

CASCADE FLYER



Website: <http://co-opa.com/>

July 2008, Vol. 08, Issue 7

President's Message:

The planets all aligned properly last month so we finally were able to view the DVD of Super Cubs flying in Alaska. Now we know what those fat tires are for. Not simply for landing on soft ground but also for water skiing to your postage stamp sized tie down. Simply amazing.

Also last month we had a nicely successful Airport Day. Bad weather in the valley and a maintenance issue prevented some planned aircraft from arriving. Competition from the Klamath airshow also hurt attendance. Still we had a great day and the airport and a lot of fun was had by the attendees.

Many thanks to all those that helped with the event, especially Professional Air and Butch Roberts for all their efforts this year.

Be prepared for another fine aviation presentation this month. Our program chair Ed Endsley provides details below about our expected presentation from Epic Aircraft. Plan to come by around 6pm for hanger flying and stick around for the sumptuous potluck at 6:30pm and our meeting at 7:00pm.

Calendar:

17 July- Monthly Meeting
19 July- Monthly Flyout

21 August- Monthly Meeting
22-23 August - Central Oregon Airshow (Madras)
23 August- Monthly Flyout
23 August- OPA State Convention in Eugene

13 September - Barbecue @ Monument
18 September - Monthly Meeting
20 September - Monthly Flyout

16 October - Monthly Meeting
18 October - Monthly Flyout

My Inbox:

Construction season is upon us and that includes the Bend Airport. That means our inboxes will be filling up with construction NOTAMs.

To start there have been crews working on crack sealing and other maintenance for the ramp and taxiways. That work will continue from 8am to 5pm until 18 July, so it should be almost completed by the time you read this.

The big news is that work to remove the old runway and the temporary taxiways has started. Until about mid October the entire airport will be closed to ALL operations from 6pm to 6am Sunday to Thursday. Additional closures may be required on a two or three day notice by NOTAM. Closures will also be posted on the city airport web site (bendairport.org).

There will be a County Sheriff on duty during the closures and he will have orders to arrest any violators so pay attention!

The first part of the project will be to remove the temporary taxiways in the middle of 16-34. The only way to enter or exit the runway from the west side will be the two taxiways at the far ends of the runway. Those are designated A1 and A6. Sometime around the end of August the four new mid field runway exits (A2 to A5) should open up. So be extra alert for aircraft doing a back taxi on the runway until then.

No money yet for new REIL or PAPI lights, fingers crossed that we get the money in time to install those this year.

Just like last year expect schedules to change with little notice and expect lots of confusion. So check your NOTAMs and check the airport web page.

My Inbox --- continued

All construction crews will be monitoring the CTAF (123.0) so if you have any doubt at all call them. The crews have a job to do, giving us a beautiful brand new runway environment, so let's keep out of their way and let them finish as fast and safely as possible.

Next year we get to do this again, as we should be getting a new east side taxiway (taxiway B).

Web doings:

Who has time for the web now? It is flying season in Central Oregon! But if you must, you can see our newsletters, useful aviation links, and more on our web site: <http://co-opa.com/>

To access the members only areas the username is "BDN" and the password is "123.0".

Random Thoughts:

Mogas is still comfortably above \$4 a gallon and avgas is so high I hate to check the price. That leads to lots of chatter among pilots about alternative fuels.

Two months ago I wrote here about the two popular contenders for oil replacement: batteries and hydrogen. As we found, the energy density for those two is just not high enough. If you fueled a small airplane with either one your range would be limited to around 100 miles.

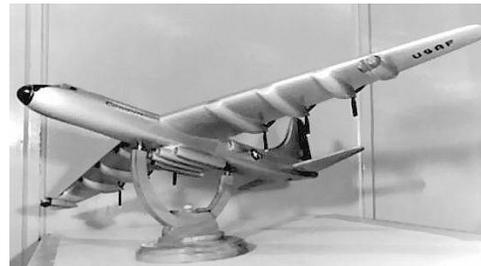
As usual I need only state an opinion to hear about all the obvious, and not so obvious, options that I miss. Due to some freak of weather I neglected to mention Compressed Natural Gas (CNG), Liquid Natural Gas (LNG) and Propane. They are all fossil fuels but burn cleaner than gasoline and are cheaper too. Modern engines can be readily converted to use each of these fuels and many barnyard tinkers have converted their cars to do so.

CNG suffers from the same problem as liquid hydrogen. The energy density is about 30% of gasoline. That means takes more than 3 times the volume of CNG to equal the same energy as gasoline. So if your aircraft could travel 1,000 miles on avgas it could only travel about 300 miles on CNG.

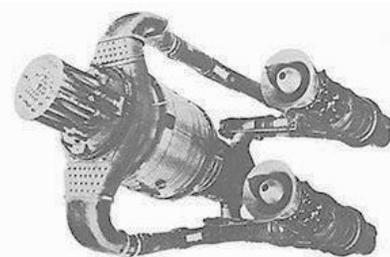
Few will be willing to cut their travel range that drastically unless avgas gets a lot harder to purchase.

LNG and propane look like the best alternatives so far. LNG contains 69% of the energy density of avgas and Propane has 74%. The problem with LNG is that it must be stored at -160C and I doubt that cryogenic tanks would work well in a Cessna. Luckily propane is so easy to store that we use it for backyard barbecues and lanterns. If my 1,000 mile range was cut to 700 miles and in return I saved a lot of money I could live with that. The problem is that a gallon of propane is just around \$3.20 so the cost per mile would be similar to mogas. Nowhere near the huge savings if we could just figure out a way to cheaply carry enough electricity for a decent range.

Now the alternatives get really weird. How about a nuclear powered airplane? As strange as it sounds, the US built working nuclear aircraft engines and designed aircraft to use them in the 1950s:



On paper the US plan was pretty simple. Place a 35-megawatt nuclear reactor in a modified B-36 and call it an X-6 or B-60. As the plane flies, it sucks in air, like a jet, and blows that air over the reactor core until it reaches 2,000F. Then blow that hot air into four modified GE XJ53 turbojets to create thrust. The modified XJ53 was called an X39.



**Ed note: Prototype nuclear engine HTR-3
Tested at a remote site 150nm east of Boise, ID**

Random Thoughts --- continued

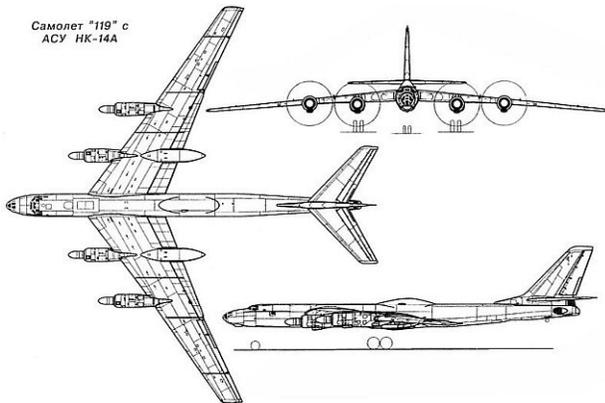
You now have enough aircraft that allows you to fly around for weeks without refueling! There were only a few practical problems left to solve: The engines needed to run continuously, for if the airflow over the 35MW reactor stopped it would melt down.

Worse yet, the exhaust was radioactive since it had passed directly through the reactor core. That made flight over populated areas, at least friendly ones, inadvisable.

Another huge problem was the weight of shielding required to keep from the crew safe. After adding 12 tons of lead to the airframe just behind the cockpit the useful load was negligible.

Ground crews would presumably bring their own lead with them as required.

The Russians went a bit further. They designed a small nuclear reactor that powered two jets. This was added to a Tupolev Tu-95M to create the Tu-119. Conventional turboprops, as well as the nuclear engines would power that plane. The estimated range was 48 hours, after which the crew would be dead of radiation poisoning. Sources differ on how far the project actually progressed.



Tu-119; the nuclear engine was too large, hence the dorsal hump

Who knows, if JFK had not canceled the nuclear powered airplane research we might be flying nuclear and wearing radiation badges today.

So, after examining the alternatives, it looks like oil powered airplanes will be around for a long time to come. Just be ready to pay dearly for it at the pump.

Gary

July 17th meeting

Plan to attend the Thursday, July 17, 2008, Central Oregon - Oregon Pilots Assoc. meeting in the Bend Airport Flight Services Terminal Building at 6PM for a potluck dinner and a very special program. Everyone is welcome!

Our special guests this month will be from Epic Air and they will be presenting information about their unique cutting edge technology that allows unprecedented performance. Their advanced use of carbon fiber techniques much like the Boeing 787 heralds a new age in general aviation.

Economical single engine turbine, six people, three hundred forty knots at 31,000 feet, and over 1800NM range with a full payload.

<http://www.epicaircraft.com>

Don't miss this opportunity for a very entertaining and informative evening. Bring your friends for flying fellowship, fine food, and fabulous fun!!!

<http://co-opa.com>

Ed Endsley, CO-OPA Program Chair

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The Checklist

Dennis Douglas wrote this for our EAA1345 chapter, but I think it will be useful to us all to minimize run-up delays.

I went flying the other day and, after going through the pre-flight inspection, I climbed in and went through my pre-taxi checklist. There's about 8 items on that list. Then I started the engine, and taxied out. When I got to the end of the taxiway, I swung the airplane around to face more into the wind, which I always try to do to get an extra bit of cooling during the run-up. As I made the turn, I saw that a Cessna Citation had been taxiing behind me and was now waiting for me to finish and takeoff. I ran through my run-up and pre-takeoff checklist --- there's about 15 things on that list --- and then I took off. The Citation took off almost immediately after I had departed and started my cross-wind turn.

When I got back from my flight, I started thinking about the series of events that had occurred from my taxi to takeoff and I wondered if, had I done things a little differently, could I have made more efficient use of that precious end-of-the taxiway location?

The Checklist - - -

Would I have been a better and more appreciated pilot if I could have gotten out of the way sooner to let that jet take off sooner?

The Bend airport doesn't yet have a run-up area, so every airplane has to pass over that one area that we all use for our run-up and going through the pre-takeoff checklist. While we might someday have a run-up area that is separate from the taxiway, for the time being each departing airplane "owns" that splotch of tarmac for as long as it takes us to configure the airplane (and passengers) for flight and verify the operation of the various systems to get the airplane ready to fly. If there are airplanes behind us ready to fly, they just have to wait their turn to get to the runway. What could I do to minimize my time clogging up the departure end while there might be several planes behind me—jets, taxi-backs and others whose own run-up is done and they are just waiting for a takeoff slot?

I dawned on me that my GlaStar checklist—one that I had patterned after the one I had for my C-172—was potentially a clod in the churn. Could I shorten it up or alter it in some way to minimize the amount of time I was blocking other airplanes from taking off—forcing them, in effect, to just cool their heels while I did my thing?

I got out the checklist and started looking it over. The list I had made up for my GlaStar had a whole bunch of things on it that I could move from the run-up and pre-takeoff section to the pre-taxi list where I'm sitting idling in front of my hangar and not tying up the taxiway. Things like setting the altimeter, verifying the controls are free and clear, verifying the fuel gauges match my pre-flight inspection levels, confirming operation of all the systems, cleaning up the cockpit and so on. All these things required a bit of time and could easily be moved.

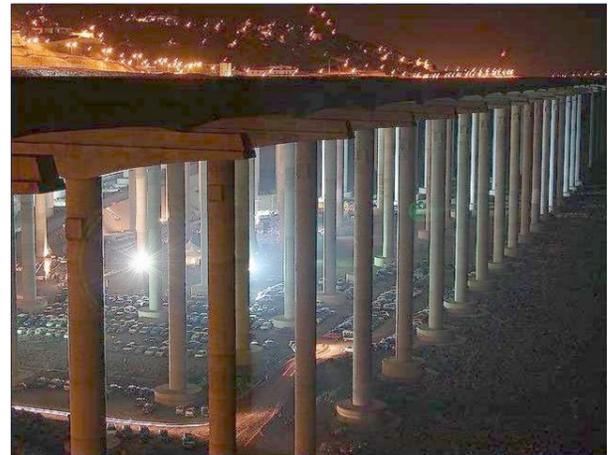
So I re-organized the checklist, leaving only the engine run-up, flap setting, radio frequency setting, doors locked, seat belts, boost pump and landing light left to do before taking the runway. I've tried it several times since I re-organized it and it works well in minimizing the time at the end of the runway connector. Try it. You'll be a better airport neighbor and some pilots will appreciate it.

Dennis Douglas

New airport runway on the Portuguese island of Madeira



The runway length is 9000 ft of which 3000 are supported by 180 pillars, each pillar about 17 floors high.



The runway is designed to accommodate 747s. Note the cars parked below the runway.



It's a bit like landing on an aircraft carrier. Let's not even think about running off that runway!

Man's best flying companion

BY CHARLES E. FLEDER (AOPA on-line)

We live in the deep south of southern Arizona, where the U.S. Air Defense Identification Zone is just a stone's throw away. Between May and September, the outdoor temperatures climb to levels at which human life cannot be sustained between the hours of 10 a.m. and 5 p.m.

To make the long hot summers a little more bearable, we built a small log cabin in the San Juan Mountains near Telluride, Colo. Every six weeks or so, we would load up the SUV and head to Colorado with kids, luggage, kitchen sinks, and last but not least, our dog, Wally the Border collie.

Although Wally seemed to enjoy our time in Colorado, he was not particularly fond of the trip. Maybe it was the 13-plus hours of being stuck in a tiny space in the back of the SUV, or having luggage fall on his head every time we rounded a sharp curve, or perhaps it was the 150-degree-Fahrenheit pavement at the Arizona rest areas. Regardless, it was clear that he did not want to go. On travel days he was usually nowhere to be found (piling up the luggage at the front door seemed to tip him off). When I did find him, I had to attach the leash and forcibly drag him to the car leaving four deep skid marks in the gravel.

After 30 or so all-day trips to Telluride, we decided there had to be better way. Our solution was to purchase a Piper Cherokee 180 with the intention of flying as close as we could to Telluride and then renting a car for the remainder of the journey. The density altitude at Telluride in the summer can easily exceed 12,000 ft., so flying direct was not an option for this airplane.

On our first few airplane trips, we left Wally at home with a pet sitter. Although my wife, Jackie, had grave reservations about flying Wally to Colorado in the baggage compartment of the airplane, I eventually convinced her that everything would be fine. To ease her concern about Wally falling out or being inadvertently thrown from the baggage compartment in rough air, I fashioned a lightweight panel to serve as a safety door to keep him from resting his weight on the baggage door. I also found a way to comfortably restrain him.

To be honest, I also had my doubts about how well Wally would take to flying. The air during the summer in Arizona can get pretty rough, even early in the day. The thought of an airsick dog—soon to be followed by two young, upset, regurgitating kids was too horrible to imagine. But hey, I'm a pilot. So off we went: kids, wife, greatly reduced luggage (no kitchen sink this time), and Wally the collie in the back of the mighty Cherokee to southwestern Colorado.

To my utter amazement, all went well. There was no regurgitating. There were no inadvertent ejections. There was not even a discouraging word, or in this case, whimper. In fact, Wally seemed to love flying. After a refueling stop, Wally was actually eager to hop back in the baggage compartment and get under way.

Since that first flight, Wally the flying collie and I have racked up many hours in the Cherokee, flying all over the West with never a problem. The SUV is still on Wally's "avoid at all cost" list. But, when I open the hangar, he can't wait to climb in the airplane. Maybe he's a kindred spirit.

BDN Airport Day

--- June 21st, in case you missed it!



Visiting RV group



USFS Bell205 from Wenatchee en-route to California forest fires.



A departing Piaggio Avanti P.180

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