



EAA CHAPTER 9 NEWSLETTER

VOLUME 51 ISSUE 11

November 2009



The Leader In Recreational Aviation

Experimental Aircraft Association Central Ohio

EAA Chapter 9 NEWSLETTER



VOLUME 51 ISSUE 11

EAA9, Inc. Based at Ohio State University Airport, Columbus, Ohio

November 2009

Calendar of Events

<i>Date</i>	<i>Day</i>	<i>Time</i>	<i>Place</i>	<i>Event type</i>	<i>Details</i>
2009					
Nov 19	Thursday	7pm	Lutton Office	Meeting, elections	engines "912 competition"
Dec 8	Tuesday	6pm	DerDutchman	Diner	Holiday diner
Jan 15	Thursday	7pm	OSU classroom	Meeting	Trans-Atlantic Ferry pilot
Feb 20	Saturday	8am	Barnstormer then Air Force Museum	Road trip & tour	Meet at Barnstormer @7:45, depart precisely @ 8am. Special behind the scenes Restoration Facility tour planned

Nov 09 EAA 9 EVENTS

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Dec 09 EAA 9 EVENTS

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Cover Plane—Jim Savage's Maule / Story on page 6

INSIDE THIS ISSUE...

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Ted Kellogg
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– Young Eagles News

– Next meeting Rotax 912 Competition and Chapter 9 Elections

– Jim's Maule

– Virtual Hud

– Builders Blitz

President's Message

Seems like winter is coming on early this year and it will be Christmas before you know it. Go ahead and plan to join us at Der-Dutchman on December 8th for our annual holiday gathering—great food and camaraderie. If you been before you know what I mean. It is open to members and guests alike. Hope to see you there. Also, this month is our elections (see below). Hope to see you at the meeting.

Fly Safe!

Dick

Administrative Item:

Elections in November

As announced at our membership meeting 9/17/09, we have three director two year positions will be voted on in November.

We are also looking for volunteers to work in the following positions.

Young Eagles chair assistant

Assistant Newsletter editor

Major events chair

IT assistant

Contact Clare Lutton (vicepresident@eaa9.org) if you can give of your time to the Chapter.



Young Eagles Coord
 Chuck Hoisington
 youngeagles@eaa9.org

Newsletter Editor
 Brent Owens
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Newsletter Assistant Editor
VOLUNTEER NEEDED

Tech Counselor
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Program Coordinator
VOLUNTEER NEEDED

Major Events Coordinator
 Greg Schroeder
 schroeder@eaa9.org

Audit Committee
 Curt Jenkins
 Tom Webster
 Stanley Sutton

Elections Committee
 Ted Kellog

New Young Eagles Chairmen Named

Harrison Ford names US Airways Flt. 1549 pilots Sullenberger and Skiles as successors to lead EAA Young Eagles Program

Program gives inspirational and educational flights to 80,000+ youth annually

SANTA MONICA, Cal. — September 29, 2009 — Captain Chesley “Sully” Sullenberger and First Officer Jeffrey Skiles, known for their expert handling of their airliner’s emergency landing in the Hudson River in January, today took the helm as co-chairmen of the EAA Young Eagles Program. In a news conference, EAA member, pilot, and famed actor **Harrison Ford** officially passed the baton after having served for five years as the chairman of this program that uses aviation to inspire and educate youth. EAA Chairman/President Tom Poberezny, who launched the EAA Young Eagles Program in 1992, moderated the news conference. Later this evening, Poberezny will host a special dinner recognizing Ford for his service and welcoming the program’s new co-chairs. “I’m eager to thank Harrison tonight for his engagement, dedicated leadership, and active participation,” Poberezny said.

“Harrison and I were delighted when Sully and Jeff agreed to co chair the program. They were ideal candidates not only because of the skill they demonstrated on that fateful day in January but also, and perhaps more significantly, because of the leadership they’ve shown since that time,” Poberezny added. “They’ve been excellent ambassadors on behalf of aviation.”

Ford agreed. “For five years as the program chair, I’ve stressed the program’s message of *earned reward*, showing young people that, by disciplining and applying themselves, they can earn marvelous rewards, such as the freedom and thrill of flight,” Ford said. “Now, Sully and Jeff will add an emphasis on the value of training, preparation, and teamwork. No one could bring more credibility in sharing these concepts with our youth,” Ford added. Sullenberger and Skiles accepted the offer to lead the program in discussions with Poberezny and Ford that took place during this year’s EAA AirVenture Oshkosh, which is widely considered the world’s premier aviation event. “After having the opportunity to learn more about the EAA Young Eagles

Program while I was in Oshkosh, Jeff and I were inspired to get involved. Co-chairing the program is an opportunity that I welcome,” said Sullenberger. “Jeff and I are honored to take the stick from Harrison Ford, who has gracefully guided the program for the past five years.” For Skiles, a rekindled enthusiasm for flight fueled his acceptance of the co-chair role. “I’m grateful to EAA and the AirVenture Oshkosh convention for allowing me to fall in love with aviation for a second time in my life. I’m eager to share this passion with young people and encourage their participation in

aviation,” Skiles said. The EAA Young Eagles Program, now in its 17th year, has provided inspirational and educational first-flight experiences to nearly 1.5 million youth, thanks to the volunteer efforts of 42,000 EAA member pilots and countless supporters around the globe. In addition to Ford, previous EAA Young Eagles Program chairs were: Oscar-winning actor and avid pilot Cliff Robertson (1992-1993); and aviation legend Chuck Yeager (1994-2003). Highlights of Harrison Ford’s chairmanship of the EAA Young Eagles Program include the following: Nearly 500,000 young people received inspirational first-flight Young Eagles experiences while he chaired the program. He personally raised considerable funds for the program by donating auction items such as movie-set experiences. He elevated the stature of the Gathering of Eagles event, which takes place during EAA AirVenture Oshkosh, to make it a more effective fundraising vehicle for the program. He enhanced the program’s public profile and exposure. He emphasized the “ambassadorship” message, underscoring the EAA

Young Eagles Program’s significant potential to enhance the image of general aviation among policymakers and the broad public. He personally provided flights to nearly 300 Young Eagles. Sporty’s Pilot Shop, in partnership with EAA, provides free online flight training to participating youth who are inspired by the Young Eagles flight experience to continue pursuing an interest in aviation. ConocoPhillips is the presenting sponsor of the EAA Young Eagles Program. Learn more at

<http://www.youngeagles.org>.

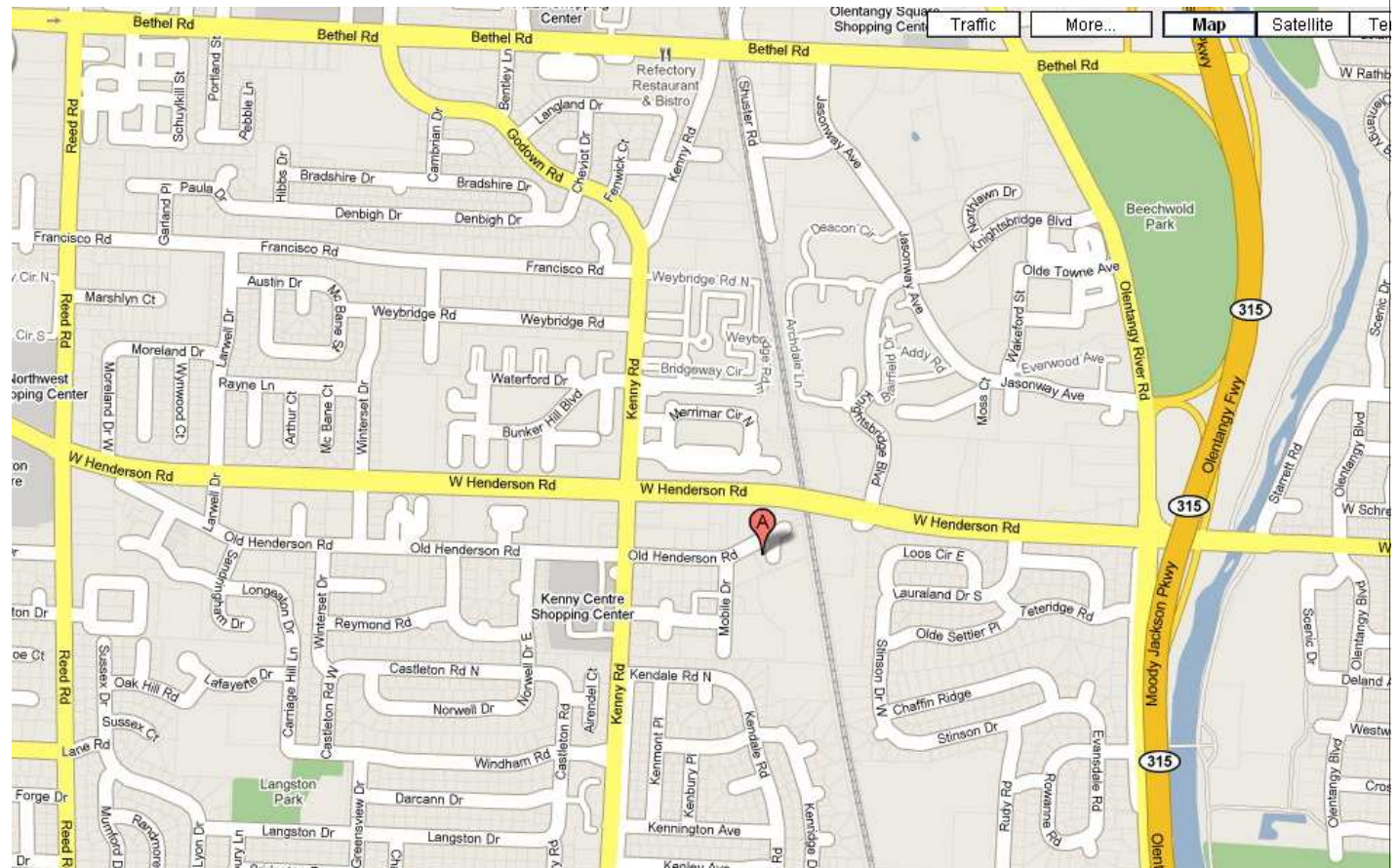


The 912 Competition Thurs Nov 19th at our Chapter Meeting

As the Light Sport Rule catches on, the number of Sport Pilots and Light Sport Aircraft continues to grow. One of the most evident aspects of this type of flying is the dominance of the Rotax 912 engine. This engine has taken the lion's share of the 80 to 120 HP market of both factory made and amateur built light sport aircraft (LSA) markets. The engine's light weight and small size along with excellent factory authorized service centers and world-wide parts availability make it hard to beat. That is, except for the price.

Now, dozens of alternative engine makers are trying to get a share of this LSA market by ever improving their products and publishing impressive specifications. Some of the alternatives are aircraft engine designs while others are auto engine conversions. But all have one thing in common, trying to reach the mark set but the Rotax 912.

With many of our chapter members considering LSA's and wondering about all these engines, I would like to make a presentation and discussion about this 912 competition. I'll present 6 alternative engine designs and maybe have some show-and-tell.



The Savage Maule

by James Savage

My father owns a farm that is nestled into the hills of southern Ohio. Due to our family's circumstances, my wife, two sons and I have the need to travel to my father's farm several times each month. Considering our need to travel there and back all in the same day, we quickly determined that the 2-hour drive one-way was difficult to say the least. Four hours of travel time combined with any time spent with family equaled a very long day. We decided that what we needed was a good 4-seat aircraft that would be a very strong STOL performer.

We hired a bulldozer to put a runway into his farm. Due to the lay of the land and the abundant hills in the vicinity, the bulldozer spent a week creating our runway and a very short runway it was indeed. The runway lays east and west with a small pond at the west end along with a couple of large oak trees a little beyond the pond. The east end, or the approach end, drops abruptly into a reasonably large valley that is essentially parallel to the runway. The runway is 850-feet long with rising terrain in all quadrants.

I searched long and hard for a 4-seat aircraft that would be able to safely complete the mission that we had for it. Finally, we narrowed our search down to the Helio Courier and the Maule series of aircraft. After further review, we determined that the Maule would serve our purposes the best, but it would need to be a "big-engined Maule".

We purchased our airplane, a 1979 Maule M5-235C, in the fall of 2006. It was powered by a 235-hp O-540 Lycoming engine on 850 (19-inch diameter) tires and a Scott tailwheel. When I first test flew this airplane, I knew it had the muscle and the performance that we needed. I was very impressed. Previously, I had test flown a 180-hp Maule, but had passed on that aircraft because the performance just was not adequate for what we needed.

Since the purchase, we have done several performance-enhancing upgrades to the Maule. Our goal was always to increase the Maule's usefulness and increase its performance.

First we installed the vortex generator kit, or VGs. This lowered the wing's stall speed by a quite noticeable margin and greatly increased the aileron's effectiveness.

Shortly after that, we installed the gap-seal kit on the tail. This system improved the elevator's effectiveness; it allows me to use the full range of angle-of-attack which is now available since the VGs were added.

After that came the tires. We put heavy duty landing gear, double-puck brakes, 31-inch Alaska Bushwheels tundra tires as well as the tundra tailwheel. Our need to fly is a year-around need and here in Ohio during the fall and spring times of year, the mud is simply ridiculous. With these tires, no amount of mud was going to concern us and even snow was of little concern; we can easily operate in up to 10 inches of snow – snow sure does make for smooth touchdowns, by the way. These tires, although they looked fantastic and allowed us to truly operate year around, did cost us though. The result was to lengthen the takeoff roll from about 200 feet to 300 feet, decrease the rate of climb by about 300 fpm and slowed us down by about 10 mph in cruise. Based on what we do with the airplane, we needed that performance back.

The engine was already giving us plenty of power, so our final step was to install a longer prop. Per the Type Certificate Data Sheet, an 81-inch prop is the largest prop that the FAA originally approved for the airplane. We were already swinging the 81-inch prop, so we started looking at other possibilities. We purchased the STC for an 86-inch McCauley 2-blade prop. Several years ago and via a very thorough testing & evaluation program, it was determined that this was the prop for anyone seeking the absolute maximum STOL performance from their Maule. The demonstrated results once we had this prop installed were quite eye opening! I am told that sound it makes with those prop tips nearing super-sonic speed is a beautiful thing. The takeoff roll was reduced to less than feet, we gained over 300 fpm in the climb and about 10 mph in cruise – essentially we're back to the original Maule performance that I initially experienced except we were still dragging around those big, beautiful tires!



The Savage Maule Continued

by James Savage

The airplane our Maule has turned into is something that we consider quite impressive. Performing a light weight takeoff with a takeoff roll of less than 200 feet and zooming to 500 feet AGL at V_x while holding an apparent 45-degree angle-of-attack relative to the horizon is performance like I've never seen in a normally-aspirated, reciprocating-engine aircraft.

Now that all is said and done, on an average day, we see about 140 mph indicated while in cruise flight at 65% power and 6000-9000 feet. It burns about 12-13 gph and with 62 gallons useable, it gives us a reasonable cross country airplane. Although we have gone to some lengths to make this airplane better suited to our needs, we have always been very pleased with it and we have never second-guessed our initial decision to buy a Maule.

Other than our usual mission of going back & forth between our home and my father's farm, we enjoy going to many local fly-ins and airshows with the Maule. The farthest from home we've been was to fly it to Des Moines, IA for a family event. It took us 5-hours out and 4-hours back – by car, that trip would have taken us 11-hours on way. This summer, we flew the Maule to Niagara Falls for a weekend get-a-away. We took the boys, rented a car and had a wonderful time. That would have been a 6-hour drive one way.

Having flown for several years in Alaska, flying the Maule in and out of my father's runway is very much like flying in Alaska. I fly a rectangular pattern with the base leg, at 80 mph and full flaps, just clearing a saddle between two hills and no visual to the runway. Once I've cleared the saddle, it's a descending, left-hand turn to final while hugging the hill as the runway comes into view with me on a half-mile final approach and slowing to 70 mph. From there it's fairly standard other than my using a touchdown aim-point of 100 feet beyond the white barrel representing the threshold. I absolutely always adhere to my three rules for this runway --- high, hot or bounce, equal an automatic go-around. This is a day, VFR operation only and I am quite cautious about acceptable weather conditions, especially winds, for this short runway. In preparation for operating on this runway, I cordoned off a 600-foot section of grass at my local airport and spent 6-weeks training myself to operate within that confined area for both takeoff and landing. After many dozens of takeoffs & landings consistently being within the 600-foot area, I determined that I was ready for my father's runway. I've always stopped with about 300 feet of runway remaining. Is it tight, yes; is there room for error, a little maybe, but not much; is it within this Maule's capability, yes.

The way this airplane has improved and enriched our family's life is really incredible. Rather than the dread and fatigue associated with the 2-hour drives, the 30-minute flight to my father's farm is actually looked forward too. Taxiing up to the back of my father's barn and tying the airplane down right there on land where all of my boyhood memories were made is, for me, beyond words.

It's fairly rewarding to be sitting with my family by the Maule at a fly-in somewhere and having someone walk up and gush, "Wow! Look at those tires...!"

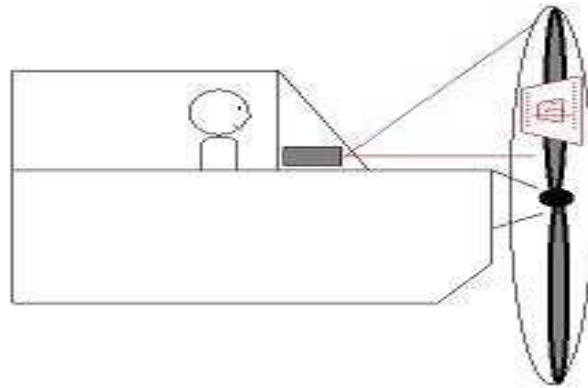


Virtual HUD – Wow!

By Dick Wetherald

Bill Steele offered EAA Chapter 9 an amazing presentation at our October 15th meeting. He is a Beech Skipper owner and an RV-8 builder. He is one of us. We met Bill at the Waynesville Fly-in and once again discovered one of the best features of EAA, networking. One conversation led to another and soon Bill was on his way to Chapter 9 for which we are most grateful.

His virtual presentation was interesting on two levels. First, the promise of a Heads Up Display (HUD) in our GA cockpits is tantalizing. Secondly, his presentation of the engineering needed to accomplish such a feat held audience in awe.



The virtual HUD is projected on the back side of the propeller and shows a horizon all the time. Why not project on the windscreen? Doing so requires the pilot to change from near focus on the HUD to infinity looking outside, a time that takes about a second. The propeller is already at an infinity focus for the pilot. The Virtual HUD can interface with a traffic system such as the Zoon XRX. It has a video input that permits integration with an optional infrared sensor. Of course, GPS input is encouraged. Thus, the pilot can see the synthetic horizon, synthetic obstacles, and infrared images of real obstacles. The video input also allows showing of movies if desired. Of critical importance, it is portable so there is no waiting for FAA certification. And no associated cost either. The device is available in the \$3-10K range depending on options.

The technology is fascinating. Bill works for a “small” well known software company in Redmond, Washington as his day job. While there is considerable hardware, software is at the heart of the device. Software is Bill's expertise. For instance, to keep the laser from aiming where it should not, it is synchronized with the propeller at any speed. It only hits the propeller. The software is even smart enough to miss raindrops. Of course the projection is in color. He has learned that men and women perceive blue in slightly different hues so there is a setting on the device for male or female. It was fascinating to hear Bill describe how the sensors correlate with one another. The software is so efficient that a low dollar eight core CPU runs at 100 MHz supporting movement of greater than 500 degrees a second. We heard the techno-geeks in the audience being wowed by the onslaught of technical problems Bill had to solve and his clever approaches toward their solutions.

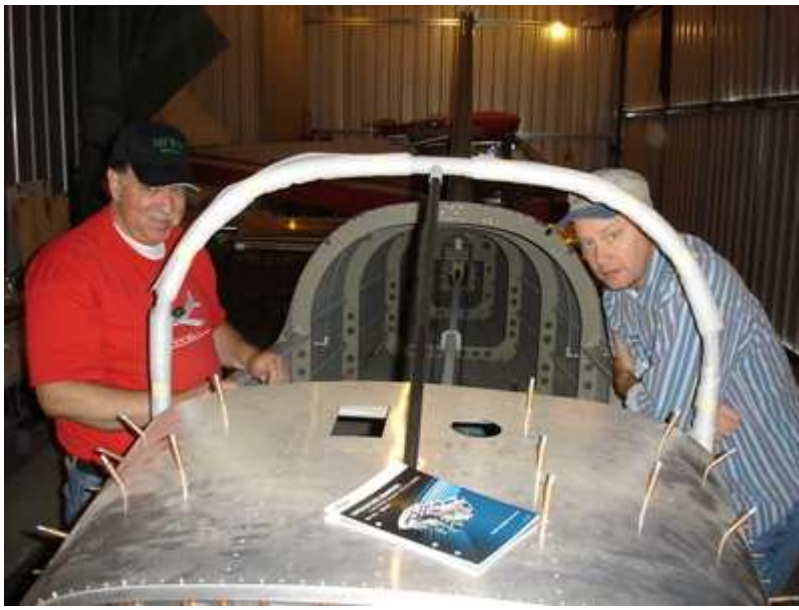
We thank Bill for coming up from the Cincinnati area to demonstrate the Virtual HUD. We wish him the best fortune on his innovative endeavors. More information is at www.virtualHUD.com

Building Blitz

by Mike Cencula

This morning / afternoon, a bunch of us got together at MRT to work on Craig Schneider's Rans S-19. Craig was making huge progress until he injured his back earlier this year. He ended up having a couple back surgeries before getting better, but couldn't do any work on the plane for many months. Anyway, the plan was to get a group of builders together to help get caught up. I'm not sure how much we helped, but I think everyone had fun.

Here is Craig standing next to the Rotax 912.



Craig and Greg spent some time working on fitting the seats to the floor. It was going pretty well until they found a couple of platenuts needed drilled out and flipped around. Should be simple enough since everything is pop riveted together.

Building Blitz continued

by Mike Cencula



From left to right, Clare Lutton, Joe Maynard, and Robert Simon chatted about various airplane stuff. Typical hangar flying. Clare has three airplanes either flying or in the works: A MiniMax (flying), A Rans S-6 (flying), and a Sonex (building). Joe just got his private pilot license this year. That sounds pretty cool, but get this...he's got over 2,000 hours as PIC. How in the heck is that? Well, he did all that time as a student pilot! Funny! Joe has also built *seven* airplanes. We took a few minutes to walk over to his hanger and check out his beautiful HyperLite. He did a really nice job on it. Robert has built two airplanes...a Glasstar (sold), and a Lancair ES-P. Robert is also a dog-lover and has six greyhounds right now, so we enjoyed talking about that.



One of Craig's friends, Mike (on the left) came over to hang out for a bit. Mike was nice enough to show me his plane which he keeps in the main hanger. It's a Pilatus (turboprop). This plane is sweet. It seats eight including the pilot and co-pilot, has weather radar, and is certified for flight in known icing conditions. He mentioned a trip he recently took from central Ohio to Aspen, Colorado without having to stop for fuel along the way. Apparently he cruises at 30,000 ft. Dang! He also showed me a video on his iPhone of his approach on a recent trip to St. Bart's. Yikes that's a lot of airplane to be landing on such a short runway.

You can see Greg and Craig continuing to work on the seats in the background as Joe and Clare work on fitting the lower cowl.



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