

EAA Mount Rainier Chapter 326 Newsletter

Thun Field - August 2004

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Meeting Notice

Tuesday, August 10th, 6 PM

Burger Burn

Smitty's Hangar, Thun Field

Third hangar row south of the CAP building.

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 (20) bring a dessert

L-Z (54) 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.

First Flights

Kim Nicholas

RV-9A

Lyc O-320E2D 150 hp.

Sensenich fixed pitch metal prop.

IFR panel with vacuum gyros.

Approach Systems plug & play box to connect all avionics.

IPAQ Pocket Computer with Anywhere Map software.

Rocky Mountain engine monitor.

Navaid Devices autopilot.

Center mounted throttle quadrant instead of push-pull controls.

Sherwin Williams Sunfire single stage paint.

High tech big red button for OOOGAH horn.

3½ year build time without the quick-build option.

FAA Inspector: Charlie Cotton.

Lance Newman

RV-6

Lyc O-320D1A, 160 hp, new from Van's.

Sensenich fixed pitch metal prop.

Carb & dual Slick mags.

KLN35A GPS, Valcom 760 radio.

Rocky Mountain engine monitor.

Tip up canopy.

Manual flaps and trim.

4 years to build.

FAA Inspector: Charlie Cotton.

Dave Latham

F1 Rocket

Lyc IO-540C4B5 with 9.2:1 pistons 260+ hp.

Bendix fuel injection.

Lightspeed Plasma III electronic ignition in place of right mag.

Hartzell constant speed 80 inch prop.

JPI fuel flow, egt, cht.

Apollo radio and transponder.

Electric trim and flaps.

15 months to build.

FAA Inspector: Charlie Cotton.

Congratulations guys!

Hot Starts

Flooding the engine and then dealing with that as a known condition is a common technique for hot starts on fuel injected engines. And it is a technique that can be very dangerous and cause a fire that can and has consumed an airplane.

Getting fuel flow indications may indicate that "vapor is purged" - - but is not at all an indication that you are not going to vapor lock about 3-5 seconds after the engine fires up - - and then promptly stops.

The reasons these engines are hard to start when HOT is very simple. The fuel pump core is HOT - - so hot that when new fuel hits the core of the engine driven fuel pump it flashes to vapor and vapor locks the inlet to the fuel pump. The pump inlet "suction" is relieved by the bloom of fuel vapor and the pump is no longer able to pull (suck) fuel uphill to the inlet of the mechanical pump. Until you sufficiently cool off the core of the fuel pump it will ALWAYS - - ALWAYS vapor lock.

You either have to:

- 1) Cool off the core of the engine driven fuel pump (easy with a TCM fuel system [where fuel is purged back into the tank]); or,
- 2) You have to use the electric boost pump to [pressurize the fuel above vapor pressure] keep the engine running until the core of the engine driven pump does cool off enough to quit flashing the incoming fuel to vapor (typical Lycoming and some twin Cessna techniques).

After the fuel pump core components are cooled off, the engine will actually start better than when cold.

George Braly

Canopy Scratches

Here's what has worked best for me over the years:

Use only flannel cloth (ripped old bed sheet into sixteen inch squares) then store them in a plastic bag.

If wind screen (canopy) is dusty (stored for awhile) rinse off with water without touching the plexi by (spraying or pouring water over it. Then with a piece of clean flannel soaked in slightly soapy water and partially wrung out, take it by two corners and drag it full width over the plexi without any pressure on it, turn it over and do it a second time then put the flannel in a plastic bag for washing.

If there are bugs take another clean cloth soaked in the soapy water gently clean them off. Put this cloth in the bag for washing.

I have used Mirror Glaze for around forty years and would use nothing else, recently a friend asked me to try some Plexus and I found it to be a good product also. Again taking another clean cloth spray on the cleaner and wipe dry, another cloth for the laundry bag.

This may sound a bit like over-kill but it is the only way I could be sure of not winding up with some scratches.

I have flown many aircraft that had scratched plexi and found that by using Mirror Glaze all but the worst scratches would eventually disappear.

If the canopy is new and scratch free the Plexus will sure do the job and is quicker to use.

Anyway the whole idea is prevent getting any scratches in the first place and the only way I have been able to do that is not rub with any gritty stuff on the plexi.

Eustace Bowhay

Stainless vs Alum Heat Selector Box

Vans sell two types of heat selector boxes, you probably have either the 1st or 2nd one. The 1st is all aluminum, no good in a fire. The second is an aluminum box with a stainless steel flapper valve which should keep fire out of the cockpit except for the fact that the aluminum will melt or deform allowing the flapper valve to fall away from the 2 inch hole in the firewall creating a flame thrower. There is a 3rd alternative, an all stainless box and flapper valve that I purchased from EPM.AV Corp. <http://www.epm-avcorp.com/>. I have received my heat box and it is first class. Very well made and cost \$96 which is only \$23 or \$33 more than the one's that Vans sells. but according to EPM.AV's web site the stainless one will stand up to a 2000 degree fire.

a blurb from their web site

"With an all stainless heat selector box design now in hand, our attention turned to testing the unit in a simulated "real life" application. Paul built a mockup firewall and attached it to a stainless steel heat selector box and proceeded to apply flames from a propane weed burner affectionately named "Puff the

Magic Dragon". "Puff" spits out 2 ft. flames in the neighborhood of 1800 to 2000F.

Immediately the temperature sensor output signal in the firewall mockup raced past 500F. Within two minutes the firewall temperature was over 1000 degrees and the heat selector box began glowing dull red. In about three minutes the firewall temperature stabilized just below 1400 degrees and the selector box was glowing bright red.

Some surface scaling was present but the unit did not melt. After ten minutes "Puff" was extinguished. The stainless selector box held up well as expected. What happened next caught our attention!

We attached an all aluminum heat selector box to the mockup firewall and reproduced the same flame test. Within eight seconds of flame impacting the aluminum selector box the frame changed shape and lost substantial strength. The firewall temperature at this point was approximately 400F. Within sixteen seconds, the "flapper" valve melted, allowing test flames to enter the test cockpit area. Within one minute the selector box melted away, with only the mounting bolts remaining.

The dramatic and rapid meltdown of the aluminum box inspired concerns about the time available to shut down engine operation and cut off fuel flow."

They also sell stainless fire wall penetrations that you can check out as wiring holes can be a deadly source of a cabin fire in an engine fire situation

Author unknown

Balancing the Elevators

This is too, too clever.

To make it easier to rebalance the elevators after painting or installing a trim servo, I would suggest that you sand the inside of the fiberglass tips before you install them. I had to add weight after painting.

1. Drill a 3/8" hole thru the counterbalance rib...just aft of the weight.
2. Hang the elevator from the hinges, wire or string works fine.
3. While holding the elevator level place a small paper cup over the front of the counterbalance, and fill with lead shot (from shotgun shells) until the elevator hangs level.
4. Place a short piece of clear 3/8" vinyl tube into the 3/8" hole, and stick a funnel into the end of it.
5. Temporarily tape the elevator to the wire in a trailing edge up position so that the lead shot will fall down to the front of the counter balance.
6. Mix some epoxy resin and stir into your cup of lead shot.
7. Pour the resin/shot into the counter balance. You'll need a piece of coat hangar wire or something to help shove it in.

8. Cap the hole with a 3/8" stainless snap plug (I found mine at Home Depot).

9. Before the resin has time to cure, remove the tape holding the trailing edge up. With the added weight of the resin the counterbalance should hang slightly low. Tilt the nose up briefly so that the resin/shot mixture slides aft until the elevator hang level. If you go too far just lift the trailing edge to slide the shot forward.

Chris Brooks

RV-7A Slider Canopy

Canopy frustration time. Question, after drilling canopy to frame, it causes the frame to exert pressure on the tracks so that the canopy no longer rolls, but scrapes the track and digs into the aluminum. I widened the tracks about 1/8" on both sides but no joy. I trimmed the rollers, no joy. I bent the bracket holding the roller, no joy. What's a body to do, start over? I tried bending the front bow for conformity to the roll bar and broke it and had to have it welded so I know I don't want to go that route again. Sometimes the head of the screw digs in, and sometime the shoulder of the bracket digs in.

Dave Cook

Hi Dave,

Yes, start over! You need to take it apart and bend the frame narrower until it springs to the right width. Leave the tracks alone once you have them parallel, and adjust on the frame. Some builders cut the frame and cut or bend the pieces individually, then weld it back together. I didn't have to do that, but I may have gotten a better fit if I had. There is an issue of the RVator about a year ago which was devoted to the slider. Someone else may remember exactly which one it was. It would probably help you to review it.

Hang in there. It took me maybe two weeks just to get the frame and canopy fit. The better job you do here, the better and easier it is to get the skirts to fit and look good.

Dan Hopper RV-7A

Hi Dave,

Your problem is not uncommon to us slider types. I now have two flying slider RV6's, and after much cussing, et. al., I now have two canopies that slide themselves open past the first 8 inches.

The 1st thing is to absolutely get the front bow to shape. That may mean some bending, maybe the use of a torch or something. I just put one of those ratcheting straps across the bottom of the bow and cranked until it was right. Next, make sure the rails are at the appropriate spot outboard. Moving them too far outboard will cause problems with the side skirts later, so be careful about moving them too far outboard.

Make sure the canopy frame slides nicely before you put the plexi on, if it doesn't, it only gets worse when you put the plexi on. In fact, I would try to bend the frame slightly inboard a bit

too much, as the weight of the plexi and its shape try to push the frame open somewhat, exacerbating any rubbing tendencies you may have had before installing the plexi.

Also, gently chamfer the outboard side of the plastic rollers to the shape of the rail and make sure you have the right amount of spacers between the mounting ear and the roller, that will keep the screw head from rubbing the rail. You may have to fiddle with that as well.

Last but not least, to make for a really nice, smooth opening, I have put a strip of teflon tape in the inside of the rail. That way if the roller rubs, it still slides nicely. Both mine were extreme pains in the rear, but with some time they now work great. Both of my canopies slide by themselves and the skirts fit like gloves!

Stein. RV6's

Scam Alert

Important!!!

As much as anyone, I hate people that forward too many warnings, but this one is important!

If people come to your front door saying they are conducting a survey on deer ticks and ask you to take off your clothes and dance around, do not do it! IT IS A SCAM; they only want to see you naked.

I wish I'd found out about this earlier. I feel so stupid now...

Ray Blatt

Calendar

August 6, 7, 8 Eastsound, Orcas Island Fly-In. EAA #937.

August 7, Diamond Point Airport Association presents Airport Day, 10 a.m.-3 p.m.

August 15, Return to "Thun Field" Car Show and Fly-In.

August 21, 52nd Annual Corn Roast and Fly-In at Harvey Field.

August 20, 21, 22, Formerly Evergreen Fly-In, now at McMinnville

August 24, Hoquiam. EAA Chapter 367 Fly-In and old fashioned homemade ice cream social at Bowerman Field (HQM).

August 28, Port Angeles, Ultimate Airport Day

September 4, Bremerton Blackberry Festival. 8th Annual Fly-in at KPWT. Hours: 9am to 3pm

September 4, 5, Van's Homecoming. Aurora State (UAO)

September 11, Dallesport, The Dalles Fly In / Airshow

October 2, 3 Wenatchee. Pangborn Memorial Airport's Aviation Day & Fly-In

End

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