

# EAA Mount Rainier Chapter 326 Newsletter

Thun Field – September 2008

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## Meeting Notice

**Tuesday, September 9th, 7 PM  
CAP Building, Thun Field**

**Program:** AXSYS AIR. Their business is teaching how to build RV's. They offer weekend classes on the basics or more in depth courses where you actually build components of your airplane. They are based at Frontier Airpark (WN53), just southeast of Arlington. <http://www.axsysair.com/>

**Refreshments:** Norm Pauk

Part of Mike's flight prep involved a tailwheel endorsement from Terry in the Aeronca Champ and four hours with Mike Seager in the RV-7. That must have paid off because Mike said his first flight landing was "the best I've ever made and possibly the best I ever will make."

Flight Advisor: Terry O'Brien

Technical Advisor: Smitty

Helpers:

Marv Scott

Dave Babcock

Jose

DAR: Charlie Cotton

Congratulations Mikey!!!

## Another Successful Burger Burn

Another milestone of the year. Thanks to everyone for the food and friendship. We had twenty some airplanes on the line. Best weather ever.

## First Flight RV-4 N579MS

Ten years in the making. Mike Salmon sacrificed a lot of Oprah's and Judge Judy's, and endured endless humiliation by his hangar buddies to finally claim victory. First flight was early on Saturday morning, Aug 23rd, with friends and family on hand. Terry O'Brien flew chase and all went well.

Engine:

O-360A1A, 180 hp.

Lightspeed electronic ignition in place of one mag.

Carbureted.

Hartzell blended airfoil constant speed prop.

Avionics:

AFS 3500 Flight and Engine Instruments under glass,  
with AOA.

AvMap EKP-IV Moving Map.

Garmin SL-40 Comm.

Garmin GTX 327 Transponder.

TruTrak ADI Pilot II

2 axis autopilot with 3 1/8" Attitude Gyro.

Electric trim.

Electric Flaps.

Empty weight w/o gear fairings & wheel pants: 1038 lbs.

## Last Flight

Just for the airplane, thankfully. On Aug 12th, Joe Hoskins was taking a few practice laps in the pattern at Thun Field in his son's RV-6 when the engine lost power. He put it down near the water tower entry point for runway 16. Joe said it was the only open area in range and it was covered with brush.

From the TV video, we could see an airplane upside down looking like a certain fatality. Amazingly, Joe barely got a scratch.

"Hidden under the brush was a logged off field of stumps. As soon as I touched down I flipped over immediately. It was completely black. I was able to kick out the side of the canopy and had just enough clearance to crawl out. It was full of fuel too."

No, he wasn't complaining about gas prices. The airplane was a 1991 RV-6, the pretty blue and white hangared at the south end. His son bought the aircraft, he's not a builder / mechanic like Joe. It's back in the hangar now...totaled of course. Still no clue why the engine, a fuel injected O-320, quit. Some good news... the aircraft had hull insurance. And the best news: Joe is still with us.

## More Bad News

On August 22nd, a Velocity 173 RG lost power on departure from North Las Vegas airport (VGT) and crashed into a house, killing the pilot and two residents.

County Aviation Director Randall Walker called for the banning of Experimental aircraft from North Las Vegas Airport. Walker said he considers experimental aircraft among the "highest risk operations" at airports.

Here are the “facts” as best I can glean from scattered reports so far:

The aircraft: Velocity 173RG, registration: N415MK. The canard configuration, four-seat, low-wing, retractable gear airplane, was issued a Special Airworthiness Certificate on March 9, 2008. It was powered by a Lycoming IO-360-C1C, engine and equipped with a three bladed MT-Propeller, model MTV-18-B.

It was given the following Phase 1 Operating Limitations:  
Could not fly out of VGT for the first 5 hours.  
Was assigned a test area for 25 hour phase 1.

NTSB review of the airplane maintenance logbook records revealed that on March 17, 2008, the airplane had amassed a total flight time of 5.1 hours. A logbook entry for that date noted, “This airplane meets all the controllability, airworthiness, and safety checks required by FAR 91.319(b) and chapter 4 of advisory circular 90-89A.” That was the precondition specified in the OP LIMs for operating out of VGT.

The owner/builder was interviewed by the NTSB after the accident. He reported that the engine was equipped with a supercharger, and that the purpose of the flight was to test the performance of the airplane and engine with the supercharger engaged. He further reported that the supercharger was tested on multiple occasions during high speed taxi tests and ground runs the week prior to the accident, but that this was to be the first time it would be engaged for flight.

The pilot:  
76-year-old Mack Creekmere Murphree Jr. of Dayton, just east of Carson City, NV, held a current pilot certificate and medical certificate.

The pilot held an airline transport pilot certificate with ratings for airplane single engine land, multiengine land, and instrument airplane. He additionally held a flight engineer certificate, mechanic certificate, and a flight instructor certificate for airplane single engine, multiengine, and instrument airplane. On his latest FAA third-class medical application, dated September 7, 2006, the pilot stated that he had amassed 6,250 hours of total flight time.

He had flown commercially for Federal Express and for Flying Tigers before it merged with Federal Express. Murphree flew both the Stits Playboy SA3B and his own experimental Murphree M C Velocity Elite XL out of the Dayton airpark.

The owner / builder: Mike L. Killgore.

Some questions:  
The operating limitations restricted flight out of VGT for the first 5 hours. The maintenance log showed the aircraft had 5.1 hours back in March and fulfilled the requirement to allow flight out of VGT. But how much flight time did the aircraft actually have at the time of the accident?

The operating limitations specified a 25 hour, phase one flyoff. This implies that the aircraft had a type-certificated engine, propeller, and engine/propeller combination installed, otherwise it would have been a 40 hour flyoff. Assuming the 25 hour flyoff had been completed with a certified engine / prop, would not the aircraft have to re-enter phase one after installing a supercharger?

Yes, if that is considered a major change.

Would adding a supercharger be a “major change” as described in FAR 21.93?

It says, a “minor change” is one that has no appreciable effect on the weight, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness of the product. All other changes are “major changes.”

Judgment comes into play here but it seems like reliability and operational characteristics would be a factor.

Would the original operating limitation not to fly out of VGT apply if re-entering phase 1?

According to FAA order 8130.2f, part of the process to re-enter phase 1 requires notification of the geographically responsible FSDO of the location of the proposed test area. The aircraft owner must obtain concurrence from the FSDO as to the suitability of the proposed test area. That raises a lot more questions.

I hope the owner / builder is clean on all these issues for his sake. But it won't erase these tragic deaths and it won't be good for our experimental community. There is a lesson here for all of us.

## **Dragster Trivia**

Dragsters reach over 300 miles per hour before you have completed reading this sentence.

One Top Fuel dragster 500 cubic inch Hemi engine makes more horsepower than the first 4 rows at the Daytona 500.

Under full throttle, a dragster engine consumes 1-1/2 gallons of nitromethane per second; a fully loaded 747 consumes jet fuel at the same rate with 25% less energy being produced.

A stock Dodge Hemi V8 engine cannot produce enough power to drive the dragster supercharger.

With 3000 CFM of air being rammed in by the supercharger on overdrive, the fuel mixture is compressed into a near-solid form before ignition. Cylinders run on the verge of hydraulic lock at full throttle.

At the stoichiometric 1.7:1 air/fuel mixture for nitromethane the flame front temperature measures 7050 degrees F.

Nitromethane burns yellow. The spectacular white flame seen above the stacks at night is raw burning hydrogen, dissociated from atmospheric water vapor by the searing exhaust gases.

Dual magnetos supply 44 amps to each spark plug. This is the output of an arc welder in each cylinder.

Spark plug electrodes are totally consumed during a pass. After ½ way, the engine is dieseling from compression plus the glow of exhaust valves at 1400 degrees F. The engine can only be shut down by cutting the fuel flow.

If spark momentarily fails early in the run, unburned nitro builds up in the affected cylinders and then explodes with sufficient force to blow cylinder heads off the block in pieces or split the block in half.

In order to exceed 300 mph in 4.5 seconds dragsters must accelerate an average of over 4G's. In order to reach 200 mph well before half-track, the launch acceleration approaches 8G's.

Top Fuel Engines turn approximately 540 revolutions from light to light!

Including the burnout the engine must only survive 900 revolutions under load.

The current Top Fuel dragster elapsed time record is 4.441 seconds for the quarter mile (10/05/03, Tony Schumacher). The top speed record is 333.00 mph. (533 km/h) as measured over the last 66' of the run (09/28/03 Doug Kalitta). *See note at end.*

The Bottom Line; Assuming all the equipment is paid off, the crew worked for free, and for once NOTHING BLOWS UP, each run costs an estimated \$1,000.00 per second.

Putting all of this into perspective: You are driving the average \$240,000 NASCAR Winston Cup racecar. Over a mile up the road, a Top Fuel dragster is staged and ready to launch down a quarter mile strip as you pass. You have the advantage of a flying start. You run the stock car hard up through the gears and blast across the starting line and past the dragster at an honest 200 mph. The 'tree' goes green for both of you at that moment.

The dragster launches and starts after you. You keep your foot down hard, but you hear an incredibly brutal whine that sears your eardrums and within 3 seconds the dragster catches and passes you. He beats you to the finish line, a quarter mile away from where you just passed him. Think about it, from a standing start, the dragster had spotted you 200 mph and not only caught, but nearly blasted you off the road when he passed you within a mere 1320 foot long race course.

*Note: Impressive but these are old numbers. All the top fuel dragsters today run the quarter mile in under 4 sec.*

## Press Coverage Too!

Pierce County News: There's a whole other world up there



(PHOTO COURTESY PIERCE COUNTY)

### YOUNG EAGLES

Jul 30 2008

Each summer volunteer pilots at the Pierce County Airport, Thun Field, introduce kids to the world of aviation through the Young Eagles program. This year's event June 28 brought together 13 volunteer pilots and 135 Young Eagles, who were treated to scenic tours of the area and lessons on how an airplane flies.

Most of the pilots are affiliated with the Experimental Aircraft Association Mount Rainier Chapter 326. They donated time, aircraft and fuel for the event.

More than 30 other Chapter volunteers helped by reserving flight times, registering participants, conducting ground school, dispatching aircraft, ensuring the safe movement of passengers to and from aircraft, facilitating the traffic flow on the ground, parking aircraft, and printing certificates which are awarded to new Young Eagles.

The names of the new Young Eagles are entered in the "world's largest logbook" at EAA Headquarters in Oshkosh, Wis. This logbook is available online at <http://www.youneagles.org/logbook>.

Next year's event will be scheduled in late June. For more information, visit the EAA chapter Web site at EAA326.org. Since 1993, 2,735 kids have flown from Thun Field during the annual event.

## Calendar

**September 5-7, Hood River Fly-In Northwest Antique Airplane Club, Ken Jernstedt Airfield (4S2)**

**September 7, Chapter 26 Fly-In Picnic, Crest Airpark (S36)**

**September 10-14, Reno Air Races**

**September 13, Shelton Fly-In & Chowder Cook Off (SHN)**

**September 24, Pasco Airshow w Canadian Snowbirds (PSC)**

**October 23-26, Copperstate Fly-In, Casa Grande, AZ (CGZ)**

end

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