experimental aircraft association

THE LEADING EDGE

NEWSLETTER OF MUROC EAA CHAPTER 1000

Voted to Top Ten Newsletters, 1997, 1998 McKillop Award Competition

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http://www.eaa1000.av.org *October 2015*

Chapter 1000 meets monthly on the third Tuesday of the month in the USAF Test Pilot School Scobee Auditorium, Edwards AFB, CA at 1700 or 5:00 PM, whichever you prefer. Any changes of meeting venue will be announced in the newsletter. Offer void where prohibited. Your mileage may vary. Open to military and civilian alike.

This Month's Meeting:

The Art of the Start
Skip Koss
Concorde Aircraft Batteries

Tuesday, 20 October 2015
1700 hrs (5:00 PM Civilian Time)
USAF Test Pilot School Auditorium
Edwards AFB, CA

For all of us, there is no aviating unless you can get the engine started (yes, glider guiders, this includes you—your engine is about 220 feet away at the other end of a rope). Unless you fly an airplane with a small, low compression engine, getting the engine started relies on energy from a battery. (Ignoring Russian radials that used compressed air starters). The battery is required to give a very large burst of electrical current for a few seconds, then spends the rest of the flight buffering the alternator and mostly adding to the gross weight. Thus, there is a real desire to make the battery as small and lightweight as possible and still do the job.

Back around 1990 (as best I can recall), Concorde (the battery company, not the supersonic jet) brought to the aircraft market a variation of the flooded lead acid battery that was a major improvement in many ways. This technology went by various names, such as Recombinant Gas (RG), Absorbed Glass Mat (AGM), or Valve Regulated Lead Acid (VRLA).

In 1994, **Skip Koss** of **Concorde Battery Corporation** in West Covina CA came to enlighten the ***Project Police*** of EAA Chapter 1000 about the benefits of this new battery technology. The only ***PPOs*** still around who might remember that meeting are **Doug Dodson** and **Brian Martinez**. Therefore, 21 years later, **Skip Koss** is coming back for a encore presentation to enlighten a new generation of ***PPOs*** on the latest in battery technology.

TAKE NOTE: If you do not normally have base access and depend on having your name on an Entry Authorization List to get past the young airmen with weapons, **you must get to the Visitors Center at the West Gate No Later Than 1630!** At 1630 the Visitors Center closes, and after that you will not be able to get in based on the EAL. New procedures. Don't ask questions and don't be late!

- Erbman
For the Vice Kommandant

From the Archives

Meeting report in the June 1994 LEADING EDGE:

Of all the equipment installed in your airplane, the one that gets most abused is the battery. Fortunately for most of us, **Skip Koss** from **Concorde Battery** gave us all the latest and greatest info on how to take care of batteries and showed us some of the products that Concorde manufactures. For instance, imagine a battery slightly larger than a motorcycle battery which has a 12 ampere-hour rating. Guess how much cranking current this new recombinant gas battery puts out...200...400 amps? Wrong...1100 amps! Holy-heliarc Batman, you can almost weld with that! Yup, and...hmmm...let me see, 1100 amps, 12 volts, that's about 13 kilowatts which is say 17 horsepower... Hey, you can sustain altitude in a Quickie for about a minute with that! Cool! And oh-by-the-way, Bob's Cherokee now sports a Concorde Recombinant Gas

RG-35 battery and he can almost taxi with it. He says that when starting the engine, it no longer coughs to life...it just spools up to idle! When you get ready to buy a battery for your plane you might consider using a Concorde battery.

Last Month's Meeting

EAA Chapter 1000
Somewhere
Over The Rainbow
15 September 2015
Gary Aldrich, Not Presiding

The September meeting was **NOT** held anywhere at the usual time as the result of a horrific collision of schedules.

In point of fact, the meeting was **CANCELLED**.

No guidance was provided about what members should do with that time.

Also in point of fact, members were left to their own devices as how to spend the time.

Members are hereby directed to file individual reports with the **Vice-Kommandant** as to how said time was spent.

Really good reports will be used as consideration for subjects of future meetings. Really lame reports will be publicly ridiculed at the year-end Festivus celebration.

Failure to submit reports as directed will be grounds for KP duty at the November Cadet BBQ.

All of this is the God-awful truth.

- Kent "Cobra" Troxel
Minister of Propoganda
Chapter 1000 of the Experimental Aircraft Association of these United States of America and Occupied Territories
"We have more zero's in our chapter than any other!"

In response to the meeting cancellation, these members offered these suggestions:

"Problem solved. Everyone can just divert to DC instead. I can walk them through the Hoover building for a quick tour, then we can stroll over to the Air and Space museum for the meeting. There isn't a convenient Dead Cow Emporium near there, but I know a place around the corner that'll do fine.

There's even a grass strip in front of the Smithsonian. Just make sure you see and avoid the neighbors in the large White House. They don't have a good sense of humor.

Fly safe,

JP Kury"

"There's always this:
http://www.contactmagazine.com/roundup.html

Pat Panzera"

Kommandant's Korner

BANG!

Hmmm, not a noise you associate with normal flight operations. We had just turned out of the traffic pattern at Bakersfield Meadows Field (KBFL) and were transitioning to enroute mode for the short flight to Porterville (KPTV). My student, **Bob**, was flying his 1959 Cessna 310C from the left seat and I was playing the part of **grizzled old flight instructor** on the right. Also in a the cast of characters, **Kent Troxel** in row two of the Businessliner. He had joined us on the spur the moment, as they say, to re-familiarize himself with light-twin flying.

The aforementioned noise was actually the second or third indication that our flight plan was changing. Bob had just selected "gear up" and I noted a subtle "clunk" at the end of an unusually long retraction cycle. As I pondered that noise, Bob remarked that we didn't have the red gear-retracted indicator light...or the green gear-extended light. At this point I directed Bob to notify Bakersfield approach that we were terminating our trip to PTV and would be maneuvering near BFL to research a gear problem. We got the normal, "Do you require any assistance?" question to which I replied in the negative.

As there was no checklist procedure for "gear fails to retract" we checked the appropriate circuit breakers (all in) and tested the indicator light (functional) and checked the reflection of the nose gear in the highly polished engine nacelles. It looked from my side that the nose gear doors were mostly closed but I could see what appeared to be a bit of nose tire peeking out of the aft part of the door.

So, in the spirit flight testers everywhere, I decided to "undo" what we did just before the problem occurred and told **Bob** to lower the landing gear. The motor under the floor or began its usual noises and it was at the end of its cycle when we heard the loud bang.

My brain flashed back to an experience **John Bush** had a couple of years before in a similar model 310. He had attempted a gear extension and gotten similar indications...big bang but no nose gear. He made an emergency landing at Fox Airfield that resulted in a totaled airplane but, fortunately no injuries.

The gear motor, which has a good deal of torque, extends the gear with a couple of push tubes...one for the mains and a longish one for the nose gear. In John's case, his nose gear had jammed in the gear doors and the push tube had failed, leaving only the main gear extended. I concluded that we were experiencing a similar failure mode. Unfortunately, this aircraft was equipped with only a single gear down indicator that required all three limit switches to close before showing "green". Thus, there was no way for our crew to know the position of the main gear, though the reflection of the nose gear clearly showed it was "mostly" retracted.

At this point I polled the crew to see if anyone thought we should land at BFL. The consensus was that we should return to WJF, home base, as there was no indication of any other problem with the airplane and there was no apparent advantage to a landing at BFL. I relayed our situation and intentions to Bakersfield approach and told **Bob** to lay in a course for WJF, flying at the 140 mph gear limit speed. I also requested Bakersfield relay our predicament to Joshua Approach.

As we motored back to Fox over the Tehachapis, we thoroughly discussed the situation and options for landing the crippled 310. I voiced my belief in the similarities to the Bushman incident and that I thought we probably had two good main gear legs. **Kent** had, without prompting, retrieved the "Owner's Manual" from the seat back pocket and was researching the procedures for landing with partial gear. What a pleasure to have a seasoned aviator like **Cobra** present in is situation!

The book had information on how to crank the gear down if the gear motor failed but was somewhat vague on partial gear extensions. The checklist had emergency procedures for executing a landing with no nose gear and with no gear extended. I quickly discarded the notion of attempting a manual gear extension as I did not know the position of the mains, suspected that they were extended, and was pretty sure that the manual extension procedure also relied on the broken push tube to function.

The plan then evolved that I would fly a low approach to the Fox runway and have the tower personnel look for the condition of all three gear. If the mains appeared to be down I would execute the "landing with unsafe nose gear" procedure in the checklist. If one or both of the main gear appeared to be unsafe I would leave the traffic pattern and use some of the four hours of fuel we had on board to develop a new plan.

After checking in with Joshua Approach I declared an emergency (a first for me in 45 years of flying as PIC) and requested they notify Fox tower to have the emergency equipment standing by. **Kent** busied himself by placing all loose items in the baggage area to minimize their travels in a rough arrival. I briefed **Bob** on the sharing of duties after touchdown. The checklist clearly called for shutting down the engines on the runway...not before, so I assigned **Bob** the task of shutting off the fuel selectors and all the electrics as soon as the main wheels touched. I would fly the prescribed 95 mph approach, and on landing pull the mixture levers to idle-cutoff. We also reviewed the emergency ground egress plan that we had, coincidentally, discussed before takeoff that morning.

When we contacted Fox tower they advised us that the equipment was standing by. On the low approach the controller reported that the main gear "appeared" to be down. That news was sufficient for me to decide to execute the landing without further delay. As I brought the airplane into the flare I smoothly brought the throttles to idle and touched down on the mains. I was able to hold the airplane in a level pitch attitude with aft yoke pressure but as soon as I swept the mixture levers to "off" the airplane decelerated sharply from the additional drag of the windmilling props and I was unable to prevent the nose from contacting the runway. The "slide out" was reminiscent of a landing in a 2-33 where the nose skid is used for braking...except significantly louder. In fact, I found myself having to apply braking as the aluminum-on-concrete didn't seem to be providing that much deceleration.

As we ground to a stop I said "**Let's go!**" (Probably should have shouted, "**Egress, Egress, Egress!**") and we executed our briefed exit procedure. As we stood a safe distance from the airplane we were joined by the airport response crew and then trucks from the LA County Fire Department who, after seeing we were all safe and the airplane wasn't burning, somewhat dejectedly departed back to their firehouse.

Lessons learned?

1. If you have to make an emergency landing, do it on a beautiful day with light traffic and no significant weather.
2. Have experienced aircrew on board to assist in making good decisions and developing a smart plan of action (the essence of **Crew Resource Management**).
3. Follow checklist guidance to the maximum extent possible, tempered by any unique requirements of the emergency situation.

Turns out the mechanical failure was almost identical to the **Bush** situation. The nose wheel centering device failed on retraction and the wheel jammed in the gear doors precipitating the failure of the gear extension tube. Thanks **John**, for having your event first...and telling me about it! We're still waiting for **Bob's** insurer to determine whether the airplane will be repaired or totaled.

So, until we meet again,

Fly safe and Check 6!

- Gary Aldrich
Kommanding

Young Eagles Rally 3 October at KTSP

Another Young Eagles Rally was successfully hosted by Tehachapi Airport from 8:00 am to 2:00 pm Saturday 03 October 2015.

The Tehachapi Airport, the community of Tehachapi, the Tehachapi Society of Pilots (TSP), and Chapter 1000 of the Experimental Aircraft Association (EAA) came together to conduct a terrific rally.

A total of 37 Young Eagles received their fledgling wings, a courtesy pilot log book and a certificate signed by their volunteer pilot for the day.

Several Moms and Dads also got to go flying to share the experience and to take candid photo shots.

Representing EAA Chapter 1000 were **Russ Erb** (Bearhawk), **Randy Kelly** (Cessna 182), and **John Bush** (Cessna 310).

The weather was picture perfect in Tehachapi for the occasion.

The day started out at 46F at sunrise with crystal blue skies and no wind.

We started flight operations sharply at 8:00 am with a total of 11 volunteer EAA pilots and their airplanes lined up and ready to go.

The Rally was concluded about 2:00 pm due to increasing surface winds and turbulence aloft.

Thanks to all who provided their volunteer spirit and support.

It was an awesome event!

- Tom "Duke" Wayne
EAA Chapter 1000 Young Eagle Coordinator

"First Of The Spacemen" - Capt. Iven C. Kincheloe

After World War II, many great pilots established milestones in high-performance flight, but in 1956, one pilot gained worldwide attention for his exceptional skill and steely-eyed cool. His name was **Iven Carl Kincheloe, Jr**. He was born in Detroit on July 2, 1928, and flying became an obsession early-on, although the first aircraft Kincheloe ever flew were stick-and-tissue models he built himself. Starting flying lessons at 14, young Kincheloe exhibited natural talent, and soloed at the age of 16. After high school, he enrolled at Purdue University in aviation-related studies.

An active member of Purdue's ROTC Program, Kincheloe graduated in 1949 with a degree in Aeronautical Engineering and a commission as an Air Force second lieutenant. He met test pilot **Chuck Yeager** at Wright-Patterson AFB as an ROTC cadet in 1948, and actually sat in a Bell X-1 similar to the one that became the world's first supersonic aircraft. Little could anyone have imagined this young airman would set a world record in an even faster rocket plane only eight years later!

Kincheloe's Air Force pilot career began at Randolph Field, Texas, and then advanced to jet fighter school at Williams AFB, Arizona. From there, he wound up at Edwards assigned to the first new aircraft to be tested at the Air Force Flight Test Center, North American's F-86E Sabre. This advanced version of the famed swept-wing fighter featured an 'all-flying tail' plus hydraulically-boosted controls among other improvements. Like Kincheloe's X-1 episode, this aircraft would loom large in his immediate future.

A Trip Down MiG Alley

In September 1951, Kincheloe was assigned to the 4th Fighter Interceptor Wing in Korea, flying fighter escort for B-29s and FP-80 photo-recon flights. After transfer to the 25th Fighter Interceptor Squadron, he flew his former mount, the F-86E, and gained combat experience downing several enemy MiG-15 fighters in January 1952. "Kinch" soon became a Double Ace, knocking ten enemy MiGs out of the sky. After being awarded the Distinguished Flying Cross and a Silver Star, Kincheloe returned stateside with 131 combat missions in his logbook. He was America's 10th jet ace.

An instructor slot teaching gunnery at Nellis AFB, Nevada came next, but in 1954, "Kinch" got his wish to be a test pilot, only with a British accent. He was assigned to the Royal Empire Test Pilot School in England in a pilot exchange program. This prestigious institution was located at Britain's famed test base at Farnborough where he flew Hawker Hunters, Gloster Javelins, Supermarine Swifts, and numerous other exotic British aircraft of the time. Armed with that experience, Kincheloe's assignment to Edwards as a test pilot was inevitable.

Arriving there in early 1955, "Kinch" was immediately assigned to fly the new family of Air Force fighters called "The Century Series" beginning with the supersonic North American F-100 Super Sabre. With these advanced aircraft, Kincheloe built valuable flight time and expertise, and soon distinguished himself with exemplary test work on the McDonnell F-101 Voodoo, Convair F-102 Delta Dagger, Lockheed F-104 Starfighter, Republic F-105 Thunderchief, and Convair F-106 Delta Dart.

Rocket Power!

Concurrent with development of these aeronautical thoroughbreds was the final phase of high-performance envelope expansion for the Bell X-2 rocket plane, and Kincheloe won an assignment to that program in early 1956. Along with fellow test pilot **Milburn G. "Mel" Apt**, Kincheloe flew the X-2 after **AFFTC Chief Pilot Col. "Pete" Everest** moved on from Edwards to take a staff position in Washington DC. On May 25 that year, "Kinch" became only the second Air Force pilot to fly the sleek white rocket. He also flew chase for Everest's final X-2 missions.

After Everest's departure, Kincheloe made three more flights in the X-2. On August 3rd, he reached Mach 2.57 and a peak altitude of 87,750 ft. Five days later he flew Mach 1.5 (990 mph) and 70,000 ft. After three inflight aborts, Kincheloe's final flight put him in the record books. Launching from an EB-50 at 30,000 ft., "Kinch" lit the twin barrels of the X-2's Reaction Motors XLR25 rocket engine, and gently pulled the nose up to 30-degrees above the horizon. The aircraft accelerated as he flew a near-perfect profile, and passing through 56,000 ft., climb angle was increased to 40 degrees.

Reaching more than 100,000 ft. in a perfect parabolic arc, the X-2 continued skyward. Kincheloe used his consummate flying skill to carefully guide the X-2 over the top without the aid of a reaction control system, reaching a peak altitude of 126,200 ft. as measured by ground radar. Coasting down the backside, he pulled-out of the descent at 40,000 ft. flying Mach 1. When he landed, Iven Kincheloe had flown higher than any other human being and was soon dubbed by the media as "First of the Spacemen."

The World's First Spaceplane

When the X-2 program ended, the focus shifted to that airplane's successor, the North American X-15. In late 1957, three pilots were chosen to fly that hypersonic aircraft–**Scott Crossfield**, Chief Program Pilot for North American Aviation Corporation; **Joe Walker**, Chief rocket test pilot for NACA, and Kincheloe, now the Air Force's most experienced rocket pilot. Tragically, an insidious accident prevented that from ever happening.

On the morning of Saturday, July 26, 1958, "Kinch" was asked to ferry a new F-104 from Edwards back to the Lockheed plant at Palmdale. After a routine take-off from Runway 22, the Starfighter's General Electric J79 engine flamed-out. Perilously low and at marginal airspeed, Kinch had no choice but to eject from the disabled jet. However, early F-104s were equipped with downward-firing seats for high-speed, high-altitude bailout, meaning "Kinch" had to roll inverted and then eject 'out the top.'

Eyewitnesses said it looked like the Starfighter was gliding-in for a landing, but at the last minute, Kincheloe rolled and ejected from the airplane which was now well-outside the envelope for successful emergency egress. He had just celebrated his 30th birthday three weeks earlier. Kincheloe was buried with full military honors at Arlington National Cemetery and in September 1959, the former Kinross AFB in Michigan was renamed Kincheloe Air Force Base in his honor.

(*This is an excerpt from **Mike Machat's** new book "PAINTING THE LEGENDS" about all the great test pilots, due out April 2016. Put me down for a copy, Mike! –EEZ*)

- Mike Machat
Historian to the ***Project Police***

"Kinch," as he was popularly known, poses for publicity still next to the Bell X-2 rocket plane after being after being assigned to that program. Aircraft sits atop a uniquely designed ground transportation dolly used in place of wheeled landing gear.

Nearly 80 people and a multitude of aircraft and ground equipment were involved in every X-2 flight. From top left, North American F-86, Lockheed T-33, and F-100 chase planes, a Sikorsky H-19 rescue helicopter, EB-50 mothership (center), and X-2 at bottom with Kincheloe as pilot. Classic Edwards Oshkosh O-11 fire truck is at right.

There was a large span-wise access panel on the upper wing that had been removed and replaced after the X-2's high-Mach flights in July and August (photo was taken 17 Sep 56). Because the airplane was going to be delivered to NACA after Mel Apt's flight of 27 Sep, it was to be repainted so the Air Force left that panel blank (white). There are a number of photos at the AFTC/HO showing the X-2's inner wing structure with that long panel removed.

"Kinch" and new NACA pilot Neil Armstrong observe the X-15 ejection seat mounted on a rocket sled at the Edwards High-Speed Test Track. Supersonic sled runs verified that the life-saving seat worked as planned, although no pilot ever ejected from an X-15.

Another Kincheloe Story

Capt Kincheloe was to fly the X-2 and (I believe) Mirage Dry Lake was to be one of the emergency landing areas. He had not been there before. Since **Maj. A. A. (Tony) Vincenzie** and I had just finished flying a test in an H-21, we picked him up. Of course, I gave up the left seat (under the noisy forward transmission). We had the normal vibration and it was a little bouncy due to thermals.

He did get to reconnoiter the dry lake bed.

On the way back to the base, he made some comment that he would not enjoy flying in helicopters. I could not resist commenting "That's okay, Sir. We'll still come pick you up." (There was a reasonable probability of needing to do that, since the base had had a few incidents the previous year.) He made no further comments.

- Lee H. Erb
EAA Chapter 1000 Det 5, Arlington TX

And Another Kinchloe Story?

In the classic TV sitcom "Hogan's Heroes" one of the major characters for the five seasons was **Sgt Kinchloe** played by **Ivan Dixon**. Normally referred to as "**Kinch**", his real first name was only mentioned twice in the entire series. In the pilot episode, he was introduced as "James Kinchloe". As different writers wrote separate episodes, there were continuity errors throughout the series. In 1967, in the episode "Is General Hammerschlag Burning?", Kinch is addressed by a former High School classmate as "Ivan Kinchloe". I have always wondered if that was a reference to Iven Kincheloe the test pilot, or merely a mistake of substituting the actor's real first name.

- Erbman
Font of Useless Knowledge

New Member Dana Baker

We don't know much about our new member **Dana Baker** yet, but he does fly this scratch built Sonex based at Fox Field.

Rotary Club Wing 'N' Wheels Chili Cookoff

Saturday, October 31, 2015, 1000-1400, Fox Field

Web Site Update

Just a reminder that the EAA Chapter 1000 Web Site is hosted courtesy of Quantum Networking Solutions, Inc. You can find out more about Qnet at http://www.qnet.com or at 661-538-2028.

Chapter 1000 Calendar

Oct 13: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

Oct 20: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Nov 10: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

Nov 17: EAA Chapter 1000 Monthly Meeting, 6:30 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

Dec 8: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

Dec 15: EAA Chapter 1000 Festivus Etc Celebration, 6:00 p.m., Kommandant's Kwarters, 42370 61st Street West, Quartz Hill CA. (661) 609-0942

Jan 12: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

Jan 19: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Feb 9: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

Feb 16: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Mar 8: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

Mar 15: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Apr 12: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

Apr 19: EAA Chapter 1000 Monthly Meeting, 6:30 p.m.**,** Location TBD, Rosamond CA. (661) 609-0942

To join Chapter 1000, send your name, address, EAA number, and $20 dues to: EAA Chapter 1000, Doug Dodson, 4431 Knox Ave, Rosamond CA 93560-6428. Membership in National EAA ($40, 1-800-843-3612) is required.

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Inputs for the newsletter or any comments can be sent to Russ Erb, 661-256-3806, by e-mail to erbman@pobox.com

THE LEADING EDGE
MUROC EAA CHAPTER 1000 NEWSLETTER
C/O Russ Erb
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http://www.eaa1000.av.org

ADDRESS SERVICE REQUESTED

THIS MONTH'S HIGHLIGHTS:
REGULAR MEETING 20 OCT @ TPS
KOMMANDANT FINALLY DECLARES AN EMERGENCY
IVEN KINCHELOE-APALOOZA
YOUNG EAGLES RALLY REPORT

EAA™
THE SPIRIT OF AVIATION