

EAA Mount Rainier Chapter 326 Newsletter

Thun Field - August 2005

80

Charlie Cotton Day

Tuesday, August 9th, 6 PM

Smitty's Hangar, Thun Field

Third hangar row south of the CAP building.

This is our annual "burger burn" but this year we decided to rename it "Charlie Cotton Day" in honor of Charlie and all the work he's done for us. As you probably know, Charlie is a DAR and has certified many of our airplanes and other homebuilts in the area.

This is a pot luck affair with static display of members' aircraft. And maybe a few demo rides. Park your planes along the taxiway opposite Smitty's hangar.

A-F (38) bring a salad

G-K (21) bring a dessert

L-Z (57) bring a main dish

The Chapter will provide the Burgers / Dogs / Soft Drinks.

Again this year, we are inviting EAA Chapters from the surrounding area to join us. AND, because of the difficulty they may have in hauling some culinary masterpiece in their experimental, we provide ALL the food. So bring your extra large dishes and make an effort to say hello to these folks.

Pre-planning for next year at Arlington will include the possibility of doing a group reservation like we used to do. That should ensure that we all get spaces together. Look for more details in early 2006.

Jose talked about - Charlie Cotton Day. It will be next month at the burger burn & area chapters are invited. The focus will be giving thanks back to Charlie for all the inspections and help he has given all of us over the years.

Talk to Joe Andre about hats & jackets.

Project reports:

Alan's RV7A moved to airport.

John's RV4 is starting paint.

Dave's Viper jet is on the gear.

The program tonight was Jeff Pratt from Spencer's who talked about hoses & fittings. He gave a good background on all the options and types you can use for your fuel & oil lines.

Congratulations George

Arlington Reserve Grand Champion

N#: 151G

Type: Thunder Mustang

Owner: George Giboney

Chapter 326 - Thun Field

From the Secretary

July 11th, 2005

Gordy called the meeting to order.

Marv Scott provided refreshments.

Visitors: Ron Smith built an RV6A & is visiting from AZ.

Treasurer report \$4,068 total in the bank.

Kevin & Smitty cooked the burgers at the Arlington fly-in potluck this year. We had a good turnout of chapter members and a nice time camping. The weather was rainy & sunny so we had something for everyone.

Terry Breiting New Owner of Rans S-10

The Air force is moving C-17 pilot Tony Thomas to Charleston, so Tony sold his S-10 to Terry. Ray Blatt helped Tony to bring the S-10 to flying status and Ray had nothing but good words for him. Best of luck Tony, sorry to see you go.

So Ray has a new hangar mate now. That should generate a lot of stories.

Chris Smith, when I was young

I was 17 and in front of the high school Vice Principal again. He told me to take a look at vocational schools during my 3-day suspension, because I sure as hell wasn't going to make it

another year and a half there. That's how I found Clover Park Tech and started my pilot training. Two years later, I had a commercial license. I needed a break, so I drove the Alcan Highway to Alaska. On Kodiak Island, I flew a Cessna 152 on weekends and fell in love with the rough beauty of the coastlines. I got back home just in time to start A&P training at CP and start college. I worked construction in Alaska for the next three years. I went up to Bellingham to finish college at Western and worked at the airport, mostly gassing planes and doing minor airplane repairs. Two years later, I found myself in Ketchikan, South East Alaska working for a floatplane outfit. That's when life got really interesting.

The life of a bush pilot can be really full of adventure, high times and daily adrenaline. But for some of my buddies, it was really short and grim. The south east country is all rough islands and stormy seas. Sitka is up north by Glacier Bay. Juneau, the capital, is up on Lynn Canal. Petersburg and Wrangell are in the middle, next to the glaciers on the Stikine River drainage. Prince Rupert is south, on the Canadian side with the BC coast below that.

At first I was a mechanic / pilot. That means if you're good at fixing things you never get to fly, which can get dull. I wanted to be the one out there wrecking the planes then fixing them. I rebuilt a flipped and sunken PA18 Super Cub on Edo 2000's and the guy who wrecked it, later showed me how he did it. We got lucky and survived with only minor damage on that one. The land is full of little pot hole fishing lakes, big rivers with sand bars and bears, deep salt water fiords up into the mountains and always a boat load of rough weather. I was always watching the sky to the south and west. We flew between the storms mostly.

After the first year I was drinking a lot just like all the other bush pilots. Every couple days, I flew the DeHavilland Beavers out to the Thorne Bay logging show with fresh groceries and chain saws and I was always steamy wet. The flat drunk natives got delivered back out to Craig, Hydaburg and Klawock almost daily. We took all the pilgrims out to the fishing and hunting cabins, like up the Boca De Quadra and never once forgot to go back out and get 'um, mostly.

I got time off to fly home for Christmas the second winter, only I had to drop off a plane in Seattle on the way. It's December with the usual gusty sideways rain and low gray lid. The plane is a flipped and sunken C185 with salt water bobbing around in all the instruments and it's a thousand miles of very lonely BC coastline. I'm flying the inland passage at tree top level under the 500 ft. ceiling when it's that high. I flew in to Seattle late that day and under the radar so to speak. That's just north and below the space needle, south of Capitol Hill at about 200 ft. off the roofs at twilight, then dropped it into Lake Union at Kenmore Air Harbor's dock, between the boat traffic. Those were the good old days, for sure.

After a couple years I did the crew change for a fishing boat a hundred miles out in the gulf past Foster Island. That gets interesting landing a loaded C185 on the ocean swells, next to a single lonely fishing boat. First you gotta find that little gray speck out there in a huge gray rainy ocean. Then it's a direct crosswind landing putting it down hard on the very top of the swell. If you fall off into the depression before you get slowed down you will probably flip it and drown, so pay attention.

We went moose hunting up north of Yakutat Bay in the fall. The super cub was always the first one in, so we could cut a swath through the thick lily pads in the muskeg for the heavier planes to land on. We had green slime from floats to rudder that day

During summer time, I also flew the pilgrims for a lot of hours up and down the long flowing glaciers east of Wrangell. We spotted elk and bears in the river valleys and goats on the rocks above. Well then I started getting all sensible and settled down at about 28, so I had to "quit the life" and move south to raise a family.

In addition to the above, Chris has rebuilt a Super Cub, a Beaver, a Grumman Goose and his Fairchild. He has built two planes from kits, a Chinook Plus and a Helicopter Mini 500. He is a mountain climber, 12 peaks to date, a kayaker and an advanced scuba diver. He lives on a 10 acre horse farm with his wife Patricia. He has three children.

Engine Break-In

Okay you guys, here is how we break an engine in at our shop. Other shops have different criteria, but this works pretty darn well.

After the engine is pre-oiled and gage pressure of minimum requirements (45 PSI) is met, the engine is started and operated at 1000-1200 rpm and 13-16 in MP for 5 minutes or until 100 degrees Oil temp.

Then, 1500 rpm and 15 inches for 5 minutes, quick mag check, 1700/16-17 until 140 oil temp is achieved, then 2000 rpm and 19-20 inches and wait for vernathern to close (usually 189 F), perform a mag check.

Then 65-75% which is usually 24/24 maintain 200 F oil temps, and 390-400 F HOTTEST CHT. Lean to .53-.54 BSFC or 1400 F EGT for 30-45 minutes, oil pressure is set at this time. This is when you start seeing your MP rise, thus rings are STARTING to seat.

The CHT's are cooled down and a full power run is done for 3-5 minutes leaned to best power. This ensures the engine makes rated power. The engine is slowly cooled down and RPM reduced to 2000 and another mag check is done. The power is then reduced to 1000-1200 rpm and 13-15 MP, then slowed to 650-750 long enough to show hot oil pressure at idle. From this point the engine is properly shut down and a hot differential compression check is accomplished. If all systems are go, the engine is preserved and ready for post dyno inspection. At this time, the computer is downloading the test data that is delivered with the engine. We get a copy, and you get a copy.

This in no way means the rings are seated. On nitrided cylinders, it usually requires approximately 10 hours for oil consumption to stabilize. When oil consumption stabilizes, the rings are seated the best they are going to.

I don't think there are too many folks who want to pay the additional costs of 8-10 more hours of dyno time to get the rings seated.

The best thing for you to do is once the engine is installed, (don't forget to add oil)! Start and run the engine on the ground to let the CHT's get up a LITTLE bit. The cylinders are still

susceptible to glazing if the temps get to high. Shut the engine down, check for installation leaks, cowl it up and go fly for a minimum 1 hour at 24-25 Square. The whole key is consistent RPM/MP.

Allen Barrett, BPE Inc. www.barrettprecisionengines.com

Voltage Regulator

There's lots of debate about the pro's and con's of using the internally regulated alternators found on modern cars. Here's a very brief summary, mercifully sparing in detail.

The first big question is whether you want to have over voltage protection or not. Some folks who have never heard of any over voltage cases on cars, figure that an automotive alternator with internal regulation is reliable enough that they don't worry about an over voltage. But, there was a message on this list a while back from a guy who had an automotive alternator on his aircraft that would go into an over voltage condition as soon as he selected it on. So over voltages do happen. If your avionics are cheap, or you have enough money that you are prepared to risk them, you could go without over voltage protection.

If you want over voltage protection, and you use an externally regulated alternator, the over voltage protection device can simply cut the power between the voltage regulator and the alternator field. This line only has small current in it, so there is no problem to chop the power if an over voltage ever occurs.

But, if you have an internally regulated alternator, the wire from the voltage regulator to the field is buried inside the alternator - you can't get at it. So, the only way to deal with an over voltage is to have a contactor in the alternator output that is opened automatically if the alternator runs away. This contactor will have to open when the alternator is supplying as much current as it can possibly do, and there is some question about whether the contactor will actually reliably cut the alternator output, or whether it might arc internally and weld closed.

There have also been a few unexplained problems with internally regulated alternators sold by Van's aircraft if they are installed with the over voltage protection sold by B&C Specialties. There have been several events where something happened that fried the internal regulator, but no one has been able to figure out the cause, so we have no fix yet.

If you use an externally regulated alternator, you can use the over voltage protection sold by B&C Specialties (and designed by Bob Nuckolls). A small number of people have a philosophical problem with the way it shorts out the field line to cause the field CB to pop open, but no one has been able to demonstrate a real problem with the design. It is simple, and it works.

So, my advice: if you want over voltage protection, go with an externally regulated alternator. If you judge the cost and hassle of replacing avionics to be less important than the cost and hassle of an installing an externally regulated alternator + over voltage

protection, then go with an internally regulated alternator and skip the over voltage protection. Kevin Horton

With most internally regulated alternators (IR's), once the field is energized, it 'latches on' and there is no external way to turn it off - so there is no external way to disable the alternator in case of OV except by disconnecting the B lead (which also can cause problems - search the archives for 'load dump').

Many modern automotive IR's have built-in OV protection, and may be just fine - but it is next to impossible to get technical info on them in order to make an educated decision. And even if you do, it would be for that specific (make, model) regulator, not IR's in general.

So with regard to IR's, the bottom line is the inability control the field current (elegantly enable/disable the Alternator output), and unknown OV protection. Dennis Glaeser

Hoquiam Fly-In

EAA Chapter 367, Hoquiam Washington, is hosting their annual General Aviation Fly-in and Aercoupe Gathering on Saturday, August 13. The fly-in will start at 9:00 AM, and Lana's Hangar Cafe on the field will be open for breakfast for early arrivals. At 11:00 AM there will be a 1 hour forum: "Aercoupe Maintenance." At 12 noon, there will be BBQ and Home Made Ice Cream available on the deck of the pilot's lounge. At 1:00 PM there will be another forum: "Building a Kit Aluminum Airplane, and Sheet Metal Workshop." It's hopeful that Scott from Van's aircraft can attend to teach the class, and we have invited 3-4 builders to be on a panel to discuss RV and Zodiac projects. For more information about the Aercoupe Gathering, contact 360-533-5926. For more info regarding the Kit-builds forum, contact 360-289-2740. There will be a prize given for the plane that traveled the greatest distance, and for People's Choice Award. Please help us spread the word among your chapter members, and plan to join us on the 13th for a great fly-in.

Dan Murphy VP EAA Chapter 367

Calendar

Aug 6, Diamond Point (2WA1), Airport Day. Includes food, raffles, prizes for aircraft categories and longest distance, and EAA Young Eagles flights

Aug 9, Charlie Cotton Day, Thun Field

Aug 13, Hoquiam Fly-In

Aug 12-15, Abbotsford Airshow, Abbotsford, BC, Canada

September 3- 4, Van's Homecoming, Aurora State (UAO)

End

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