# EAA Chapter 92 Bringing the E to EAA

President: Don Myhra | June 2015 | Editor: Larry Severson

**"Inspiration is more important than knowledge."**

**Albert Einstein**


(P) Something loose in cockpit

(S) Something tightened in cockpit

http://www.flabobflyingcircus.com/about-the-event/

Check it out!


The day operation under Class G is the perfect example of the potential problems due to the compromises

The example is the difference between Farmer Fred who needs a part for an essential water pump and knows the terrain he will be flying over, as opposed to Claud Clueless who doesn't while flying a scud Run. Claud will be too busy flying to look at his map, or even refer to his IPAD based mapping. Is there any question why I tend to call Class G the Graveyard Class?

Why the difference between the above and below the clouds clearance?
(Near the ground climb rates will almost always exceed descent rates, especially closer to the ground.)

# Emergency Procedures

Does the fact that a private pilot flies a much simpler plane than an airline pilot make his reaction to an emergency different. Absolutely not. In both cases an emergency can turn fatal. So how should you react to an emergency? Too many react with panic, panic, panic! Is this a case for only private pilots? No, the Air France Airbus is a case in point.

Due to a malfunctioning A/S indicator, combined with a placarded sensor, the plane fell 37,000 ft to the ocean in a stall condition. The pilots thought that they were over speeding the plane, and kept calling for nose up. They shut off analyze. For more than 8 minutes they continued to descend, all the way to the ocean without changing anything. It was pure brain freeze, which is the same as panic.

Capt Schellenberger, instead practiced analyze, analyze, analyze. The result was the "Miracle on the Hudson". He kept analyzing the situation until he found a way to put the plane down without injury to the passengers. He suffered no brain freeze.

The word ANALYZE should be the first word on every one of your emergency check list items. And, every time there is a change in possibilities, that magic word should reappear. There is only one time when the emergency that requires rapid reaction, and that is then there is a fire. Even there, you need to make sure that what you think is the problem, really is. In other words, ANALYZE.

Several years ago, a Navion started its roll at Flabob. Its engine backfired 3 times before it got air borne. It was in the weeds less than a quarter mile later. A simple analysis at the first backfire would have been, "I have an engine problem, abort". Continuing the takeoff constituted "panic, I need to get home".

If the engine fails right after takeoff, ANALYZE. Do I have enough altitude to return to the runway? What are my alternatives? Now, you are ready to prepare the plane for arrival at the ground. Remember, every 10 feet AGL is time to react. Do NOT panic. It really helps if you prepare for every flight assuming that something can happen right after takeoff.

Finally, an airline captain, who flies 70+ hours a month gets a simulator check on emergencies and a line check every 6 months. Do you take that level of practice in your flying? There is no better way to substitute analyze for panic. Go through your emergency and normal procedures at least every 6 months so that you never have a panic or brain freeze. Assume that every takeoff and landing will go wrong, and be prepared for the possible situations.

# Compromise

All life is a compromise. Aircraft design is no different. Prominent in the factors involving compromise are: power, speed,, performance, efficiency, safety, and cost. One important factor in what of the compromise factors to place first what the plane should be design to do. The inability for politicians to understand this led to the abortive TFX (FB111) and now the F35 that can't pass its qualification tests even though we have already bought over 100 of them. This has been cause by the attempt to build a Swiss Army knife that does everything for everyone. This simply doesn't work with planes. The result is a plane that doesn't do anything very well.

This will be the first of a series of articles about where each of the choices lead to. What does one gain when each factor is emphasized above the others?

Power is the first consideration, and the most often listed first when a plane is described.. Adding power shortens takeoffs, increases climb speed, allows military regain speed rapidly after a high G turn, and gives the Alaskan Super Cubs their incredibly short takes off. It also allows the plane to be flown to a higher altitude necessary to take advantage of wind on cross countries, and to fly out of high altitude airports.

But, this all comes at a high price. More power generally means more weight and higher fuel burn. It definitely requires a higher fuel burn. This, in turn, means shorter range or bigger fuel tanks. Both result in a heavier aircraft, especially after the air frame is beefed up to handle the higher stresses from the engine weight, increased fuel, and engine mounting.

Among the surprising facts is that a plane will gain only 10% more speed with a 100% increase in power. If speed is your desire, much more can be gained by reducing parasite drag with simple (usually) smoothing techniques the reduce turbulent flow across the fuselage/wing attach points. Wheel pants, for fixed gear aircraft alone can cut drag significantly. Many of these techniques will be discussed in future articles. One of the reports out of the Q2/Q200 group is a Q2 has been flown, with half the power , at the same cruise speed, as a Q200 with twice the HP. This fact exists even though the Q series aircraft are already very stream lined by design.

The real key is to decide what you want your plane to do. The best way is to think airline rather than military, unless you wish and acrobatic or bush plane. The airlines have found that there is the sweet spot for power that gives a given plane the fuel consumption for long range flight for a given plane and payload. Of course, it was discovered in the mid 1970s that a DC-10 could get a 15% increase in range with the simple addition of winglets due to the reduction of drag with little change in basic weight. This was after the lesson of the B720B, a real hot rod of a plane. It could get airborne in a hurry. Unfortunately, it cost a lot of fuel with its big engines.

The F-5 was also adopted as an opposing forces (OPFOR) "aggressor" for dissimilar training role because of its small size and performance similarities to the Soviet MiG-21. In realistic trials at Nellis AFB in 1977, the F-14 reportedly scored slightly better than a 2:1 kill ratio against the simpler F-5, while the F-15 scored slightly less.[50][51][52][53] There is some contradiction of these reports, another source reports that "For the first three weeks of the test, the F-14's and F-15's were hopelessly outclassed and demoralized"; after adapting to qualities of the F-5 and implementing rule changes to artificially favor long range radar-guided missiles, "the F-14's did slightly better than breaking even with the F-5's in non-1 v 1 engagements; the F-15's got almost 2:1".[54] A 2012 Discovery Channel documentary *Great Planes* reported that in USAF exercises, F-5 aggressor aircraft were competitive enough with more modern and expensive fighters to only be at small disadvantage in Within Visual Range (WVR) combat.[55]

The U.S. Navy F-5 fleet continues to be modernized with 36 low-hour F-5E/Fs purchased from Switzerland in 2006. These were updated as F-5N/Fs with modernized avionics and other improved systems. Currently, the only U.S. Navy and U.S. Marine Corps units flying the F-5 are VFC-13 at NAS Fallon, Nevada, VFC-111 at NAS Key West, Florida, and VMFT-401 at MCAS Yuma, Arizona.[5] Currently, VFC-111 operates 18 Northrop F-5N/F Tiger IIs. 17 of these are single-seater F-5Ns and the last is a twin-seater F-5F "FrankenTiger", the product of grafting the older front-half fuselage of an F-5F into the back-half fuselage of a newer low-hours F-5E acquired from the Swiss Air Force. A total of three "FrankenTigers" were made.[56]

Ethiopia received 10 F-5As and two F-5Bs from the U.S. starting in 1966. In addition to these, Ethiopia had a training squadron equipped with at least eight Lockheed T-33 Shooting Stars. In 1970, Iran transferred at least three F-5As and Bs to Ethiopia. In 1975, another agreement was reached with the U.S. to deliver a number of military aircraft, including 14 F-5Es and three F-5Fs; later in the same year eight F-5Es were transferred while the others were embargoed and delivered to a USAF aggressor Squadron due to the changed political situation. The U.S. also withdrew its personnel and cut diplomatic relations. Ethiopian officers contracted a number of Israelis to maintain American equipment.[69]

The Ethiopian F-5 fighters saw combat action against Somali forces during the Ogaden War (1977–1978). The main Somali fighter aircraft was the MiG-21MF delivered in the 1970s, supported by Mikoyan-Gurevich MiG-17s delivered in the 1960s by the Soviet Union. Ethiopian F-5E aircraft were used to gain air superiority because they could use the AIM-9B air-to-air missile, while the F-5As were kept for air interdiction and air strike. During this period Ethiopian F-5Es went on training against Ethiopian F-5As and F-86 Sabres (simulating Somali MiG-21s and MiG-17s).[69]

On 17 July 1977, two F-5s flown by Israeli pilots were on combat air patrol near Harer, when four Somali MiG-21MFs were detected nearby. In the engagement, two MiG-21s were shot down while the other two had a midair collision while avoiding an AIM-9B missile. The better-trained F-5 pilots swiftly gained air superiority over the Somali Air Force, shooting down a number of aircraft, while other Somali aircraft were lost to air de-

# You think you are a pilot!

U.S. Navy and Marine Corps SBDs saw their firsThe SBD's most important contribution to the American war effort, doubtless, came during the Battle of Midway in early June 1942. Four squadrons of Navy SBD dive bombers attacked and sank or fatally damaged all four Japanese fleet carriers present—three of them in the span of just six minutes (*Akagi*, *Kaga*, *Sōryū* and, later in the day, *Hiryū*). They also caught the Midway bombardment group of four heavy cruisers, heavily damaging two of them, the *Mikuma* so badly that she had to be scuttled.

At the Battle of Midway, Marine Corps SBDs were not as effective. One squadron, VMSB-241, flying from Midway Atoll, was not trained in the techniques of dive-bombing with their new Dauntlesses (having just partially converted from theSB2U Vindicator[4]). Instead, its pilots resorted to the slower but easier glide bombing technique. This led to many of the SBDs being shot down, although one survivor from these attacks is now on display at the National Naval Aviation Museum and is the last surviving aircraft to fly in the battle. On the other hand, the carrier-borne squadrons were effective, especially when they were escorted by their Grumman F4F Wildcat teammates. The success of dive bombing was due to two important circumstances:

- First and most important, the Japanese carriers were at their most vulnerable, readying bombers for battle, with full fuel hoses and armed ordnance strewn across their hangar decks.

Second, the valiant but doomed assault of the torpedo aircraft squadrons from the American carriers and from Midway Atoll had drawn the Japanese fighter cover away from the dive bombers, thereby allowing the SBDs to attack unhindered.

A VB-5 SBD from *Yorktown* overWake, early October 1943.

SBDs played a major role in the Guadalcanal campaign, operating off both American carriers and from Henderson Field on Guadalcanal. SBDs attacked Japanese shipping throughout the campaign, and proved lethal to Japanese shipping that failed to clear the slot by daylight. Losses inflicted included the carrier *Ryūjō*, sunk near the Solomon Islands on 24 August. Three other Japanese carriers were damaged during the six-month campaign. SBDs sank a cruiser and nine transports during the decisive Naval Battle of Guadalcanal.

# Yanks Open cockpit

**On the 3rd Saturday each month Yanks opens the cockpit of one of its planes, plus the EC121 and C-47. Jump like a paratrooper.**

Yanks is the ONLY museum where you can discover the evolution of American aircraft. Unique!

**Junior pilots ages 5 to 105 can ride the plane of their choice.**

**Featured "open Cockpit" June 20, 2015: Noprthrup F5 "Freedom Fighter (Tiger II)"**

The F5 was designed and built by Northrup t its own expense to make available a light multipurpose fighter that was cheap to buy and maintain. At the time of its introduction it could perform with best fighters achieving 1.5 Mach. However, its size did not make room for the advanced avionics and fire control systems that the Air Force wanted. It ended up being an export fighter for 3rd world countries and led to the T38 trainer. It was also used heavily in aggressor squadrons to train both Air Force and Navy pilots.

The plane's acquisition by Yanks is a story of its own. None were available to the museum, even though the F5 was designed and built in the LA basin. One day one of the Yanks docents was sitting in an airport waiting for his flight. He struck up a conversation sitting next to him about the museum and its planes. He mentioned that the museum really wanted an F5. At this , the person he was talking to said that he was with the Taiwanese consulate and that they were grounding 20 of the F5s in a month. Did we want one? The shock came when 3 months later a F5 arrived curtest of the Taiwanese government. So, now the plane is displayed with all of the original Taiwanese symbology.

PLANES OF FAME
AIR MUSEUM


Open to the public, Planes of Fame Air Museum (Chino, CA) presents its monthly Living History Event. The topic for the June 6 event is **'Dive Bombers'**, featuring the Douglas SBD Dauntless. **Staff Sergeant Sidney H. Zimman, USMC**, and **Harlan W. Foote, Commander USN (Ret.)** will be our guest speakers during this event, followed by a question & answer period and flight demonstration when possible. The SBD Dauntless will be on display and perform a flight demonstration. At 12:00 noon, the Membership Sponsored raffle flight will occur in the featured aircraft if possible. Become a member to enter the raffle. All members are eligible to enter the raffle, but you must be present to win.

**WHO: Staff Sergeant Sidney H. Zimman, USMC**, will be one of our guest speakers for this event. On May 18, 1942, Sidney H. Zimman enlisted in the Marine Corps in Detroit, Michigan. Soon after he was sent to San Diego for boot camp. In July 1942, he was sent to Jacksonville, FL for Radio and Gunnery School. He was assigned to the newly formed dive bomber squadron, VMSB-341. Sidney eventually became a Staff Sergeant in the United States Marine Corps and fought in the South Pacific, including the Air Battle over Rabaul. He was an SBD Dauntless dive bomber gunner who flew 40 combat missions. For his service, he was awarded the Air Crewman Wings with 3 stars, WWII Victory Medal, Asian Pacific Theater Medal with 2 stars, American Campaign Medal, Marine Good Conduct Medal, 2 Presidential Unit Citation ribbons, Air Medal with 5 stars, and the Distinguished Flying Cross.

Our second guest speaker is **Harlan W. Foote**: Commander, USN (Ret.) Born in Winthrop, Iowa in 1922. Harlan starting his flight training in 1942 at Los Alamitos for his flying career with US Navy. He flew "Dive (later called Attack) Bombers" from carrier decks; trained in torpedo bombers, but only dropped concrete practice bombs in Monterey Bay; flew 50 different models of aircraft; made 560 carrier landings, 100 were night landings; received the Navy Cross, Distinguished Flying Cross, Air Medal with four gold stars, and Presidential Unit Citation. Cmdr. Foote served with distinction for 36 years, ten months and 23 days in the U.S. Navy.

**WHEN:** Saturday, June 6, 2015, 10am–12 noon: Speaker program & flight demonstration. Museum doors open at 9:00am.

**WHERE:** Planes of Fame Air Museum, 7000 Merrill Avenue #17, Chino, CA 91710

**WHY:** It is the Mission of Planes of Fame Air Museum to **preserve** aviation history, **inspire** interest in aviation,**educate** the public, and **honor** aviation pioneers and veterans. The Museum sponsors regular events in the form of inspirational experiences, educational presentations, flight demonstrations, and airshows in fulfillment of this mission. Planes of Fame Air Museum, 'Where Warbirds Fly and Aviation History Lives'.

# Internet/Videos

This is unbelievable click on any link for WW2 Information. Great pics of planes!

- Aviation Pioneers
- World War I Aces
- Hall of Fame of the Air
- WW2 European Theater (ETO)
- WW2 Pacific Theater (PTO)
- WW2 US Marine Corps
- WW2 US Navy Aces
- WW2 Mediterranean (MTO)
- WW2 German Aces
- Korean War Aces
- Russian Aces
- Vietnam Era Aces
- Airplanes
- World War I Planes
- 1930s Aircraft photos
- WW2 Fighters
- WW2 Bombers
- WW2 German Planes
- WW2 Airplane Pictures
- History of Airplanes blog
- Nose Art
- Postwar Jets
- World War Two
- WW2 Facts and Firsts
- WW2 Medals
- WW2 Museums
- WW2 Pictures
- WW2 Ships
- WW2 Weapons

# More Videos

Now that was definitely cool!! Can someone get me a ride in one of those??

http://biggeekdad.com/2015/04/low-level-typhoon-flight/

http://biggeekdad.com/2012/09/f-18-low-level-flying-vr-1251/

http://biggeekdad.com/2012/02/fa-18-hornet-pilots/

https://www.youtube.com/watch?feature=player_detailpage&v=K9CoBMlOLi4

http://pippaettore.com/Horrific_WWII_Statistics.html

Videos for the display aircraft at the 2 museums based at Chino (CNO). See their ads on previous

Dauntless: https://www.youtube.com/watch?v=aiJhcKgg4eE

F5: https://www.youtube.com/watch?v=1U5z6yI_9rw

https://www.youtube.com/watch?v=YMvY3b1NbOg


**Flying Tiger is at the base of the Chino tower. Not only do they have the cheapest gas at CNO, they will give an additional 5 cent discount to those who identify themselves as members of EAA92. To do this, you need to talk to the operator BEFORE you swipe your credit card. They would like to see your membership card, but many of us don't have them yet.**

# FLY IN + FOOD TRUCKS

= THE FLABOB FLYING CIRCUS

HISTORY IN THE AIR

June 6th

9am-3pm

Free Admission

KEEPING IT VINTAGE

www.flabobflyingcircus.com · Info 951-683-2309

@ Flabob Airport 4130 Mennes Ave. Riverside, CA 92509

# Our EAA 92 Partners

They help us do better!


Where Aviation History Lives
PLANES OF FAME
AIR MUSEUM

USA
Yanks
AIR MUSEUM

CAL AERO
AVIATION COUNTRY CLUB
A Private Aviation Museum

PTI
PRODUCTS TECHNIQUES INC.

AIRTECH
ADVANCED MATERIALS GROUP

PTM&W
(Aeropoxy)

Aircraft Spruce
SINCE 1965
& Specialty Co.

sporty's pilot shop
Learn to fly here!

EAA CHAPTER 92
Around The World
The Don Taylor Chapter
ORANGE COUNTY, CALIF.

## Chapter Research Project

**I am starting the assembly of the stabilators. I hope to have 2 sample spars and wing skins at the July meeting. Everything is taking longer than I thought. I keep discovering new problems with my painting scheme. But each one leads to new ideas.**

**This goes along with the saying, "Every problem creates an opportunity. Every solution creates new problems. Do the new problems justify ignoring the opportunity?"**

BRIXEN & SONS
SCREENPRINTING
LARGE FORMAT DIGITAL

OC Pilots
ORANGE COUNTY
PILOTS ASSOCIATION

Federal Aviation Administration

FAA Safety Team
FAASTeam