick up a good face mask.
3. Buy a small fan for ventilation. [Tech editor's note: A large fan is recommended. In order to move more air, a small fan must be run at a higher speed and that causes some of its own problems. A large fan running slow moves sufficient air without making other problems.]
4. Work in a room that is properly ventilated.
5. Buy a box of rubber gloves.

Our hobby is great fun, but more than the propeller deserves some serious attention to keep you from being in harm's way.

Fly safe and have fun.→

Driveway Repair



Before and after the storm.



Please do not drive too close to the bags and damage the bags of concrete. Swing wide, please. The tire mark was too close! The repair survived the storm and seems to holding up pretty well.

Beach Landing

Florida man arrested for stealing plane and landing it at Poplar Beach

Beachgoers enjoying a sunset off Half Moon Bay may have noticed something unusual on Thursday—a small plane nose down in the sand a half mile south of Poplar Beach.

Deputies eventually determined that the airplane had been stolen from the Palo Alto Airport, according to a release from the department on Thursday night. They located and arrested a man matching a description of the individual seen landing and then walking away from the airplane.



It was good that he did not land at PCC! About 25 years ago, a plane landed on PCC runway at the old field when the plane ran out of gas. The plane landed safely and took off after it had been refueled.



New Year's Day @ PCC



A very nice sunny day on January 1st.



I think this is Ken's Laser 200, maybe?



Ken and the smoking Cub!



Geppetto flying the club trainer. A rare a sight.



Geppetto's high wing trainer.



Ken is taxiing out the Cub to take off.

Saturday, March 16th | Davis WDA Swap Meet



Time & Location

Mar 16, 2024, 8:00 AM - 5:00 PM

Davis, County Road 29, Davis, CA 95616, USA

