



The Beacon

The newsletter of Chapter 54
Lake Elmo, Minn.

MAY 2013

May 2013

THE NEXT PROGRAM WILL BE ON MONDAY
June 10, 2013

- **Regular Monthly Meeting**
- **7:00 PM, CHAPTER HOUSE, ENTRANCE B, LAKE ELMO AIRPORT 21D.**
-
- **Annual Picnic Cooks with the new grill**



INSIDE THIS ISSUE:

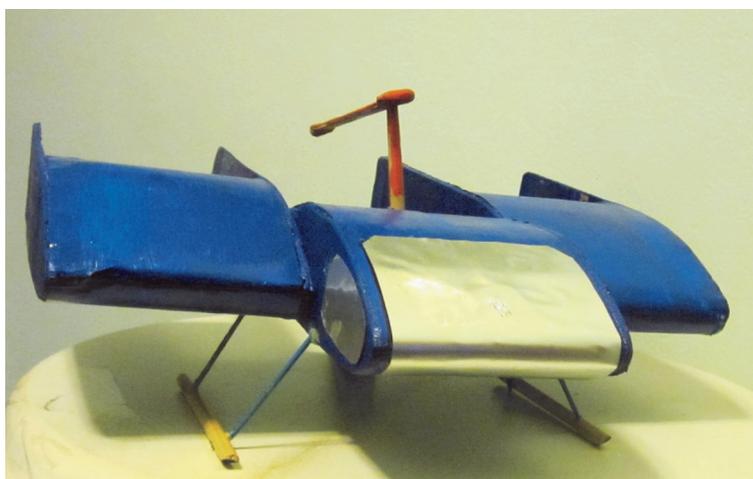
INNOVATIVE AIRCRAFT DESIGN	1
PRESIDENT'S REPORT	4
CHAPTER DIRECTORY	6
BUILD A PLANE CONTEST WINNERS	3
PILOTS LOUNGE	5

Remember: Next Young Eagles is June 8, 2013, 9:00 AM. Looking for Ground Crew and Pilots

[HTTP://WWW.EAA54.ORG](http://www.eaa54.org)

Fireless Steam Powered Airplane

Norm Weston is a thinker. He plans and imagines and dreams. One of those imagined dreams combined his interest in aviation and familiarity with steam power. The concept



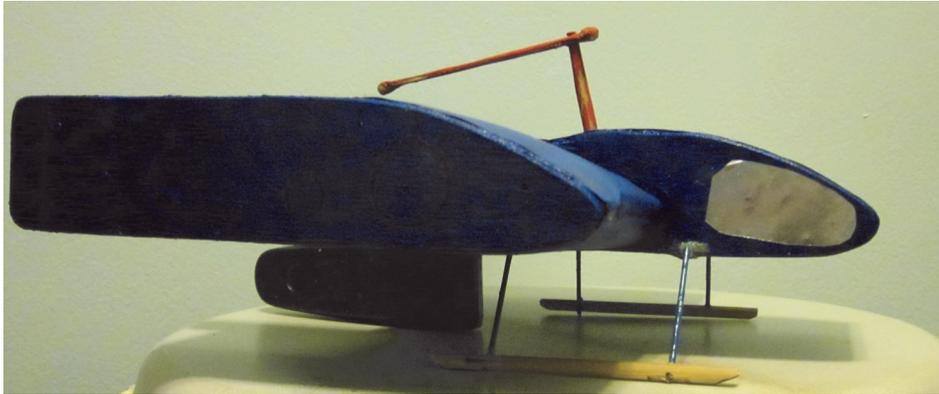
also borrows from an early aircraft Norm flew — The Primary Glider. Norm built and flew a glider as a teenager and recognized the learning opportunity in the inexpensive to build and fly glider. He planned to update the glider to have a steam engine—perfect for short training flights.



The model Norm designed and built has some interesting features. The flying wing design uses prone two place pilot and passenger cabin with a double acting 2 cylinder steam engine (copy of a Case tractor steam engine) with skids.

There are several unique features in this plane, for example steam exhaust can be routed to the bottoms of the skids to

provide friction free taxi and take offs. The valves on the skids would be turned off to create friction for stopping.



The next intriguing feature in the retractable single blade rotating flap, like an autogyro, increases lift and drag. Flaps increase lift and drag to allow a steeper approach without increasing speed on landing. Flaps also can increase lift on take off — imagine a take off with an autogyro also providing lift then retract and minimal drag. I think that is very smart.

The wings are the fuselage and rudders are on the trailing edge. The

pusher propeller will be a 4 blade, 60 inches (6 to 1 belt drive) at 2,400rpm. Next is the second unique feature. Instead of a steam generator in the plane he designed in a reservoir. His inspiration was a steam freight train switching yard engine. The engine would run for several hours on a charge and then be recharges and go back to work very quickly and efficiently. Norm calculated the size of the Steam Reservoir 30 and 24 inch tubes 250 psi at 495 degrees F would be sufficient for 1-2 hours of flight.

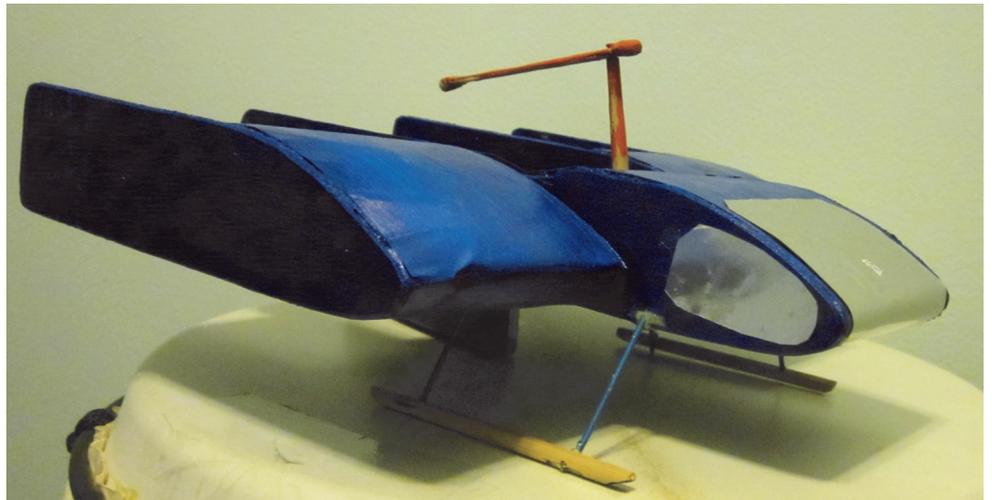
Dimensions:

Height -- 31 inches

Width – 18 feet

Length – 16 feet

No boiler or fire source on board, about 4 gallons of water in the tanks and then hooked up to a Doble Car Steam generator (boiler) to transfer the steam to the plane's tanks. The "Doble Steam Car" was an American steam car maker from 1909-1931. Their latter models of steam car, with fast firing boiler and electric start, were considered the pinnacle of steam car development. There was another plane that used steam power but it also included the boiler – this version does not have a boiler—it holds the steam and can fly at full power for about 1.5 hours. That time period is about the same as current electric powered airplanes



Refueling would be easy and fast — pressure reaches 250 psi in about 10 minutes. Once filled, the plane could be operated at full power for 1.5 hours and then would run out of steam.



There are no wheels—the steam exhaust exits from holes in the skid supports so the plane floats on air and has no friction, brakes simply remove the steam from a part of the skid and the plane drags the skids and stops quickly. Norm is a creative guy and combines old and new technology in an innovative and practical airplane.



The Winners of Build A Plane Contest Named May 12, 2013 by General Aviation News Staff

WASHINGTON, D.C. — The General Aviation Manufacturers Association (GAMA) and Build A Plane have named teams from Canby High School in Canby, Minnesota, and Saline High School in Saline, Michigan, as the winners of its nationwide Science, Technology, Engineering and Math (STEM) aviation design challenge competition.

Each winning team — consisting of four students, along with the teacher and a chaperone — will receive all-expense-paid trips to Glasair Aviation facilities in Arlington, Washington, to build a Glasair Sportsman aircraft over two weeks starting June 17.

In its first year, the GAMA and Build A Plane competition attracted entries from 27 schools in 22 states. The schools used complimentary “Fly to Learn” software, including curricula and training, which allowed them to design and fly their own virtual airplane. Each school entered a design to compete in a virtual fly-off, which were scored on aerodynamic and performance parameters. Judges from GAMA selected the winning high schools.

“To see the skills, ingenuity and creativity these students demonstrated in this competition gives me great confidence in the future of our industry’s engineering, maintenance and pilot workforce,” said GAMA President & CEO Pete Bunce. “This valuable experience promotes the real-world value of STEM education, as well as the career opportunities available in the aerospace engineering field.”

Under the guidance of staff from Glasair, Build A Plane and GAMA, each team will build a Glasair Sportsman 2+2, a metal and composite aircraft that seats four adults. Sold as a kit, the plane can be assembled with assistance in just two weeks through Glasair’s “Two Weeks to Taxi” program. The planes are scheduled to be flown to Oshkosh, Wisconsin, where they will be featured at AirVenture 2013 from July 29-Aug. 4.

“The fact that these students will go from designing virtual airplanes on their computers at school to build-



FROM THE FLIGHT DECK (PRESIDENTS REPORT)

BY BETTIE SEITZER

Hello from the beautiful green landscape of 21D!

As I write this, I am sitting in the chapter clubhouse waiting for the second busload of children from Farnsworth to arrive for the annual hangar tour. The morning group was delightful, well-mannered and excited to be visiting “a real airport”. The kids know what special things each grade gets to do and were happy to tell me about it. I am manning the clubhouse “treat area” which offers a chance to get inside out of the slightly brisk weather and get a drink and a little snack.

Leif has done a fabulous job of organizing this event! The kids all have sheets that they take with them to each hangar, there are questions to be answered, items to find and identify and words to learn, this handout is the best I have ever seen and really helps to keep the kids on task! Thank you Leif and thank you to all of the volunteers who helped to make this a great event! We can be sure that multiple kids will experience something today that will change their lives, some of them will get ideas about jobs they might enjoy when they grow up, many of them will be strong supporters of general aviation, some will come back for young eagle flights, and all of them will have the opportunity to learn something they couldn't have learned from books!

Have you noticed the big change to our viewing area? Dave Fiebiger recruited a few friends to help him put up the pergola and it looks fantastic. He said there are a few small details to finish but it certainly adds a lot to that area making it a very pleasant place to sit and enjoy a summer day or evening. Thank you to Dave and friends!

We have some work to do on our chapter house; there are a few boards in the deck that need to be replaced, Dave and Al have the material we just need the helpers. We also need to replace the shrubs which died at the hands of the very greedy rabbits here at the airport. Saturday, June 15th has been selected for the work day. We will get started in the morning and be finished by noon. Lunch will be provided. For that day we will need folks to bring some hand tools, shovels and rakes, details will be sent out via the Google group.

Our next meeting is Monday, June 10th, see you then!

Bettie Seitzer

Another photo of members and guests enjoying the Annual Picnic and socializing in the clubhouse.



ing real airplanes is no doubt an experience that will boost their confidence and hopefully shape their future,” said Build A Plane President and Founder Lyn Freeman.

Glasair is providing staff resources and workspace for the students. In addition to supplies and assistance, each team will receive round-trip airfare, transfers, hotels, meals and field trips to visit the nearby Boeing Aircraft factory and Museum of Flight.

“We are very excited to welcome this next generation of airplane enthusiasts to Glasair’s facility to work side by side with our staff as they build their aircraft,” said Nigel Mott, President of Glasair. “It’s a great mentoring opportunity for our team and a wonderful learning opportunity for these students. Watching their planes join the more than 160 Glasair Sportsman that are already flying will be very special.”



Air-Britain Photographic Images Collection

© DAVE HARRIS

Pilots Lounge

For Sale: 60' x 48' Hanger, 54' door, small office, bathroom, well, holding tank, natural gas heat, 18' high ceiling, and 5HP compressor. Call Jim Michalski at 612-618-1011 or see all of this at 13C Alfa Lane at the Lake Elmo Airport (21D)

For Sale: Hangar on 21D for sale -- \$45,000. Recently painted siding and roof. 35 x 75 feet with two 45 foot doors, electric openers, electricity and natural gas, two insulated workshop / office rooms, above floor storage, Contact Chip Andrews 651 248 9708

For Sale: Challenger I \$7,000, Rotax 503 DIDC, electric start, wood prop, EIS, 5x5 Azuza wheels and

brakes less than 10 hours, built by Gil Leiter. Contact Dale Seitzer 651 329 2229 or Barb Leiter

For Sale: VDO Volt 2 inch \$20, VDO Oil Pressure 2 Inch, \$20, VDO Oil Temp 2 Inch \$20, VDO Coolant Temp (2) \$20 each, Westech Tachometer 3 Inch \$40, Falcon Vertical Speed Indicator 3 Inch \$50, Ram Mount, 1 Base, 1 Extender Connector, 1 Handheld Radio Mount \$20 Garmin 295 Dash top Mount \$15, No senders included Dale Seitzer dalemseitzer@yahoo.com

For Rent: Share 40 x 40 foot insulated hangar with manual door, electricity, concrete floor, Dalemseitzer@yahoo.com \$150 per month.



Tailwinds Flying Club Welcomes New Members

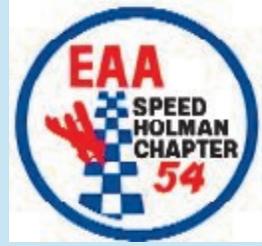
Tailwinds Flying Partnership is based at Lake Elmo airport, 21D, in Lake Elmo, MN. We are a non-profit corporation of 38 pilots who equally own three aircraft. Our goal and philosophy are to fly great airplanes inexpensively. We strive for consistency in equipment among our three airplanes. We currently have a Cirrus SR20, Archer II and a Cherokee Six.



EAA CHAPTER 54 TREASURER'S REPORT *By PAUL RANKIN*

EDITORS NOTE: AS DISCUSSED AT A RECENT BOARD OF DIRECTORS MEETING, THE TREASURER'S REPORT WILL NOW BE ON OUR WEBSITE AT WWW.EAA54.ORG/MEMBERSONLY

Above and below are more photos of members at the Annual Picnic. Good food, good friends and lots of conversations.



Chapter 54 Directory

President: Bettie Seitzer
president@eaa54.org

Vice President: Jim Pearsall
vicepresident@eaa54.org

Treasurer: Paul Rankin
treasurer@eaa54.org

Secretary/Class IV Director
 Dale Seitzer

secretary@eaa54.org or Newsletter@eaa54.org.

Education Director

Rob Barros
education@eaa54.org

Events Director

Jim Pearsall
events@eaa54.org

Housing Director

Dave Fiebiger
housing@eaa54.org

Membership Director

John Renwick
membership@eaa54.org

Young Eagles Director

Linda Amble
youngeagles@eaa54.org

Chapter Historian: Jeff Hove

Chapter members meet on the second Monday of every month at the Chapter House, Entrance B at Lake Elmo Airport (21D). The House is at the base of the airport beacon. The newsletter is printed on the first Monday of every month.