

Merry Christmas & Happy New Year Members!



**Chino Valley
Model Aviators**

Official News Letter



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www.chinovalleymodelaviators.org

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

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Support Our Local Hobby Shop



The Safeway Center
Prescott Valley, AZ

MAX & CINNAMON BANDY

THEY SUPPORT OUR CLUB

Please support them as well.

ERAU's Advanced Aeronautical Design Class UAV Test is Successful



The first team of two to test their design from the ERAU aeronautical design teams (left to right): Paul Kim, Peter Davidson, Josh Parr, Kristy O'Keefe, Chris Sutphen, Mark Tverskoy, Michael Roznick (pilot), Josh Day, Morgan Conklin (flight test lead), Klairn Calastro (team leader) and Andy Wilson. (See page nine.)





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

Greetings Fellow Pilots
Season Greetings to everyone
and have an awesome New
Year.

If you did not attend the
Christmas Banquet, you
missed a really great time.
Rick Nichols did his usual
emcee to perfection, including
my rant to dress appropriate-
ly. Food was good and the
gift exchange was a blast.
The ceiling was full of mem-
bers planes, a total of 11 to be
exact.

If you can make next years
Banquet, rest assured, you

will, have a great time.
Another year has come and
gone. Membership grew to 140
members, awesome. We also
held a lot of events this year and
made a lot of new friends.
I want to thank everyone that
made these events a great suc-
cess.

We had a couple of "new"
events but considering every-
thing, they also turned out well.
All of the pilots I spoke with at
the events had a great time.
That said, next year we are not
going to have as many in the
coming year. But the ones we

will have, will be fun for all.
I expect next year to be an-
other a banner year for the club.
I believe that this club can do
anything. So, if you did not
attend any of this years
events or help with an event,
give it a go. You will become a
true believer of being a part of
this club called Chino Valley
Model Aviators. Yes, it can be
'work' but I learned a long time
ago that if it is something you
enjoy doing it really is not work.
Contact any of the Board mem-
bers if you are interested in
participating or, here is that

word again, working.
Remember this is your club.
Our next regular meeting will
be January 20, 2016 hope to see
you there.
Well, that is all for now, safe
flying and see you next year!



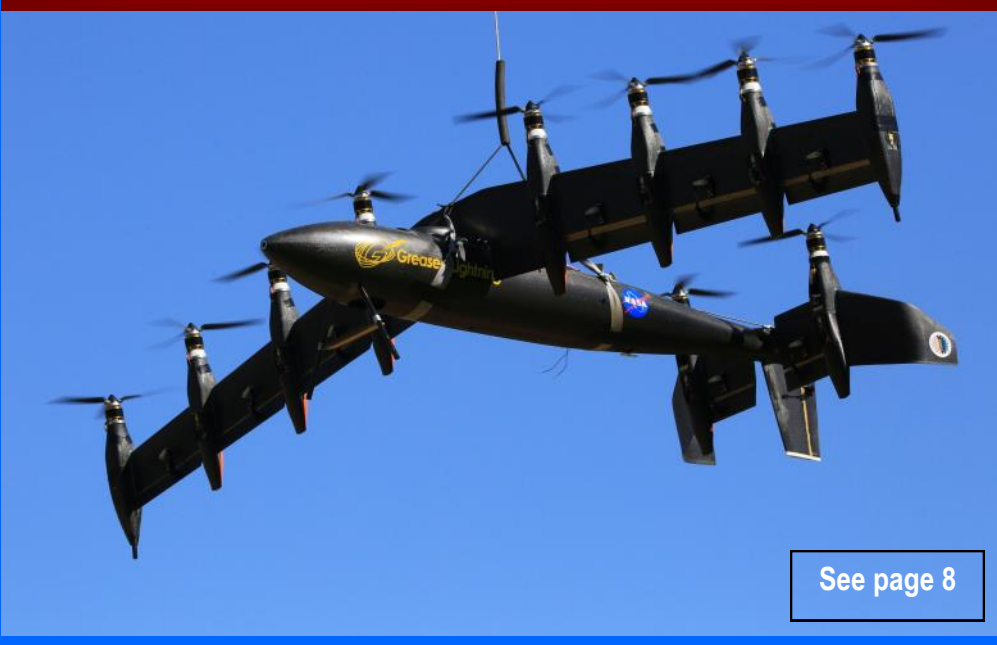
IF YOU BROUGHT IT, YOU TAKE IT HOME

**There are no trash cans
at the field.**
**Take your trash home
members and lock the gate
when you leave!**

CVMA MEMBERS Kick In Your Afterburner...



CAN YOU NAME THIS PLANE?



See page 8

CVMA NEWSLETTER

Published Monthly

AMA Chapter # 3798



- President — **Mike Kidd**
- Vice President — **Jack Allen**
- Treasurer — **Don Crowe**
- Secretary — **Bob Steffensen**
- Safety Officer — **Charlie Gates**
- At Large Members — **Bob Noulin**
Randy Meathrell,
Walt Findley,
- Newsletter Editor — **Bob Shanks**
- Activities Director—**Don Ferguson**
- Chief Flight Instructor—**Steve Shephard**

CLUB PILOTS FLYING THIER AIRCRAFT



Sparky Thornton's WWII Dornier twin 335



Rick Nichols' T-28 with wing decorated by Don Crowe in honor of him flying the wrong plane in our T-28 race.

Rick Nichols' foam combat ship.



Larry Parker gets his Twirler ready.



Marc Robbins DLE gas powered Edge 540.



Adam Reynold's Sukhoi 31M electric, highly aerobatic.



ERAU student flying his black chopper (right) is Michael Roznick. Mike is a senior in aeronautical Engineering, he is also the test pilot for the ERAU UAS project plane as seen on page nine.



CLUB PILOTS AIRCRAFT AT THE FIELD



Bob Shanks' UFO



Charlie Gates ARF Extra 300 tested and flown by Randy and Charlie. The checker board bottom is a nice for visual orientation.



Charlie Gates ARF Extra 300 on final.



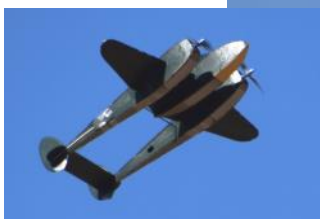
Charlie's Gates orange trimmed Oshkosh.



Jerry English and his Wild Hawk.



Glenn Heithold's design #4 a powerful and fast fuel powered creation.



Adam Reynold's foam P-38 flies well. Twin electric motors are much more reliable than glow or gas.



Marc Robbins 3D Hobby Edge 540 hovering.

CVMA Annual Christmas Banquet

The club has held its Christmas Banquet at *Gabby's Restaurant* in Chino Valley for a number of years. This year we had a record attendance of 56 members and spouses. The master of ceremony, Rick Nichols was all decked out in his tuxedo and did outstanding job with his notable humor. Every year Rick makes note of humorous, odd happenings and “dumb thumbs” at the field. He made a certificate for a number of these and presented them to members, pictures are below.

The highlights were the awards and in particularly Jerry English for the *Perpetual Jay Riddle Award* given yearly to the member who has been outstanding in support of the club. Jerry indeed is the member of the year. For every member who donated \$150 to the club Jerry made, at his expense, a complete Oshkosh model. In total he has built 15 helped repair two and is helping one of our junior members build one. He is also building a custom wing for one for aerobatics.

Jerry English:
the 2015
Member of
the year
The
Perpetual
Jay Riddle
Award.



Jack Hunt: O-Dark thirty award, always first at the field.

Mike Kidd for outstanding work as president.



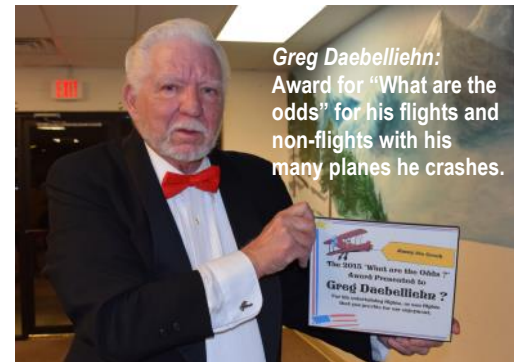
Mike Kidd:
The Avalanche Award;
don't roll down your
car window when
snow covered.



Dick Bjork:
the Donut
Award, he
always brings
donuts on
Saturday.



Jerry English: Good Guy
Award for building an
Oshkosh Fleet.



Greg Daebellienn:
Award for “What are the odds”
for his flights and
non-flights with his
many planes he crashes.



Frosty Wells:
Beach and Boots Award for wearing
shorts with his cowboy boots.



Don Ferguson:
Outstanding Events
Director.



Telephoto coffee cup from Randy & Carol Meathrell.



Bob Shanks:
The Mario Andretti Award
for fast entry
into the field in
his Dodge
Challenger.



Charlie Gates:
Mickey D Award, always brings
one sandwich to fly on Saturday.



Don Crowe:
“Drop and Flip”
award, he ejected his
battery and landed
inverted.



Dan Avilla:
“Thank You Jet Man”
for organizing our
first Jet Fly In.

Practicing Situational Awareness

By Bob Shanks

For full scale aviators, situation awareness (SA) means appreciating all you need to know about what is going on all around you for the major task of flying. Controlling or maintaining an aircraft requires a lot of carefully monitored concentration. For a fighter pilot SA means knowing about the threats and intentions of enemy forces as well as the status of his/her own aircraft, this can be a monumental load mentally. Situational awareness can of course be applied to model aviation for safety. The elements below taught to full size aviation apply equally well for flying at our field.

Specific Elements of Pilot SA:

1. Extracting information from the environment;
2. Integrating this information to current relevant conditions;
3. Creating a mental picture of the current situation;
4. Using this information to anticipate future events.

Whether in aviation or not, we all should be situationally aware especially in light of the recent terrorist attacks here and abroad. A lot has been written on this topic outside of what is so important in aviation but just what does this entail personally? Most folks haven't given this topic much thought, many probably have never heard of it or even considered its personal ramifications if they did hear the term mentioned. Military and law enforcement are quite well aware of SA and train regularly to keep sharp and alert. The strategic forecasting web site at www.strategicforecasting.com (STRATFOR) has published a lot of data on SA. The following information is compiled STRATFOR and other internet sources generally. Let's take a brief look at this important topic.

Situational Awareness is More Mindset than Skill

It is important to note that situational awareness -- being aware of one's surroundings and identifying potential threats and dangerous situations -- is more of a mindset than a hard skill. Because of this, situational awareness is not something that can be practiced only by highly trained government agents or specialized corporate security teams. Indeed, it can be exercised by anyone with the will and the discipline to do so. Situational awareness is not only important for recognizing terrorist threats, but it also serves to identify criminal behavior and other dangerous situations.

The primary element in establishing this mindset is first to recognize that threats can exist just about anywhere these days. Ignorance or denial of possible threats makes a person's chances of quickly recognizing an emerging threat and avoiding it highly unlikely. Bad things can happen even in the smallest of communities. Apathy, denial and complacency can be deadly but how does one keep alert without becoming paranoid or unduly suspicious?

A second important element for this proper mindset is understanding the need to take responsibility for one's own security. The resources of any government are finite and the authorities simply cannot be everywhere and cannot stop every potential terrorist attack or other criminal action. The same principle applies to private security at businesses or other institutions, like places of worship. Therefore, people need to look out for themselves and their neighbors.

Another important facet of this mindset is learning to trust your "gut" or intuition. Many times a person's subconscious can notice subtle signs of danger that the conscious mind has difficulty quantifying or articulating. Many victims when interviewed after a serious incident has happened experienced such feelings of danger prior to the event but who chose to ignore them. Trusting your gut and avoiding a potentially dangerous situation may cause you a bit of inconvenience, but ignoring such feelings can lead to serious trouble. Terrorism is a fact of life these days and can happen anywhere so be aware of SA, understand it. The recent attacks in Paris and California underscore being observant.

The discipline part of practicing situational awareness refers to the conscious effort required to pay attention to gut feelings and to surrounding events even while you are busy and distracted. At such times even obvious hostile activity can go unnoticed, so individuals need to learn to be observant even while doing other things. (Continued on page 7)



Levels of Situational Awareness.

More on Situational Awareness (Continued from page 6)

Levels of Awareness

People typically operate on five distinct levels of awareness. There are many ways to describe these levels ("Cooper's colors," for example, which is a system frequently used in law enforcement and military training), but perhaps the most effective way to illustrate the differences between the levels is to compare them to the different degrees of attention we practice while driving. For purposes in this short article, we will discuss the five levels; "Tuned Out," "Relaxed Awareness," "Focused Awareness," "High Alert" and "Comatose."

The first level, "Tuned Out," is similar to when you are driving in a very familiar environment or are engrossed in thought, a daydream, a song on the radio or even by the kids fighting in the backseat.

The second level of awareness, "Relaxed Awareness," is like defensive driving or flying. This is a state in which you are relaxed but are also carefully watching the other cars on the road and are looking at the road ahead for potential hazards.

The third level is, "Focused Awareness," is like driving in hazardous road conditions. You need to practice this level of awareness when you are driving on icy or slushy roads -- or pothole-infested roads.

The fourth level of awareness is "High Alert". This is the level that induces an adrenaline rush, a prayer and a gasp for air all at the same time. This is what happens when that car you are watching at the intersection ahead doesn't stop at the stop sign and pulls out right in front of you. High alert can be scary and can only be practiced for short times, but at this level you are still able to function.

The last level of awareness is "Comatose", this is what happens when you literally freeze at the wheel and cannot respond to stimuli, either because you have fallen asleep or, at the other end of the spectrum, because you are petrified. It is this panic-induced paralysis that is the biggest concern in the study of situational awareness.

It is critical to stress here that situational awareness does not mean being paranoid or obsessively concerned about security. In fact, people simply cannot operate in a state of focused awareness for extended periods, and high alert can be maintained only for very brief periods before exhaustion sets in. The "fight-or-flight" response can be very helpful if it can be controlled. When it gets out of control, however, a constant stream of adrenaline and stress is simply not healthy for the body and mind, and this also hampers security.

A detailed description and discussion of these levels can be found in the STRATFOR article "A Practical Guide to Situational Awareness" by Scott Stewart. Your editor has the word document if you would like a copy.

As terrorism threats continue and evolve from one group to others based on grassroots cells, lone wolves to ordinary citizens; one must use good situational awareness to become as familiar as possible with ones location, no matter how comfortable a situation or location might be.

Main Source:



"A Practical Guide to Situational Awareness" By Scott Stewart
STRATFOR: 221 W. 6th Street, Suite 400; Austin, TX 78701

SAFETY: ALWAYS A CRITICAL ISSUE

Batteries in lap tops are often left on charge by some, for long periods but that is not advisable. Check your lap top manual and it most likely will say not to leave it charging when off as it can burn up the battery. Lap top batteries are expensive usually over \$100.

One member lost his garage some years ago when he left his lap top charging in his garage and didn't check on it. When using your lap top, one can have it charging but not for long unattended times when not turned on. Again check your lap top manual for battery care and follow those instructions.

Always check the balance of your models. Never dial in some down trim to adjust CG, add ballast as needed for

the correct CG. Trim depends on air flow and that is constantly changing with the model's speed as well.

If you haven't flown a model for some time double check the wing for warps and examine the plane's alignment with the wing attached. Another often overlooked aspect of inspection are the glue joints, are they firm? Check other critical areas for vibration damage and what about the tail feathers are they secure and aligned?

The old adage, "a tail heavy airplane flies once" is often too true if the CG is not checked carefully on new models.

Our club members have been good, as far as this writer has observed, at arming electric models in the pit area

and not under the cabana. Another good idea is to make sure your model is pointed toward the runway in the pit area when arming and to make sure you and anyone who is helping is out of the props rotational area.

With more and more members flying electric it is always a good reminder to review battery condition, this includes battery connectors, solder can become loose. And always, always make sure the prop is off in your workshop when arming your model for testing.

Shop Valley Hobby



Name That Plane: NASA Electric Tilt Wing GL-10 Greased Lightning

The full-scale GL-10 will be a diesel-electric tilt-wing. Currently, NASA has built a 50% scale 10-foot wing span model all electric battery powered demonstrator.

The wings and horizontal stabilizer rotate with fixed motor pods to facilitate vertical flight. The wing has eight electric motor driven propellers while the horizontal stabilizer has two electric motors.

In the future full-scale version, power will be generated by two 6 kW 8 horse power diesel engines which will charge lithium ion batteries. The propellers on the leading edge of the wing provide high speed flow, and thus lift, on the wing even in low forward velocity flight allowing pitch, roll, and yaw control authority during the critical transition phase from hover to forward flight.

The VTOL capability of this new class of UAS eliminates the requirement for additional ground support equipment like launch catapults and landing catch mechanisms.

In addition, the propellers are designed for a relatively low tip speed resulting in a marked reduction in noise. The aircraft is designed to complete several vertical take-off and landings during its mission with a loiter endurance of 24 hours in the forward flight mode. The GL-10 model performed successful transitions between vertical and horizontal flight in 2015 tests.

Source: Wikipedia



Nasa engineers prepare their large scale model for flight. The model was successfully flown on a tether indicating flight stability for the go ahead for a full scale prototype.

Lockheed Martin Blimp

By Mary Grady as Published in AV Web



Lockheed Martin has moved a step closer to FAA certification for its hybrid airship design, the company said last week. Lockheed worked with the FAA's certification office in Seattle for more than a decade to develop a plan to allow a non-rigid hybrid airship to operate as a commercial aircraft, since the FAA had no existing regulations to cover the category. Two years ago, the FAA created a certification pathway. Now the FAA has approved Lockheed Martin's plan showing how its design will meet all of the certification criteria. Lockheed Martin now plans to achieve certification and start delivering operational 20-ton airships as soon as 2018. The company already has opened the order book, earlier this year at the Paris Air Show.

Lockheed says its hybrid ship will offer large capacities that can be delivered to remote areas with low fuel consumption compared to conventional aircraft. The airships can land and take off in 500 feet, operating from open fields, snow, ice, or water with no need for a ground crew.



The GL-10 in actual flight testing above.

At right engineers setting up for testing.



EMBRY RIDDLE AERONAUTICAL UNIVERSITY ADVANCED DESIGN CLASS FLIGHT TESTS HELD AT CVMA FIELD

Our club has been assisting the Advance Aeronautical Design class at ERAU for a number of years helping them when called upon. The classes cannot use standard RC materials like balsa but are required to use materials found in larger commercial UAS and full size aircraft. They have a wonderful fabrication laboratory on campus. The professor, *Jim Helbling*, is also a RC fan and plans to join our club when he retires which is soon. Some of their designs have flown well while others haven't but what the classes learn in the process from design, build to flying is the goal. The classes are made up primarily of senior level aeronautical engineering students.

Team one from this semester was successful but lost a main gear wheel at take off and had the nose wheel collapse at landing. Team two had a major tail heavy issue so didn't fly only taxied the plane. Pictures are below of both teams and their planes.



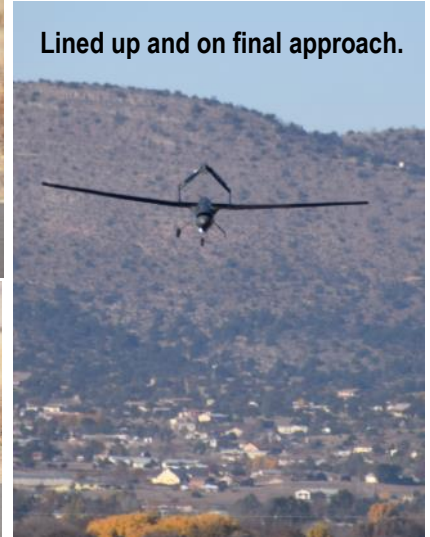
The RC test pilot for this semester's is *Michael Roznick*. He is a senior in aeronautical engineering. The plane had some trim issues and was bit of a hand full but flew OK with trim adjustments. Note missing wheel and nose wheel.



Misaligned nose wheel collapsed.



Checking out the undercarriage after landing.



Lined up and on final approach.



High fly-by all trimmed out and level.



Students (l to right) *Mark Tverskoy* and *Andy Wilson* prepare to disassemble after a successful flight.

ERAU Team Two taxi test, nose wheel collapsed.

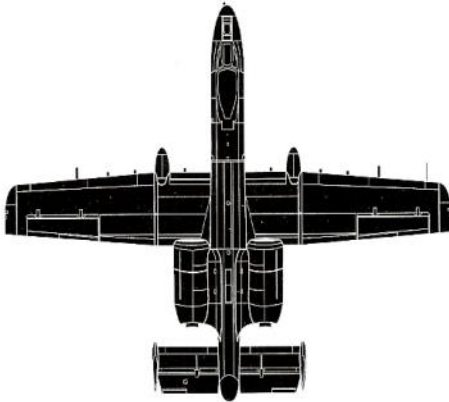
Team Two photo by Professor Jim Helbling.

Team two names (from left to right) are: Alex Kiel, Nick Kearney (pilot), Alex Mota Moritz, Stephen Hocking, Timber Aguillar, Grace Brennan (Team Leader), Bryce Libertone, Jacob Heilmann, Hannah Warren.

Airpower Classics

Artwork by Zaur Eylanbekov

A-10 Thunderbolt II



The A-10 Thunderbolt II dates to 1967, when USAF began an A-X program to develop a dedicated close air support aircraft. The service wanted its new fighter to be uncomplicated, able to absorb massive battle damage, easy to maintain, operable from unimproved strips with heavy ordnance loads, and cheap. Speed and sleekness were not must-haves. The result—Fairchild Republic's plain but now-famous Warthog—proved to be all the Air Force wanted, and more.

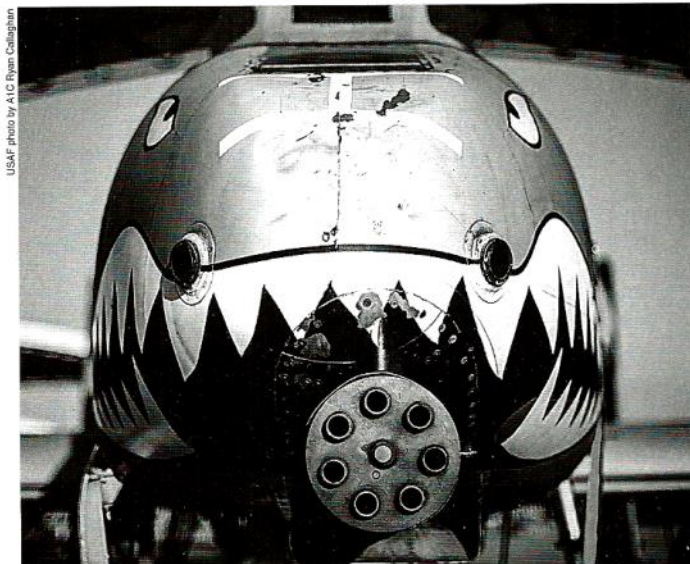
This rugged, twin-engine, straight wing aircraft was optimized to destroy Soviet armor. It was built around General Electric's 30 mm GAU-8 cannon, its main weapon, though it employs Maverick missiles and bombs, too. With excellent maneuverability at low speed and altitude, the A-10 is highly accurate

and survivable. It can loiter in a battle area for long periods. Expected to fly low-and-slow missions in high-threat areas, the A-10 was given a "bathtub" of titanium armor to shield the pilot and critical parts. Most systems are redundant and protected. The A-10A was the first and only type ever built, but all A models have been upgraded to a more advanced A-10C configuration.

Though the A-10 was built to meet the Soviet armor threat, it proved its mettle in the 1991 Persian Gulf War and since that time has played a key role in every major US combat action. In this work, it has shown itself to be exceptionally tough, surviving multiple direct hits—even loss of control surfaces—while remaining flyable.

—Robert S. Dudley with Walter J. Boyne

This aircraft: This aircraft: USAF A-10—#80-0228—as it looked in 2001 when assigned to the 74th Fighter Squadron, Pope AFB, N.C.



USAF photo by A/C Ryan Callaghan

An A-10 Warthog under a sun shade at Moody AFB, Ga.

In Brief

Designed, built by Fairchild Republic ★ first flight May 10, 1972 ★ number built 716 ★ crew of one ★ two General Electric TF34-GE-100A turbofan engines. **Specific to A-10A:** offensive armament, one 30 mm GAU-8A multibarrel cannon ★ defensive armament up to four AIM-9 Sidewinders ★ load up to 16,000 lb of bombs and munitions, including up to six AGM-65 Mavericks ★ max speed 439 mph ★ cruise speed 387 mph ★ max range 620 mi ★ weight (loaded) 50,000 lb ★ span 57 ft 6 in ★ length 53 ft 4 in ★ height 14 ft 8 in ★ service ceiling 30,500 ft.

Famous Fliers

Air Force Cross: Paul Johnson. **Mackay Trophy:** Scott Markle. **Silver Star:** John Cherrey, Raymond Strasburger. **Distinguished Flying Cross:** Kim Campbell, Scott Campbell, Aaron Cavazos, Bob Efferson, Jeffrey Fox, Michael Meier, Aaron Palan, Jeremiah Parvin, Richard Pauly, Keith Wolak. **POW:** Richard Storr. **Notables:** Mark Welsh III (CSAF), Martha McSally (first USAF woman in air combat, first woman to command USAF fighter squadron), Robert Swain (first A-10 air-to-air victory), Chad Hennings (Dallas Cowboys, College Football Hall of Fame). **Test pilot:** Howard "Sam" Nelson.

Interesting Facts

Nicknamed and universally known as the Warthog ★ contains many parts (engines, vertical stabilizers, landing gear) that can be used on left or right sides ★ can fly without one engine, one tail, one elevator, and half a wing ★ developed in response to heavy aircraft losses in Vietnam War ★ took over FAC role (OA-10) in 1989 ★ sports 1,200 lb of titanium armor shielding cockpit and vital systems ★ first USAF aircraft built exclusively for CAS ★ fires 4,000 cannon rounds per minute ★ first aircraft with all engines powered by a biofuel blend ★ can open and lock landing gear using only wind and the pull of gravity ★ fires armor-piercing shells of depleted uranium.

USAF "Air Force" Magazine.