

RCCD PRESENTS

THE 2013 CLUB PROJECT PLANE



PROTOTYPE 1

Introduction

This is the third club project plane that the Radio Control Club of Detroit is offering to it's members. Our previous club projects planes were successful, due in part to the members joining in and participating in the part of the hobby that seemed to have vanished in recent years. The thrill of flying a plane that you personally constructed is back within our club. We have tried to offer in each plane project various options and building concepts or methods that are different from each of the previous plane projects. This diversity adds to the interest in building, along with the challenge of trying a new method of construction. It also promotes the builders to help each other during the build process, thus promoting camaraderie among the club members. One only has to look around the flying field and at the club meetings, and you will see so many members who are now participating in the club activities. We feel that these club projects also add to the camaraderie that has been experienced within our club.

The Radio Control Club of Detroit would like to extend a warm welcome to the club members that signed on for the third club project plane build.

This third club project started as a question in an email sent by Peter Van.

On 5/8/2012 5:35 PM, Peter G. Van Heusden wrote:

Pete

Are you thinking of doing a club project this winter?

If so what about a club racer 46 size for some club sport pylon races?

Peter G. VanHeusden

President

Malibu Technologies, Inc.

On 5/9/2012 8:51 AM, Pete M.....Rattlesnake wrote:

Hey Peter,

The question is, "are you still willing to do all the laser cutting of the kits?". The project plane does center on the laser cutting of the parts for the kit. The impression I had, after the last kit, you were going to back down from a future kit. I know after the last project, I said "that I was going to back away from another project plane". But, after everything was said and done, it was a lot of fun, but also it was a lot of work and time. Are we just gluttons for punishment??

Personally, I would do the CAD work on another project. As for the balance of the work on the project, I would have to approach others, and see if they want to get involved. I will be seeing the "Gang" at lunch today and I will ask them if they are still willing to participate. You are welcome to join us for lunch at the Big Boy restaurant located on Hall Rd. and Garfield at 11:30 . If you can't make it, I will contact you with their answers.

Now, as for the plane, years ago, when I was in the club, pylon racing was one of the major events, second only to the pattern event. Are you trying to resurrect this program or is this project plane just for our club sport flying? A lot of consideration is required if it is going in the direction of a formal event.

I think, we need to do some homework on another scratch build project. I don't know how much club member interest there is for another club plane, and how much interest there is in a pylon racer. It is certainly a plane to consider if the scratch build project continues. It may turn out to be a small project if the interest is not there.

Let's keep in touch,

Pete M.....Rattlesnake

Well, this was the start of our third club project plane. The "Gang", including Peter Van, did meet at Big Boys for lunch that day. George D. and Joe S. didn't hesitate, they immediately jumped on board even before lunch was ordered and served. Now, we have four "Gluttons for Punishment" ready for action, and The project is on it's way. Boy, was I wrong, when I said it may turn out to be a small project. The project escalated to a total of forty two short kits.

After polling some members of the club, the overwhelming majority of those that were polled, wanted a multi-purpose club plane. Most members polled did not want a plane that was dedicated only to pylon racing. The plane needed to be easy to build, easy to sport fly, and be capable of performing the pattern aerobatics, and still be used as a club racer. While searching for the plane that fits those requirements, many club member joined in the hunt for the best plane for this project. After reviewing all the plans, pictures and kits, submitted by the members, the plane that was most popular and would fit the requirements would be a plane that would be similar to the KAOS 40.

So, with the requirements in hand, the CAD design was started. It was decided there would be two prototype planes built. "Prototype One" would prove out the initial design and it's flying characteristics. Making sure the plane would meet the requirements requested by the participating members. The second prototype plane, "Prototype Two", would include any changes that might be added to the design as a result of the first prototype test flights. The second prototype would also allow any changes to be added for the ease of building.

The CAD design for the first prototype was completed, the wood was ordered, the laser cutting of the first prototype parts was completed, and the build of the first prototype plane was completed, and all by August 16, 2012.

Noel Hunt flew the maiden flight of "Prototype One" on August 18, 2012. Peter Van was originally scheduled for the maiden flight, but he was unavailable that day, so Noel agreed to "sub" for Peter Van. Both Peter and Noel were "the go to test pilots" due to their experience and background in pattern flying.

A brief ground check by Noel confirmed "Prototype One" was ready for flight. With Noel at the controls, "Prototype One" was off the ground flying, and flying flawlessly. While the plane was in flight and being put through the pattern maneuvers, Noel was able to evaluate the flying characteristics of "Prototype One" and verbally relate his findings.

He suggested some improvements could be made like: changing the C G rearward from 25 percent to approx. 28 percent of the wing cord, so the plane would be more responsive acrobatically; changing the movements of the ailerons, and elevator in both high and low rates; and later to mechanically reposition the aileron and elevator trim to neutral so any future adjustment would be minimal electronic trim adjustments. All these improvements were minor and did not reflect any design changes.

During the build of the first prototype plane, there were some changes made, that required some CAD design changes. These changes would help simplify the building of the production planes, and were to be incorporated in the second prototype plane. The intent of this plane design is to be friendly to all the builders regardless of their building experience. We also included a couple of options, that the individual builders can choose to incorporate in their individual plane: rounded and shaped wing tip treatments or a flat wing cap; and an exposed engine or a plastic cowling option. The material for all the options would be included in the short kits.

The CAD design updates for the second prototype plane, "Prototype Two", were completed on August 21, 2012 and delivered to Peter Van for laser cutting. The laser cutting for "Prototype Two", was scheduled during the week of August 26, 2012. The second prototype parts were laser cut with the updated data. The second prototype plane was partially built using the updated parts for fit and function. The second prototype plane will remain unfinished and be used as a visual aid for the participating builders.

As in our previous club plane project, a "short kit" will be made available (at cost) to the RCCD club members. This "short kit" will contain critical N/C laser cut parts, standard stock size balsa, hard wood and lite ply, servo wire lead tube, and two partial paper build plans to hand construct the contoured main wing tips, and a formed plastic engine cowl. If the build sequence and process is followed using the detailed construction manual with accompanying photos shown on the club's web site, there will be no need for a detailed full set of plans to build this plane.

The minimum of a four channel R/C system; the .40 size engine/motor and it's supporting hardware; the covering material, decals, and paint; the landing gear/wheels; and any hardware needed to complete the plane is the builder's choice and expense, and not included in the "short kit".

Although construction will be at each builder's home for the most part, we will devote some time at each club meeting to discuss progress and provide any needed direction. The wood working and building technique is left up to the individual builder. There will be builders participating in this project that have no building experience at all, and up to the master model builders. The first few Ground Schools of 2013 will be devoted to subjects related to the build: Build techniques; hardware selection and installation; covering; etc. Between meetings, participants are encouraged to get together in small groups for build sessions (these can be great social events too!!!). Or, just pick up the phone and call or send an email, if you need to discuss or question something you are working on. The project is led by Pete Mlinarcik, George Dudek, Joe Svatora. Also, any experienced club member with model building experience can provide additional help with the common questions you may have.

Please note: The laser cut parts in the short kit are specifically designed to fit as supplied. There is no need to alter any laser cut part/s to fit, unless it is specified within the construction manual and accompanying photos.

If you have never scratch-built a plane, this project is for you: You are bound to have a ball making your first plane, and it will provide repair skills to save an ARF, should gravity ever get the better of your flying skills.

If you have built one or two planes, this project is for you: You'll be able to see how there are usually multiple ways to achieve the same result, learning along the way.

If you are an experienced builder, this project is for you: You will be able to share with others what you have picked up over the years. You will also have a great-flying plane and who knows, perhaps the "old dog" will learn a new trick or two.

***Remember to build safely, to fly safely
&
most of all, have fun doing it !!!
Compliments of
“The Radio Control Club of Detroit”***

list of contributors to the project

Peter Mlinarcik----- project design and engineering coordinator, builder

George Dudek----- registrar, liaison, coordinator, builder

Joe Svatora----- coordinator, builder

Peter VanHeusden-- N/C laser cut parts supplier & racing rules and ground school coordinator

Noel Hunt----- webmaster, information coordinator

Mike Pavlock----- packaging material for the kits. Pylons for the racing events.

Dwane Dyer----- designer and producer of all the graphics for the project logo

Jim McCoul----- servo wire tube supplier

Keith Jones----- special discount on the purchase of the servo wire extensions for the participants in the project plane build.

Club officers----- their cooperation, support and guidance

The Club members-- their participation and their enthusiasm for the project

The Prop Shop----- balsa wood, lite plywood, hardwood supplier for the short kit and optional model supplies to complete the model and special pricing on a limited supply of OS 46 engines.