



The Pinnacle

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The Official Journal of the 495th R/C Squadron
Tewksbury, MA

AMA Gold Leader Club, Charter #340



Club Member Robert Merlino PT-19

Photo by Robert Merlino

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495 R/C Squadron, Inc.

Next Meeting **Wednesday, Dec 4th 7:30 P.M.**
 Next Events Speaker from the North Shore Amateur Astronomy Club (NSAAC)
 Club web site <http://www.495thsquadron.org>
 Club Facebook <https://www.facebook.com/495th-RC-Squadron-240759615414>

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From the Editor

Newsletter is for everyone. If you have great ideas, stories and photos to share, please do not hesitate to contact me @ (sales@advancednotebook.com)

Another busy month for the club even the weather is getting cold! I guess as long as it's not snowing, our club members will always try to make the most of it.

As John mentioned in his column, **"I challenge my fellow club members to take on their own winter projects!"** John is right, we should all start to think about what to do in the next couple months. I am not sure I have the courage like Bob Merlino for a scratch build, (which you can see his full PT-19 build story in this newsletter), but I am determined to start from the small repairs and upgrade. Let's all work on something and bring it to next year's Show n Tell !

There are lots of good materials to read in this newsletter, enjoy !

Calvin Hsieh
495th R/C Squadron Newsletter Editor



Track Work Party (2024.12.04)

2025 Club Calendar

Please be sure to check the 'Events' page on the club website on a regular basis, and stay up-to-date with all the fun and important activities we have planned this year

Date	Location	Event Description
Jan. 1, 2025	Tewksbury, MA	New Years Day Flying!
Jan. 8, 2025	Tewksbury, MA	Club Meeting - TBD!
Feb. 5, 2025	Tewksbury, MA	Club Meeting - Italian Banquet!
Feb. 8, 2025	Ogonowski Field	Frozen Finger Fun Fly!
Feb. 22, 2025	Hudson, MA	American Heritage Museum Field Trip!
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April 17, 2025	Tewksbury, MA	Ogonowski Field - Training Night Begins for 2025!
April 19, 2025	Tewksbury, MA	Ogonowski Field - Opening Day and Field Cleanup!
May 7, 2025	Tewksbury, MA	Club Meeting - TBD!
May 10, 2025	Tewksbury, MA	Ogonowski Field - Spring Fun Fly!
May 17, 2025	Tewksbury, MA	Ogonowski Field - Heli Fun Fly!
June 4, 2025	Tewksbury, MA	Club Meeting - TBD!
June 7, 2025	Tewksbury, MA	Ogonowski Field - 'Kid's Day' Fun Fly and BBQ!
June 14, 2025	Tewksbury, MA	Ogonowski Field - Summer Fun Fly - Mike Pangione
July 2, 2025	Tewksbury, MA	Club Meeting - TBD!
July 12, 2025	Tewksbury, MA	Ogonowski Field - Scale Fun Fly!
Aug. 6, 2025	Tewksbury, MA	Club Meeting - Ice Cream Social!
Aug. 9, 2025	Tewksbury, MA	Ogonowski Field - National Model Aviation Day!
Aug. 16, 2025	Tewksbury, MA	Ogonowski Field - Multi-Club Fun Fly and BBQ!
Sept. 3, 2025	Tewksbury, MA	Club Meeting - TBD!
Sept. 13, 2025	Tewksbury, MA	Ogonowski Field - Annual Member Picnic!
Oct. 1, 2025	Tewksbury, MA	Club Meeting - TBD!
Oct. 11, 2025	Tewksbury, MA	Ogonowski Field Work Party!
Oct. 18, 2025	Tewksbury, MA	Fall Classic Car Rally!
Oct. 26, 2025	Tewksbury, MA	Andover Pack 76 Rocket Day!
Nov. 5, 2025	Tewksbury, MA	Club Meeting - Annual Business Meeting and Elections
Dec. 3, 2025	Tewksbury, MA	Club Meeting - TBD!

View From The Left Seat

By

John Morley, President, The 495th R/C Squadron, Inc.

It's hard to believe that the Thanksgiving Holiday has already passed, and that the 2024 flying season has come to an end! Soon, the Christmas and the New Year holidays will be upon us as we get ready for 2025! Each passing year seems to go by faster and faster! I'm not sure if that is a consequence of getting older, or of just being busier than ever? Now that the flying and driving season is mostly over, I hope that everyone has switched into 'winter project' mode! Anyway, it's going to be a long winter, so I challenge my fellow club members to take on their own winter projects! If you don't plan to acquire any new airplanes this winter – and who doesn't already have 'enough'? - perhaps maintaining flight proficiency on a flight simulator might be a worthy goal? In my case, I have a number of airplane projects that I'm committed to finishing this year! In case you haven't noticed, none of us are getting any younger, so if not now, then when? Frankly, it sometimes simply comes down to the available number of hours in the day, and a lack of time to 'do it all'! But, that doesn't mean I'm not going to try!!

In order to help pass the long winter 'off-season', the club will be conducting several 'field trips' over the winter months. We plan a return to the American Heritage Museum in Stow, MA, and the New England Air Museum in Windsor Locks, CT We will be announcing the specific plans for these field trips in early January, so stay tuned!

In addition to these proposed field trips, we will also be having a couple of Events at the Ogonowski Memorial Flying Field. The first, on Jan. 1st, will be our annual 'First Flight' event at 12 noon! The idea is for as many members as possible to fly on the first day of 2025! Frankly, while it's a totally impractical event, it does give our participating members 'bragging' rights for the entire year! Hot dogs and hot chocolate will be served for all who can make it! Later in the winter, we will host a 'Frozen Finger Fun Fly' on a date to be determined! Stay tuned for more info! Finally, we have a lot of great meeting entertainment lined up for the winter months, and we hope to see as many members attending as possible!

At the November business meeting, the club voted unanimously to approve Life Member status for Bob Goulet, after he earlier received the recommendation of the Board of Directors of the 495th R/C Squadron, Inc. A club member becomes eligible for life membership by "working on behalf of the club beyond the call of duty for at least 15 years service", and must be unanimously recommended by the Board of Directors. Bob becomes only the fifth Life Member in the club's history. Thanks to Bob for his years of service to the club, and congratulations for being elevated to Life Member status!

Coming up at the February meeting on Feb. 5th, will be the annual *Italian Banquet and Awards Ceremony*! Beginning at 6:30PM, we will be serving a full Italian meal consisting of Spaghetti and Meatballs, Salad, Rolls, Soft Drinks, Dessert and Coffee, all for the price of \$5 per person. This

event will require pre-registration to allow for the purchase of an adequate amount of food. Look for a sign-up email early in January!

I want to remind everyone that there are **four things** required to fly at the Ogonowski Memorial Model Flying Field. (1) The first requirement is AMA membership. (2) The second requirement is club membership. (3) The third requirement is FAA registration of your UAS/Drone. (4) The fourth requirement is a TRUST certificate. The first two items will be strictly enforced this year at the field. The FAA registration (FAADroneZone), and the TRUST (The Recreational UAS Safety Test) certificate administered by the AMA will be 'self-certify. We expect everyone to comply with these requirements, but we will only enforce AMA and club membership!

A recurring safety concern keeps being raised at the field, so I'd like to take a moment to address a few things. First, all airplanes are to be started (gas/glow airplanes), and 'armed' (electric airplanes) on the 'starting benches' that are provided for this purpose. These airplanes are then to be taxied or carried directly to the runway entrance to the left of the #1 pilot station stand. At no time are airplanes to be started or armed anywhere else, and running or armed airplanes are **prohibited** anywhere in the area behind any of the pilot stations. Likewise, when exiting the runway, this should always be done adjacent to the #1 pilot station. In the past, members have been starting or arming planes on the benches along the guard rail, or on the picnic tables. To be clear, these are **spectator areas**, and airplanes are not to be started or armed in these areas! Once your airplane has been started, or is armed, always maintain positive control of the airplane, and never leave it unattended! These are just common sense safety precautions, and we expect everyone in the club to adhere to them!

The Event schedule for 2025 has been posted to the website! A number of Events are already on the schedule, and more will be added throughout the year as details are firmed up! Please be sure to check the website frequently so that you are up-to-date on all the latest club happenings!

As the end of the year approaches, please keep in mind that AMA and club memberships expired at midnight on Dec. 31st! This means that unless you've renewed your AMA and club memberships before then, you are no longer eligible to fly at our club fields beginning on Jan. 1st, 2025! Please don't wait, and get your renewal done as soon as possible! AMA renewals are now being received, and we will start club membership renewals at the December 2024 club meeting! As in past years, we also plan to host several membership renewal events at the field starting in December. Please stay tuned!

Again, a reminder that each month the BOD will meet on the **Wednesday** evening immediately preceding



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the regular club meeting. Our meetings are held at the Tewksbury 99 restaurant on Rt. 38 in Tewksbury, and begin at 7:30PM. Occasionally, the BOD does not meet in a given month due to schedule or calendar conflicts, and every effort will be made to notify the membership by email when this happens. As always, there is plenty of room at every BOD meeting, and the atmosphere is informal, so we invite interested members to attend! The next regular BOD meeting will be held on Wednesday Dec. 29th, 2024 at 7:30 PM.

I hope you see all of you at upcoming club meetings, and at the field!



John Morley
President, The 495th R/C Squadron, Inc.

Dec 1st, 2024

Officer Elections 2025

On Nov. 6, 2024, the 495th R/C Squadron, Inc. held club officer elections for the 2025 season. The following officers were elected by a unanimous vote of the membership.



President: John Morley
Vice-President: Bob Goulet
Secretary: Bob Merlino
Treasurer: Bob Merlino
Director: Bill Smeltzer



Submitted by: John Morley
Dec. 14th, 2024

Track Work Party on 11/04/24

Photos by Rita Smeltzer



Bob Goulet Life Member Bio

On Nov. 6, 2024, the membership of the 495th R/C Squadron, Inc. voted unanimously to approve club Vice-President, Bob Goulet, for Life Membership in the club!

Bob has been a club member since 2008, and has been a participant on virtually every major project and effort conducted by the club in the last 15+ years. His contributions to the club, which constitute hundreds of hours over 15+ years, have greatly benefited the membership, and have helped to position the 495th R/C Squadron, Inc. as one of the foremost R/C modeling clubs in New England!

Below is a list of the Major Accomplishment/Activities that Bob has conducted on behalf of the 495th R/C Squadron, Inc.

- Club Vice President - 8 years
- Annual Picnic Planning, Shopping - 10+ years
- Italian Banquet Helper – 10+ years
- Ice Cream Social Helper – 10+ years
- Opening Day & Field Clean-up - 10+ years
- Barbeque Shopping Helper - 10+ years
- Field Signage - Installation
- Shed Acquisition & Installation
- Pin Pole Installation
- Windsock Installation
- Pilot Station Installation
- Night Flying Event Coordinator
- Combat flying Coordinator
- Glider Fun Fly Coordinator
- Lawn Tractor Maintenance
- Porta-Potty Installation
- Car Track Project & Bench Construction
- Starting Bench and Work Bench Construction
- Toys for Tots Coordinator



Submitted by: John Morley, President, the 495th R/C Squadron
Date: 12/06/2024

Fall Classic Car Rally

On Oct. 19, 2024, the 495th R/C Squadron, Inc. held a 'Fall Classic Car Rally' at the Ogonowski Field. Approximately a dozen club members participated in this fun-filled event! Under mostly sunny skies, and with unseasonably warm temperatures, it was a perfect day for car racing! Consisting of good-natured competitive racing, a great time was had by all!

A barbeque lunch of hamburgers and hot dogs was served to all participants at noon! Thanks to Bill Smeltzer for running the event, and to John Morley for providing the barbeque!



Incident at Ogonowski Field

Early this fall, there was a very concerning incident that occurred at the Ogonowski Model Flying Field. A Turbo Timber type airplane crashed onto the roof of one of the condo buildings adjacent to the south end of the field. Fortunately, it appears that no damaged was caused when the airplane hit the roof of the condo.

According to the pilot, he became disoriented and subsequently lost control of the airplane. This incident is most concerning because the airplane should not have been anywhere near the condos in the first place! Let me say that again, the airplane should not have been anywhere near the condos!! Clearly, to hit the condos, the airplane had to be flying both well outside the boundary of the field, and well behind the flight line! Besides just being a generally bad idea, operations at long distances also greatly increase the chance of a disorientation-related mishap! This type of flying is totally unacceptable when flying at the Ogonowski Flying Field, and will not be tolerated!

There is no reason at all to be flying outside of the designated field area! If you can't stay inside the designated field area then you need additional training, or you need to find a different field! While this may seem harsh, we cannot have the actions of a small number of members jeopardize the entire club!

In the Spring, we will conduct a mandatory on-line safety briefing for all members that fly at the Ogonowski Model Flying Field. All members will be required to view the briefing, and to acknowledge that fact before being allowed to fly at the field.

It's not hard, and it's not a burdensome request, but it does mean that our members need to pay much closer attention to, and be more aware of, the allowable flight areas available at our field! In short, we ALL need to be much more proactive about these issues at the field!



Submitted by: John Morley, President, the 495th R/C Squadron
Date: 12/09/2024

Annual Rocket Launch Event

On Sunday, Nov. 3rd, 2024, the 495th R/C Squadron, Inc. hosted Scout Pack 76 of Andover, MA for a rocket launch event at the Ogonowski Memorial Flying Field. Starting at 10AM, and running until about 12 noon, approximately 40 scouts and their families launched over 200 rocket flights! Launching from five launch pads, there were rockets in the air almost continuously for the entire event!



The club hosts this event annually as a means of positive outreach in the local area, and to increase the exposure of the club in the community!

This year, the weather was ideal for model rocket launching, with cool temperatures and calm winds! Unlike past years, virtually all the rockets that took to the air were recovered and re-used!

All of the rockets and engines used at this event were 'Estes' brand (www.estesrockets.com), a very familiar name in the world of model rocketry!

Submitted by:

John Morley
President, The 495th R/C Squadron, Inc.
Nov. 18, 2024



Ruko Remote ID Module

Mike Wall

While we may not like the idea of having a remote ID module, if we fly our larger models away from a Pinnacle Street or another FRIA (FAA Recognized Identification Area), we should have a remote ID module to stay compliant with the new FAA rules. Many of the available remote ID modules are expensive and may be a bit of a hassle to mount to one's aircraft. Recently I stumbled upon one that may be easier to use than others and it is less than half the price of other modules currently available.

The Ruko R111 is an easy to use remote ID module and is very inexpensive. I recently picked up the Ruko R111 on Amazon for less than \$33. That is a third of the price of the remote ID module that Horizon Hobbies is currently selling and just a little more than an Apple Airtag. The module comes with an easy to read instruction manual, a few hook and loop fasteners, double-sided tape, several small zip ties, a USB charging cable, and an additional mounting bracket. The module is small and lightweight, coming in at only 13.5 grams. There is also a Ruko app for both IOS and Android devices to set up the remote ID and to retrieve data from it.



The Ruko R111 comes with everything you need to get started and to mount the module into your aircraft.

I know that many are thinking there is no reason to purchase a remote ID if we always fly at Pinnacle Street, but there may be other benefits from this purchase.

Firstly, it may be easier to stay compliant when updating your FAA registration every few years. The site now requires that a module be input as one of the devices on your account, even if one always flies at a FRIA. RC pilots only need one remote ID module because it can be used on every plane, helicopter and drone that each pilot flies. The module can be swapped out between each model so there is no need to purchase multiple devices.

Secondly, the Ruko R111 has an internal battery which makes it easy to install on any aircraft. The module does not need to be connected to the battery of the aircraft. Simply install the module, power it on and it's ready to go. With the included fasteners in the package, it should be easy to find a place on each aircraft to mount the module. The module takes only 40 minutes to fully charge and should last up to five hours on one charge. The module is small and lightweight and should not adversely affect the performance of planes heavy enough to require a remote ID module.

Lastly, you can use the remote ID to find your plane if you happen to lose it in the woods or in a maze of corn. (Know any places where this would be a potential problem?) The remote ID GPS signal lets you track the location of a plane making it easier to find in the unfortunate event of a crash. The Ruko app allows you to track your remote ID and follow its location on a map. Other apps, like Drone Scanner, also allow you to track your model to make it easier to find. And you get some free stuff with the purchase of the Ruko R111. Okay, maybe that's a bit of a stretch, but who doesn't need extra zip ties or double-sided tape?



The Ruko R111 is small and lightweight, making it easy to mount in any aircraft.

I know we don't like having remote ID modules, but we might find that it has more value than initially thought. A small investment could make finding a lost plane a bit easier and make it simpler to stay current with the latest FAA rules.

See you at the field.



Mike Wall

PT-19 Build

Well... It's done, the PT-19 flies! It has been seen training cadets over the skies of Pinnacle.



At 72" wingspan and 8.5 lb all up weight, an excellent flyer, gentle but capable of all basic maneuvers. She is not very fast but feels solid and fairly responsive in the air. She is made for scale flying and on landing, like all warplanes, she likes to be properly flown onto the runway under adequate power. She does not like *chop and drop*... as I found out. She does not care much for cross wind either. But she sure is a crowd pleaser at Pinnacle! I get asked all the time if it's an ARF or a kit build.

Well... it's neither. It's scratch built from 1955 plans designed by a guy named Chuck Hollinger. He flew his version of this model in 1955 and 1956 to much fanfare around the country, won many competitions with it, and even ended up published in *American Modeler* magazine in 1956 (see picture of Chuck below). You see, flying a model like this at that time was quite sensational, given the radio equipment of the time. The best Chuck had was a three-channel AM radio, with on-off controls, proportional had not been invented yet. He had no servos of the kind we know today, but had to make do with *escapements* instead... yet he managed hundreds of successful flights with his PT-19. I discussed his setup in and how he actually flew his PT-19 in a previous Newsletter article.

This article is all about the build of my version of Chuck's 1955 PT-19, from his plans.



Figure 1 – Chuck Hollinger and his famous PT-19, Aug 1956

The Build

This turned out to be one of the most ambitious airplane build projects I've done so far, very interesting, with plenty of challenges. This is a fairly intricate design and all I had were the plans to work with. Most of the times I could just follow the plans, but not always... there were times when I just had to "figure it out" and come up with my own solution.

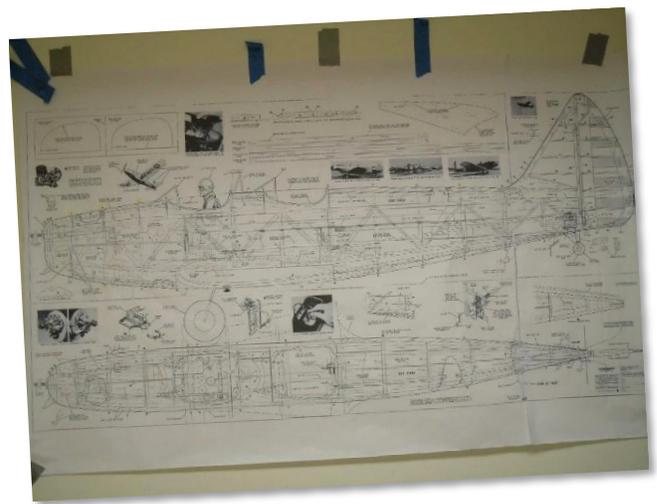
But first things first. The beautifully drawn plans (see sheet 1 of 6, shown below) only provided some reference templates. It was up to me to come up with the rest of the templates for all the fuselage bulkheads and all the wing ribs. These had to be extrapolated using the reference templates and the side views and top views given

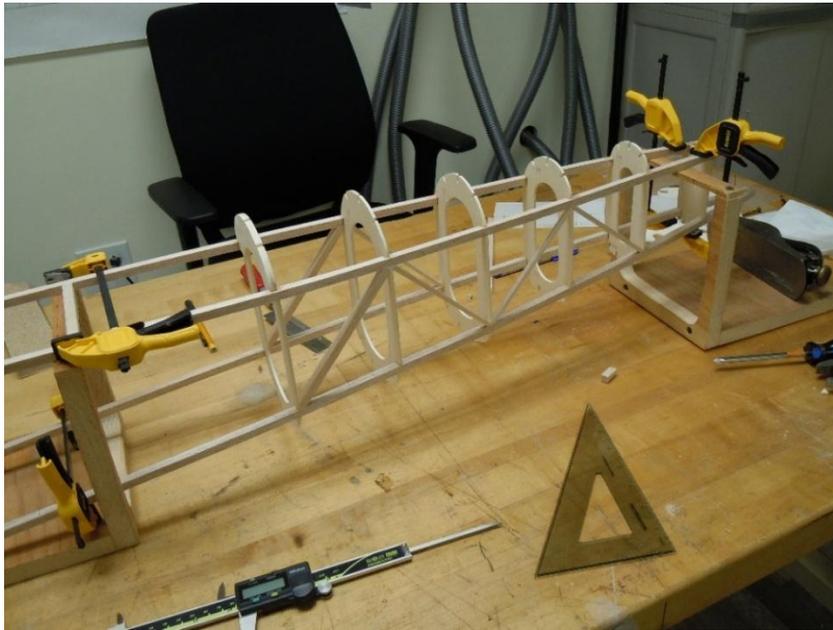
in the plans. Thus this project did not start in the shop but on the drawing board instead. I spent a few weeks drawing all the templates on Vellum paper. But this was merely the warm up exercise.

When a load of lumber arrived from National Balsa, it was time to get to work. The corresponding vellum templates were traced on wood for cutting with my trusty scroll saw. I began with the fuselage bulkheads, which form the shape of the fuse. I decided to simplify the original design of these formers by making these with a single piece of lite ply instead of multiple balsa sticks, as called for in the plans.

The PT-19 is a beautiful airplane all made of compound surfaces, shaped and curved everywhere... easy on the eye. There are no flat and straight surfaces anywhere. This, however, makes the PT-19 an inherently more difficult model to build. It cannot be built by pinning things down on a flat surface like other typical kit builds. Custom jigs were needed to hold the fuse and wings during construction. Developing the appropriate jigs were a project within a project.

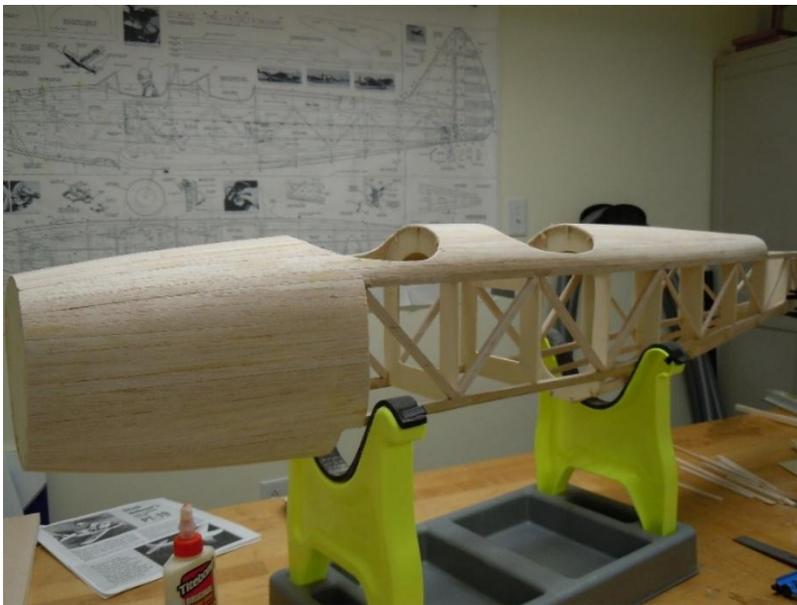
I began with the fuselage assembly. After coming up with a suitable jig to hold the assembly, the fuselage is shaped by mounting the bulkhead formers on four longerons that run the entire length of the fuse, as shown below.





Once the formers and cross members were all glued on, the front and top of the fuse had to be sheeted with 3/32 balsa. Given the compound surfaces, the only simple and practical way to do this is by using the “Planking” technique. Rather than using wide balsa sheets, the covering is formed with individual $\frac{1}{4}$ ” strips of 3/32 balsa. Each little strip is customized and glued in place against the previous strip and formers, thus easily

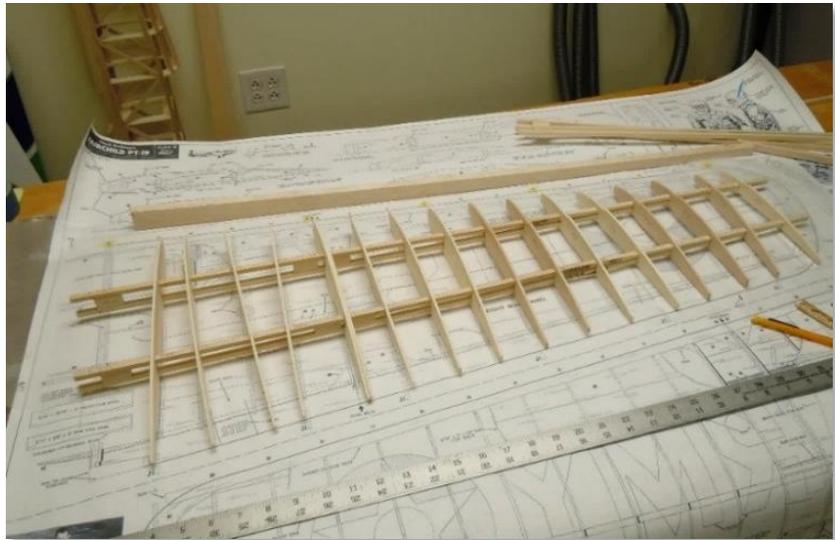
negotiating the curvatures. When done, it’s only a matter of sanding the “Planked” surfaces as one.



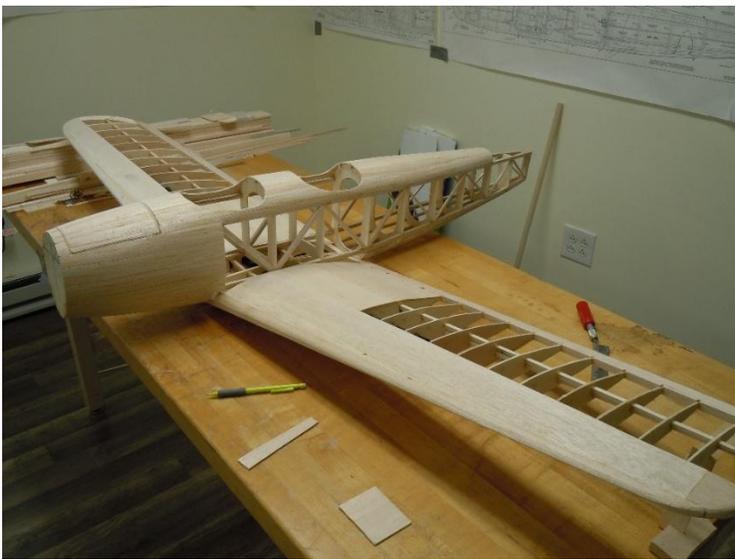
Similarly, each wing half is built using a suitable jig that holds the front and rear wing spars just right, setting the angles for the required wing washout. The wing ribs mount on the spruce engineered wing spars. Once the ribs were glued according to the plan, each wing panel was eventually finished with 3/32” sheeting and wing tips.

The left and right wing panels were then joined to form a single wing, with the desired dihedral. Chuck’s PT-19 had a huge amount of dihedral, I cut back some, but still left a considerable amount.

But, there was a lot more to the wing, requiring a lot of planning... and a lot of time. The first thing was the support for the landing gear. The inner section was reinforced so that the loads from the wing mounted landing gear would be spread without damaging the wing on a bad landing... not that the pilot would ever do that... oh no... never!



The plans of this PT-19 call for a three-piece wing, the center section stays mounted to the fuselage while a left and a right wing panel section unplug to facilitate transport. This meant that at some point the left and right panels would have to be cut. Before these important incisions could be made, critical planning was needed. I decided to pre-install carbon fiber wing tubes/sleeves before cutting the wing panels, as shown below. These would support the outer wing panels after they are cut. Pre-installing these before cutting ensures that the wing panels aligned perfectly afterwards.



The right amount of dihedral



Center section with split flaps

Finally, it was time to cut... a nerve wrecking step to be sure... and not one that could be botched. I used a little hand saw to *gingerly* cut clean through the entire wing structure... all went well, all the preparations paid off. The center section after the cuts is shown below. Another important detail was to come up with a latching mechanism to hold the wing panels in place during flying,

this is also shown in the picture above, next to the carbon fiber tube. This had to be a simple and *foolproof* design... for obvious reasons. Each wing panel simply “clicks in” to latch and a button under the wing release it. The wing center section also featured split flaps, also shown in the above picture.

Next came the mounting of the wing center section to the fuselage. This was a time consuming step since the plans did not help much, I had to figure out my own mounting scheme.

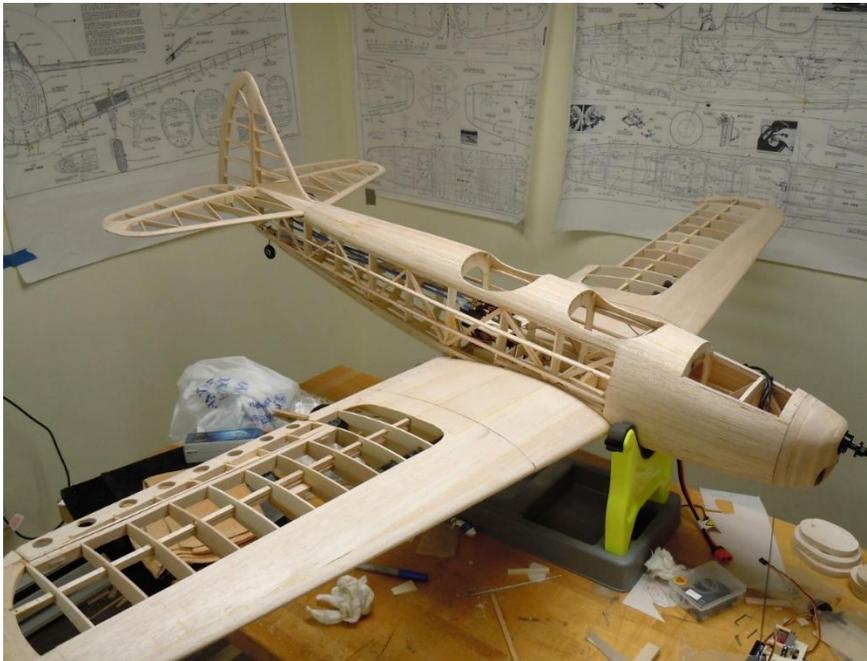
The plans, however, provided a key piece of information: the location of the wing root with respect to the fuselage. The wing center section mounts to the fuselage with 4 wood screws and can be removed if necessary. During normal operation it remains attached to the fuse.

At this point, after months of work, the most difficult and unpredictable part of the build was over. The rest was just finish work. I remember feeling a sense of relief and accomplishment at this point. Unlike the typical build, this project was way out of the norm, with all kinds of challenges and unknowns. When I started, success was by no means assured. Now... I had done it... I knew the PT-19 would fly!



From this point on fairly rapid progress ensued, as shown below. Horizontal and vertical tail surfaces were built with no particular difficulty, ailerons were cut in and shaped, tail wheel, receiver, tail servos and pushrods were installed, fuse side stringers were added, landing gear were formed and installed. The battery hatch was successfully cut and retained with magnets, the motor was installed and the cowl was built and fitted. All wing and tail surfaces installation to the fuse were referenced to the table for proper alignment.

The cowl was the subject of much deliberation. Initially I investigated the process of making it of fiber glass. Doable but quite involved and labor intensive. Instead, I opted to make it from good old balsa. I used a laminated approach with 8 layers of 1/4" light balsa sheets. With the grain of the wood alternating 90 degrees for each layer, the resulting little cowl structure was light and strong. The alternating layers can be seen in the picture below. Given the shape of the cowl, I knew it had to be painted, there was no way I would be able to cover it. With the porous nature of balsa, getting a shiny paint finish on it is doable, with plenty of elbow grease. Several rounds of sanding, prime, filler, sanding, prime, filler rinse and repeat is needed. But ultimately, if prepped right, it takes spray paint just like fiber glass would. I was worried that the paint might crack due to the expansion and contraction of the balsa, but that has not been the case so far, it looks good. Needless to say, the cowl was a lot of work, shaping and finishing the outside and carving the inside to make it fit over the motor.



All surfaces prepped. Time for the covering !

It was now time to start thinking about covering. The PT-19 would sport UltraCote Bright Yellow and Deep Blue. Lucky for me Eddie Di Giuseppe volunteered to be my able assistant. He was promoted to Covering Superintendent. Covering is tricky... having 4 hands made things a looooot easier.

Covering went fairly routine, with no big issues. The fuselage was a bit more difficult due to the compound surfaces. It had to be done in sections, the long way. It came out ok, not my best work but acceptable.

Not bad, my Superintendent worked his magic with his specialty, the decals. The PT-19 is starting to look pretty good. By the way, the decals arrived from Callie Graphics. All I had to do was to tell

them I needed decals for a PT-19 of 1/6th scale and they did the rest. A full set of decals showed up. This is a great service since I didn't even know exactly what decals were needed for the PT-19, but they knew. Fantastic. Highly recommend Callie Graphics for all your decals needs, see callie-graphics.com



In the picture below also note the perfectly matched color of the cowl and wing fairings. I had scoured all the local hardware stores to find some spray paint to match the UltraCote Deep Blue. I came close... found something... kind of close... ehh not quite. Was planning to use that with the



Perfectly matched color of the cowl and wing fairings. Thanks Eddie for finding the paint

lack of something better when Eddie came to the rescue... again. He found not something close... he found the *absolute perfect* match. All the money I paid Eddie was worth every penny.

And speaking of wing fairings. These were built and added after the covering was done. Up to that point I never gave these much thought, I expected these would be just a simple final thing to do. I was wrong... the wing fairings turned out to be bar none the single, most difficult part of the entire build. The plans called for making them with 1/32" ply. I tried... not even close... I gave up. Then I tried 1/64" ply. More flexible... not even close... I gave up. Finally I resorted to what I know best, a block of light balsa. Still very difficult but eventually I managed to cut, carve, sand and finish the shapes into submission. I made the left side fairing first and was fitting great. It did not help that when I cut the right fairing... it was looking great... just like the left fairing... I then realized I had just made two left fairings... ahhhhh... we won't go there. The fairings are mounted to the wing center section, in case it needs to come out.

The PT-19 received proven avionics I use on other similar size planes: Scorpion 4020-420Kv, Avian 100A ESC, AR637T Rx, KST DS589 servos, 6S 3300 Lipo, 13x12 3-blade MA prop. This is the equivalent of "60 size" power, plenty for the plane. I get 9-10 minute flights.

What a project! Not for the faint of heart but very rewarding. Andrew did the maiden, was uneventful. I've been flying it for a while now. The only issue I had was with the main landing gear, which kept bending. I replaced them with beefier gears and had no issues since. Thanks to Eddie for all his help and to John Morley for his "balsa donations"... it went to a good cause.



Robert Merlino

T-28 Trojan - Unbox & Assembly

Mike Wall

The T-28 Trojan is an iconic aircraft that was primarily used as a trainer by the U.S. Air Force and Navy. The Trojan was also used during the Vietnam War by both the United States and the South Vietnamese for counter insurgency missions. The plane had a radial engine that provided plenty of power to train pilots and its flight characteristics were predictable in the air. Nearly 2,000 T-28s were manufactured between 1950 to 1957, although now the plane is mostly used for entertainment purposes during airshows and other events. The RC version of the plane seems to be just as iconic as I've heard many pilots talking about how well this plane flies. The FMS 1400 mm T-28 seemed like the perfect choice to take for a test flight.



The T-28 Trojan in flight. The FMS model looks very realistic.

The T-28 arrived on time (Thanks, FedEx!), and although there was minor damage to the shipping box (Boo, FedEx!), there was no damage to the plane. As always, FMS did a fantastic job of packaging the plane and protecting it with various forms of foam, plastic wrap and packing tape. The outside of the box gives some specifications of the plane, an overview of features and a neat photo of RC Informer from YouTube. There are two color schemes for this plane; an all yellow variant and the white and red variant. I opted for the white and red variant as I had already seen a number of the yellow at the field.



Artwork and details are laid out nicely on the outside of the box. Specs and features are written and there is even a photo of the plane with a B-List YouTube celebrity

The instructions are done well enough but it is obvious that they are translated from another language. The part count is low and assembly does not take very long for this plane. I encountered only one issue when assembling the T-28, and it was only something very minor. I would recommend laying out all the bits and pieces to make sure nothing is missing or broken. It is always a good idea to test all the hinges and to make sure all the pre-glued pieces are secured into place. The manual also shows the connections for the FMS control board, recommendations for rates, and details on control horn and servo arm connections.



Part count was fairly low. Instructions were okay and anyone who has assembled a foam plane before should have no trouble with the T-28.

Before beginning assembly I wanted to test all the servos and landing gear. A simple servo tester is an invaluable tool for building model airplanes. They are inexpensive and can save a lot of time and money by taking the time early in a build to make sure control all servos and landing gear are working as they should. All my servos were working fine (for now), but a test of the nose gear revealed that one of the doors had a pin that had become unattached. It was a simple fix and all the servos and landing gear seem to be working just fine.

The instructions start the assembly with the wings, but I opted to complete the horizontal and vertical stabilizer first. The only reason for this is one of convenience. To assemble the rear of the plane requires flipping it over and is easier to do without the wings attached. To install the horizontal stabilizer the vertical stabilizer must first be removed from the plane. It is just held in place by friction and does take a little effort to remove. Once the vertical stabilizer is out, the horizontal stabilizer can be installed and secured with two screws. The instructions could be better here because the removal process is not written. With the horizontal stabilizer in place the vertical stabilizer can be reassembled. Two more screws are attached from the bottom of the plane to hold everything in place.



The vertical stabilizer must be removed in order to attach the horizontal stabilizer. The instructions are not clear on this step

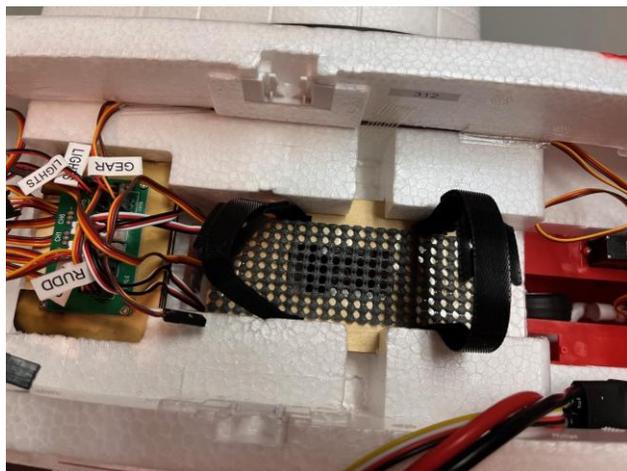
The control linkages for the elevator and rudder were adjusted for the proper length and then connected as per the instructions.

The wires for each main wing are taped in place during shipping. The tape should be carefully removed and the wires straightened to make assembly easier. The wing halves are joined with the two spars and then fitted in place on the bottom of the fuselage. FMS provides one connector for each wing to make assembly a breeze. Each connector attaches to the control board in the

fuselage. Two plastic fasteners join the wings to the bottom of the fuselage and are connected with four screws.



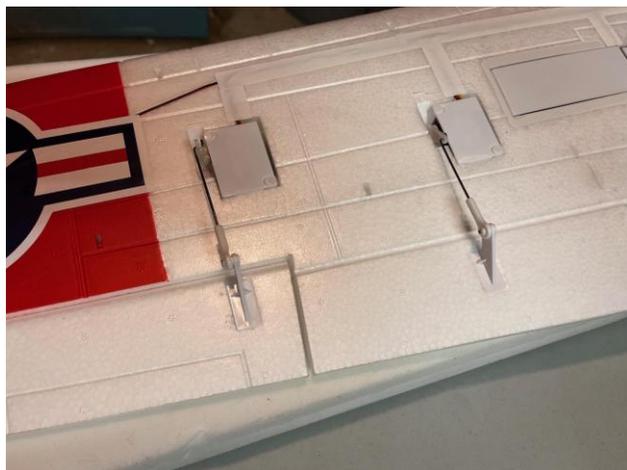
The pin that holds the nose gear mechanism in place had popped out during shipping. It was an easy fix but a good lesson to check over all parts of a plane before flying.



I prefer to use shelf liner rather than the hook-and-loop to keep the battery secure. The shelf liner has good grip and eliminates extra hook-and-loop on my batteries.



Only four screws and two plastic brackets hold the wings onto the fuselage. Two wing spars held to add rigidity to the wings



Aileron and flap servos are held in place with screws instead of glue. This is a nice touch that will make them easier to replace if one should ever fail

I removed the factory installed hook and loop and added some shelf liner to the battery tray to secure the batteries during flight. At this point I set up my transmitter for the T-28 and installed an 8-channel Spektrum AR8360T. I also added a remote receiver forward in the fuselage. This plane does not require eight channels but I like to have separate channels for each aileron (and it will come in handy later ...). I set up AS3X with adjustable gains so that I can make changes to the gyro settings during my first few flights. With the firmware updates to the Spektrum radios there are more than enough channels available for all the control surfaces, retracts, mixes and so much more. My NX10 now has 20 channels! Sorry Futaba users.



Simulated OLEO suspension is just one of the many scale features on the T-28

With the radio all set up and throttle cut tested and verified, it was time to install the prop and spinner. The 3-blade prop is held together with just a few screws and the spinner holds everything securely in place. With the plane all assembled and a battery in place it was time to check the CG. Without any additional weight the plane was very nose heavy. Unfortunately, with the placement of the control board in the fuselage, the battery cannot be moved very far back. Because of this, even with the battery pushed as far back as possible, the plane was always nose heavy. I had heard some folks mentioning that the nose wheel of this plane was weak. I suspect it may be from landing a very nose heavy plane and the nose gear absorbing excessive forces on our grass runway. To help balance the plane, I added weight aft of the battery tray. This was very unusual for me but now the Trojan was balancing very close to a neutral CG. I hope this will help with landing so that it will be easier to flare and keep the nose wheel off the ground for as long as possible.

The fit and finish on the FMS T-28 is very good. There are many scale details to give the plane a more realistic look. There are plenty of panel lines and rivets on the surface. The simulated OLEO landing gear are a nice touch and the gear do have some real springs to soak up some bumps on our grass runway. A pilot figure comes with this model and there is a plastic radial engine with faux cylinders behind the prop. The engine is plain black plastic, so stay tuned for an easy way to give the engine a better look.

At this point the plane is just about ready to go. All the control surfaces are working as they should. The landing gear extends and retracts without any binding and the navigation lights are brightly lit. After some taxi testing and a range test or two, the T-28 Trojan will be ready for its maiden flight.

See you at the field!



The T-28 sits on the bench, fully assembled and waiting for the maiden flight



Mike Wall

Henry Ford's First Motor

(Part 1)

Greg Thompson

By age 10 I was in the grips of a strong interest in antique cars. A prized Christmas gift from around then was a picture book "Motorcars of the Golden Past – One Hundred rare and exciting vehicles from Harrah." At age 16 I adopted my mom's 1961 Morris Minor, pulled out and completely rebuilt the engine, following a Haynes workshop manual. A pencil pushing desk jockey, I've always been fascinated by people that have invented, engineered and made stuff with their hands. An itch that I've had for 20 years is to learn how to use a milling machine and metal lathe and then machine a model stationary steam and model stationary hit and miss gas motor.

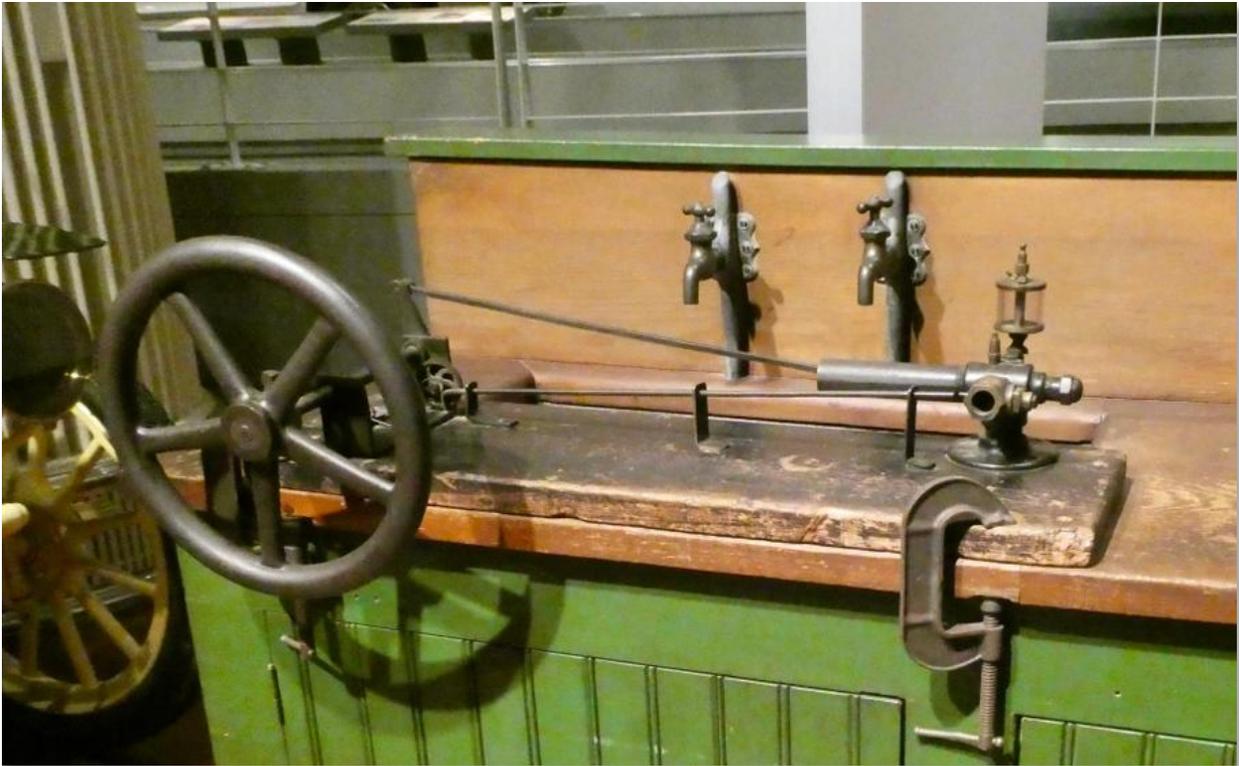
Considering the investment in equipment that would be necessary, I wasn't sure that itch would ever be scratched until.... I learned about a Maker Space called Lowell Makes – I think club member Rob Janoch tipped me off about this place. In addition to shops that include wood, ceramics, 3D printing, fabrics and electronics they have a machine shop. For a small monthly fee and a check-out on the shop's tools they turn you loose. Along the way, club member Brian Barnes gave me several lessons on the metal lathe he has at home. He also presented me with a copy of the Machinist Handbook and a very nice set of machinists drill bits. Thanks Brian.



Elizabeth silver soldering the exhaust valve

For my first project, last winter I started machining a replica of Henry Ford's first motor that he built in 1893 – the Kitchen Sink motor. Here's a link to, hopefully, the finished product in operation <https://www.youtube.com/watch?v=91Jb0mv75QI> After some sleuthing, I found plans that Mr. Leon Ridenour of Knoxville, TN developed and sells. Along with the plans, he includes a very well done how to DVD. Mr. Ridenour, as he describes, has completed his 87th circuit around the sun. He's a retired nuclear technician from the Oak Ridge National Laboratory where nuclear reactors and reactor technology was developed to produce plutonium from natural uranium. After WWII Oak Ridge turned to developing reactor technology for power generation and the development of the use of radiation in medicine

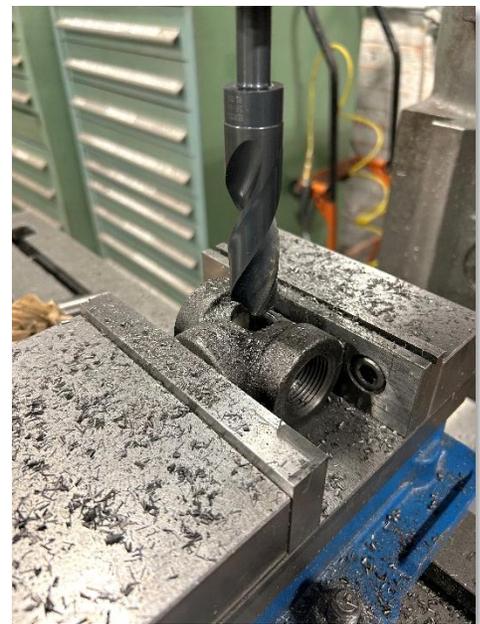
Last winter I got much of the machining completed: combustion chamber, intake valve, exhaust valve, and crank arm. This winter I'm hoping to complete and get it running. Although it seems like I've made quite a bit of progress, as the saying goes, the first 90% takes 10% of the time. The last 10% takes 90% of the time. **(to be continued Part II....)**



Henry Ford's 1893 "Kitchen Sink" motor – my goal



Machining the exhaust valve using the lathe



Combustion chamber – Modifying a cast iron "T" fitting that will be the combustion chamber.



Exhaust valve after silver soldering and machining



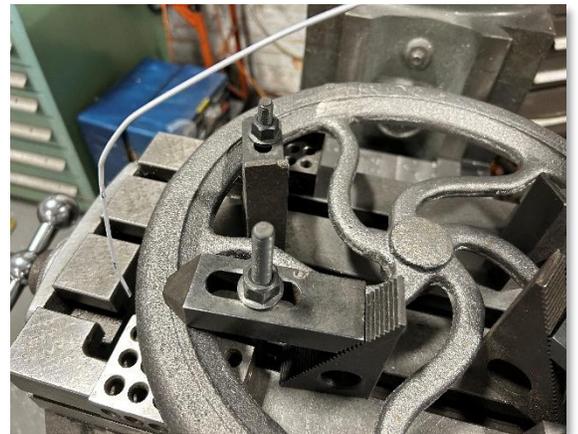
Broaching the timing gear



Crank arm from plate steel



Dry fitting the components



Flywheel mounted to the lathe for drilling and balancing



Greg Thompson

A Politically Correct Christmas Greeting

Best wishes for an environmentally conscious, socially responsible, low stress, non-addictive, gender neutral, winter solstice holiday, practiced within the most joyous traditions of the religious persuasion of your choice, but with respect for the religious persuasion of others who choose to practice their own religion as well as those who choose not to practice a religion at all;

Additionally, a fiscally successful, personally fulfilling, and medically uncomplicated recognition of the generally accepted calendar year 2024, but not without due respect for the calendars of choice of other cultures whose contributions have helped make our society great, without regard to the race, creed, color, religious, or sexual preferences of the wishes.

(Disclaimer: This greeting is subject to clarification or withdrawal. It implies no promise by the wisher to actually implement any of the wishes for her/himself or others and no responsibility for any unintended emotional stress these greetings may bring to those not caught up in the holiday spirit.)



Submitted by: John Morley, President, the 495th R/C Squadron

Date: 12/09/2024

Club Calendar

Club Events

- Dec. 4 Club Meeting
- Dec. 14 Renewal Event at Pinnacle St. field -
10AM until 12 noon.
- Dec. 28 Renewal Event at Pinnacle St. field -
10AM until 12 noon.

R/C Suppliers:

ABC RC & Hobby 11 Rockingham Rd, Windham, NH https://www.horizonhobby.com	(603) 458-6481 All Around
http://hobbyking.com	All Around
https://rcexcitement.com	Cars
https://twistedhobbys.com	Profile Foamies
https://innov8tivedesigns.com	Great Motors
https://fpvlab.com/	FPV Equipment
http://www.crashtesthobby.com	Toughest Planes
https://www.towerhobbies.com	All Around
http://www.amazon.com	Extra All Around

Handy Links:

Renew Your AMA Membership Online
<https://www.modelaircraft.org/joinrenew.aspx>

495th Membership Application
http://www.495thsquadron.org/PDF_Files/Membership_Application.pdf

Online Groups
<http://www.rcgroups.com/forums/index.php>
<http://www.helifreak.com>
<http://www.wattflyer.com/forums>
<http://www.rcuniverse.com>

Local R/C Groups
<http://www.mcrcf.org> Billerica, Mass
<http://www.burlington-rc.com> Burlington, Mass
<http://www.nhflyingtigers.com/> Derry, NH
<http://www.snhfcc.org> Hudson, NH
<http://www.snhflyingeagles.org> Merrimack, NH

R/C Related Podcast
<http://allthingsthatfly.com/> Excellent electric power help
<http://rctodayshow.com/> Mixed group with great advice