FLIGHTLINE

NEWSLETTER OF THE PALM BEACH RADIO CONTROL ASSOCIATION

THE CHRISTMAS BULLET -1918 (CONSIDERED TO BE ONE OF THE WORST AIRCRAFT EVER MADE)



Dr. William Christmas was born on September 1st, 1865. He eventually quit his medical practice to devote himself to aviation, besides the fact that he had no background in aircraft design nor aeronautics. The Christmas Bullet was completed in the fall of 1918, but Dr. Christmas couldn't find a pilot to test the aircraft. Pilots would come to see it, but no one wanted to take the risk and fly an aircraft with wings designed to flap like a bird during flight. Finally, Cuthbert Mills accepted the challenge and took the Christmas Bullet up for a maiden flight. Mills was instantly killed when the wings twisted and peeled from the heavy fuselage. The Christmas Bullet is generally acknowledged as the worst airplane ever built and some aviation historians had called Dr. Christmas "the greatest charlatan whose name has been associated with aircraft."

Read more about it by clicking here.

AMA Club# 1016





<u>The Palm Beach Radio Control Association</u> <u>Current Board of Volunteer Directors</u>

President
Vice President/Webmaster/Newsletter Editor
Treasurer
Secretary and Membership Chair
Chief Safety Officer
Chief Training Officer

Please use the following email address to contact any of the Directors: pbrca.info@gmail.com

Membership Meeting Dates! Second Saturday of Every Month ALL DATES ARE TENTATIVE

April	8 th , 2023 15th	10:00 AM at Westervelt Field.
May	13 th , 2023	10:00 AM at Westervelt Field.
June	10 th , 2023	10:00 AM at Westervelt Field.
July	NONE	Summer break.
August	NONE	Summer break.
September	9 th , 2023	10:00 AM at Westervelt Field

For more information and upcoming events please visit the Calendar page of the PBRCA Website

https://www.palmbeachrc.com/calendar



John Tice President

Hello Members,

This is the perfect opportunity to write about the recent paving improvements at both the helicopter and runway fields. We have been talking about the project for a long time and now it's nearly complete. We have to recognize the good people at Palm Beach County Parks that have helped made this a reality. Kirk Brooks, and Rick Hedlund, we thank you both for your efforts. We are grateful. Another hats off to the Contractors at Wynn & Sons. I also want to recognize Seth Sterling who has been my eyes and ears on the ground with frequent weekday construction updates while I was at work. Any project of this size or less requires a great deal of effort and determination. I can assure you this because I deal with large and small building projects in my weekday job.

Designing, pricing, permitting, and building is not for the faint of heart. Building is expensive and time consuming. Every project I have ever been involved in my thirty plus years as an Architect, has come with its share of unique challenges that must be overcome to get it accomplished. Sometimes it's budget, other times it's the time delays or both. There are so many variables that it is not realistic to think that any project will not have some cost increases and time extensions. I try to educate my clients to understand that it's a bad idea to plan that big party a day after the Contractor says he thinks he will be done. If it works, fantastic, if it does not, it's not because anyone involved did not do their job, there are just so many things that life throws in the way that you have to expect reality and be patient.

Let's talk about why we got a new parking lot and paved walkways to the flight areas. It's all about **Accessibility**. All Public Parks, Public and private buildings, open to the public, must provide access for all people and that includes a number of disabilities. This is not only people in wheelchairs, but also people with visual impairments, people with hearing impairments as well as people that use canes, walkers etc. We have many members that are part of these groups, and we know they certainly enjoy the hobby as much as any. Let's not forget the spectators that come to see what we do. Our field must be accessible for them. I enjoy meeting people that have come to watch, and they need an accessible place to enjoy the flights. I ask all our members to greet spectators as a club ambassador and welcome them. Maybe also let them know where it's safe watch and what to look for.

It's not just the accessibility, but also general safety for all people. Paved surfaces provide a safer surface for all activities. I am not the only one that has stepped on a rock at the flight line and almost fell over while trying to keep an eye on my plane and fly it. Sound familiar?

And yes, it will be so nice to not bring dust and sand into our cars and trucks. Enjoy your paved parking and flight areas. We are not done with improvements. Please come to the next club meeting so you can hear about all things we are working to do. We are going to focus on the press box with more solar and charging capability.

I quick thanks to Chris Lavin who is helping us improve our info tech set up at the press box. Chris is not only a former board member and general member but a true friend and supporter of our club.

John E. Tice President



John Scaduto Vice President/Webmaster/Newsletter Editor

Hello Everyone:

First, welcome to our newest volunteer Board Members: David Spielman and Jon Gerber, Chief Safety Officer and Chief Training Officer respectively...thanks for serving the Club.

Next, I'd like to remind everyone of our Club's website and some of its features that are there for you. On the 'Home' page you'll find 'Quick Links' to our Calendar, data from the Club's weather station (which is physically attached to the press box at the field), a link to the field camera along, with a couple of other helpful quick links.

On the 'Member Services' page you'll see links to our "Members Only" section, a link to join or renew with the club along with our "Classifieds" page and a link to the "Help Corner" – a relatively new addition where members are able to submit requests for help to other club members. There are also a few other links there so please check it out. Also, on the Member Services page you'll see a new addition called "Thank-Yous" where we recognize volunteers who have assisted us with various activities and significant donations from various groups and individuals. These 'thank yous' will also be included in this quarterly newsletter as a 'Regular Feature' section. Finally, don't forget to see photos of our events and the various monthly submissions.

Speaking of photos, if you ever have anything you'd like to have shown in the photo section, please just simply send it on to pbrca.info@gmail.com and ask that we post it. Furthermore, if you'd like to create some content for the newsletter, please forward that on as well.

I've been doing a lot of training over the past few months and, hopefully, have brought several new pilots into the Club. Instructing them on RC aircraft flying and their reactions to any failures or mishaps they've made me think about the concept of perseverance. Along those lines, please check out one of the Feature Articles in this edition on perseverance and 9 tips related to RC aircraft.

John Scaduto Vice President



Princeton Rose Treasurer

2023 Off to A Great Start...

Hard to believe that we are already three months into 2023. Happy to be able to continue reporting that club finances remain stable and strong, and our operating expenses remain in line with expectations. Many thanks for the show of support for increasing the annual dues. As many of you already appreciate, at the new level, our annual rate remains considerably lower than the annual dues for other clubs offering similar sites and amenities.

As already reported, our 2023 Swap Meet was quite successful and confirmed that the new operating model we adopted in 2022 works for us. Funds raised from the swap meet buttress our flexibility for executing our capital improvement plan. As of this writing, the Heli field carport project is underway and in the permitting process. Once permitted we'll be able to complete and put this project behind us. Work on the press box will pick up steam when the parking lot paving project is complete. Refurbishing our press box requires replacing worn sections of the floor and walls and replacing the windows. We have already asked a maker of windows to donate replacement windows and are hoping for a positive response. Expanding our solar power system to increase our battery charging capacity and power our field camera and weather station remain on the agenda, as is moving to streaming video. All this to say that we are off and running...

Happy flying and continue enjoying this awesome hobby!

Princeton Rose Treasurer



Ellen Hoffman Secretary and Membership Chair

A quick note on how to renew your membership with PBRCA.

How to pay online using the "Online Membership Form."

https://www.palmbeachrc.com/join-or-renew

- The online membership form contains a 'Submit Form' button at the bottom of the page.
- All 'starred' (*) items are required and must be filled out in order to submit the form.
- You can sign your name in the signature box using your mouse. Hold down the left mouse button while signing your name in the box. You can use your finger or a stylus to 'sign' on a touch screen device.
- 'Application Type' and 'Membership Type' have drop-down lists to pick type of application or membership.
- Click inside a 'circle' to select a 'multiple-choice' item.
- Be sure to check the boxes for 'I have read the Safety Rules...' and 'I Accept the Terms & Conditions...'
- When you have completed filling out the form, click 'Submit Form.' If you do not have a PayPal account, you will be able to use a credit card to complete the payment.

Thank you all, and as always, fly safely.

Ellen Hoffman Club Secretary and Membership Chair



David Spielman Chief Safety Officer

I am enjoying flying with PBRCA soooo much that I decided to join the board of directors as Chief Safety Officer and give back to the club. Perfect, now I have to clean up my act and fly well for all of you. I will make mistakes, but with each mistake, I'll learn and fly better and safer for the next flight.

I'd like to say fly safe and be done with it, but that's not how it works. It's a process where we make mistakes and others help us fly better for next time. Crashes happen and with luck, there is no personal injury or property damage, and our plane can be repaired. We want to minimize crashes and we all need to do our part. First step in safety is checking out the plane before flying, make sure linkages are tight and surfaces are moving right. Listen to your radio and if it's saying bad things like low battery, it's time to take a break. One of the biggest things you can do for safety is flying only from the pilot's station so other pilots know where you are and what you're doing. These three simple things will help us avoid mistakes and save planes.

I'm a glider guy and also a fixed wing guy and multirotor guy. It's all fun and can be done safely when we pay attention and do the right things. For me, I needed to listen to my transmitter. On one recent flight, my radio screamed, your flight pack is low and then refused to arm the motor. Did I listen, nope, bad move. I unplugged the flight battery and replunged right back in. Fixed right...no way. My plane launched normally, but then shut down 150 feet up in the air. I now had a free flight glider and luckily it laned on dry land, a few hundred feet down wind of the runway away from people. Post flight range check at a long distance did not repeat the problem. Radio is going back to Spektrum for a full checkout. What a pain, but it needs to be done.

Best practice, when you see a problem, pack up the plane and bring it home to the shop. On a recent trip to the field, I was helping a friend set up his recently repaired EDF jet for an end of day flight. The weather was perfect, not too hot, winds had died down and the sun as nice and high. He just needed one more flight! First step, check the controls. One aileron looked a little funny. Hold on, the inner end of the aileron near the control horn moved normally and the far end was glued in place. Not good, that would be certain death to that plane. We tried to trim off the offending blob of sticky stuff, but it was not right. We packed up the plane for an at home repair. Best move yet!

Do I have an example of not flying from the pilot's station and having a near miss, you bet I do. Two pilots were flying, me and another fellow sitting off to the right with a student. They had a mobility issue, so I thought it would be ok for them to fly outside the flight box. I knew the other pilot and student were in the air doing something at the end of the runway while I was flying at the far end of the field and then the trainer plane flew low over my head from behind. Crap, now I remembered why we need to stay together in the flight box. It's so we can communicate verbally and physically. I would have known to duck if they said something, and I could have heard or saw or felt them move out of the way.

My point with these examples is that we as RC pilots can take a few steps that will improve our already stelar field safety record. You are going to see some sign changes soon to help communicate the need to fly from the pilot's station. Paved walkways, pit area and pilot's station are being installed for easier access to the flight line. Please take advantage of these improvements for a better flying experience.

Fly safe, David Spielman



Jon Gerber Chief Training Officer

The Palm Beach Radio Control Association has instructors offering <u>**no charge**</u> lessons to members interested in learning how to fly radio-controlled aircraft.

If you would like to volunteer to be a trainer, please contact me via the following email address; your note will be forwarded to me: pbrca.info@gmail.com

TRAINERS ARE NOT RESPONSIBLE FOR DAMAGE TO YOUR AIRCRAFT



FEATURE ARTICLES

Dealing with the Wind when Flying R/C Airplanes and Helicopters By the Associated Modelers of Sacramento, Inc.

Flying R/C planes and helicopters can be more enjoyable when the weather is just right but, on some days, when there are higher than usual winds, like in the Spring and Fall, it can be a challenge.

For some reason expert R/C Pilots are not affected much in flying on windy days. I saw a guy fly a tiny 8" wingspan R/C plane in 25mph wind with no problems! Of course, every RC Pilot has their limits and even experts can be caught off guard by shifting winds and crash.

When is there too much wind?

• When your plane is not safe sitting on the ground!!

Types of windy days (in no particular order)

Steady wind coming from mostly one direction with slight variations.

These are much better days to fly when there's 5-10mph winds. Great for Warbirds! The wind can be manipulated to give better lift on takeoff and slow the plane down on landing.

• Gusting winds that change in direction

These are days to avoid if you don't want a model fatality!! Crashing when the model gets too close to the ground is common as the lift can be cut off when a gust of wind either hits the wing from a cross direction, eliminating lift and causing a drop like a rock stall. It can also flip the plane over or cause it to start hopping down the runway. The effect of the wind hitting the ground causes a vortex. That's why the plane seems to fly better higher up on windy days but, the wind speed only increases as it gets higher. There's nothing to reflect the wind higher up! This effect can change with different types of planes – 3D, Sport planes and Jets are more manageable in crossing winds, but Warbirds aren't.

Crosswind

Most R/C pilots know that they should take off into the wind and land into the wind but if the wind is not the same direction as the landing strip - then what. That doesn't mean you can't start your takeoff on the runway and turn into the wind to climb. Likewise, you can make a landing approach coming into the wind then use your rudder to turn into the landing strip. The rudder will help turn the plane without stalling it, unlike the ailerons that can reduce lift because there on the wing. Also landing with higher winds you'll need a little more power than idle speed.



Dealing with the Wind when Flying R/C Airplanes and Helicopters continued By the Associated Modelers of Sacramento, Inc.

• FlightSimulators

Wind settings are available on flight simulators to help you get use to flying in high winds. We all use them to practice tricks, but they can also be used for high wind training. Try the 40-mph wind setting and see if you can fly!!

• Beginner Pilots and Maiden Flights

Beginner pilots and pilots with a new airplane to maiden should wait for calmer weather to fly. The added management of higher winds along with learning to fly or testing out and trimming a new plane could make a difference in how well the plane survives.

• Helicopters

Heli's are great in high winds. But older ones that only use one gyro for the rudder and a standard fly bar head can still be tricky to fly in high winds. Newer Helicopters have Flybarless (FBL) units to control the rotor head added to the rudder gyro compensation. The Fly-Bar less unit has three gyro's in-one for aileron and elevator and rudder. Now the rudder can compensate for winds that hit the tail of the helicopter along with the fly-bar head and Rotor Blades. Just Fly - what wind!! Also, the wind won't knock a Helicopter off the table!!

• Landing a plane coming in the same direction as the wind

This can be by accident (not aware of wind direction) or because of the position of the plane in a dead stick or emergency landing. The plane will have the push of the wind so you will need to try to get a lot further down wind to turn before the approach. In a dead stick this can be tricky as you'll be against the wind before turning into the runway with no engine power, and you can stall while turning so keep the nose of the plane down (slight down elevator) to gain speed. Note the elevation of the airplane if it is a dead stick. If your low to the ground 0-40 feet don't turn unless you're going to hit something and must ditch the plane. Go straight and take your chance. When turning with the rudder into the runway you'll have to get as low as possible to the runway then add some up elevator to slow the plane before touching down. Flaps or brakes will help if you have them. When you land the plane, it might not want to stop rolling. A little zigzagging might reduce the speed.

• Flaps

Landing with flaps can help if there's very little wind. They reduce lift to slow the plane, so you can increase the engine power slightly on landings while on an approach. This will help stabilize the plane. The plane must be flying slow - ¼ of full speed before the flaps can be applied on an approach. Flaps are not needed in landing against higher wind speeds (unless you're flying a jet) but you will still need to increase power when landing against high winds to prevent stalling.



Legacy....

On Wednesday, February 1, 2023, to our delight, the parking lot paving project got underway. This longawaited project was the culmination of the tireless efforts over several years of PBRCA club members and our partners at the Palm Beach County Parks and Recreation Department. We are grateful to the county and the parks department for their investment which, in part, reflects their confidence and trust in PBRCA as good stewards of the park and its resources.

For "posterity," I thought it appropriate to document the project's timeline, and the following was pulled together with the help of Marty Lerner.

Sometime during March 2019, Marty spoke with then



club president Susan Brassner, about paving the parking lot to avoid the muddy and flooding conditions that we regularly experienced from heavy rainfall. Susan who had often spoken without success with the park's maintenance supervisor re such a project, agreed for Marty to take the lead in moving the project along. Marty immediately executed on his mantra, *"Make an Appointment, Make a Presentation, Ask for the Order,"* and pursued a meeting with the Board of County Commissioners, the most executive and senior governing body in Palm Beach.



As luck would have it, on March 28, 2019, he was able to arrange a 5-minute meeting with District 5 Commissioner, Mary Lou Berger. At that meeting he advised Commissioner Berger of PBRCA's importance to the community and the positive impact the improvements would have on her current and future constituents. As a result of that meeting, he was referred to Director Eric Call (since retired) as the one to green light the project and find the funds to pave our parking area. Marty scheduled a 5-minute meeting with Director Call for April 9, 2019. Prior to the meeting he noted that the department had discretionary funds of \$700,000 - *Could this be the dollars for our paving project*?

Marty's presentation (which ultimately ran about an hour) was facilitated by a printed color copy of Joe Mannino's quarterly PBRCA newsletter and the conversation touched on our location, size and scope, our mission, our activities, our public and charitable events, number of years serving the community, our national affiliation with the AMA, our connection to the community at large, our demographics, and our emphasis on public and club safety objectives. In short, our success mirrored the objectives of Director Call's administration in providing a superior experience for all Palm Beach County residents. When asked if we could count on his help in getting the parking lot paved, Director Call responded that the funds were probably available and that he would need to check with his architectural and engineering departments but was confident in seeing its completion.



Our current position since Marty's 2019 meeting with Director Call resulted from several conversations between the parks department and President Brassner, President Tice, and several members of PBRCA's past and current boards of directors. The start of the project was also delayed by COVID and the intervention of other county priorities.

Many THANKS to all our PBRCA members whose unyielding efforts over the years are leaving us a rich legacy of desirable flying sites supported by user-friendly parking facilities.



Princeton





How to select the proper propeller for my electric motor (in simple terms) By Dymond Modelsport USA

Let's talk about how to select the proper propeller for your electric motor. There are several things you need to know before you can start this process.

You need to know how big of a propeller can you turn on the aircraft that you are working on. The reason we need to know the size of the propeller is to make sure we have proper ground clearance.

You need to know how many volts the motor can handle. Example (4s 14.8 volt to 6s 22.2 volt).

You also need to know the constant current for the motor and max current (example, on this motor the constant current 50-amp, max current 60 amps 30 seconds) they normally suggest a prop range 14x7 - 12x8.

Make sure you have an ESC that will cover the max current of your motor - (60 amp).

You will need an in-line watt amp meter to complete your test.

Now that we have everything ready, let's get started! We have a ground clearance of 17 inches, so we are ok to use any of the recommended propellers for this motor using either 4s or 6s. To get the max power out of your motor you would choose the highest voltage and, in most cases, the smallest prop. Our aircraft weighs about 6 pounds so we will need at least 600 watts of power to fly in a scale model. (100 Watts per pound to fly scale aircraft).

Let's get a starting point by calculating the watts this motor can provide us.

Example 1: 14.8 volts x constant current 50 amps = 740 Watts with a 14x7 prop.

Example 2: 22.2 volts x constant current 50 amps = 1110 Watts with a 12x8 prop.

The aircraft we are setting up today needs at least a 14" prop to look scale and since it only weight 6 pound (600 watts needed to fly scale) I am going to choose to set it up on a 4s system. This will also help keep the weight down as well.

Install the 14x7 prop, charge up your battery, plug the watt tester into the ESC, turn on your radio, secure your aircraft (It's best to have someone help you), stand behind the aircraft, and plug in the battery. Once everything is armed. Stay clear of the prop and make a nice steady power up to full throttle and throttle back. Now read your meter. It will give you the Volts, Watts, and Amps; 50 amps is your goal. If you are low on amps (say 43 amps, increase the pitch). If you are over (say 58 amps, lower the pitch). If you are at 54 amps you will be ok because the amps will drop as the battery runs down. These steps will help you to make sure you have enough power to fly your new aircraft.



Persevering and Radio Control Aircraft

Persevering means pushing through obstacles and hardships to achieve a goal, no matter how difficult or challenging it may seem. It is the willingness to keep going despite setbacks, failures, and disappointments. Perseverance requires determination, resilience, and a strong sense of purpose or vision. It is a key characteristic of successful people, as they never give up in pursuit of their dreams.

One of the primary benefits of persevering is that it builds resilience and character. Adversity is a natural part of life, and learning to persevere through challenging situations can help us develop the mental fortitude and emotional strength needed to overcome future obstacles. Moreover, people who persevere are more confident in their abilities, more self-aware, and more capable of adapting to change. They are better equipped to handle stress and can bounce back from setbacks more quickly than those who give up at the first sign of difficulty.

Another advantage of persevering is that it often leads to greater opportunities and rewards in life. Success is not usually achieved overnight, and progress can be slow and uneven. However, when we persist in the face of hardship, we become better equipped to recognize and capitalize on opportunities when they arise. Moreover, people who persevere are often seen as more trustworthy and dependable by others, which can lead to new connections, partnerships, and collaborations.

Finally, persevere is essential for achieving meaningful goals and reaching our full potential. Without a willingness to keep going despite challenges and setbacks, many people give up on their dreams and settle for mediocrity or average. However, those who have the ability to persevere take risks, embrace challenges, and work tirelessly toward their goals. As a result, they can achieve greatness, reach new heights of success, and create lasting legacies that inspire others to follow in their footsteps.

9 Tips on Persevering related to RC Aircraft

1. Start with a suitable plane: Choose a plane that is suitable for your level of experience. Starting with a complex and advanced model can lead to frustration and decreased motivation.

2. Get the right equipment: Invest in quality equipment, including the radio, batteries, and other accessories. This ensures reliability and helps you perform better.

3. Take lessons: Take lessons from experienced pilots or instructors. They can teach you effective techniques and help you avoid common mistakes.

4. Practice regularly: Practice regularly and consistently. Regular practice helps to hone your skills and builds confidence. While you're at it keep a logbook of your flying experiences, including notes on equipment, weather, and flight performance.

5. Keep it simple: Start with simple maneuvers, such as takeoff, landing, and basic turns. This helps to build confidence, improve control, and prevent frustration.

6. Learn from mistakes: Learning from mistakes is essential to improve your skills. Take time to analyze what went wrong, identify the cause, and take steps to avoid it in the future.

7. Stay motivated: Keep yourself motivated by having realistic goals. Celebrate your small successes and acknowledge your progress.

8. Have patience: Persevering with radio control airplanes takes time and patience. Don't expect to become an expert overnight. Be persistent and focused on your long-term goals.

9. Enjoy the experience: Flying radio control airplanes is an exciting and enjoyable hobby. Embrace the learning process and have fun while doing it.



<u>REGULAR FEATURES</u>

You MUST have a current AMA membership card to fly at Westervelt Field. This is a requirement of the Palm Beach County Parks & Recreation Department.

Also, please note that we will not create your PBRCA membership card unless you have a current AMA membership card. The Club Membership form is available on the PBRCA web site, www.palmbeachrc.com or at the field in the press box.

<u>Thank-Yous</u>

- February 2023: The Nassau Suffolk Long Island Club of Leisureville Boynton Beach, FL for their generous donation of \$150.00 for a 'show and tell' put on by PBRCA.
- February 2023: Tom Severino and Robert Goldstein PBRCA Members For their voluntary assistance in the "Fun Fly" event.
- March 2023: Seth Sterling, Ken Wilson, Wes Davisson, Jim Talin for volunteering to assist with the 2023 Annual Swap Meet.
- March 2023: Arty Mundell for his photography contributions during the 2023 Swap Meet.
- March 2023: Ted Murphy for fixing the entrance way floor in the press box.
- March 2023: William Callanan of the UK for his generous donation of \$500.00 for spending a couple of hours flying with his son Liam.

Club E-mail Notifications

You should be receiving e-mail notifications for the monthly general membership meetings and semi-annual newsletter publication. If you are not receiving our e-mails, please let Ellen know your e-mail address and we will update our records (Ellen's email: pbrca.info@gmail.com. If you want your name & phone number removed from our website list, also contact Ellen at: pbrca.info@gmail.com.

FAA SUAS REGISTRATION

All sUAS (small Unmanned Aircraft Systems - (0.55 lbs.) pilots must register with the FAA. Furthermore, once registered, you are required to affix your assigned FAA Registration number to the 'exterior' of <u>every</u> aircraft you fly. For more information and registration online go to: <u>https://faadronezone.faa.gov/#/</u>





Click this link for the Club Safety Rules: Flight Safety Rules



Float-plane Flight Area



The membership has approved the proposed rules for flying off 'West Lake' in April 2018. The changes and additions are now incorporated into our Safety Rules.

The revised safety rules and the map have been posted on the window of the press box and on our website, and can be accessed at:

Flight Safety Rules



Land-based Flight Area

Palm Beach County has previously established "flying" boundaries and we need to adhere to those restrictions. This is an aerial map showing the boundary lines for West and South flying, and it is also posted in the bulletin board located at the "impound." Our club has already been warned about flying over the Everglades by a Federal Wildlife Officer. You must fly within the designated boundaries!





Palm Beach Radio Control Association www.palmbeachrc.com



https://trust.modelaircraft.org/



