

# THE LEADING EDGE

NEWSLETTER OF MUROC EAA CHAPTER 1000

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

<i>President</i>	<b>Gary Aldrich</b>	<b>661-609-0942</b>
<i>Vice-President</i>	<b>Hellmuth Steinlin</b>	<b>760-963-5445</b>
<i>Secretary</i>	<b>Kent Troxel</b>	<b>661-947-2647</b>
<i>Treasurer</i>	<b>George Gennuso</b>	<b>661-265-0333</b>
<i>Newsletter Editor</i>	<b>Russ Erb</b>	<b>661-754-0524</b>

<http://www.eaa1000.av.org>

November 2019

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:



### Across The Pond, 1944 Style

**Bob Tymczyscyn**

**Tuesday, 19 November 2019**

**1700 hrs (5:00 PM Civilian Time)**

**USAF Test Pilot School Auditorium**

**Edwards AFB, CA**

Recently, a group of DC-3/C-47 operators got the idea that it would be really cool to celebrate the 75th anniversary of the Normandy invasion by having a \*large\* formation of DC-3/C-47 aircraft fly over the beaches of Normandy. I'm sure other aircraft types, like the C-46 would have been invited, but there just aren't that many of them currently in flyable status.

The operation was dubbed "Daks Over Normandy" after "Dakota", the British name for the C-47. The idea caught on quickly throughout the community, and participation was ensured. The biggest hurdle to overcome was the minor fact that most of these 1940s airplanes were nowhere even close to Normandy. For instance, the **Flabob Express**, chief piloted by **PPO Jon Goldenbaum**, was at Flabob International Airport in southern California. The first half of the trip, across the US and Canada to Newfoundland, was pretty straightforward. It was that second half across the North Atlantic that was a bit more sporty. Having done it once to get there, there was always the trip back too.

Most participating aircraft followed the same route used by C-47s in the 1940s to get to the war. This

included stops in Greenland and Iceland on their way to Great Britain. It's easy to romanticize young, rather inexperienced aviators flying across the North Atlantic to serve their country and save the world for democracy, navigating by the stars or just ded (dead) reckoning. How much easier it must be today with GPS to point the way! However, many things are still the same—weather, clouds, icing, many hours-long legs with no autopilot, limited communication, austere airports with tricky approaches, and a severe lack of alternates. This is the kind of things that an Ernie Gann novel is made of!



**PPO Goldenbaum** did fly the **Flabob Express** in Normandy, but he didn't do the ocean crossing. That was done by our speaker this month **Bob Tymczyscyn**. Come expecting to hear about exciting challenges involved in flying a 1940s unpressurized airplane across the pond. You won't want to miss out on the answer to "How do you pronounce Tymczyscyn?"



We will start in the usual way, snacks in the lounge at 1700, provided by the **Schmoozemistress**. After **Bob** has finished convincing us that flying an old airliner across the pond is a crazy and exciting thing to do, we will escort him to the **BK Dead Cow Emporium** where you can pepper him with more questions! See you there.

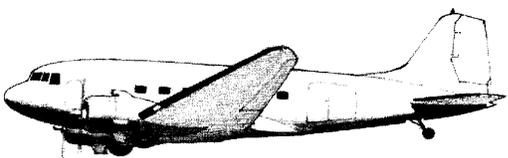
If you want a preview, or you can't make it to the meeting, you can watch a similar story of another DC-3 on YouTube. Search for "Matt Guthmiller How to Fly the Douglas DC-3". This is the first of a five video series, each about 25 minutes long.



**TAKE NOTE:** The back entrance door at TPS has been modified to automatically lock at 1630 and there is nothing we can do about it. Plan to come to the sliding door on the side of the building or text or call Erbman at 661-754-0524. If you don't have base access and haven't been on the access list before, contact Erbman right away (before Thursday) to be added.

**- Erbman**

Subbing for the **Vice Kommandant**



## Last Month's Meeting

### EAA Chapter 1000

USAF Test Pilot School

MOL Room

Edwards AFB, CA

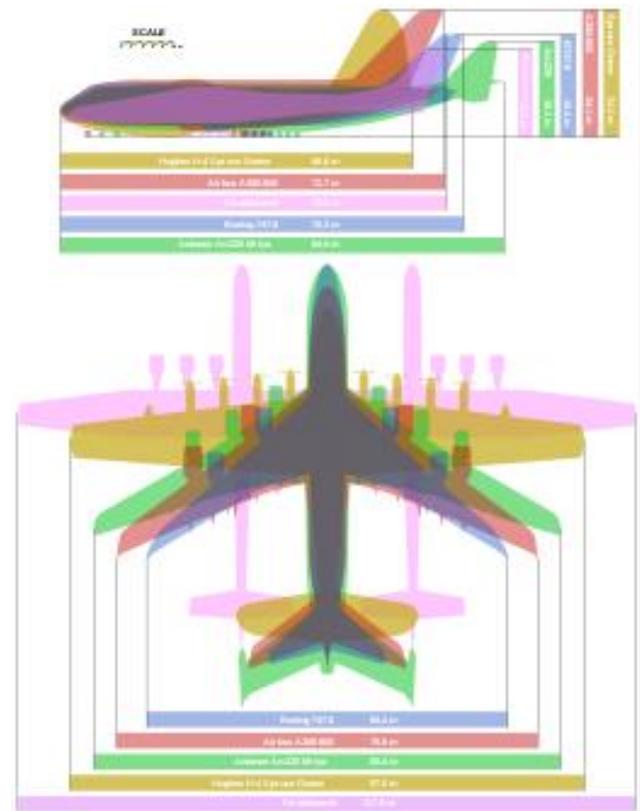
15 October 2019

**Gary Aldrich**, Presiding

Once again, the October meeting was lightly attended by stalwart members. Again notable by his absence was **Kent "Cobra" Troxel**, who once again chose not to attend because of his ongoing pursuit of **filthy lucre**, mostly by taking young minds full of mush and replacing the mush with incredibly important knowledge about how to be successful in business.

Our speaker was **Jake Rabideau** from up the street at Scaled Composites. Jake started out introducing himself by showing us pictures of the various projects and project teams he has worked on. Very conveniently, he annotated with big arrows his position in each group.

The primary business of Scaled Composites is to build one-off prototypes or proof of concept aircraft. Jake pointed out one program where Scaled did something very unusual—they built two copies of one design. Of course, even then the two aircraft were built for different purposes and thus looked alike but were really different. Because many of these projects are built on contract for another company, the details are proprietary.



One project that Jake was able to talk about was the Stratolaunch, the six engine, largest wingspan ever

airplane that is currently tied with the Spruce Goose for number of sorties flown. The Stratolaunch was an excellent example of how prototype aircraft are built—using existing parts of other aircraft wherever possible. Scaled started the Stratolaunch by buying two Boeing 747s. These supplied six engines plus two spares. The landing gear legs were repurposed onto the new fuselages. Most interesting of all was that the various flight control actuators from the 747s were used to drive the control surfaces on the Stratolaunch. In fact, the size of the individual control surfaces was limited by the strength of the repurposed actuators.



**Stratolaunch with 747 engines and landing gear. Note flap position**

On the right fuselage, the flight deck and windshield of a 747 was grafted on. Why build a new flight deck if you don't have to? The crew chairs even showed the wear of thousands of hours of airline flying. The left fuselage also has the windshield of a 747 for symmetry, even though the left fuselage is unoccupied.



Jake told us that his job was primarily on flight controls. In spite of the size of the aircraft, for simplicity all of the control actuators were still actuated by cables. Very long cables. Part of the flight control design was to determine the nodes of structural flexing and run the cables through those locations such that structural bending would not cause unintended control inputs. Jake had to redo all of the flight control brackets. They were initially designed with standard size pulleys, but this proved to have far too much friction. The solution was to redesign the entire cable runs with pulleys twice the size.



The flaps are unusual. With a huge wingspan, the airplane is ridiculously efficient. So much so, that descending and landing become a big problem because of the lack of drag. Since there is no need for more lift, the flaps have only two positions—up and 90 degrees deflection. Basically big speed brakes. Once again, the size of the flaps were limited by the strength of the 747 actuators to move them.

Jake has also begun work building a Long EZ of his own. Based on the pictures, he is currently at the “canoe” stage.

Most of this is true.

#### - Russ “Erbman” Erb

Emergency Backup Minister of Propaganda  
Chapter 1000 of the Experimental Aircraft Association of these United States of America and Occupied Territories  
“We have more zeroes in our chapter than any other!”

#### Kommandant’s Korner

Happy Fall! There’s a crispness in the air in the early morning and an occasional frost overnight. Here in the Aerospace Valley this is the time we see 40 or 50 degree Fahrenheit temperature swings during a day. We can also get beautiful, calm flying days in the lulls between cold front passages from the ocean. If you are a night flyer it’s time to get current or recurrent for carrying passengers at night because we’ve passed the time-change-nonsense and darkness (the kind you can count for this event) occurs earlier in the evening than during the Summer months.\* If you are inclined to “rehack” your night-flying clock, remember those three landings have to be to a full stop! Welcome to the taildraggers’ world where all landings for currency are full-stops.



This past month has seen two short trips in the *Fightin’ Skywagon*. The first was to Scottsdale, Arizona (KSDL) to visit a longtime friend of Anne’s. The flight was a pleasant 2.5 hour jaunt in light winds with a dogleg

or two required to avoid the Twenty-nine Palms restricted area. The Phoenix airspace looks like a toddler's attempt to draw...something on the wall. Between the Sky Harbor Class B, Luke AFB Special Use airspace and the Class D stuff surrounding the numerous area airports, a bit of "target study" was required to make a smooth and efficient approach. I chose some airway and visual reporting fixes to add to the GNS530W's flight plan that would keep me clear of the overlapping airspaces until I was north of my destination. Then I made a mad dash for the airport under the guidance of the SDL tower controller. Of course, I still had to manage the vertical boundaries of the overlaps to keep all the controllers happy. A challenge, but also enjoyable.

Once on the ground we chose to park in the "transient" parking to avoid the heinous fees charged by the two big jet FBOs. This was a good news, bad news kinda thing...We didn't have to pay the fees, but we also found it hard to find a way *back* to the VC-180 when it was time to go! It seems that the Administration Building we exited through was a one-way route with no clear return. When we tried to get back to the flight line through that building we were stymied by locked doors and missing guidance. Even though we departed during normal business hours there was no one to be found in the airport administration offices and the TSA office refused to answer the door. So, we sheepishly went to the closed afore-mentioned jet FBO and begged our way through their access door. We got some strange looks, but I guess we appeared harmless enough with our little white dog in tow. The return flight was uneventful and pleasantly smooth. A friendly Phoenix Approach controller even gave us permission to climb out on course through the Class B.

That same week, after a Wednesday return, we had planned to launch for Henderson, NV (KHND) on Thursday morning to visit more friends. That plan got modified first by the presence of the NBAA annual convention in Las Vegas. The extensive display of biz jets virtually carpeted the HND ramp and required special procedures and permissions for mere mortals to park. Thus, we slipped our departure to Friday morning. Whoops! First dog Pixel had a terrible night with her tummy, requiring soothing about once an hour. Kinda like having a toddler... While she seemed better Friday morning, she was exhausted; as were Mom and Dad. So we all took a good nap and slipped departure to Saturday! Whew! Good thing our type of aviation doesn't charge cancellation or re-booking fees. Anyway, the trip to HND early Saturday morning was another pleasant aviation experience.

Unfortunately, the ride after the Sunday PM departure was, in the immortal words of *PPO JD3*, "rougher than a stucco bathtub". We launched into the teeth of a frontal passage and, while visibilities and moisture were not a problem, you couldn't say the same about the turbulence. We bounced and jounced for about 1.5 hours before finally touching down at WJF. The good news was that nobody gave back the nice brunch we'd had just before takeoff.

The next trip is the traditional Turkey Day assault on Far Northern California. Stay tuned for reports of that adventure. Until then,

Check 6 and Fly Safe,

- Gary Aldrich  
Kommanding

\*Or, if you prefer, you can get up REALLY early and complete your landings at least an hour before sunrise to log the same event. This was (is?) *PPO Dodson's* preferred method as the nasty chore of maintaining currency doesn't interfere with "beer-thirty" activities. Of course you would likely want to fly just before the "Fall-back" time change.

---

### Follow-Up To The "Bug Blocker"

Last month, the **Kommandant** wrote about his travails with a Pitot tube cover on the Pawnee tow plane. This response came in from *PPO Miles Bowen*:

"Just another data point on the "bug blocker". My Cessna 170B came to me so equipped and in the 2000+ flying hours while in my care the device has failed to operate exactly three times. On the first two, I flew a normal pattern to an uneventful landing without benefit of indicated airspeed. Both times the device responded normally to the finger flick after landing. The third time, sometime this calendar year, it opened at about 90mph after leveling off in the pattern. Again, the device responded normally to the finger flick after landing."



---

### X-15 - Flying in the Skies of Box Art Fantasy

As guest contributor to this newsletter, I've written about the wonderful world of vintage models, and how legendary artists of that era transported an entire generation of aerospace-minded youth to an exciting aviation universe with action-packed boxtop imagery. Inside those boxes were plastic parts, directions, and decals, providing everything you needed to create the entire Edwards AFB flight line in miniature - and all of it dead accurate, too. Or so we thought.

Pictured here are two examples by Revell's incomparable Jack Leynwood. An Army Air Forces instructor pilot during World War II, Leynwood flew fighters (the Lockheed P-38 was his favorite), and after the War, he purchased a surplus T-6 for \$800. He was hired as an artist for Northrop Aircraft in Hawthorne, and soon thereafter, Revell Models in Venice enlisted Jack's talents for cover paintings of their rapidly growing lineup of new models. By the end of his career, Leynwood had illustrated a total of 625 model kits!



In the first example, we see X-15 Ship 3 (56-6672) rocketing out of Earth orbit toward the Moon. The rocket plane's tail has been dramatically reduced in size, while a red-and-white-striped YAPS boom is mounted on the nose. Accurate? Well, for starters, X-15 Ship 3 never flew with a nose boom. Some up-and-coming young NASA pilot named Neil Armstrong made its first flight with the "Q-ball nose" on 20 December 1961, attaining Mach 3.76 at 81,000 ft. (He eventually did reach the Moon, but not until eight years later.)

Leynwood's own term for his cover art was "crowding the box," positioning the airplane for maximum dramatic effect as though it was figuratively exploding out of that small rectangular shape to capture the attention of prospective young model builders and compel them to buy the kit. So, Jack put his X-15 into orbit, moved the Moon 200,000 miles closer, and had the aircraft's XLR-99 rocket engine at full throttle long after it would have run out of fuel. Revell's Art Director then mandated the X-15's vertical fin be made smaller to allow room for type on the box.



The second image was painted for Aurora Models of West Hempstead, NY, and although Jack now accurately depicted the aircraft, the kit inside was not the same airplane! Before "Truth in Advertising" legislation in the 1970s, model manufacturers could get away with stunts like this because consumers simply had no recourse. After all, it was just a toy. To serious airplane geeks spending

their hard-earned allowance and paper-route money, however, this was appalling.

What happened here stemmed from fierce competition amongst the different model companies. The first one to produce a kit of a brand new airplane usually reaped the rewards, unless the rush to production led to a gross anomaly like this. This Aurora kit was based on an early X-15 iteration called the "Satelloid Plane," despite the fact it was never intended to be orbital.

### How X-15 Will Double Man's Mach Number

**Inertial navigation system, thick blunt trailing edges are aids to exploration of new flight regime.**

Washington—X-15 rocket research aircraft, forerunner of manned orbital... is a 50-ft-long...  
 Mand's P... (Rabo) about 27 of its...  
 Diameter is 4 ft. at tail. Two oblong tanks for fuel and oxidizer contain baffles shaped like radar dishes, facing forward, to control surge and center of gravity. Tube 12-in. in diameter runs

the full length of both tanks, probably serving as a structural member as well as a fuel line.  
 Propellants probably will be anhydrous ammonia and liquid oxygen. Some will not be used!

#### Horizontal Stabilizers

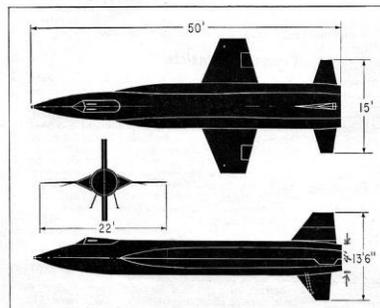
Horizontal stabilizers, approximately 4 ft. long, have 15 degree anhedral. Upper vertical control surface is approximately 5 ft. high. Whole upper half rotates for aerodynamic yaw control.

The leading edge is swept back 40 deg. from the vertical and trailing edge has 5 deg. forward sweep. Ventral fin, about 4 ft. long, jettisons on landing. Both have trailing edges 1 ft. across.

Jet reaction ports 1 1/2 in. in diameter for roll control at extreme altitudes are located 80% forward on wing and 2 ft. inboard and are directed upward.

Pitch and yaw control rockets are located in the nose at top and bottom of fuselage. Capt. Iven C. Kincheloe, scheduled to be the first USAF pilot to fly the X-15, said it has not been decided yet whether the rockets are capable of fine enough control independently, or whether it will be necessary to balance them against one another to get fine control from the difference in thrust.

Joseph A. Walker, first National Advisory Committee for Aeronautics pilot scheduled to fly the aircraft, said the pilot will throttle the control rocket.



ARTIST'S conception of X-15. Note rear view at left center.

26

AVIATION WEEK, February 3, 1958

The accompanying page from the February 3, 1958 issue of *Aviation Week* shows the aircraft as it appeared inside the Aurora box, which, to be fair, initially showed this configuration in white and in a different cover painting by artist Jo Kotula. When the model was re-issued with Leynwood's correct cover art in 1962, however, the original "Satelloid Plane" was still inside the box, although now molded in correct semi-gloss black plastic.

Much like the upside-down Curtiss Jenny on the famed 1920s Air Mail stamp, Aurora's X-15 Satelloid Plane kit is a cult collectible today, commanding stratospheric prices in its original cellophane wrapping. (And yes, serious collectors know exactly how to verify the wrap is factory original!) Despite their respective foibles, both these covers are compelling examples of dramatic mid-Century model illustration. Indeed, that's what made this industry such fun for young future aviators!

- Mike Machat

### 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**

EAA Chapter 1000 Board of Directors Meetings are now held on an unscheduled, as needed basis. If you need to know when, you're already on the e-mail notification list. (661) 609-0942

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

**Dec 17: EAA Chapter 1000 Festivus Etc Celebration**, 6:00 p.m., Kommandant's Kwarters, 42370 61st Street West, Quartz Hill CA. (661) 609-0942

**Jan 21: EAA Chapter 1000 Monthly Meeting**, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

**Feb 18: EAA Chapter 1000 Monthly Meeting**, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

**Mar 17: EAA Chapter 1000 Monthly Meeting**, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

**Apr TBD: EAA Chapter 1000 Monthly Meeting**, 6:30 p.m., Flying Dog Ranch, 4400 Knox Ave, Rosamond CA. (661) 609-0942

**May 16: EAA Chapter 1000 Annual Aviation Event**, currently accepting ideas for activities. (661) 609-0942

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

**Jul 21: CNX EAA Chapter 1000 Monthly Meeting**, Cancelled in lieu of AirVenture. (661) 609-0942

Jul 20 - 26: EAA AirVenture 2020. Oshkosh WI.

**Aug TBD: EAA Chapter 1000 Baseball Meeting**, 6:00 p.m., The Hangar, Lancaster CA. (661) 609-0942

**Sep 15: EAA Chapter 1000 Monthly Meeting**, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (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

To join Chapter 1000, send your name, address, EAA number, and \$20 dues to: EAA Chapter 1000, George Gennuso, 3119 Lennox Ct, Palmdale CA 93551. Membership in National EAA (\$40, 1-800-843-3612) is required.

Contact our officers by e-mail:

President/Flight Advisor Gary Aldrich: gary.aldrich@pobox.com

Vice President Hellmuth Steinlin: hellmuthsteinlin@hotmail.com

Secretary Kent Troxel: kenttroxel@sbcglobal.net

Treasurer George Gennuso: knife.pulsar1@gmail.com

**EAA Chapter 1000 Technical Assistants**

<i>Composite Construction</i>		
<b>George Gennuso</b>	pulsar1@sbcglobal.net	661-265-0333
<b>Brian Martinez</b>	brianmmartinez@aol.com	661-943-5379
<i>Wood Construction</i>		
<b>Bob Waldmiller</b>	bob@waldmiller.com	661-816-7224
<i>Aluminum Sheet Metal Construction</i>		
<b>Bill Irvine</b>	wgirvine@yahoo.com	661-948-9310
<b>Russ Erb</b>	erbman@pobox.com	661-256-3806
<i>Welding/Welded Steel Tube Construction</i>		
<b>Russ Erb</b>	erbman@pobox.com	661-256-3806
<i>Engine Installation</i>		
<b>Russ Erb</b>	erbman@pobox.com	661-256-3806
<i>Electrical Systems</i>		
<b>Russ Erb</b>	erbman@pobox.com	661-256-3806
<i>Instrumentation and avionics requirements for VFR/IFR</i>		
<b>Gary Aldrich</b>	gary.aldrich@pobox.com	661-609-0942

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

From the **Project Police** legal section: As you probably suspected, contents of The Leading Edge are the viewpoints of the authors. No claim is made and no liability is assumed, expressed or implied as to the technical accuracy or safety of the material presented. The viewpoints expressed are not necessarily those of Chapter 1000 or the Experimental Aircraft Association. **Project Police** reports are printed as they are received, with no attempt made to determine if they contain the minimum daily allowance of truth. So there!

**THE LEADING EDGE****MUROC EAA CHAPTER 1000 NEWSLETTER**

**C/O Russ Erb**

**3435 Desert Cloud Ave**

**Rosamond CA 93560-7692**

**<http://www.eaa1000.av.org>**

ADDRESS SERVICE REQUESTED

**THIS MONTH'S HIGHLIGHTS:**

**REGULAR MEETING 19 NOV @ TPS**

**CROSSING THE POND 1944 STYLE**

**KOMMANDANT LOCKED OUT OF AIRPORT**

**DEFORMED X-15 MODELS**

