



The Beacon

The newsletter of Chapter 54
Lake Elmo, Minn.

JANUARY 2015

January 2015

NEXT MONTH'S PROGRAM WILL BE ON

MONDAY February 8, 2016

- Social hour from 6:30 to 7:30 PM
- Meeting begins at 7:30 PM
- CHAPTER HOUSE, ENTRANCE B, LAKE ELMO AIRPORT 21D.
- Our Chapter Web site address: www.eaa54.org

Hamilton H-47 Metalplane Restored by Lysdale At Fleming Field



The corrugated skin, thick wings, and slab-sided fuselage of the Metalplane give the impression that the airplane might be a single-engine version of the Ford Tri-Motor, but it is not a Ford. These design features likely resulted from McDonnell's work for the Stout Metal Airplane Division of the Ford Motor Co., which designed and built the iconic Tri-Motor.

Metalplanes were identified mostly with Northwest Airways, the progenitor of Northwest Airlines. With a fleet of nine aircraft, it was the largest user of these small airliners.

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Upcoming Events

1. Next Meeting — February 8, 2015
2. Ground school begins in February 4, 2016



Alaska's first airline, Wien Alaska Airways, received its first of two Metalplanes in 1929—the first all-metal airplane to operate in Alaska and the first of any kind to make a round trip between Alaska and Asia, piloted by company founder and pioneer aviator Noel Wien. The company received its second Hamilton in 1939 after the airplane had been used in the filming of Howard Hawks' *Only Angels Have Wings*, starring Cary Grant, Jean Arthur, and Rita Hayworth.

The first and fastest nonstop transcontinental airline service was provided by a Metalplane on floats. No kidding. This is when Isthmian Airways offered 30-minute, north-south passenger flights across the Panama Canal Zone between the Atlantic and the Pacific.



Hamilton's company became a division of Boeing Aircraft in 1929 but was soon dissolved, spelling the end of Metalplane production after only (approximately) 29 had been built. Young Hamilton, however, had retained his propeller business and merged it in 1930 with a competitor, Standard Steel Propeller, to form Hamilton Standard Propeller Corp., which became the world's largest manufacturer of propellers. During World War II alone, "Ham Standard" produced more than 500,000 of them.

Beyond a few one-of-a-kind Metalplanes, two models found success: the 450-horsepower H-45 and the 525-horsepower H-47, essentially identical airplanes except for their engines. The aircraft shown on these pages, NC-879H, is a 1929 H-47, sole survivor of the Metalplane legacy. (There reportedly is another in Alaska that consists only of a fuselage and a pair of wings.)

This airplane was first delivered on Edo floats to Provincial Air Service in Sault Ste. Marie, Ontario, and never served as an airliner. After passing through the hands of numerous owners over the years, it ended up discarded in Alaska, ignominiously suffering the ravages of clime and time. It eventually was discovered in 1951 by Northwest Airlines Capt. Harry McKee. With the support of his airline and a band of volunteers, the airplane was purchased and taken to Minneapolis for restoration as a nonflying exhibit. Escalating expenses and complications caused enthusiasm for the project to wane, and the incomplete project was placed in storage.

Eventually the airplane was purchased by Jack Lysdale in 1972 and taken to Fleming Field in South Saint Paul, Minnesota. He and a group of craftsmen completed an airworthy restoration, trimmed in Northwest Airways markings, so meticulous that it earned numerous awards, including the Experimental Aircraft Association's coveted Silver Age Championship Trophy in 1976. Lysdale placed the Metalplane in storage in 1978 but kept it in airworthy condition.



Jack Lysdale passed away in 1992, and his family eventually arranged to have the airplane sold by the upscale Barrett-Jackson Collector Car Auction in 2010. The seven-day televised event in Scottsdale, Arizona, also offered for sale John Dillinger's 1930 Ford Model A getaway car.

This auction caught the attention of Howard Wright, a devoted aviation enthusiast who is particularly enamored with classic airplanes, especially if they float. He already had a 1929 Travel Air S-6000B and a de Havilland DHC-2 Beaver—both with floats and wheels—that he operates under the banner of Pole Pass Airways, which is based at East Sound Airport on Orcas Island, the largest of Washington's San Juan Islands. Continued on Page 4

Mysterious Concrete Arrows and Beacons

By Dave Syverson. Checking the coordinates 49 degrees 49 minutes 8.08 Seconds North by 92 degrees 54 minutes 42.49 seconds West we find a large concrete arrow right in the backyard of a house located just south of 90th street in Cottage grove. Notice in the photo that the arrow isn't even straight, the tail is slightly out of line with the point. Why would anyone make a crooked concrete arrow?

It gets more interesting if we plot a course from the arrow point. Approximately 10 miles to the northwest is the beacon in Mounds park on the cliff above the St Paul Airport.....the one we recognize as the airport beacon for the St Paul Airport. The St Paul Beacon in Mounds park was originally constructed in 1929 and has been in continuous operation since; however, it was completely restored in the 1990's.

By 1933 there were 18,000 miles of lighted airways with 1550 beacons and 236 "safe haven" landing fields to support the airmail system. The math is close but does not quite work out, where possible the design distance between arrows/beacons was 10 miles, which works out pretty close for the Arrow on 90th street and the St Paul Airport beacon. The idea behind the lighted beacons and arrows was a pilot could locate a beacon, fly to it, look where the arrow pointed and set a course to the next beacon approximately 10 miles away. Because the course through several arrows was seldom straight, we now know the reason why the arrows are sometimes crooked....the tail tells you where the last one was and the point tells you where the next one is.

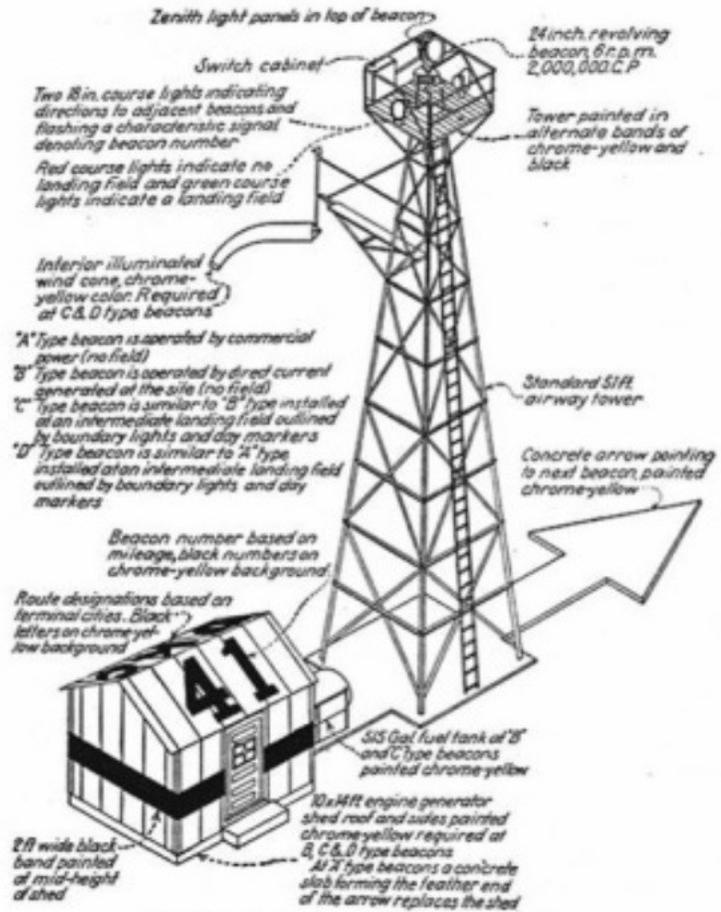


FIG. 301.—Standard installation airways beacon.



Continued from Page 3 Back to the photo of the arrow. The one on 90th street in Cottage Grove is the only complete one in Minnesota and would be identified as Arrow Number 48. There are parts of half a dozen others in Minnesota, only to be found if you know where to look because all that remains of the others in Minnesota is an occasional broken chunk of concrete that bears no resemblance to an arrow or no more than the ground the arrow once laid upon in most cases. If a person looks up the locations in the western US, many more of the arrows are intact. One of the reasons the Cottage Grove arrow might still be here.....check out the basketball court!

In 1923 the US Congress funded a sequential lighted airway system for construction along the Airmail routes. Did I say lighted? Back to the photo. Notice the rectangular pad in the center of the arrow. That was where the steel tower which supported the light beacon rested. The tail of the arrow is where the utility shed sat which supplied maintenance materials for the beacon and included a generator and fuel storage for sits which were off the grid. The roof of the shed of the cottage grove arrow would have had a large numeral 48 emblazoned on it. What about paint? The original paint scheme was a “sort of” gold and black...a bit different than the banded red/white obstruction paint scheme we see today.

Now, an unrelated but very close aviation facility was established much later; and, mostly unrelated to the navigation arrow/beacon across the street from the arrow. St. Paul Park Airport, Cottage Grove, MN (Southeast of St. Paul, MN) USGS topo maps as far back as 1951 depicted an airway beacon directly across 90th Street from the eventual site of this airport. St. Paul Park Airport may have been established at some point between 1962-66, as it was not yet depicted on the 1962 USGS topo map. The earliest depiction which has been located of St. Paul Park Airport was on an 11/28/66 USGS aerial view. It depicted St. Paul Park Airport as having a single grass north/south runway. On the southwest side was located a row of 5 T-hangars, along with one single-engine aircraft parked outside. Dan Karg recalled of St. Paul Park Airport, "My wife's grandfather flew out of it in the 1960s. I remember seeing it in the 1960s & early 1970s."

Continued from Page 2 lands.

Wright was the successful bidder and purchased the H-47 as a landplane. He was determined, however, to locate the airplane's original 1929 Edo 6400 floats. An extensive search ultimately found them in a Fairbanks, Alaska, junkyard in early 2011—but the seller demanded an outrageous price. “They’re the only floats in the world for a Metalplane,” he said smugly. Wright’s representative replied, “Yeah? Well, we’ve got the only airplane in the world that can use them.” The price quickly became reasonable. Although the floats had been outdoors and exposed to the harsh Alaskan climate for 30 years, Kenmore Air in Washington was able to restore them.

The original H-47 was powered by a 525-horsepower Pratt & Whitney R-1690 Hornet, but parts for this engine are no longer available. NC-879H now has a supercharged Pratt & Whitney R-1340 Wasp that delivers up to 600 horsepower, depending on the propeller; it’s the same radial engine that powers the North American AT-6 Texan. The two-blade, ground-adjustable propeller was made by—you guessed it—Hamilton. It currently is set to low pitch to optimize takeoff and climb performance.

The airplane seats eight—two in front and six in the cabin. Wright, however, has removed the three leather-trimmed wicker seats from the left side of the cabin. “People are larger and heavier today than when the airplane was built in 1929,” he said. On floats, the airplane has a maximum-allowable gross weight of 6,375 pounds and a useful load of 1,694 pounds. On wheels, it grosses out at 5,750 pounds and has a useful load of 1,839.

The cockpit isn’t roomy, either. The right seat folds up against the right sidewall so there is room to crawl into the left seat. You get into the right seat by swinging the seat down and into position, standing on it while sticking your head out of the rooftop hatch, and then lowering yourself onto the seat. Pilots usually find themselves cozily



FROM THE FLIGHT DECK (PRESIDENTS REPORT)

JIM PEARSALL

Hello from the frozen tundra we call home. As I write the wind-chill is in the dangerous range, last night in preparation for today I set my pack boots from the door as I planned to go out in this. Why? Same reason I have spent many hours outside in these temperatures, Airplanes! Either from my working on the ramp at MSP in the 80's (Kids, back when we had Serious cold!) or doing preflight for my Sport Pilot check ride, for some reason cold and airplanes get mixed together for me. Today it is to support Paul Randall launch from RNH to bring an airplane to Sebring FL.

This morning as Paul gave me a status he called his effort the apex of insanity. Getting in a light airplane to let the polar winds carry you to such latitude seems to me you are telling winter, Take That! I would turn his sentiment around and characterize the effort as the apex of sanity. In fact using a light aircraft to carry one across the earth seems to be the most reasonable way to travel there is. So, let's do that!

When I was a boy, travelling by car a long distance was not what it is today. Freeways existed but outside of California or the crowded east coast they were a tease providing a short respite from the tedious transiting of endless small towns.

I see a parallel to travelling by road in say the 60's in GA today. The benefits of the information age in availability of portable computing, data communications and the advancements in weather forecasting are amazing. Not that long XC's are easy but all of this has definitely made them more predictable and safer, if the tools, sprinkled with good judgment are leveraged.



From personal accounts and as often documented in this newsletter Chapter 54 get around with our airplanes. Paul's trip to Florida, one of several, has provided new inspiration for me to consider the long trip by "personal" air. I have not flown further than Eau Claire, Owatonna or Glencoe but I would like to change that. I am in the foundation phase planning trips and making a list of people and places I want to visit from Longmont CO to Seattle, Asheville NC to Tampa.

Any distant destination would be more fun and safer with a second crew. Even better, in a flight of two. I would like to propose that we as a chapter continue to encourage stretching our wings, leveraging our airplanes and electronic gizmos and get out there and put some big numbers in our log books. I propose a coordination effort to connect and plan adventures. Something akin to the group around the field that talks Formation Flying.

Anyone with me? Let's Go!

Jim Pearsall

Continued from Page 3 rubbing shoulders with each other.

Refueling the two 70-gallon wing tanks requires climbing through the rooftop hatch and onto the wings, not much fun in foul weather.

When headed into the wind and ready for takeoff, you raise the water rudders using a cable on the left cockpit sidewall and hold the elevator fully aft while advancing the throttle to 1,900 rpm and 32 inches manifold pressure. Gradually release back-pressure as the big Metalplane rises onto the step, then adjust the elevator slightly to search for and maintain the sweet spot.

The large floatplane lifts off at about 70 mph and climbs at 80 mph. Cruise speed is about 110 mph on floats and about 125 mph on wheels. The control wheels resemble the steering wheel of an automobile and are not particularly responsive, especially in roll. It takes frequent and substantial aileron input to keep the airplane on an even keel. One reason for this workout is that substituting floats for wheels adds considerable forward side area, which decreases directional stability. (When substituting floats for wheels on most other airplanes, a ventral fin is added below the aft fuselage to compensate for this.) This slight instability makes it challenging to coordinate aileron and rudder during turn entry and recovery. Leading with rudder seems to help tame the slip-skid ball.

Docking this airplane without assistance would be difficult. In the time it takes to wriggle out of the cockpit, crawl through the cabin, exit the aft cabin door, and jump onto the left float, the airplane could easily have drifted away from the dock.

There is nothing graceful about this large, rugged workhorse, and it seems more demanding of the pilot than other large singles of its day. It is not difficult to fly, but it is difficult to fly well. It is also loud, both inside and out. The Metalplane is nevertheless gratifying to fly because of the way in which it transports you back in time to that romantic era of pioneer aviation.

For Sale, Rent or Wanted

Wanted: Four place airplane, fixed gear, Mid time engine, STC for auto fuel or approved engine and airframe. Also looking for hangar to rent at Lake Elmo. Please call 651-246-8028

Please email newsletters@eaa54.org if you have an aviation related item to sell or looking to buy.



Tailwinds Flying Club Welcomes New Members

Tailwinds Flying Club is based at Lake Elmo airport. We are a non-profit corporation of 39 pilots who equally own three aircraft and one hangar (25E). Our goal and philosophy are to fly great airplanes safely and inexpensively. We currently have a Cirrus SR20, Archer II and Cherokee Six. Some of our members belong to EAA 54 and we love to fly Young Eagles. Please stop by and visit us anytime! North side, Fairchild Lane, Hangar 25E. To inquire about membership, please call 612-584-1740 or visit www.tailwinds21d.org.



Chapter 54 Meeting Minutes

By Bettie Seitzer, Chapter Secretary

EAA Chapter 54, January 11, 2016

We had one guest, Bernie, he works for 3M and has just moved back to Minnesota; he spent time living in Hawaii and will share some of his experiences flying in Hawaii.

Jim Pearsall shared information about the changes coming to the Sport Pilot rules:

New Processes for Sport Pilot rating:

S-LSA – Special Light Sport – 2 classifications each requiring a certification

Greater than 87 knots continuous cruise; and Less than 87 knots continuous cruise

Plane specifications

Max gross 1,320

Max speed 120 kts

1 or 2 people

Single reciprocating engine

Fixed gear

Fixed prop

Light Sport Aircraft

20% of new US planes are light sport

60% of new planes in the rest of the world are light sport

Transitioning to Light Sport

Requirement is a driver's license

BUT – knowingly operating an aircraft with a medical condition that might endanger flight is a violation of the regulations

The test is “If you're willing to fly your grand-daughter, you are good to fly.”

Light sport restrictions keep people from flying in potentially challenging situations – night, high altitude, instrument

Takes less time and money to get the light sport

Average is 35 hours vs 70

Same PTS as private (Practical Test Standards)

Cannot have had your most recent 3rd class medical revoked

People can also start with Light Sport, and build experience then step up to a private

Sport Pilot Requirements

Log at least 20 hours of flight time

15 hours dual

2 hours cross country dual

5 hours solo

Privileges

No more than one passenger

No flight above 10,000 ft MSL or 2,000 ft AGL, whichever is higher

No flight into airspace that require radio (B,C, D) without first obtaining additional instruction and endorsement

Differences

Additional types are by endorsement

Seaplane

Motor glider

Does not meet ICAO

Can leave the US, issue is your destination

Canada requires a medical and a radio operators license

Bahamas – OK

Changes coming

Pilot Bill of Rights II

Stipulate that you can fly without a medical, but you must first get a first class medical, you just don't have to renew it.

There will be some checkups and logging of doctor's visit

If the medical is not required, the license will not be ICAO compliant

There is a push for Electric Aircraft in S-LSA category

Remove the reciprocating engine requirement from SLA

2016 Young Eagles and Air Academy

At this point there are three kids interested in attending Air Academy camp, summer sessions, in Oshkosh. There will be one returning young lady, Hannah Krueger. She had a great time and learned lots last year and she would like another trip.

There are also a brother and sister that have shown interest.

All three participated with a YE flight last summer.

Air Academy is a week long camp held adjacent to the Whittman Regional Airport in Oshkosh, Wisconsin.

More information is available at EAA.org, Youth Education.

For Young Eagles if you are aware of any neighbor kids, scouting, or school groups that might be interested in aviation, send them to EAA54.org to sign up for a Young Eagles flight. If there are specific questions refer them to me and I'll get it figured out.



I have a reminder list for Young Eagles volunteers that is sent out one week before each scheduled event. Please respond as GROUND or PILOT. If you would like to participate once or even on a regular basis, let me know and I'll get you added. Volunteers meet on scheduled Saturdays at 0800 for set up and flights start at 0830. The whole thing is generally done within a couple hours. If you'd like to just come out to visit and observe that would be great! If you have relocated and/or would like your name removed from reminders please let me know.

In the next couple weeks Michelle Kunes, from EAA, will be providing information about background checks for Young Eagle volunteers.

Not sure on the extent of background checks, whether it includes all volunteers or not, but will keep you up to date as we know more.

Here's to a good weather year!

Young Eagle events, 2016

May 14

June 11

July 9

August 13

September 10

October 8

Thanks.

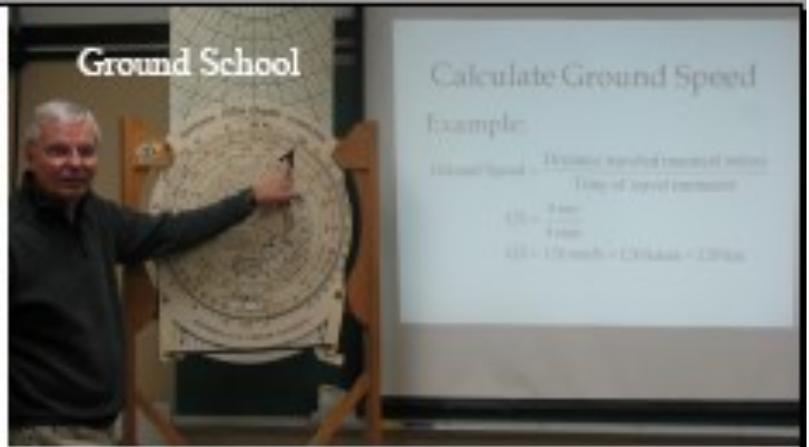
Linda Amble

EAA54

Young Eagles Coordinator

[651-353-4450](tel:651-353-4450)





Private/Sport Pilot Ground School

Starts February 4, 2016
6:00 — 9:00 p.m.

EAA Chapter 54 Clubhouse
Lake Elmo Airport

Enroll on-line at Eventbrite.com
(search Lake Elmo Ground School)
Information at www.eaa54.org



Club House Upgrades

Thanks to Dan Bergstrom for doing the work! The project started when the dusk to dawn light outside the clubhouse was noticed to be dim and not throwing light on the walk up and entrance.

The requirements were for better lighting before and after clubhouse nighttime activities.

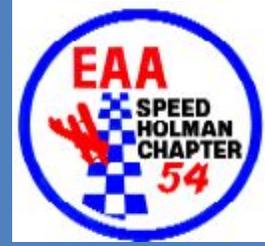
Dan took the initiative and started by taking apart the old light. The large white globe must have blocked a lot of light because there was a 75 watt incandescent bulb and the light was always dim.

The fixture was also not in an optimal location — it did not throw any light onto the walkway.

Dan purchased a new dusk to dawn light fixture and a new LED light bulb.

The new LED bulbs deliver 100 watts of light but use just 13 watts!

He placed it so light would shine on the walkway and it works great. Thanks again, Dan.



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