



AMA Chapter #3798

# Chino Valley Model Aviators

## Official News Letter



February 25, 2017

Volume 20 Issue 2

www.chinovalleymodelaviators.org

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



### B-17 at Prescott's Love Field



Inset photo by Carol Meathrell.

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**"When everything seems to be going against you, remember that the airplane takes off against the wind, not with it."**



-Henry Ford

### John Stewart's' Balsa USA Phaeton 90



Photos by Chris Mhyre

John's Phaeton 90 from Balsa USA is a 80 inch wingspan kit that John says was a fine kit project. John is one of the few in our club still building from kits or from scratch, most of us build ARF's. John is indeed a skilled craftsman.

#### Support Our Local Hobby Shop



The Safeway Center  
Prescott Valley, AZ

MAX & CINNAMON BANDY

THEY SUPPORT OUR CLUB

Please support them as well.



## Field Chatter from CVMA President, Michael Kidd: No Kidding!

Well the Holiday Season is over, I hope everyone had a good one.

It was decided at the Board meeting as well as the general meeting that starting next month the newsletter will be uploaded to our web site instead of sent out to everyone. The here's our link, <http://www.chinovalleymodelaviators.org>. We will send a reminder again next month so go to that page and add it to your favorites. Bob will most generally have the newsletter ready to post by the end of the weekend after the general meeting. I know that some of you would like it sent by email but I have also heard that a lot of

you would just as soon have it posted on the web site. There is a link in the left column called "Newsletter", click on it and the newsletters will be posted there.

Also, it came up that a number of you had no idea that shirts and sweaters and a few other "club" related items could be purchased from our web site. There is a link on the web page. There is a link on the left side called "Club Apparel". Items can be picked up at the store in Prescott or sent directly to your home. The sweater I wear was purchased from the web site and it was a no brainer (is that a word?) and it was shipped to my home in less than

a week.

Last month I mentioned that a lot of trash and cigarette butts have been left all over the field. It has been a bit better but I know we can do a lot better in taking our trash home. Be a good sport and remind others when you see that they have left trash lying around. I believe that as a club member we are all responsible in keeping the field clean.

On a safety note, those of us that fly electric models we had a LiPo battery incident. Turns out that a member, without permission, used someone else's charger. With out knowing how to set the charger up for their battery, they hooked up a "small" battery on the charger that was set up for a large battery and the battery started to smoke. Fortunately, another member spotted the smoke went to see what was going on, the battery exploded. He was singed on the hand, arm and face. Luckily his injuries were minor but it could have been a lot worse.

**PLEASE**, do not use another members charger with out permission, you may not be familiar with how to set up for charging. Granted, most chargers

use the same basic charging chip set but the charger may look a bit different.

Also, if you are unsure how to use a charger, new or not, by all means please ask for help. Remember, we are all in the club for the fun of flying, building and helping each other.

All of us, at some point needed instruction and asking a lot of questions is not a bad thing, it is a good thing, no-one will look down at you when you ask for help. LiPo battery safety is absolutely needed and needs to be respected, please take it very seriously.

Another thing to remember, if your plane crashes and the battery is smoking, like what happened at the charging table, be cautious. There is a chance it could explode when you get to the crash site. Examine the battery very slowly and cautiously, we do not want anyone else to have the miss fortune of getting burned. I am glad the injury was minor.

Well, that is all for now, safe flying.

### USAF CV-22 OSPREY NIGHT OPERATIONS



USAF Photo

## CAN YOU NAME THIS PLANE?



See Page 9

### CVMA NEWSLETTER

Published Monthly



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President — *Mike Kidd*

Vice President — *Terry Steiner*

Treasurer — *Don Crowe*

Secretary — *Bob Steffensen*

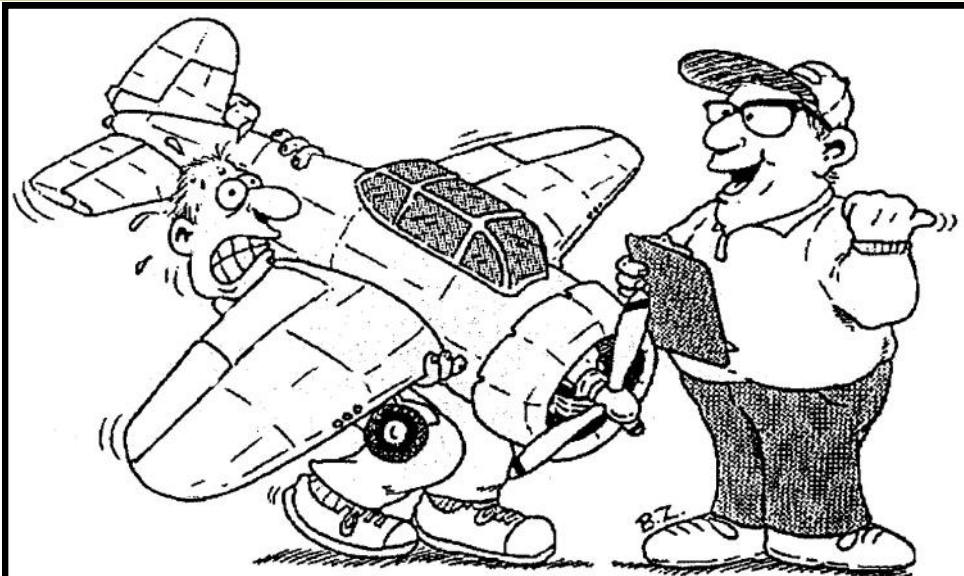
Safety Officer — *Charlie Gates*

At Large Members — *Randy Meathrell, Jerry English, Larry Parker, Marc Robbins*

Newsletter Editor — *Bob Shanks*

Chief Flight Instructor — *Steve Shephard, & Marc Robbins*





"Oh, the Giant Scale check-in? ... It's that way 'bout half a mile, ... Top of the hill."

## MARK YOUR CALENDARS

### CVMA 2017 CLUB SCHEDULE

- May 13, 2017 Club Spring Fling  
 July 4, 2017 Fun Fly, pot luck & Town fire works  
 Aug 26th, 2017 War Bird Races  
 Sept 29-30, 2017 Steve Crowe Fun Fly  
 Dec 1, 2017 Christmas Banquet



Club meetings:  
 Third Wednesday of Each Month.  
 Time: 7pm.  
 Prescott Airport Executive Building

# BORN IN A BARN?

IF YOU ARE THE LAST ONE TO LEAVE THE FIELD:  
 PLEASE REMEMBER TO LOCK THE GATE.



## SAFETY: ALWAYS A CRITICAL ISSUE

We all know how dangerous LiPo batteries can be if not handled or stored properly.

At our field we had a new member in flight training take a 3 cell LiPO battery without adequate instruction or supervision and hook it up to a charger at the wrong setting. It immediately began to smoke and puff up. Instructor [Steve Shephard](#) rushed over to unplug it when it literally blew singed his beard and slightly burning his hand and arm. Had he been any closer he could've been seriously injured. The charging table top is tile to resist just such incidents. That is why it was designed and built by Jay Riddle that way **but the most important aspect is of course safety for our members.**

So always insure you have the correct settings on your charger for the correct battery type, number of cells and correct voltage.

Our safety officer, [Charlie Gates](#) suggested that all new members, especially those in training be adequately educated and trained on correct charging procedures. LiPO batteries have been compared to grenades if not handled, stored and transported correctly.

Member [Randy Meathrell](#) is working up a presentation on batteries and battery types. There is a newer type battery out there that is emerging as a safer and more efficient. The battery is made of Graphene. There are some great videos on this new substance that is basically graphite. One demonstration showed a clear sheet of plastic coated a very thin coating of Graphene transmitting energy across the plastic.

Member Tom Wells has one of the batteries and it seems to be safer and it lasts longer. Your editor has a clip on Graphene as a possible break through on battery development. Come to our

March meeting for Randy's presentation on batteries.

Here's a site that describes this relatively new substance;  
<https://www.youtube.com/embed/WFacA6OwCjA>.

Perhaps Randy will also use this short clip to augment his presentation. You can also talk to [Tom Wells](#) as he has a Graphene battery. Your editor has not done any other research on any newer batteries but there also was a TV segment on PBS on selecting the right battery and where that research is headed. Watch for the program to play again on PBS. It is quite basic in many ways for those knowledgeable RC hobbyists but still a great overview of batteries. I found it quite informative.

Just remember to use your LiPO's correctly members and fly safe! Use a LiPO bag, [Valley Hobby](#) has them.



# ARTIFICIAL INTELLIGENCE AND AVIATION

Your editor has been doing some research into Artificial Intelligence (AI) especially when looking at quad copters one can purchase that actually follow the pilot on the ground and do other pilotless “intelligent” looking maneuvers. There is a lot of research going on with the uses of AI in aviation and many other industries. This short article is just a general blend of some of the research, discussion and ideas going on within the AI research community that I have uncovered.

One source really keyed into Hollywood’s wild imagination stating AI does not mean evil supercomputers will take over the world. Out of control AI running the world, a wild science fiction approach, is intriguing and scary to some, but we can relax a super computer like the movie’s HAL9000 is far into the future. However, specialized AI today is tailored to solve particular problems or work in specific industries with very difficult problems to solve, and is more realistic and down to earth. Today all of us already know we have machines powered by sophisticated computers to sort through vast amounts of data, learn patterns, and work smarter.

These ideas may sound familiar because aviation was an early user of AI. Stop and think about it, pilots have been flying with very primitive forms of AI for years, even if they didn’t realize it: autopilots, FADEC (A Full Authority Digital Engine or Electronics Control) and other cockpit functions to free the pilot to just fly. Newer aircraft already have specialized electrical systems that use computer power to make intelligent decisions tailored to the pilot’s needs. Some of the research used in the development of autonomous cars, is directly related to airplane autopilot studies.

Aviation is already, according to many sources, getting a big boost from drone research. Drones need practical, airborne AI to function properly and safely. As an example, a quadcopter that’s inspecting a pipeline has no onboard pilot to make decisions and could have no video linked pilot controlling, so AI is essential. A large amount of R&D money is going into developing drone technology that avoids terrain, obstacles, traffic, and weather. Research is centered also on self diagnosing internal mechanical problems returning to home base if needed. Drones are ideal platforms for testing new innovative ideas for aviation before ever coming into commercial aircraft cockpits.

Aviation development has always places SAFETY as the a key model for shifting from human-centered to machine-centered controls. Let’s face it, machines are better, faster and often more accurate in decision making than the human brain. According to projections AI will continue to outpace human control. Ok, I know what many of you are already thinking, it sounds like our friend HAL9000. It is hard for many to grasp but it is just a matter of time before aviation research will come up with an autonomous systems capable of flying from point A to point B. As mentioned above, the key has to be will it make flying safer for public use.

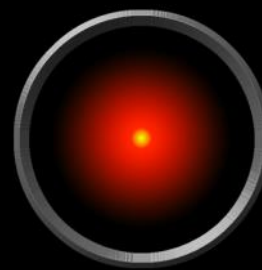
I found it quite interesting that researchers at Massachusetts Institute of Technology (MIT) use the phrase “extended intelligence” as a way to describe how AI is being used to augment human decision-making rather than replace it. That phrase sure sounds like spin, although thinking about the phrase makes sense. OK, I know, “extended intelligence”, just like glass cockpits or a deicing systems, is simply a tool. All cockpit tools and functions must of course be used appropriately by pilots. AI or “extended intelligence” can improve safety, utility and of course the fun of flying. The future looks exciting so if you feel some skepticism creeping into your thought processes look at the broad perspective of where aviation was and now is due to Artificial Intelligence.

As a side note, one Internet AI source says it accurately predicted the Super Bowl winner! Now that really is “extended intelligence” and a bit scary too!

What does all this mean for our RC hobby? Let your imagination run wild and all kinds of possible ideas may flood into your mind.

(See Page 8 for sources on this article)

I’m sorry Dave,  
I’m afraid I can’t do that.



The all knowing computer “Hal 9000” with advanced Artificial Intelligence in the 1968 movie “2001 A Space Odyssey”.

## Battelle Drone-defender Shoulder Fired Jammer

The military has turned to a directed energy frequency jammer mounted on an assault rifle-type frame to deal with the growing threat of small drones to military bases and troops in the field.

Officials of Battelle, the non-profit research and development organization based in Columbus, Ohio, says the Defense Department and the Department of Homeland Security have signed off on buying 100 of its “Drone-Defenders,” billed as the “safe” solution to warding off intruding unmanned aerial vehicles.

Battelle officials at the Navy League’s 2016 Sea-Air-Space Exposition at National Harbor in Maryland outside Washington, D.C., said they could not discuss the unit cost or the total cost of the sales to the military.

“It’s a portable solution to stop portable drones,” said Rich Granger, a Battelle business development director for Mission and Defense Technologies.

The DroneDefender has two triggers — a “command and control” trigger to sever the link between the pilot and the UAV, and a second trigger to jam GPS links to the drone.

The device can intercept drones out to 400 meters. Once the drones are disabled, most are programmed to hover safely to the ground, said Kim Stambler, a Battelle business development leader.

Stambler said the Pentagon bought the DroneDefender for use in the U.S. and overseas. **It is not for sale to the public.**

The defenses against drones will have to keep pace with the booming market for them. A recent business report projected that revenues from drone sales, which were \$8 billion in 2015, will expand to \$12 billion by 2021.

<http://newatlas.com/batteltes-dronedefender-beam-gun-uavs/39885/>



At left is the  
Battelle DroneDefender  
in action.



# CVMA CLUB PILOTS AND THEIR FLYING MACHINES.

Ray Stone's 1911 Curtiss



Don Crowe's Edge 540.



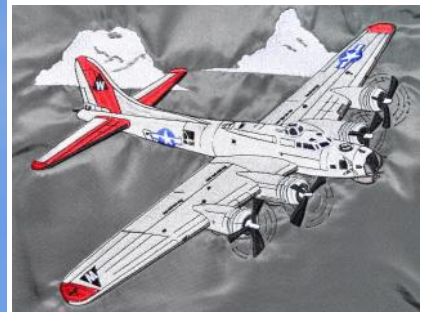
Riley Harley's biplane the Phaeton, a balsa USA kit. It has a 52" wingspan and a Evolution 52 with a 12/7 prop.



Clint Manchester's rooster pilot in his U-Can Do.



Rick Nichols red biplane.



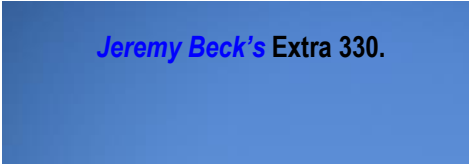
The back of Randy Meathrell's jacket.



Graham Johnson's "Cracked Beaver" from Twisted Hobbies. from



Riley Harley's Lancair.



Jeremy Beck's Extra 330.



Don Crowe's S-Bach 342.



Don Crowe's Edge 540.

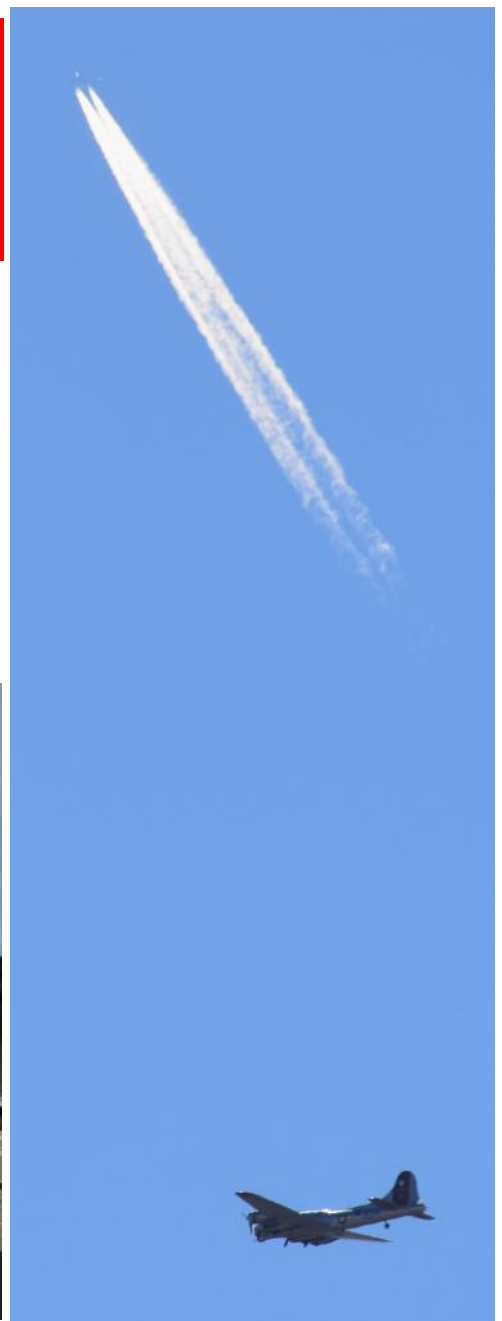


# B-17 "Aluminum Overcast" Stops in Prescott

This historic aircraft was here for the weekend of February 3-5 with veterans' admitted free of charge. You could purchase a ride on this airplane. A couple of our members did just that. In visiting the display your editor observed an older couple probably in their late 80's or early 90's taking pictures of each other by the B-17. The gentleman was using a cane so I offered to take their picture together with the aircraft. As I was visiting with them briefly I noticed an accent and asked where they were from. I was startled and yet amazed as well to hear they were from Germany and had been bombed by B-17 raids during WWII as small children. We visited briefly and discussed how illogical war really was and how mankind never seems to really learn. I neglected to get their names but I'm sure they live here in the Prescott area. Your editor's uncle was a tail gunner on the B-17 during WWII and came home unscathed and on one mission on the return flight to home base my uncle crawled into the bomb bay and dislodged a bomb with a screw driver that had hung up and failed to release.

This B-17's tail number was used by the famous "Aluminum Overcast" lost in France in WWII. This bird was built in May 1945 and never saw combat. We owe much to the men and women who served in WWII.

(Last paragraph's B-17 data from EAA "Live the Legend" fact sheet.)



Nose art is distinctive above. Picture below shows folks climbing the ladder into the plane. Shot at right shows the B-17 to the east of our field with jet contrails above, a nice modern comparison.



Inset photo at left shows the tail gunner's position.



# More Photos on the B-17 Visit to Prescott's Love Field

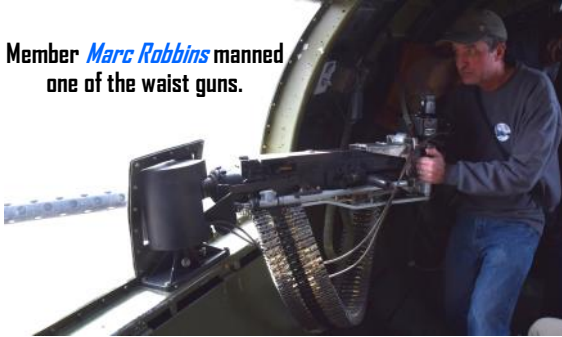
B-17 on the ramp with Granite Mountain as a back drop.



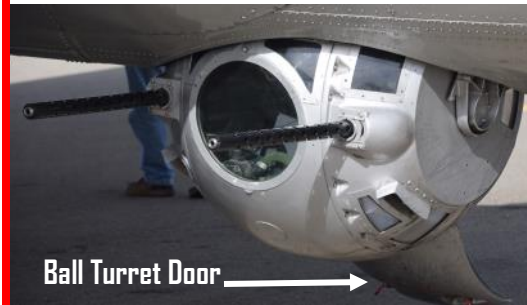
B-17 flying near our RC field.



Member *Marc Robbins* manned one of the waist guns.

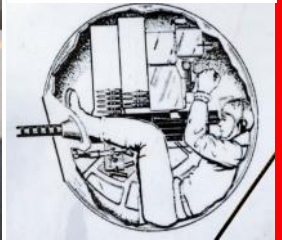


## Some Amazing Lower Ball Turret Facts:



Ball Turret Door

**BOEING B-17**  
Ball Turret Gunner Position



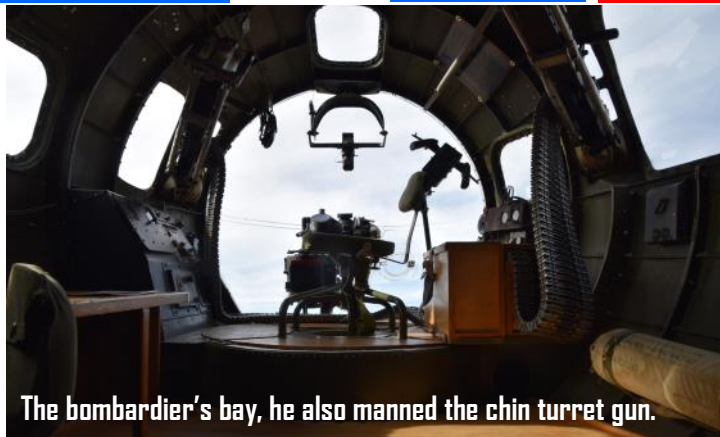
The lower ball turret gunner could enter the turret from inside the plane by having the turret rotated until the door opening faced the interior of the plane. However, since this required that the ball turret be positioned so that the guns were pointed downward, this meant that the turret could not be entered from inside the plane while it was on the ground. It was possible for the gunner to enter the turret from outside the plane while it was on the ground by having it rotated so that its door faced outside the plane. However, once he did this, he would have to stay inside the turret during the takeoff.

Since the turret was only 15 inches off the ground, it would take a bold soul to ride inside the belly turret during take-off or landing, and most ball turret gunners chose to enter the turret while the plane was in the air. Normally, the guns were stowed facing rearward with the barrels horizontal for takeoffs and landings.

Many 8th AF ball turret gunners routinely spent 10-12 hours in the ball while over enemy territory. In almost every case, there was not enough room for the ball turret gunner to wear a parachute. Ironically, post war analysis of B-17 crew fatality records revealed that the ball turret gunner had the safest job on the plane (with the pilot having the most dangerous). *(Data from Sperry Corp. who built the turret.)*



Left photo is chin gun, right photo shows the bomb bay loaded with simulated bombs.



The bombardier's bay, he also manned the chin turret gun.



## B-17 Departure Lift Off

Photo by Marc Robbins.

### Artificial Intelligence Article Sources:

<http://airfactsjournal.com/2016/10/artificial-intelligence-boom-means-aviation/>

<https://phys.org/news/2014-06-artificial-intelligence.html>

<http://www.economist.com/news/science-and-technology/21707187-artificially-intelligent-autopilot-learns-example-flight-response>



## Name that Plane: *Bristol 167 Brabazon*



The Brabazon was designed by the Bristol Aeroplane Company to fly transatlantic routes between the United Kingdom and the United States. Despite its size, roughly between an Airbus A300 and a Boeing 767, it was designed to carry only 100 passengers, each one allocated a space about the size of the entire interior of a small car.

The prototype was completed and flown in 1949, only to prove a commercial failure because airlines felt the airliner was too large and expensive to be useful. In the end, only the single prototype was flown; it was broken up in 1953 for scrap, along with the uncompleted turboprop-powered Brabazon I Mk.II.



During the Second World War, the British government made the decision to dedicate its aircraft industry to the production of combat aircraft and to source transport aircraft designs from the US. Knowing that abandoning development of civil aviation would put them at a disadvantage once the war was over, a British government committee began meeting in 1943 under the leadership of Lord Brabazon of Tara to investigate and forecast the post-war civil aviation needs of Britain and the Commonwealth.

The Brabazon Committee delivered a report, known as the "Brabazon Report", calling for the construction of four of five designs they had studied. Type I was a very large transatlantic airliner, Type II a short-haul, Type III a medium-range airliner for the multiple-hop Empire air routes, and Type IV a jet-powered 500 mph (800 km/h) airliner. The Type I and IV were considered to be very important to the industry, particularly the jet-powered Type IV which would give the UK a commanding lead in jet transports.

Bristol had already studied a large bomber design starting as early as 1937, but nothing had come of this. In 1942 the Air Ministry issued a draft operational requirement from the Air Staff for a heavy bomber design capable of carrying at least 15 tons of bombs, and Bristol dusted off their original work and updated it for their newer and much more powerful Bristol Centaurus engines. Led by L. G. Frise and Archibald Russell,[1] the Bristol design team worked with parameters that included a range of 5,000 mi (8,000 km), 225 ft (69 m) wingspan, eight engines buried in the wings driving four pusher propeller installations, and enough fuel for transatlantic range. The Convair B-36 was in many ways the American equivalent of this "100 ton bomber".

A year later, the Brabazon Report was published and Bristol was able to respond with a slightly modified version of their bomber to fill the needs for the Type I requirement. Their earlier work was the sort of performance the Brabazon committee was looking for, and they were given a contract for two prototype aircraft. After further work on the design, a final concept was published in November 1944. It was for a 177 ft (54 m) fuselage with 230 ft (70.1 m) wingspan (35 ft/11 m greater than a Boeing 747) powered by eight Bristol Centaurus 18-cylinder radial engines nested in pairs in the wing. These drove eight paired contra-rotating propellers on four forward-facing nacelles.

The Brabazon visited London's Heathrow Airport in June 1950 making a number of successful takeoffs and landings, and was demonstrated at the 1951 Paris Air Show. By this time, BOAC had lost interest in the design and although some interest was shown by BEA on flying the prototype, various problems that would be expected of a prototype meant it was never given an airworthiness certificate.

By 1952, about £3.4 million had been spent on development and there were no signs of purchase by any airline. The cancellation of the project was announced by the Minister for Supply (Duncan Sandys) on 17 July 1953. The first prototype was broken up, sold for £10,000 in scrap value, along with the uncompleted Mk.II prototype. All that remains are a few parts at the "M" Shed museum in Bristol and the National Museum of Flight in Scotland.

Although considered a failure and a white elephant, the record of the Brabazon is not entirely unfavorable. At least half of the large sums spent on the project were put into infrastructure, including £6 million for large hangars and runway at Filton.[9] This meant Bristol was now in an excellent position to continue production of other designs and the hall was used for building the Britannia. In addition, many of the techniques developed as a part of the Brabazon project were applicable to any aircraft, not just airliners.

Bristol had also won the contract for the Type III aircraft, which they delivered as the Britannia. Using all of the advances of the Brabazon meant the Britannia had the best payload fraction of any aircraft up to that time, and it kept that record for a number of years. Although the Britannia was delayed after problems with the Type IV, the de Havilland Comet, it went on to be a workhorse for many airlines into the 1970s.



(Wikipedia)



# February General Meeting Highlights



Riley Harley's Phaeton

The General Membership meeting began at 7:01pm and opened with Pledge of Allegiance lead by Mike Kidd.

Club membership stands at 128 fully paid. Head count showed 28 members were in attendance and signed in.

Minutes of previous meeting were approved. No corrections or nays were noted.

## President's Agenda

Editor/publisher **Bob Shanks** has had issues with sending out newsletters by email. Some didn't get delivered due to the ISP saying it was spam. In the future we may just post it to the CVMA website when published and we will send the link to everyone. We will try one more time to send it to everyone this month.

Gravel work on field parking areas remains on hold. The City will be out after the next storm to assess what

will be done at the point where our drive meets and Santa Fe Trail.

**Bob Steffensen** has updated the long overdue club by-laws. It has been sent to Board members for comment. Comments are due back by March 1. We will get them out to members after Board reviews and complete that this year!

Please pick up your trash before you leave the field. You bring...you take it home!

Battery Education, to be presented by **Randy Meathrell** will go next month.

**Don Crowe** has completed his application for CD.

Vice President **Terry Steiner** has the "goodies" detail for the March 15 club meeting.

## New Business

Flight Instructor **Steve Shepherd** related a story of a newbie charging at too high of rate and the battery

blew! Do help educate newbies with things like battery charging. Improper handling of LIPOs can ruin your day!

Long time Club member **Chuck Colwell** stated the Club used to enter a float for the *Chino Valley Pioneer Days* parade and asked why we did not do that any longer. After some discussion several club members volunteered to help Chuck put something together for this year. This is an opportunity to promote the CVMA. Thanks to all who volunteered to help with a float & recruiting booth.

## Board Reports

VP **Terry Steiner** stated that he remains scheduled to do maintenance on the battery boxes some future warm Saturday or Sunday afternoon to be announced.

Treasurer **Don Crowe** presented his report which was approved unanimously for the second month in a row.

Safety Officer **Charlie Gates** asked flight instructors to be sure and include battery charging and other safety education to their students.

We broke about 7:50pm for goodies provided by **Bud Mellor**. We resumed the meeting at about 8:05pm.

## Show and Tell

**Bob Steffensen** brought in his recently completed YAK54: **Chuck Colwell** showed off his in process 98" wing span Telemaster; **Don Crowe** displayed his new Skyline Corvus 540; **Randy Meathrell** had his ME109 for sale at \$150.

Door Prize/Raffle: **Marc Johnson** won the Slow Stik and **Jerry English** picked up the glue and air craft recovery bag door prizes. **Jerry Mitchell** took home the Sport 46 for tonight's raffle.

We adjourned about 8:20pm  
Respectfully,  
**Bob Steffensen Club Secretary**



**Chuck Colwell** showed his 98" Telemaster, Bernie his wife (inset photo) is his Graphic Designer! Chuck brought some notes for his presentation far right photo: Chuck is the ever funny comic and expert builder.



Bob's very nice YAK54.



Don's Skyline Corvus.



Jerry won the cool Sport .46 ARF.

