HRRC Flyer

Official Club Newsletter of Hampton Roads Radio Control

Volume 9 Issue 3
March 2008

Annual Banquet and Fly-In on the Horizon

The HRRC Banquet is all set for the 18th of April. The event is designed to mark the anniversary of the club's founding, and coincides with the beginning of the flying 'season'. This year, the event will be held at the Westminster Reformed Presbyterian Church on Godwin Blvd. (Rt 10/32) in Suffolk. Dinner will be catered by Woodchick's BBQ (http://www.woodchicksbbq.com/) a well renowned BBQ restaurant that has just recently started catering events outside their restaurant. The cost is $13 per person and the event will include gifts and prizes. It is truly a family event and a great opportunity to share passion for model aviation with friends and family in a more formal venue than the events that occur at the field. For more details and to pay for your 'reservation', contact Dave Cokley.

Upcoming Events

April 3, HRRC Club Meeting

April 18, Annual HRRC Club Banquet

April 19, HRRC Spring Fly-In

May 1, HRRC Club Meeting

May 17, CVA Spring Picnic

June 1, NNPRC Helis over Tidewater Fun-Fly

June 5, HRRC Club Meeting

June 7, CVA Warbards over Williamsburg (s)

June 14, 15 2008; National EAA Fly-In @ Suffolk Airport

June 21, NNPRC SPA Pattern

June 28, CVA Very-Low-Pressure Fun-Fly

July 3, HRRC Club Meeting

July 12, CVA Air Cover

Then, there's the Fly-In on Saturday. It's the earliest fly-in of the season, and the field work-day has already been held. With luck, the weather will cooperate as it has in the recent past. Shortly, the grass-cutting contract will be let. There's another project that's being planned for the field, and that's a paint-day to finish the green paint on some of the structures at the field. The Park Service provides the paint, and the club provides painters. The paint-day should be the first or second Saturday in April.

The Fly-In requires the club members as volunteers to make the event happen. Specific volunteers are listed as part of the Meeting Highlights inside, but they will need help throughout the day. It's an event for everyone to enjoy and those who volunteer for extra responsibilities deserve the chance to fly and have fun as well. It's also important for the corporate knowledge to be passed to other club members who can carry on with the responsibilities if one of the 'regulars' isn't available.

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Highlights from the March Meeting

46 members and guests were present.

Jeff Haywood welcomed guests Butch Deans and John Howland

The Treasurers Report was read.

An All-Season Patch sign-up sheet was passed out at the meeting. If you were not at the meeting send Nancy Desbois your info if you want an all-season pass for 2007

There is one bid in and 3 more imminent on the grass cutting contract.

Status of the field expansion--there was a fire in the Parks and Rec. Office and the field expansion proposal is still at the City Attorney's Office.

Field improvements before the Fly-In were solicited. For the March 15th Field WorkDay (Rain Date 22nd), the club will spend $50 on hot-dogs to feed the workers. Everyone is invited to bring something to share as well. Keith Desbois will buy and deliver the hot dogs and buns.

Sam Verlander reported on his investigation of the approach that different area clubs took in including helicopters at their respective fields. IOW lets helos and fixed-wing craft fly at the same time. NNPRC reported no problems with the same approach. At NNPRC, all rules that apply to fixed-wing apply to helicopters. The helos there fly in the pattern. NNPRC allows auto-rotation practice as long as the helo is at the far end of the pilot stations. There are 2 designated areas for beginning helo pilots to learn how to hover and only 1 is allowed to hover there at a time. Sam believes that a hover practice area may be feasible at our field. NNPRC has had their procedures in place since 2005 without any problems. Sam downloaded and distributed information from the

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The HRRC Flyer is published monthly for the benefit of Hampton Roads Radio Control Club Members.

The Club holds regular meetings on the 1st Thursday of each month at the location given below. More information is available on the web site: hamptonroadsrc.com

The Deadline for article submission is the date of the monthly meeting. Submit articles in any form to Rick Lawrence (editor)--hrrc@cox.net or (757) 623-0477.

The information contained herein and on the web site is for the sole and personal use of Club Members strictly for their enjoyment in the pursuit of building and flying radio controlled aircraft.

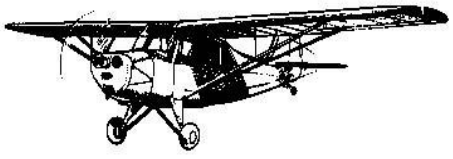
Directions to the Club's Meetings

The club's meetings are held at 7:30 the first Thursday of every month at the Lancaster Farms Meeting Room.

DIRECTIONS:

From Norfolk, Portsmouth, Va. Beach take I-664 to exit 9A or SR 164 to Rt. 17 North. Once on Rt. 17 go to the 3rd traffic light and turn right onto Knotts Neck Road. Look for the HRRC sign on the left.

From Suffolk, take Wilroy Road to Nansemond Parkway. Take a left on Nansemond Pkwy and turn left onto Shoulders Hill Rd. Cross the traffic light at Rt. 17 and look for the HRRC sign on the left.



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Highlights from the March Meeting (cont'd)

NNPRC web site. He added that at NNPRC 2.4 GHz radios were not impounded.

Banquet business included the caterer. Woodchick's BBQ has been chosen, and the price will be $13.00 for BBQ, chicken, coleslaw, rolls and setup and tear-down. The club will provide dessert. Payment to Dave Cokely is due by the 13 April. Give Dave Cokely your payment at the field, club meeting or by mail.

For the Fly-In -- Dave Cokely, Bob Howell, Rick Parsons and Dave Wersosky will run the radio impound, and will need help. Rick Peterson will run the raffle and pilot registration. Henry reported that Supreme Foods has offered to donate food. Advertisements have been sent with the newsletter and posted in some hobbyshop(s).

Henry reported that he has an upcoming meeting about the Regional EAA Fly-In on the 26th April at 1000 at the Suffolk Executive Airport.

No specific details have been made available about the July Scale Fly-In.

Jeff Haywood took suggestions on Fun Fly-In and other competitive events--combat, pylon racing, simple pattern competitions (sport aerobatics), possible 3-D, measured speed events, night-flying, slow-flying and the like. He expressed his opinion that judged flying makes everybody who participates a better pilot.

A Senior Instructor is needed. The person would certify new instructors and ultimately new pilots. Henry Cahoon volunteered with admin help from Keith Desbois. Sam Verlander was volunteered to be the 'Chief Helicopter Instructor'.

There will be a Board of Directors meeting before the next club meeting.

Jim Maguire (aka Dr. 2-stroke) will be leaving the area. He's helped just about everyone on the field with their engines and he received a round of applause for what he's done for the club—most famously, running the raffles and pilot registration at club flying events. He promised to stay in touch—If you'd like to contact him, his address is: 21600 Twitch Court, Porter, TX 77365.

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Highlights from the March Meeting (continued)

The April AMA Magazine had an article on the HRRC Toys 4 Tots Fly-In on page 11. Keith Desbois wrote the article, and submitted it.

Gus Gibboney brought the 'trophy case' in which will be displayed the Toys 4 Tots plaque. Gus will also 'hang' the case wherever it's decided to put it.

Joe Robinette got his all-season flyer patch for some triple-digit number of years.

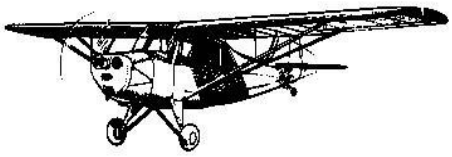
John Flythe and Tom Marks were awarded New Pilot Certificates

Frank Blanchard will be undergoing medical treatment please send him a card. Warren Coleman was reported to have pneumonia, and Dean Rigby was also said to be in ill-health.

Contact Jim Harrell about solid-core doors that make great building benches and surfaces. He said he has several, they are flat and square and that he will bring some to the field if he has the chance.

Show and Tell--
Sam Verlander showed his customized all-white 'Hyper-Active'.

Wade's Miglet that he got at the Toys 4 Tots Flyl-In flies great with non-stock motor and battery.



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Hobbico Twinstar Review

Tower Hobbies e-mailed the world a $20 coupon which was better than many of their other deals in that it only required a $100 purchase to use. Paying for a kid in college, I don't have the cash that I would otherwise, and I'd been thinking about getting a twin for a while, and decided that a good starting point would be the Hobbico TwinStar ARF. There are some twins at the field, and I watched Bob Howell wreck a TwinStar a while back while Dom DePolo muttered and shook his head. I'd also read a bit about them on RCUniverse.com, so I used my coupon and bought the ARF. And since it's winter, I thought I'd chronicle the process of putting it together for the benefit of anyone else who might be considering something similar. In real reviews, the builder/reviewer is not permitted to deviate from the manufacturers' instructions. I'm not burdened by that limitation and considered several modifications to the ARF to make it uniquely mine. The changes I eventually succeeded in:

Tail-dragger modification
Larger than recommended engines

When it was delivered, Tower had packaged it well in a larger box with plenty of air pillows. The manufacturers box was damaged, and Tower had repaired it with another layer of cardboard taped over the holes. Nothing inside was damaged. I had found the instruction manual earlier and downloaded it from the Tower web site. The instructions seem thorough enough, but as there was no 3-view as in a typical plan, I had to make decisions about my modifications without being able to make measurements.

The first thing that I did was read through the assembly instructions and make notes on the pages where I anticipated some kind of deviation or change. The first step in the instructions is to inspect the plane's components and re-iron any loose or bubbled portions of the covering. After a good inspection, my overall impression was fairly good. The thing seemed fairly well put together and square. The parts that required assembly were laser-cut and seemed very sturdy. I noted some places in the covering that needed touch-up, but opted to fix them after the thing was put together. Some other shortcomings.

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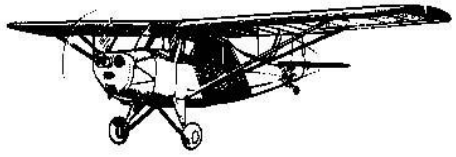
Upcoming Events (cont'd)

July 19, HRRC Scale Fly-In (s)
August 7, HRRC Club Meeting
August 16 CVA Something Different Fly-In (S)
September 4, HRRC Club Meeting
September 13, CVA Cub Fly (S)
October 2, HRRC Club Meeting
October 11, CVA Fall Picnic
TBD, CVA Shoot for a Cure
TBD, NNPRC VEP Fun-Fly
TBD NNPRC Electrics over Tidewater



Hobbico Twinstar Review (cont'd)

-In one place the paint had separated from the covering making a bubble that could not be fixed.
-The engine nacelles are not completely fuel-proofed
-The nacelles have sides that are cut to fit a specific engine's muffler and needle valve--one that I didn't use.
-The engine nacelle covers are ABS plastic that require trimming.
-The fuel tanks are small (4 oz.) and as they are specifically designed to fit into the nacelles on the wing cannot be altered without significant effort.

More good news is that the overall package is fairly complete, the fuselage appears well constructed and even the pushrod tubes to the rudder and elevator are pre-installed. The ARF comes with landing gear, wheels, fuel tanks, spinners--everything to complete the plane, but the radio, engineS and field equipment. The review linked to from Tower was positive except for the spinners provided which broke quickly after being used.

The 2-stroke engines called for are in the .15 to .25 range. I had read of someone fitting .45s on it, with very short flight times because of the small fuel tanks. For a number of reasons (cost, power to weight, positive experience with the manufacturer), I decided that I would use a pair of ThunderTiger .36 Pro engines. I downloaded the engine specs from the web site and measured the clearance of the engine mounts when inside the nacelles. The engines fit without modification. Something else to consider was fuselage clearance for a given prop size, but without real plans that could not be done until the model was in hand.

I ordered both engines at the same time from a web site. I was committed to having both engines as identical as possible. Ordering them both at the same time almost guaranteed me 2 engines from the same manufacturing and assembly process. Unfortunately, one of the engines had the tap still in its muffler bolt hole. After a bit of trying, I gave up attempting to remove it. I contacted the retailer, who directed me to Ace Hobbies. After contacting them and promises of 'being taken care of', no replacement or reply was received. I spent the extra cash to order a separate muffler. The engines did not include glow plugs either.

Online forums mentioned methods to improve flight times for larger engines. One heated flex-tanks while pressurizing them in the nacelle so that they would expand. Another scheme involved a tank or 2 inside the fuselage linked to the nacelle tanks with fuel lines running through the wing. I decided that the level of difficulty with both of those was not worth it and opted for the short flight times.

Assembly of the ARF was fairly straightforward. I used urethane glue where epoxy was called for to save a little weight and time. All of the hinged surfaces were well done, and I had no problem hinging them. The ailerons are driven with a single servo, and I decided to use a larger servo for them. All of the other servos are standard. I took a good amount of care to build both fuel tanks as identical as I could--a possible factor in how the engines ran.

In order to convert the plane to a tail-dragger, I first cut a section from the back end of the fuselage and replaced it with ply to have a foundation for the tailwheel assembly which I bought. The elevator

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Hobbico Twinstar Review (cont'd)

had to be notched to accommodate a wire from the rudder to the tailwheel. It was no problem to drill a hole through the rudder for the tailwheel wire. The only problem is that it's impossible to align the pivot points of the tailwheel with the pivot point on the rudder. As my plane is, there is some binding and stress at moderate displacements of the rudder. The real challenge is modifying the main gear. I could not use the furnished landing gear and it went into the 'spare' pile. I bought 2 nose-gear assemblies and fit them into the furnished engine mounts. Because there is no efficient way (that I could think of) to fix the position of the nose gear, I bent the nose gear struts 90 degrees parallel to the axle so the wire would fit into a hole that was already drilled into the engine mount. The process went fairly well except I failed to account for the dihedral in the wing and one of my main gear is canted slightly outward. They are terribly hard to bend, and impossible to bend once installed. I used the furnished wheels and kept the tailwheel fairly high. The plane's attitude on the ground is relatively horizontal. There is little prop clearance with both the ground and fuselage using a 10 x 6 prop. If I had kept the tricycle gear, the ground clearance would have been even less.

An interesting detail about twin-engine planes is that when possible, the engines point outward from their respective positions. This is to compensate for the difference in thrust if an engine is lost. On the Twinstar, the right and left nacelles are identified by their firewall angles. As I began to install the engine servos which are located behind the fuel tanks, parallel to the wing, I realized that because their angles relative to the engines is different on each side, I would not be able to use identical servo setups. By trial and error, I compensated as best I could for each. My radio does not permit (or I could not figure out) slaving a spare channel to the throttle. I had to use a Y-harness between each throttle servo and make each throttle response as mechanically equivalent as I could by eyeballing the carburetor throat.

After getting the plane put together, I took it to the field to run the engines. As a matter of safety, I resolved to always start the left engine and then the right. Because I normally start the engines from the right side of the plane, this would keep me from reaching over the right engine. I also decided that I would run them together with identical needle valve settings in order to break them in as equally as possible. Circumstances conspired against me as I went through 2 glow plugs within 3 engine runs (one was my fault.). I noticed one engine with excessive bubbles in the fuel line and knew it would not fly that day. I rebuilt the fuel tank without finding a cause for the bubbles. The next time at the field I ran about 6 tanks of fuel through the engines. This didn't take long with the 4 oz tanks. Running break-in full-throttle rich, I timed the short-lived engine at 4 minutes. I was frustrated by the engines not running at less than 1/2 throttle. I was wrong thinking that the idle mixture was set properly at the factory. With help from Ronnie Ward, the low end mixtures were richened about 3/4 of a turn for each engine. After setting the low end mixtures, it didn't take long to get both full throttle and idle RPMs within 500 RPM for each engine. I was not too concerned about the high end, but more about the low end RPMs. At low throttles and speeds, there is less air over the rudder and a few hundred RPMs are fractionally more significant than if the engines were running faster. It's more important to have even thrust at low landing speeds than at full speed.

With the engines finally tuned and running consistently, I was out of excuses to not fly the thing. After checking the high and low RPMs again to give myself the most confidence I could that the engines were about as good as they would get, I took it on its maiden flight. I knew I would only get a few passes

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Hobbico Twinstar Review (cont'd)

over the field before I'd have to land. In hindsight, I should have rehearsed the effects of a lost engine and rudder compensation etc., but i didn't need to. After throttling up, the plane jumped in the air and climbed steeply for about 20 feet until I brought the climb under control. After a half-dozen flights, I still have difficulty staying off the elevator on take-off to keep the climb-out shallow. The plane flies predictably enough, but sharp turns require a bit of rudder or early elevator to keep it from losing altitude too much. At full throttle speeds are fairly high, and the controls tend to be a little touchy. At full throttle, the plane can fly vertically as far as you'd care to, and in a hurry. The plane lands much more slowly than I expected and is very smooth nose-up at landing speeds.

One of the most important items I've learned in subsequent flights is that during throttle-up on take-off the engines can accelerate unevenly and will cause the plane to yaw off-line and can head into toward the flight line rather suddenly. More careful tuning of the engines may keep one or both from loading up, but the real solution is to throttle up more slowly, and be ready on the rudder. Getting off the elevator before throttle-up helps too. I also got to experience an engine-out in flight. Fortunately, I heard it coming because one engine had started to run out of fuel. I was flying fairly high and at full throttle. I've learned to listen to hear both engines running, and knew right away from the sound that an engine had quit. I simply throttled down and treated it like a dead-stick--no problem. Except that the thing will NOT handle on the ground on one engine. It's like having a wingtip nailed to the ground, it will go in circles in one direction. It takes several extended circuits to get off the field on one engine. After pressing the flight fuel limit, I have had an engine out. I could hear it was com, and fortunately was plenty high and fast. I simply idled the running engine and was able to land just like any other dead-stick.

Author's TWINSTAR ARF--Photo a privilege of being the Newsletter Editor