AMA Chapter #3798

Chino Valley Model Aviators, Inc.
Official News Letter

May 25, 2014 Volume 17 Issue 5 www. chinovalleymodelaviators.org

"To create an interest in, further the image of, and promote the hobby/sport of radio controlled aircraft"

Inside this issue...

The easiest way to find something lost in your workshop is to buy a replacement.

NEW CONCRETE ADDED TO OUR FIELD

New Field Canopy Now in Place

Photo by *Barbara Riddle*

The top picture shows our concrete being poured and worked and this picture shows the canopy now in place see pages 7 and 8.

RC Club Chatter: CVMA President Randy Meathrell

Just a gentle reminder about safety at the flying field.

Recently a swarm of bees landed at the front gate where I live in Prescott, Valley.

We called a bee keeper and he discovered, after being stung numerous times, that the bees were of the African variety. The bees were safely removed before the school busses would have dropped off the kids at the gate.

Be aware of your surroundings. Also, it is the time of year for rattlesnakes to be active so please be careful when you are in the field looking for that missing airplane part or parts. We have had rattlers at the field in past years.

Also remember that we live in the high desert so be sure and drink plenty of water, AND… if you must fly alone, at least take a cell phone with you in case of an emergency.

The winds cannot last forever so finish up that project that has been sitting on the shelf and get it ready to fly.

MARK YOUR CALENDARS

CVMA EVENTS

Aug. 16: Regional Pro Air Races at our field

Sept. 12-13 Steve Crowe Fun Fly

CVMA MEETINGS

Third Wed. of each month at 7pm. Prescott Airport

TAKE YOUR TRASH HOME

If you bring it you take it home!
Keep the field looking good despite our construction.

CVMA MEMBERS Kick In Your Afterburner...

BUILD SOMETHING, BRING IT TO OUR NEXT MEETING!

CAN YOU NAME THIS PLANE?

Answer on page 8

CVMA NEWSLETTER

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AMA Chapter # 3798
IMAA Chapter #705

CLUB PILOTS AND THEIR AIRCRAFT

Bob Wurth's Sky Bolt!

Chris Balling from Phoenix flew his Boomerang turbine with a smoke generator at our field with Marvin Jones. Marvin has one too and flew his as well.

Chris' Boomerang on final.

Jason Sanctuary (with hat) stands next to his dad Kent (visiting from California) as son *Caleb Sanctuary* learns some basics from his dad with sister *Abby Sanctuary* looking on in amazement. The little electric plane is easy to fly and Caleb is really getting into it. RC is a nice father and son hobby.

Jason Sanctuary's glow fueled trainer.

Member Dan *Avila's hot* turbine Bandit.

Al Collin's plane, where's the ramp?

May 10th Combat

Photos by *Carol Meathrell*

COMBAT SCORES

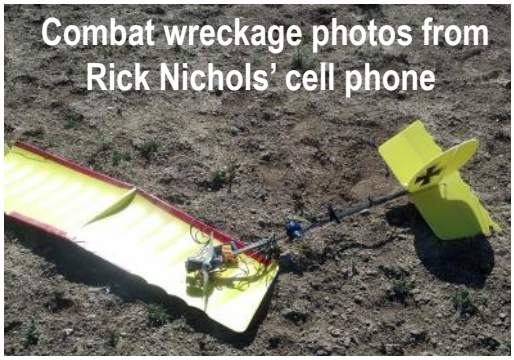
1. *Craig Hale* (score 386) - 1st place
2. *Bob Shanks* (score 244) - 2nd place
3. *Rick Nichols* (score 185)
4. *Randy Meathrell* (score 176)
5. *Dave Wahmhoff* (missing score sheet but didn't make any cuts)
6. *Larry Parker* (missing score sheet but didn't make any cuts)
7. *Bob Noulin* (68 - didn't compete in first round and crashed in second round maiden flight on model and didn't have enough elevator throw.)

CD *Bob Noulin left (CD)*, Bob Shanks second place, Craig Hale first place; *Bob Noulin* said, "The only suggested change was to time the rounds to 5 minutes so everyone has a chance to try to get points for the spot landing."

Mugs and wonderful engraving by

Rick Nichols

Custom Engraving



Combat wreckage photos from Rick Nichols' cell phone

Photo by *Carol Meathrell*

Combat carnage being retrieved...thank goodness its foam!

Don Ferguson's EP Foam Cargo Plane complete with an operational cargo door that drops parachutes!

May General Membership Meeting

The meeting was called to order at 7:00 PM by President *Randy Meathrell*. The salute to the flag was led by *Mike Kitt*. 35 members were in attendance.

Guest tonight was *Mike Ritter* and long lost *Matt Mrdeza* showed up for a meeting and new CVMA member *Caleb Sanctuary* joined the club tonight. Caleb is 7 years old.

Jay Riddle told of the progress of the construction at the field. There is still about a month or so remaining of work and the members will have to bear with possibly a couple more no fly days.

Bob Noulin reported on the May 10th Swap Meet and Combat day. It was a success with Craig Hale taking 1st place and Bob Shanks taking 2nd. Those that had goods to sell did well.

Randy reported on the CAM fly that was held in Sedona, he had a good time at their field.

Member *Alan McSwain* passed away Saturday May 17th. His brother in law *Don Crowe* told of Alan's 3-D printing equipment and of airplane items that are for sale. You can find these items on the CVMA website as they are being offered to club members before he puts them on E-bay.

Steve Shephard announced that there will be a work party to clean up the weeds on Thursday May 29th. 7:00 AM or so. Please come out and help with this job. Should only take an hour or two and the more help that comes the faster it gets done.

Steve also suggested that we get a couple more fire extinguishers for the field. Randy suggested a bucket of sand also.

Rick Nichols read the Treasures report. A motion was made to approve the report, seconded and approved.

Randy thanked *Ricky Flores* for the refreshments. (Ricky said his wife made him look good.)

A reminder from Steve to TAKE YOUR TRASH HOME. He has been picking up lots of discarded trash at the field.

Show and Tell

Bob Shanks brought his self designed foam board Hagrid the Dragon. Steve Shephard brought his 42 year old Pattern Plane, a Mach 1 built in 1972..

Rick Nichols brought his Fokker D-7, *Craig Hale* showed his electric fan type B-2 Bomber.

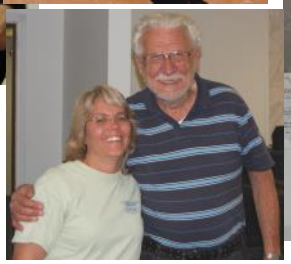
Raffle

The door prize a $10.00 Gift Certificate was won by Glenn Heithold, the $50.00 Valley Gift Certificate went to

Peter Jones and *Rick Nichols* won electric motors, *Don Ferguson* won the big X-Acto knife set. *Len Brown* won a set of files, *Craig Hale* won a charger, *Bill Lindenthaler* won a 2.4 receiver and s set of screwdrivers. *Bob Colianni* won a multi meter, *George Walker* and *Jason Sanctuary* won screwdriver sets, *Patrick Gale* won a wrench set, *Randy Meathrell* won a magnetic tray, *Don Crowe* won a Snap Ring plier, *Steve Shephard* won a Soldering iron and our newest member *Caleb Sanctuary* won a multi-meter.

Bob Shanks Hagrid the Dragon.

Rick Nichols' German Fokker D-7.



Cinnimon Bandy gives Glenn Heithold his *Valley Hobby* $10 gift certificate door prize.

Craig Hale's EP B-2.

Steve Shephard and his 1972 pattern ship.

F-117 Dropping Ordinance

Courtesy of Stealth Fighter Association newsletter "Nighthawks" and Randy Meathrell former Lockheed Martin engineer.

DON'T FORGET TO LOCK THE GATE

MEMBERS:

LOCK THE GATE WHEN LEAVING, IF YOU ARE THE LAST ONE OUT.
WE ALL MUST REMEMBER TO LOCK THE GATE.
THIS MEANS SPINNING THE LOCK A FEW TIMES AFTER FASTENING IT TAKING IT OFF THE COMBINATION NUMBER.

SAFETY IS ALWAYS AN ISSUE

If it seems too windy outdoors to fly, it probably is. Your RC plane or helicopter doesn't stand much of a chance against gusty winds so it really isn't worth the risk. Even if you are able to get your aircraft into the air, gusts of wind can cause crashes and could send your aircraft into dangerous areas such as a crowd of people, a tree, or the side of a building.

Now with that said one should learn to fly in some wind. Living in northern Arizona we know a lot about mountain winds so gage the winds carefully with your RC model in mind.

The proliferation of drones is causing problems for our hobby.

AMA Safety Code, Item 2:

2) I will not fly my model higher than approximately 400 feet within three miles of an airport without notifying the airport operator. I will give right-of-way and avoid flying in the proximity of full scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.

We often see helicopters and Embry-Riddle Cessna aircraft in the general proximity of our field so we all should be using spotters especially when our field is busy with activity.

So members, keep your models close to our field and use a spotter. The recent close call by a passenger jet with what was called a drone really emphasizes the fact our hobby may be severely restricted in the future if we all don't keep abreast of safety concerns.

Your editor has flown his EP glider quite high but has decided to keep it close in and at a reasonable altitude since our area is growing and we do seem to see more general aviation in the general area. Use some good judgment members when flying and always, always use field courtesy to all modelers.

Field Improvements Part II

This issue of our newsletter shows the process at the field to this date. We had a total of three cement truck trips that poured roughly about 21 yards of concrete with another 24 planned.

We indeed have the nicest RC field in northern Arizona and one of the nicest fields in the southwest.

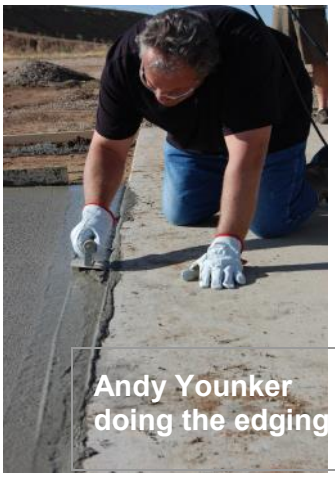
If the unusual wind ever stops we should be done with the bulk of this phase of improvements in time to host the Regional War Bird races with style in August.

Jay Riddle piloting the Bobcat!

Footings with rebar ready for concrete.

Shed moved along with bleachers.

Ready for final finish work.



Andy Younker doing the edging

Chris Corbitt using his cement finishing machine he invented and sells.

Pad ready for canopy.

Field Improvements Part II Continued

Our sign is now on the new cabana but that may change as the process continues to unfold.

Canopy company had this wonderful shelter assembled and in place in about 4 hours.

The sequence below shows how it went together and how it looks from the pit area after finishing. The added space will keep the pathway from the old cabana to the pit area from filling up with chairs from members and spectators.

View from the pit area shows new and old canopy positions.

NAME THAT PLANE: MCDONNELL DOUGLAS X-36 TAILESS FIGHTER

NASA Armstrong Fact Sheet: X-36 Tailless Fighter Agility Research Aircraft February 28, 2014.

Project Summary

X-36 in flight over Mojave Desert the unusual lines of the X-36 technology demonstrator contrast sharply with the desert floor as the remotely piloted aircraft scoots across the California desert at low altitude. The NASA/Boeing X-36 Tailless Fighter Agility Research Aircraft successfully completed a 31-flight research program at NASA Dryden Flight Research Center, Edwards, CA, in November 1997. The X-36 project team developed and demonstrated the tailless fighter design using advanced technologies to improve the maneuverability and survivability of possible future fighter aircraft. The X-36 program met or exceeded all project goals.

In a follow-on effort, the Air Force Research Lab (AFRL) contracted Boeing to fly AFRL's Reconfigurable Control for Tailless Fighter Aircraft (RESTORE) software as a demonstration of the adaptability of the neural-net algorithm to compensate for in-flight damage or malfunction of effectors, i.e., flaps, ailerons and rudders. Two RESTORE research flights were flown in December 1998, proving the viability of the software approach.

The first flight of the X-36 occurred on May 17, 1997, with the final flight closing the original program on Nov. 12, 1997. A total of 31 safe and successful research flights were flown during that 25-week period, accumulating a total of 15 hours and 38 minutes of flight time and using four different versions of flight control software. The aircraft reached an altitude of 20,200 feet and a maximum angle of attack of 40 degrees.

The X-36 project team examined the aircraft's agility at low speed/high angles of attack and at high speed/low angles of attack. The X-36's speed envelope reached up to 206 knots (234 miles per hour); the aircraft was very stable and maneuverable and handled very well at both ends of the speed envelope.

The X-36 is a 28-percent scale representation of a theoretical advanced fighter aircraft configuration. The Boeing Phantom Works (formerly McDonnell-Douglas) in St. Louis, MO, built the X-36, in a cooperative agreement with NASA Ames Research Center, Moffett Field, CA. It was designed to fly without the traditional tail surfaces common on most aircraft. Instead, a canard forward of the wing is utilized, in addition to split ailerons and an advanced thrust-vectoring nozzle for directional control. The X-36 is unstable in both the pitch and yaw axes; therefore, an advanced, single-channel digital fly-by-wire control system, developed with some commercially available components, stabilizes the aircraft.

Fully fueled, the X-36 prototype weighs about 1,250 pounds. It is 19 feet long and three feet high with a wingspan of just over 10 feet. A Williams International F112 turbofan engine provides about 700 pounds of thrust. A typical research flight lasts approximately 35 to 45 minutes from takeoff to touchdown.

Using a video camera mounted in the nose of the vehicle (and an onboard microphone), the X-36 is remotely-controlled by a pilot in a ground station virtual cockpit. A standard fighter-type head-up display (HUD), in addition to a moving-map representation of the vehicle's position within the range, provides excellent situational awareness for the pilot. This pilot-in-the-loop approach eliminates the need for expensive and complex autonomous flight control systems and the risks associated with their inability to deal with unknown or unforeseen phenomena once in flight.

In 1994, the Phantom Works began fabrication of the two X-36 vehicles using rapid prototyping techniques in its St. Louis facility. NASA and Boeing were full partners in the project, which was jointly funded under a roughly 50/50 cost-sharing arrangement. The combined program cost for the development, fabrication, and flight testing of the two prototype aircraft was approximately $21 million. Ames led the X-36 program providing government oversight. In the flight test phase, Dryden provided the flight test experience, infrastructure and range support.

Some Building Tips for All You Foamy Builders

Here's a cheap trick: on the high stress areas like fuselage bottoms, noses and wing leading edges run a tiny bead of hot glue along the edges of the foam, and smooth out with a wet finger, careful, it's HOT. The hot glue really strengthens the edges and is a lot easier than a strip of some kind. Try pulling a strip of hot glue apart, its like plastic.

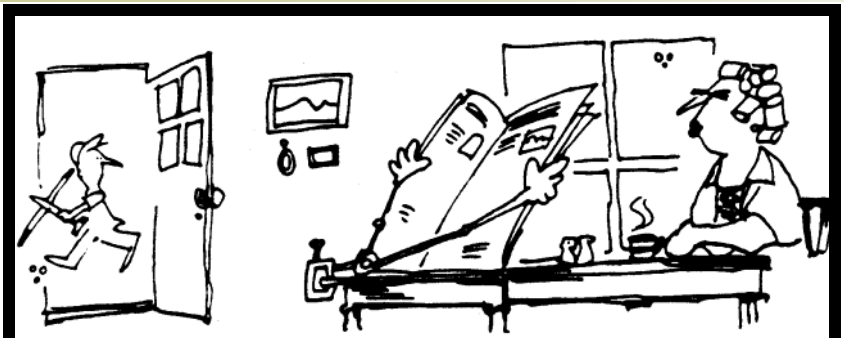
Curving a flat sheet of foam will add a lot of stiffness. Cambering the wing to give it an airfoil shape for instance will add to the wings' stiffness. It may not replace the need for other stiffening but it will help.

The inexpensive foam board with paper backing can also add strength if the builder leaves the paper on one side of the foam board. Again, it depends on what you are building.

Building hollow box sections or tubes will also add stiffness. This technique is used in building fuselages. One advantage of this type of construction is the extra torque stiffness that is produced. This is good for avoiding fuselage twist induced by the propeller.

Thicker foam will be stiffer than thinner. If you don't have thicker foam, you can laminate thinner layers together. One technique is to laminate a second layer in the front half of the wing. This is also offers better flight performance and one gains strength and stiffness at the same time. Typically the front 50% of the top wing of the front 40% of the bottom of the wing is doubled.

By using fiber reinforced strapping tape on the top and bottom of the foam (make sure they line up well). This forms a sandwich composite truss. To work well the tape has to stick really well to the foam. Staples has some fiberglass tape that is very tough for wing tip use.



Early morning modeler makes his way out the door...oh-oh!

Dennis O'Connor photo from Chino Air S how in CA. An F-22 with bomb bay doors open makes a low pass.

Glues for Foam

The Epp foam is more resistant to solvent than is EPS (styrofoam, depron, fanffold, bluecor), but some solvents will attack EPP. Solvent free glues are the safest to use. Epp is harder to stick to than is styrofoam.

These Glues Work Well

Beacon's Foam Tac, Similar to Welders Glue but doesn't yellow with UV exposure.

Welder glue, apparently It is the goop type. It appears to have outdone all others tested by modelers and costs less too.

Hot glue - the quicker sticker, strong bond.

Urethane glues: (Sumo, Gorilla, Probond) - strong bond, light weight, slow setting. Fills gap due to foaming.

Foam safe CA or regular CA- This is a good bond, sticks EPP to fingers very well, quick, more expensive. Spray a little accelerator on one piece, a thin bead of CA to the other, bring together for a quick bond.

The 3M spray 77 contains some solvent. Use as a glue or as a primer for film or colored tape covering. Also spray both foam parts and let dry then bring together as a contact cement type bond.

Goop Good bond, more flexible joint. Here is some good info on the various Goop products.

http://www.naturalhandyman.com/iip/infadh/infgoo.html

CVMA Safety Fence Barrier

Next time you see member *Glenn Heithold* *thank* him for his safety fence barrier idea and for getting it in place.

CVMA Slow Stick Combat

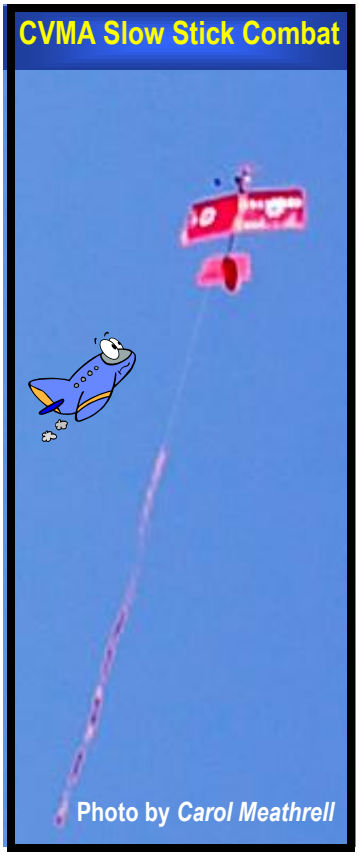


Photo by *Carol Meathrell*