



AMA Chapter #3798

Chino Valley Model Aviators

Official News Letter



January 25, 2018

Volume 21 Issue 1

www.chinovalleymodelaviators.org

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

Inside this issue

- ⇒ Presidents Message 2
- ⇒ Name This Plane 2
- ⇒ Safety Column 3
- ⇒ Club Pilot's Aircraft 4 & 5
- ⇒ U-2 is Old Technology 6
- ⇒ Brief History of Drones 7
- ⇒ Name the Plane Data 8
- ⇒ January Club Meeting 9

Aviation Fact:

The world's fastest airplane is the Lockheed SR-71 Blackbird, flying at 2,193 miles per hour.

It has held the record for nearly 40 years.

Support Our Local Hobby Shop



6594 E. Second Street
Suite C,
Prescott Valley, AZ
775-4971

Dan Avilla's Turbine Powered Rebel



More pictures on page 4.



Dan's Rebel has a wing span of 8.5 ft length 9.5 ft, powered by a King Tec 210 with 46 lbs thrust. Dry weight 36 lbs take off weight 46 lbs. Dan says it burns a little over a gal of fuel per flight. The Rebel has 2 receiver batteries and one turbine battery and is equipped with a smoke system.

John Stewart's Pilot Project "Rainbow"



John's Pilot has a 110" wingspan and is powered by a DLE 20cc gas engine This was an old 1989 all balsa Pilot kit no longer manufactured. Pilot just makes ARF's now. The plane weights 14 pounds. John has plans to add some color trim.



As previously reported, the contract to pave the east side of the runway has been signed. We are waiting on warmer weather and a few thousand dollars of pledges or additional donations. Any amount that you can spare will be used for this project.

Our new pilot training program needs volunteer flight instructors. The club has all the gear you'll need. If you can help out with this, get with Steve Shephard or Marc Robbins and they'll get you assimilated into the program.

As a reminder, we have no trash service at the field. We've had lots of water bottles, batteries, and food wrappers left behind for others to clean up. If you bring it to the field, you need to leave with it.

Please be courteous to your fellow club members and pick up after yourself. **"If you bring it take it home"!**

Check out our webpage or Facebook group for coming events for 2018. If you have a suggestion for an event please get with a board member so it can be considered and/or acted upon.

We Need Help Members!!

CVMA

FLIGHT SCHOOL

Volunteer Flight Instructors Needed

What Plane is This Cute Little Twin?

See Page 8

CVMA NEWSLETTER
 AMA Chapter #3789
 Published Monthly

President — *Don Crowe*

Vice President — *Larry Parker*

Treasurer — *Marc Robbins*

Secretary — *Bob Steffensen*

Safety Officer — *Jerry English*

At Large Member — *Randy Meathrell*

Newsletter Editor — *Bob Shanks*

Flight Instructor — *Marc Robbins*



"The bad news is we're slightly delayed. The good news is our mechanic is addressing the issue and we should be ready to fly soon".

MARK YOUR CALENDARS

2018 Club Events

- May 19, 2018 – Spring Fling Fun Fly and Swap Meet
- Jul 4, 2018 – Club Pot luck and Fun Fly (watch town fireworks)
- Aug 25, 2018 – Pro Warbird Pylon Racing CD: Marc Robbins
- Sept 22, 2018 – Annual Steve Crowe Memorial Fun Fly
- Oct 27, 2018 – Second Annual 2018 Build & Fly Challenge.
- Dec 8, 2018 – Christmas Banquet Prescott Centennial Center

Club Meetings:

Third Wednesday of Each Month—7 PM
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

As we start this new year let's all concentrate more on safety, since we did have two serious prop strikes last year at the field. Propellor safety is so important so don't take this aspect of safety casually. Props can fail for a variety of reasons so replace props that have hit the runway, examine them closely, rebalance them and if in doubt throw them away and replace them.

We often stress lithium ion battery safety in this monthly safety diatribe. So always be careful how you handle your various battery power sources.

A firm in England is working on developing alternative energy sources and hopefully we will soon see some other ways to power our electric models. One possibly new battery is the lithium sulfur battery or Li-S.

One of our members often compares Li-Po batteries to hand grenades, this is a good comparison to what kind of power they can suddenly release if not han-

dled properly. Along with all of this one has to dispose of them correctly as well, don't contaminate our land fills and/or cause a possible fire there. Soak your old Li-Po batteries in salt water and then dispose of them properly.

Always use a fire proof LiPo safety bag, metal ammo box, or other fire proof container when you are charging, discharging, or storing your LiPo batteries. While LiPo fires are rare, they can happen incredibly quickly and can do a lot of damage. All it takes is an internal short circuit to set the battery off. Predicting when a battery will be a problem is difficult. Lipo incidents tend to happen more often when batteries are fully charged, being overcharged, or while being discharged. That is why handling them properly is critical. Don't overcharge them or at higher charge rate level than recommended and always store them at a storage

level of 50%. Discard crash damaged batteries, don't take any chances with a possibly damaged battery. Some crashes look minor but always closely examine your Lipo's for possible damage.

Never fill your lipo bag or ammo can to capacity and always follow manufacturer recommendations. It's ALWAYS worth investing \$10 or less in more than one explosion-proof LiPo bag or ammo can. Have several bags or ammo cans for your batteries. Don't be "cheap" when it comes to safety!

Let's all work to make this a terrific year of safety and flying. Some of our newer members and others in our club have told me at various times how friendly and supportive our membership is to everyone in our group. This collegiality also really enhances safety as well. Keep being supportive of each other and always welcome new folks visiting our field.

CLUB PILOTS' FLYING MACHINES



Ray Stone's Eindecker



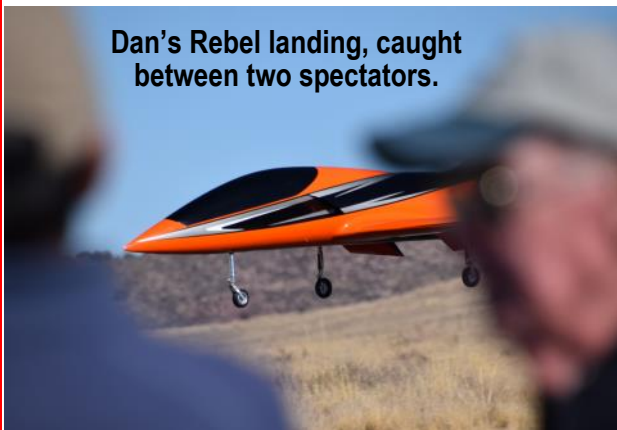
Richard landing his Blade on the chopper pad.



Richard Gunder's little chopper above and at right hovering with the main runway in the background.



Marc Robbin's YAK -54.



Dan's Rebel landing, caught between two spectators.



On the ground with spectators, one has a better perspective of the Rebel's size.



Shel Liebach's scale electric Beach Bonanza with retracts flies very scale like.



Bill Gilberts DA50 powered Aeroworks Yak-54. These three photos of Bill's Yak-54 are by Marc Robbins.

During a lull in flying **Richard Gunder** tested out his Big Rock truck on the runway. Those black skid marks aren't from planes, this little monster is fast, if it had wings it would fly!

Normally RC cars are not allowed on the runway but there were few flyers at the field that day.



CLUB PILOTS' FLYING MACHINES



Richard Gunder's "Old Crow" P-51.

Don Crowe's Aero Plus Yak-55 ARF.



Frosty Wells positions John's "Rainbow" Pilot for take off.



John Stewart's all white 1989 Pilot kit the "Rainbow". He plans to trim it out with some color soon since it passed it's flight test.

Randy gets this very acrobatic Voltigeur ready to go.



Randy Meathrell's Voltigeur from Hobby King.



Richard Gunder's E-Flight Convergence VTOL does about anything imaginable in it's flight envelope.

Richard Gunder's foam A-6 foam rendition has lots of scale detail.



U.S. MILITARY STILL FLIES COLD-WAR ERA PLANES THE U-2 SHOWS WHY OLD TECHNOLOGIES DIE HARD

On the morning on Tuesday, September 20, 2016 just after 9:01 a.m. local time, two pilots ejected from a U.S. Air Force training flight above California's Sutter Buttes, just north of Sacramento. One of them, Lt. Col. Ira S. Eadie, died; the other, whose name has not been released, is recovering. Though tragic, crashes during training flights are perhaps unavoidable. What's more surprising is that these pilots were flying a U-2 spy plane, an iconic aircraft first built in 1955.

Most civilians associate the U-2 with the Cold War, not the War on Terror. Designed to fly at 70,000 feet, the glider-like U-2 allowed the United States to conduct aerial reconnaissance of the Soviet Union even before the satellite era. Why then, in an era of drones and reconnaissance satellites, is the U.S. Air Force still using Eisenhower-era planes?

When asked this question, John G. Terino, a professor at the USAF's Air Command and Staff College, located at Maxwell Air Force Base in Alabama explained, that the thirty or so U-2s being flown out of the 9th Reconnaissance Wing at Beale Air Force Base near Marysville, California, have experienced major upgrades since the early days. The current model, technically a U-2S, has a longer wingspan, more room for sensors, interchangeable nose cones, and a slightly more pilot-friendly cockpit. The military and the intelligence communities prize the U-2S and their pilots for their flexibility and responsiveness. But most important is the U-2's "multispectral capabilities." Depending on the configuration of the surveillance equipment, the U-2 can take photographs, see through clouds and trees, and collect a range of signals intelligence, the details of which are carefully guarded by the military.

The problem today is many think technology can only be new. But still, the U-2 is a really old plane. And it's not even the oldest plane in the USAF's fleet. The earliest models of the B-52 Stratofortress and the C-130 Hercules started flying in 1954. In fact, according to the Smithsonian Air and Space Museum in Washington, D.C., the Air Force has six aircraft types that have been flying for more than fifty years.

Outside of intelligence circles and Northern California, where the U-2 program employs more than 1,000 people, the continued use of these planes seems so unlikely, so archaic, that it's difficult to square with the USAF's reputation for lusting-after the highest, fastest planes like the USAF's record breaking X-15 and SR-71. The USAF's investment in cutting-edge flight and missile technology underwrote the U.S. aerospace industry for most of the Cold War. Since then, the Air Force has continued to lobby for extraordinarily expensive weapons systems, including the very expensive F-35. For aviation experts the idea of the USAF flying U-2's is quite astonishing.

The continuing evolution of "old" technologies like the U-2 seems to stymie historians' attempts to categorize them. With its interchangeable nose cones and sophisticated surveillance equipment, there's no reason not to think of the U-2S as cutting-edge, contemporary technology. The U-2S today is a companion to all new technology coming to the forefront. However, let us not forget, the U-2S retains some of the quirkier aspects of the original U-2's design, like its exceptionally long wingspan and a bicycle wheel arrangement, that make the plane notoriously difficult to fly. "Nobody starts as a U-2 pilot," according experts. The plane carrying Eadie and his co-pilot mentioned above was one of only five two-seat models used for training flights.

How do you convey to the public that something is both a historic artifact and a contemporary tool? The challenge is compounded for military technologies, with their exorbitant price tags. At the Smithsonian and other museums, they can only take possession of an aircraft that's been retired, because if it were still flying, why would you put it in a museum? Museums inevitably end up with older models that are similar to, but not quite the same as aircraft being flown today. The U-2 at the Smithsonian is only the seventh ever built and was used in the Middle East in the 1970s, it's been painted in desert camouflage. Smithsonian visitors sometimes object that it can't possibly be a "real" U-2, because "real" U-2s are black not painted in camouflage!

The U-2 is a fragile, hard-to--maneuver beast, but it still flies plenty of missions, because the alternatives aren't great. Satellites can drift half a planet away from their targets, and the only comparable drone, the Global Hawk, cannot manage the same kind of payload, sensor capability, or altitude. However, engineers have made significant improvements to the U-2. Today it has a 40 percent larger airframe, a more efficient engine, and a computerized instrument panel. Plus, pilots no longer fly with cyanide pills in case of capture.



2016 California U-2 crash site.



The U-2 today.

* Sources:

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<https://www.encyclopedia.com/history/united-states-and-canada/us-history/u-2-incident>

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* This article is made up of several edited por-

A BRIEF HISTORY OF “DRONES” *

It was February 4, 2002, that the CIA first used an unmanned Predator drone in a targeted killing. The strike was in Paktia province in Afghanistan, near the city of Khost. The intended target was Osama bin Laden, or at least someone in the CIA had thought so. Donald Rumsfeld later explained, using the passive voice of government: “A decision was made to fire the Hellfire missile. It was fired.” The incident occurred during a brief period when the military, which assisted the CIA’s drone program by providing active service personnel as operators, still acknowledged the program’s existence. Within days of the strike, journalists on the ground were collecting accounts from local Afghans that the dead men were civilians gathering scrap metal. The Pentagon media pool began asking questions, and so drone use and the debate began.

The CIA had been flying unarmed drones over Afghanistan since 2000. It began to fly armed drones after the September 11 attacks. Some were used during the air war against the Taliban in late 2001. But by February 2002 the CIA hadn’t yet used a drone for a strike outside military support. The February 2002 attack was a pure CIA kill operation, undertaken separately from any ongoing military operation

A UAV differs from a cruise missile in that a UAV is intended to be recovered after its mission, while a cruise missile impacts its target. A military UAV may carry and fire munitions on board, while a cruise missile is a munition.



The Austrian Balloons

The earliest recorded use of an unmanned aerial vehicle for warfighting occurred on August 22, 1849, when the Austrians attacked the Italian city of Venice with unmanned balloons loaded with explosives known as Austrian balloons. At least some of the balloons were launched from the Austrian ship Vulcano. Although some of the balloons worked and successfully managed to bomb The Republic, others were caught in a change of wind and blown back over Austrian lines. This occurred on the first launch as the wind was not in Austria’s favor on July 12, 1849. The Austrians had been developing this system for 66 years, since the idea was hatched in 1783.

World War One

The first pilotless aircraft were built during and shortly after World War I. Leading the way, using A. M. Low’s radio control techniques, was the Ruston Proctor Aerial Target of 1916. If developed further it was to have been used against Zeppelins. Soon after, on September 12, the Hewitt-Sperry Automatic Airplane, otherwise known as the “flying bomb” made its first flight, demonstrating the concept of an unmanned aircraft. They were intended for use as “aerial torpedoes” an early version of today’s cruise missiles. Control was achieved using gyroscopes developed by Elmer Sperry of the Sperry Gyroscope Company.

Later, in November 1917, the Automatic Airplane was flown for representatives of the US Army. This led the army to commission a project to build an “aerial torpedo”, resulting in the Kettering Bug which first flew in 1918. While the Bug’s revolutionary technology was successful, it was not in time to fight in the war, which ended before it could be fully developed and deployed.

War War Two: Reginald Denny and the Radioplane

The first large-scale production, purpose-built drone was the product of Reginald Denny. He served with the British Royal Flying Corps during World War I, and after the war, in 1919, emigrated to the United States to seek his fortunes in Hollywood as an actor. Denny had made a name for himself as an actor, and between acting jobs, he pursued his interest in radio control model aircraft in the 1930s. He and his business partners formed “Reginald Denny Industries” and opened a model plane shop in 1934 on Hollywood Boulevard known as “Reginald Denny Hobby Shops”.

The shop evolved into the “Radio-plane Company”. Denny believed that low-cost RC aircraft would be very useful for training anti-aircraft gunners, and in 1935 he demonstrated a prototype target drone, the RP-1, to the US Army. Denny then bought a design from Walter Righter in 1938 and began marketing it to hobbyists as the “Dennymite”, and demonstrated it to the Army as the RP-2, and after modifications as the RP-3 and RP-4 in 1939. In 1940, Denny and his partners won an Army contract for their radio controlled RP-4, which became the Radioplane OQ-2. They manufactured nearly fifteen thousand drones for the army during World War II. It was at the Van Nuys Radioplane factory that in 1944 that Army photographer David Conover saw a young lady named Norma Jean, and thought she had potential as a model. This “discovery” led to fame for Jeanne, who changed her name to Marilyn Monroe.

The true inventor of a radio-controlled aircraft that could fly out of sight was Edward M. Sorensen as evidenced by his US patents he obtained in the 1940’s. His invention was the first to be able to know from a ground terminal, what the airplane was doing, such as climbing, altitude, banking, direction, RPM and other instrumentation. Without these patents the early radio-controlled aircraft could only operate within visual sight of the ground pilot. The US Navy began experimenting with radio-controlled aircraft during the 1930s as well, resulting in the Curtiss N2C-2 drone in 1937.

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Article Sources: <https://www.thenation.com/article/brief-history-drones/> and https://en.wikipedia.org/wiki/History_of_unmanned_aerial_vehicles



Name the Plane: Colomban Cri-Cri



The Colomban Cri-Cri is the smallest twin-engined manned aircraft in the world, designed in the early 1970s by French aeronautical engineer Michel Colomban.

The name Cri-Cri comes from the nickname of Christine, one of Colomban's daughters 'Cri-cri' or 'cricri' is also the French term for the sound of a cricket or a cicada, or an informal name for the insects themselves, but it is unclear if this double meaning was intended by Colomban himself.

Design and Development

The Cri-Cri features a cantilever low-wing, a single-seat enclosed cockpit under a bubble canopy, fixed tricycle landing gear and twin engines mounted on pylons to the nose of the aircraft in tractor configuration. The aircraft is made from aluminum sheet glued to Klegecell foam. Its 4.9 m (16.1 ft) span wing employs a Wortmann 21.7% mod airfoil, and has an area of 3.1 m² (33 sq. ft). The aircraft is also capable of aerobatics within the limitations of twin-engined aircraft. The Cri Cri has a cruising speed of 185 km/h (100 knots, or 114.9 miles per hour) and range of 500 km (310.6 standard miles, 270 nautical miles). The plane is powered by two JPX PUL 212 15 horsepower (11 kW) engines. The jet powered model is powered by two TF20 Newton turbojet engines.

As with any homebuilt aircraft, the existing Cri-Cri planes have often been modified by their builders, departing from the original design to a varying degree, resulting in varying performance. Most versions can climb with one engine inoperative.

In June 2010, EADS partnered with Aero Composites Saintonge and the Green cri-cri Association to present an electric-powered Cri-Cri at the Green Aviation Show in Le Bourget. The modified airframe with composite components can fly for 30 minutes at 110 km/h. The aircraft uses four brushless electric motors with counter-rotating propellers, which makes the aircraft one of the world's smallest four-engine aircraft.

On September 5, 2010 Electravia accomplished a world record speed of 262 km/h (162.33 mph) for a lithium polymer-powered aircraft using a Cri-Cri with two electric motors (each producing 25 hp) during the attempt. The company claimed engine and cooling drag reductions of 46 percent versus the conventional combustion engine arrangement.

On 9 July 2015 the electric-powered version of the design flew across the English Channel hours before the Airbus E-Fan, becoming the third electric aircraft to do so. It was pulled aloft by another aircraft and did not take off on its own. The first was the MacCready Solar Challenger in 1981 and the second used electric motors powered by hydrogen.

Length: 3.9 m (12 ft 10 in)

Wingspan: 4.9 m (16 ft 1 in)

Wing area: 3.1 m² (33 sq. ft)

Airfoil: Wortmann 21.7

Empty weight: 78 kg (172 lb)

Max takeoff weight: 170 kg (375 lb)

Powerplant: 2 × JPX PUL 212 single-cylinder piston engines, 11 kW (15 hp) each

Propellers: 2-bladed

Performance: Maximum speed — 220 km/h (137 mph; 119 kN); Cruise speed — 185 km/h; 115 mph (100 kN)

Range — 463 km; 288 mi (250 nmi)



January 2018 General Meeting Highlights



Randy Meathrell's little E-flite UMX™ P3 Revolution biplane.

General Membership meeting of January 17, 2018 was opened by President **Don Crowe** at 7:00pm and began with the Pledge of Allegiance.

Club membership now stands at 135 including new members tonight. Sign in roster showed 31 members. Guests **Scott, Brandon and Brett Reasor** joined this evening...welcome aboard **Reasors!** Minutes of previous meeting were approved unanimously without any corrections required.

Reports

Treasurer **Marc Robbins** reported \$17,230.48 in the Runway Fund. This includes the transfer of \$4000 in operations funds to the account. Thank you for the donations made to date and the additional donations anticipated... we are still short about \$3,000.

VP **Larry Parker** provided an update for the "Chino Vortex" that has caused a few crashes when the TX signal was lost: The issue may be (the jury is still out) caused by cell phone WIFI when the phone tries to connect to Wi-Fi it may overpower the 2.4ghz signal (or at least interfere) and cause loss of connection to your receiver. It may reconnect within

seconds or not. Several clubs across the country have rules restricting phones close to the flight line. However, the verdict of this helping or not is still out. In the mean time we suggest that you turn your phone off or disable WIFI while at the field. Do you really need to take a call while flying? Another theory for loss of signal (Larry's favorite) is the ESC's BEC. Most lower cost ESCs have only a 3 amp BEC draw of current before the voltage drop causes the ESC to shut down. The same happens if the ESC get too hot. This voltage drop has been noted to cause the RX to shut down when the voltage sensed is less than a specific value dependent on the design of the BEC.

The consensus of online opinion, is to always use a UBEC or ESC/BEC that supplies a minimum of 5amps. No clear reason for signal loss has been proven. Help us solve the issue by providing reports to a board member of when, where, and what equipment (BEC, TX RX, etc.) were being used when the loss of signal happens. Hopefully, this will lead to some common discovery.

Secretary **Bob Steffensen** stated that the signup sheet for coffee break goodies would be passed around at the next meeting. **Steve**

Shepherd graciously volunteered to provide for the February meeting.

Safety Officer **Jerry English** said to be safe always. Do ensure you cell phones are turned off while at the field.

President **Don Crowe** said that the runway paving contract had been signed pending additional donations for the upgrade.

Events for 2018 are scheduled. We will need volunteers to plan and stage these events. **Bob Shanks** has sent out the schedule. (See page three of this issue.)

Rick Nichols suggested that we begin to tackle the weeds at the field now and bring on the landscapers to spray.

We broke about 7:30pm for goodies provided by yours truly. Thanks Yours Truly! We resumed the meeting at about 7:45pm.

Show and Tell

Don Crowe showed us photos of his nice work shop. (Members are encouraged to provide a few pictures of their workshops for future meetings). **Randy Meathrell** showed us his great looking Hobby King

Voltigeur. Randy also offered a couple of tricks including put round head screws at your measured CG points to easily check your CG on your fingers and said build notes are available at ezonemag.com; **Larry Parker** brought in his A-1 Skyraider.

Door Prize/Raffle

Charley Gates won the door prize consisting of glue, craft knives and 4 way tool; **Fred Giles** took home the Great Planes Zero with the winning raffle ticket. **Bob Wurth's** project plane was auctioned off to **Jerry English** which provided \$25 to the runway fund.

We adjourned about 8:15pm. Respectfully, **Bob Steffensen** Club Secretary



Charlie Gates won the door prize.



Larry Parker discusses his cool A-1 Skyraider.



Don presented slides of his workshop.



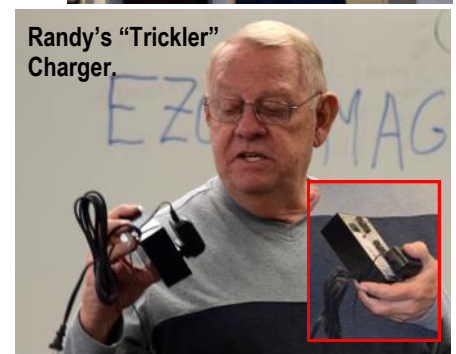
Fred Giles won the Great Planes Zero!



Randy Meathrell's nice flying Voltigeur.



During the break Don played a 17 minute flight video to captivate everyone as they munched **Bob Steffensen's** donuts!



Randy's "Trickler" Charger.