



Runway

15



The Monthly Newsletter for EAA Chapter 1541, Lincoln, California

August 2017

Briefing Strip

- Pay attention here: the regular member meeting on **Wednesday, August 16**, will be held at the **Old Spaghetti Factory** at 731 Sunrise Avenue in Roseville (due to summer heat at the hangar). Dinner is available but optional. More details to follow but meeting starts at 1800.
- That meeting mentioned above *at the Old Spaghetti Factory*: the program will be a presentation by chapter members who went to Oshkosh a few weeks ago. Come and enjoy the tales, pictures, and videos of the greatest airshow on earth.
- We have **Saturday EAA Programs** scheduled for **Saturday, August 12** and **Saturday, August 26**. Program details are inside. The morning starts with a Pancake Breakfast at the hangar. Come one, come all: invite your pilot friends.
- The annual **EAA Chapter 1541 Poker Run** is coming on **Saturday, October 14**. Set aside that date. We are trying to boost attendance and participation by local pilots from around the area. Spread the word and plan on attending. More details inside.
- Tentative date for the **Chapter Christmas Party** is **Wednesday, December 13**. Details to follow.
- Those organizing the **Chapter Poker Run** and the **Chapter Christmas Party** are looking for a few good prizes for raffles and such. If you have a line on something worthy for use as a prize, contact any of the board members with your thoughts.

Calendar

- Saturday, August 12:** Saturday Program and Pancake Breakfast, EAA Hangar, 0800-1030. Details inside.
- Wednesday, August 16:** Lincoln Airport Committee Meeting, 1000 am in the First Floor Meeting Room at Lincoln City Hall.
- Wednesday, August 16:** EAA Chapter Member Meeting, Old Spaghetti Factory, 718 Sunrise Ave., 1800-2100. Details inside.
- Saturday, August 19:** Lincoln Airport Aircraft Display Day, 0800-1200.
- Saturday, August 26:** Saturday Program and Pancake Breakfast, EAA Hangar, 0800-1030. Details inside.
- Saturday, September 2:** Pancakes and a Movie with Chapter 1541 0800-1000.
- Wednesday, September 6:** Chapter 1541 Board of Directors meeting at 1800, House of Pizza on Nicholas Road.
- Saturday-Sunday, September 9-10:** Capital City Airshow at KMHR
- Wednesday-Sunday, September 13-17:** Reno Air Races
- In addition to the events listed above, there are pancake breakfasts, fly-ins and other aviation activities scheduled for almost every weekend throughout the area. Check the chapter website calendar for the most current information: <http://eaa1541.org/events/>

For the most up-to-date information, go to the chapter website

<http://eaa1541.org/>

Newsletter Contributions

Please help by contributing stories and photos that might be of interest to other chapter members. Perhaps where you flew, what you are building, or what you know about something. A few short paragraphs and a photo or two of your project or travels would be a great contribution. I'll take care of the rest. Please email me (Scott Thompson) at sthompson@aerovintage.com or call me at 916-716-3442.

Tidbit from the AIM

6-1-2.Emergency Condition—Request Assistance Immediately

a. An emergency can be either a distress or urgency condition as defined in the Pilot/Controller Glossary. Pilots do not hesitate to declare an emergency when they are faced with distress conditions such as fire, mechanical failure, or structural damage. However, some are reluctant to report an urgency condition when they encounter situations which may not be immediately perilous, but are potentially catastrophic. An aircraft is in at least an urgency condition the moment the pilot becomes doubtful about position, fuel endurance, weather, or any other condition that could adversely affect flight safety. This is the time to ask for help, not after the situation has developed into a distress condition.

b. Pilots who become apprehensive for their safety for any reason should request assistance immediately. Ready and willing help is available in the form of radio, radar, direction finding stations and other aircraft. Delay has caused accidents and cost lives. *Safety is not a luxury! Take action!*

Chapter Information

Meetings:

Usually the third Wednesday of each month held at KLHM Hangar S-12. Details available at the website.

E-mail:

lincolneaa@hotmail.com

Website:

<http://eaa1541.org/>

Mailing address:

EAA Chapter 1541, PO Box 1126, Lincoln, CA 95648

Chapter Hangar:

Hangar S-12, Lincoln Airport

Chapter Officers

President:

Ron Wright (ronpw@hotmail.com)

Vice President:

Tony Kasabasich (tonykasabasich@yahoo.com)

Secretary/Treasurer:

Jim Hughes (jim.hughes1@att.net)

Chapter Board of Directors:

Bruce Estes

Tom Lieb

Bob Miller

Byron Maynard

Bruce Robinson

Dug Smith

Scott Thompson

Bill Wootton

Webmaster:

Dug Smith

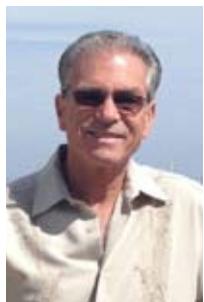
Newsletter:

Scott Thompson (916-716-3442)
sthompson@aerovintage.com

Membership:

Open to all. Chapter dues: \$20 per year.

President's Corner



by **Ron Wright**
Chapter President

Chapter Hangar Update

Our Chapter 1541 hangar feels like a never ending story.

As long and drawn out this has become, I will continue to update our membership every 60 to 90 days.

The latest is that the city of Lincoln has still not finalized the lease renewals and ground rent details with Nunno Corporation. This places our chapter in a holding pattern (pardon the aviation comparison) in anticipation of their final resolution. Unfortunately, time marches on and our current lease necessitated an extension to maintain our option to purchase and continue to rent. As a result, we were fortunate to negotiate a small rental reduction through the end of the year and then have the option to continue to rent for another six months thereafter, if necessary. For the time being we are in good shape. Overall, the delays we have been subject to have been frustrating at the very least.

Along with the current rent/buy arrangement, your chapter board has explored other options that are on the back burner so-to-speak. We have looked into the rental of another hangar that would be a little more affordable monthly;

however, there would not be an ownership opportunity. This option could be exercised at our discretion should the city of Lincoln and Nunno come to terms that are not in line with what we at EAA would view as a workable solution for our needs.

Lastly, there are the prospects that a major non-profit operation is considering a move to KLHM. More can't be said about this right now because of ongoing discussions. But, this could change things again wherein EAA might eventually conduct meetings at a new facility owned by the non-profit in the future. This would likely not happen for three to five years from now. However, it is something to consider if we are to proceed with the purchase of a hangar as opposed to renting.

At the end of the day this is what we do know: Chapter 1541 needs a home hangar. Our membership needs a place to meet, share time with one another and have various programs to benefit our EAA vision and aviation community. We all seem to share that belief and to that extent there will always be a home hangar for us. Your board has positioned us in a good place to achieve that need regardless of what City of Lincoln, Nunno Corporation, and other possibilities may end up being. This has been a journey with many twists and turns. However, we will continue to prosper regardless of what may be placed in our path.

I will continue to provide updates as events unfold.



Are you missing out on pancakes? Lots of opportunities each month for some pancakes. Check the calendar for special pancake opportunities.

Upcoming Chapter 1541 Events:

Basic Flight Planning with FltPlan.com and FltPlan Go

When: Saturday, August 12 0800-1030

Where: EAA Chapter 1541 Hangar

What: Join us for a Saturday Program. We start with a Pancake Breakfast at 0800. At 0900 or so, we will have a presentation on Basic Flight Planning with FltPlan.com and FltPlan Go. Starting with where to find the program and how to download the app to a tablet, we will cover the basics of flight planning, flight plan filing, getting weather, NOTAMs and airport information before your flight from FltPlan.com, and how to transfer that information to the FltPlan Go app on a tablet. This is basic material for those who have not tried to do flight planning this way, but hopefully we'll all have a good time.



Trip Report: Going to Oshkosh 2017

When: Wednesday, August 16 1800-2100

Where: Old Spaghetti Factory, 731 Sunrise Ave, Roseville

What: This is our chapter's monthly meeting. Due to the anticipated heat we moved the meeting place to comfortably air conditioned Old Spaghetti Factory in Roseville. If you want to have dinner, we will have information later about a selection from the menu and ordering. The meeting starts at 1800 and we will have a presentation given by our chapter members who went to Oshkosh this year for AirVenture 2017, what they saw and what they heard.

Foreflight 101

When: Saturday, August 26, 0800-1030

Where: EAA Chapter 1541 Hangar

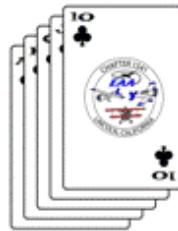
What: Join us for another Saturday Program. Again, we start with a Pancake Breakfast at 0800. At 0900 or so, we will have a presentation by Bruce Estes on how to use the Foreflight APP on a tablet in the cockpit. Bruce presented on how to fly a Bay Tour in June, and we had enough questions about Foreflight that we thought a presentation on the APP itself was in order. This will be highly informational for all pilots and interested passengers. Learn some of the basics on how Foreflight can make your flying easier.



EAA Chapter 1541 presents the 2017

Poker Run

Saturday October 14th



**Lincoln Airport (KLHM), the Gazebo,
(East of the transient parking, next to the fuel)**

Registration opens at 08:00

First airplane takeoff at 09:00

Awards and Raffle at 13:00

**Route: KLHM – KMYV – KRIU – O61 – KAUN – KLHM
(approximately 100 nm)**

Pick up a playing card in a sealed envelope at each airport.

The pot is 30% of the total entry fees, and is split between the high and low hands.

Limited to 52 entries, \$30 entry fee includes a BBQ lunch and 1 raffle ticket.

(Additional lunch tickets \$10, additional raffle tickets \$1)

Download a pre-registration form at <http://eaa1541.org/poker-run/> or register on the day of the event at Lincoln Airport.

Contact pokerrun@eaa1541.org

Member Spotlight

by Bruce Estes

Every airport needs a Tom Lieb. Tom is not only a board member for EAA Chapter 1541, but is also on the Board of Directors for LRAA (Lincoln Regional Airport Association). Tom is one of those guys that doesn't make a big public

splash, but is always in the background helping with activities around the airport. Among many things, Tom helps with the monthly LRAA Display Day. Tom sees serving on the two boards as an opportunity to participate at Lincoln Airport. And, Tom has made many new friends by getting involved at the airport.

Tom learned to fly in 2009 at Boeing Field. Tom had always wanted to fly gliders, but was advised to get his Private Pilot License for powered aircraft, and then could easily get a glider "add on" rating later. Currently, Tom has his Private, but is still working on the glider rating. Tom has flown Cessnas, Pipers, and has about 40 hours in a Diamond Star with a glass panel. Tom loved the Diamond Star.

Tom's goals for the future are to continue staying active flying, get his glider "add on" rating, possibly get an IFR rating, and sometime in the future, own his own airplane.

Tom- thanks for all of your help with EAA, LRAA, and Lincoln Airport in general.



*B-17G Madras Maiden as operated by the Liberty Foundation and the Erickson Aircraft Collection.
(Liberty Foundation photo)*

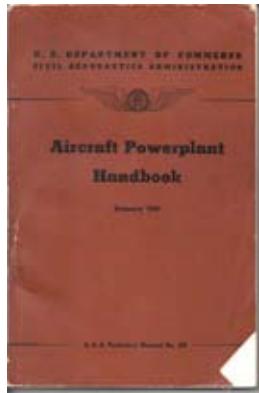
Maintenance Corner

by Jim Hughes



Why Does My Crankcase Hold So Much Oil?

Our aircraft engines have a crankcase oil capacity as specified in the 1949 CAA (Civil Aeronautics Administration) Technical Manual No. 107. On page 198, the oil supply tank requirements are listed.



This was certainly intended for the early radial engines that were set up loose on clearances, so they burned and leaked a lot of oil. This specification insured that there was still oil in the tank when the fuel was exhausted. Here is the page from my copy of the Handbook;



Since most of our flat engines were originally designed under this Power Plant Handbook, (and you thought that you have a 'new' engine), the oil supply was designed to the same requirements.

With the advancement in materials and machining, our engines use very little oil and leak almost none. Yet the design requirement remains for these old designs. New designs appear free to use a new standard. Since the text above may be hard to read, I've listed the two requirements:

1 gallon, (4 quarts) of oil for every 25 gallons of fuel

1 gallon of oil for every 75 horsepower

So, which ever calculation yields the larger number, that's what is required.

A few examples:

Cessna 172 with an O-300 and 39 gallon tanks.

$$1. \frac{39}{25} \text{ gallons} \times 4 = 6.25$$

$$2. \frac{145}{75} \text{ hp} \times 4 = 7.73$$

So, rounding up, 8 quarts is specified

Cessna 172 XP, IO-360, 210 hp, 52 gallon tanks

$$52/25 \times 4 = 8.3$$

$$210/75 \text{ hp} \times 4 = 11.2$$

So, 12 quarts is specified. (I guess that they liked even numbers)

Cessna 182, O-470, 230 HP, and 64 gallon tanks

$$1. \frac{64}{25} \text{ gal} \times 4 = 11.2$$

$$2. \frac{230}{75} \text{ hp} \times 4 = 12.3$$

So, 12 quarts is specified

Most POH and engine operating manuals specify the minimum oil quantity for level flight, which is usually 3-5 quarts. But we have to allow for any oil use during a long flight, so we can safely use six to seven quarts at the beginning of a flight.

Interestingly, most engines don't tolerate a full crankcase. The crankshaft will whip up the oil and either blow it out the breather tube, or it will flood the cylinders, overwhelming the oil rings, and the engine will burn it,

So, now you know why your crankcase hold so much oil!

A Brief History of the Tilt Rotor Aircraft

by Martin Maisel

(photos as credited)

Part 5

Production and Development Programs

The AW-609

Numerous government and industry studies have indicated that the tilt rotor's VTOL capabilities coupled with its range and high speed provide a high level of operational and cost effectiveness for many civil and Government applications. With the technological success of the XV-15 and the efficacy of the V-22 program as a foundation, the Bell-Boeing Team began work on a civil tilt rotor aircraft, the BB-609. This aircraft would be a 6- to 9-place, pressurized cabin, executive transport with a VTOL gross weight of about 16,800 lb (nearly 25% heavier than the XV-15) and a maximum speed of 315 mph. When Boeing decided to limit its Bell-Boeing tilt rotor work to military vehicles only, Bell found a new partner, Agusta (an Italian helicopter manufacturer, currently operating as Leonardo), and the aircraft was re-designated the BA-609.

In 2009 Bell elected to withdraw from the -609 development program (but would continue to support certification efforts) and the project was placed under AgustaWestland management.

While the AW-609 has been undergoing extensive testing to meet FAA and European certification requirements, certification of this new aircraft type presented challenges with the regulatory agencies requiring the aircraft to meet helicopter, fixed wing and new tilt rotor criteria.



The AgustaWestland AW-609 (AgustaWestland image)

On October 30, 2015 one of the prototype AW-609 aircraft crashed during a high-speed test flight, killing two test pilots. The crash investigation identified a fault in the fly-by-wire flight control laws that led to a divergent "Dutch roll" instability and the failure of the aircraft's tail structure. Design modifications were made and the AW-609 returned to flight-testing in July 2016.

Currently, 60 advanced orders are on the books and AgustaWestland projects a market of 700 aircraft over 20 years. Certification is expected to be awarded in 2017 or 2018 and service entry is planned for early 2019. The AW-609 will be manufactured at AgustaWestland's plant in Philadelphia, Pennsylvania.

Bell V-280 Valor

Recognizing that the U.S. Army's rotorcraft fleet was aging and remanufacturing and upgrades of existing helicopters has its limits, the Department of Defense established the Future Vertical Lift (FVL) program to identify rotorcraft that utilizes new technology. The product of the FVL effort would be the identification of a vehicle that provides higher speed, greater range, improved reliability, and is easier and less expensive to maintain and operate than rotorcraft in the current inventory.

To meet these requirements, Bell Helicopter is proposing a third-generation tilt rotor designated the Bell V-280 Valor. Unlike the XV-15, the V-22 and the AW-609, the Valor wing is not swept forward and only the rotor tilts, not the engine. The aircraft is designed to have a cruise speed of 320 mph (280 knots) and a ferry range of 2,400 miles. Combat range will be 580 to 920 miles.



Bell 280 Valor (Bell Helicopter Company)

Unmanned Aerial Vehicles

Bell Eagle Eye

In addition to manned aircraft, unmanned tilt rotor aircraft have been studied, intended primarily for military use. The Bell Eagle Eye TR918, developed in the 1990s, was capable of operating from small ships while providing the altitude, range and speed required for surveillance missions. However, since Bell was unable to obtain strong Government interest and funding to further the effort, the Eagle Eye program was discontinued in 2006.



The Bell TR918 Eagle Eye (Bell Helicopter Company)



Eagle Eye Coast Guard Operation Demonstration (Bell Helicopter Company)

Bell V-247 Vigilant

In September 2016 Bell Helicopter revealed the V-247 Vigilant, a new multi-role tilt-rotor unmanned aerial vehicle being developed to meet the future requirements of the US Marine Corps.

The V-247 will have a maximum takeoff weight of about 30,000 lbs and would carry up to 13,000 lbs of fuel, armament and sensors. Bell projects that the

Vigilant will offer up to 11 hours on station with 600 lbs of payload at a 450 nautical mile mission radius.

If the Marine Corps approves, Bell states that the Vigilant could be in production by 2023.



The VTOL capability of the V-247 Vigilant allows for helicopter carrier operations (Credit: Bell Helicopter)



The Bell V-247 UAV can be armed with a variety of munitions (Credit: Bell Helicopter)

Outlook

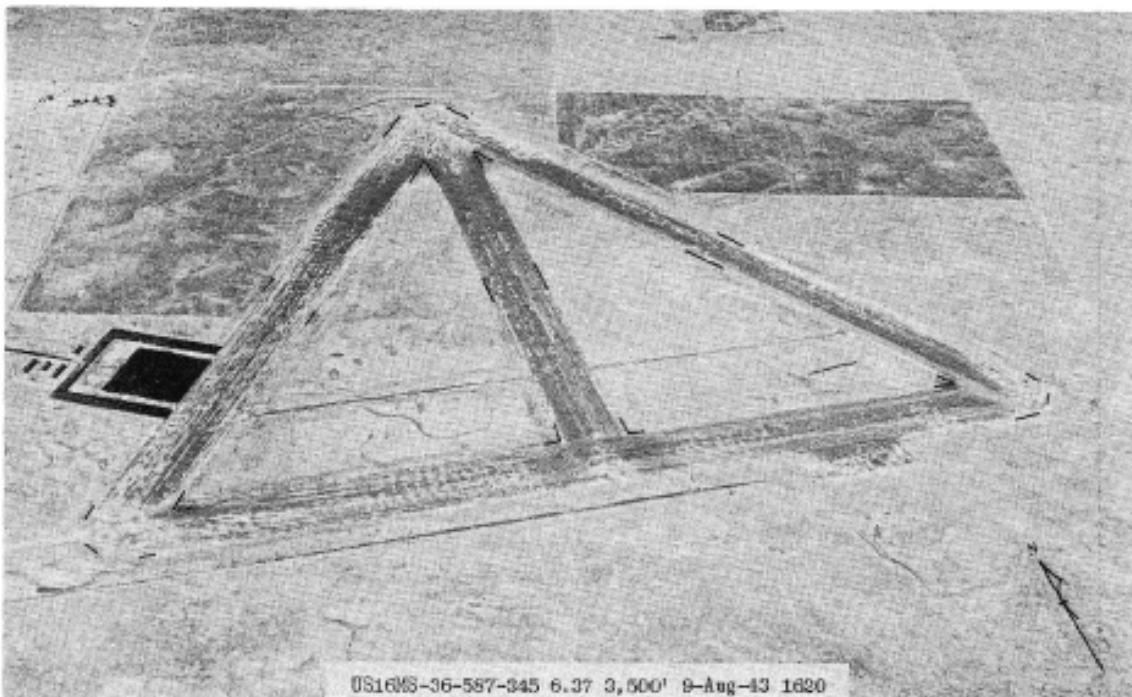
The future of the tilt rotor aircraft remains promising. It appears that military roles for the type are likely to continue to develop. The specialized needs of the military user allow the high costs associated with the power and complexity required to provide vertical lift capability to be accepted. Although studies indicate the potential value of the tilt rotor aircraft, it is not yet known if the demand for a civil VTOL aircraft with the cruise speed and range of a fixed wing executive turboprop airplane will be great enough to justify the initial and operating costs, compared to other vehicle types. We will find out in the next few years.

Questions or Comments: Contact Martin Maisel at martymf@starstream.net

MATHER FIELD AUXILIARY NO. 2
(LINCOLN FIELD)
LINCOLN

CALIFORNIA

Restricted



LOCATION:

FROM CITY - 3.3 mi. WNW (air line).
POSITION - Lat. $38^{\circ}54'22''$, Long. $121^{\circ}20'57''$.
ALTITUDE - 120'.
CITY POPULATION - 2,044.

RADIO FACILITIES:

RANGE - None.
TOWER - None.
GND/AIR - None.
INSTRUMENT APPROACH AND LBDOWN PROCEDURE - None.

DESCRIPTION:

TYPE - Army.
SIZE - 635 acres (total area).
SHAPE - Square.
LANDING AREA - Runways: N/S 3,464' x 300', NE/SW 4,000' x 300', E/W 4,000' x 300', NW/SE 4,000' x 300', bituminous.
DRAINAGE - Natural (adequate).
APPROACH HAZARDS - None within 40/1 glide angle.
MARKINGS - Wind cone.
LIGHTING - None.

WEATHER (Records from Station at Wheatland):

PREVAILING WIND - S, except Nov., Dec., Feb., N; Jan., SE.
PRECIPITATION - Av. mo., 0.02" (July, Aug.) to 5.18" (Jan.); av. yr., 22.21".
TEMPERATURE - Av. min. and max., 47.4° to 72.2° ; extremes, 20° to 114° .
FOG - Not prevalent.
FACILITIES (At Airport) - None.

FACILITIES:

HANGARS - None.
SHOPS - None.
GASOLINE -
 At Airport - None.
 In Vicinity - At Mather Field.
OIL -
 At Airport - None.
 In Vicinity - At Mather Field.
COMMUNICATIONS - None.
PERSONNEL ACCOMMODATIONS (Transient) -
 At Airport - None.
 In Vicinity - At Lincoln.

TRANSPORTATION:

AIRLINES - None reported.
RAILROADS - Southern Pacific, at Lincoln.
 Sidings - 3.0 mi. from field.
ROADS - U. S. No. 99E, 1.7 mi. NE; county road,
 adjacent S; paved.
FACILITIES - None.

OPERATED BY: Army Air Forces.

OWNED BY: U. S. Govt.

GENERAL REMARKS: Mather Field, 24.0 mi. S.