

Valley Flyers

"Just Plane Fun!"

885 Lancaster Dr SE Salem, OR 97317

June 2020



Engine Break Ins

Our engine break ins are complete on both N70574 and N5174E. Thank you for your patience, and your assistance for those who took them on cross countries!

Strawberry Shortcake and BBQ

We have tentatively planned our annual Strawberry Shortcake and BBQ event for June 27th. Bring your choice of meat for your family and a salad or main dish to share in the potluck. The club will provide beverages and strawberry shortcake for all. The event will start at 12:00pm, with the grilling starting at 1:00pm. Bring the family and friends to enjoy an afternoon at the hangars! Although not required, please RSVP to Isaac Mosgrove so that we make sure to have enough beverages and strawberry shortcake. Keep an eye on your emails in case the schedule changes!



Mt Hood – Chris Eriksson

New Members

Austin Langford - I grew up in southeast Wisconsin, and I've been going to airshows my entire life with my dad who is a private pilot. In fact, before moving to Salem I had never missed AirVenture, and I hope to make it back as many times as I can. I attended the University of Minnesota, and moved to Salem to work at Garmin. I've always planned to get my PPL at some point, and Garmin and Valley Flyers gave me the perfect opportunity to start now. I'm looking forward to developing my flying skills and getting involved with the club.



Austin Langford
Local Fuel Costs

Current events have caused some fuel prices to fluctuate. We are seeing some all time low fuel costs. If you consider refueling elsewhere, we may be able to save significant club operating costs. As examples:

| Salem: | \$4.75gal |
|---------------|-------------------------------|
| McMinnville: | \$4.70/gal |
| Independence: | \$3.99/gal (@ south ramp) |
| Twin Oaks: | \$3.35/gal |
| Albany: | \$3.79/gal |
| Mulino: | \$3.69/gal |
| Chehalis | \$3.41/gal (starting to rise) |
| | |

Please purchase what gas you need for the flight, regardless of the cost. Safety is always top priority. I would recommend with such low fuel prices to call the FBO to make sure fuel is available before relying on that fuel stop.

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Member Accomplishments

Scott Bragg – CFII

Scott passed his CFII checkride after taking his checkride with Ray Beverly out of Eugene. He used N515ED for his checkride. Scott is checked out to do instrument training for the club, so if you are looking for an IFR ticket, contact Isaac Mosgrove to add your name to the list!

May Fly Out - Siletz Bay (S45)

By Todd Lindley

Another beautiful weekday afternoon for a fly out. We had four airplanes participate and everyone enjoyed the smooth ride and good food at the Side Door Café.



For those who haven't flown to S45, the restaurant is just across the highway from the airport and suggest you put this destination on your \$100 hamburger list. The café is now open and they have sit down service (reservations only) and take out or pre-made to-go items. The front part of the restaurant has been converted to a gift shop and mini-mart and the dining area is on the opposite side of what used to be the main dining area.



36H Panel – Todd Lindley

Also, if you have not yet made use of 36H's autopilot during a flight, it's a great cockpit management resource. See the September 2018 and November 2019 newsletters for more info.

Engine Care

By Chris Eriksson

We find ourselves with several new engines in club planes now, and we have discussed break in procedures before, but let's look into a few normal engine operation events that I have seen people struggle with.

The first one, is engine start. Starting piston engines can be difficult. It is a balancing act of giving it just the right amount of fuel to start, but not flood it. In terms of taking good care of the engine, we need to make sure to not allow the engine to rev to high RPMs as the engine starts. The engine does not yet have good oil pressure, and without good lubrication excess power can cause excess wear. The checklists call for the throttle to be cracked between 1/8" to 1/2" depending on the aircraft. <----> That is half an inch. So when you are cracking the throttle the prescribed amount, be sure to check how much it is actually calling for. I have seen pilots put the throttle in 1.5"-2" and then start the engine. When that happens, the engine often rises to 1500 RPM or higher during the engine start. If you crack the throttle as the checklist suggests, the engine should start at close to idle.

This one is the easiest, but during run-up, we have to run the engine at higher power settings. But when reducing power to do the idle check, smoothly reduce the power to idle. Pulling it back sharply on a cold engine can cause it to run rough.

During takeoff, advancing the throttle should be a smooth action. When adding power for takeoff, do not push it full in rapidly, but smoothly apply power over 3-5 seconds.

And similarly, power reductions should be done smoothly. When in flight and preparing to descend, try to reduce power gradually. Especially with high performance aircraft such as the C182, reducing power quickly can shock cool the engine. Instead, try and schedule your power reductions. For the 172s and PA28, slowly easing power back over the course of a minute for each power reduction will keep the engines healthier. I also recommend using approach flaps where possible. For instance, N5174E can have the first 10 degrees of flaps extended up to 110 kts. The 182 allows the first 10

Joshua McKinney CFI 904.535.9624 Scott Bragg CFII 970.219.0661 degrees of flaps up to 160 kts. Therefore both of those aircraft can extend flaps to begin a descent, or begin a deceleration. Using flaps can help keep the engine temperatures steady. For high performance aircraft like the 182, the rule of thumb is 1" of manifold reduction per minute.

Overall, most good engine care comes from making smooth power adjustments, and taking your time when changing power. As a matter of fact, rapidly reducing power at altitude can actually cause an engine to run rough and fail. So focus on making deliberate and smooth power changes, it will keep the engines healthier.



Sunriver Airport – Chris Eriksson

Hangar Work

Over the last few months, we have made some significant improvements to our new hangars, including adding lights, finishing the flight planning room, putting in new locks, and many more improvements. Their work has made our new hangars much more usable, and it will become a great place to study, conduct training, and just hang out with other pilots. The majority of the work has been done by members. We all owe thanks to those who have been volunteering to help make our hangars our new home.

Descent Management

By Todd Lindley

One commonly overlooked aspect of a flight is the descent planning from cruise to a lower altitude in the terminal area. Have you ever found yourself flying to a new cross-country destination and arriving in the terminal area several thousand feet above the pattern altitude and then pulling the power near idle to drop into a 45-degree pattern entry or had ATC hand you off to the tower while on flight following and you are 3000' too high? These

scenarios can all be mitigated by doing some basic calculations to know when to begin a descent to an airport. Also, as you move up to higher performance aircraft, the larger horsepower engines don't take kindly to being rapidly cooled as a result of blazing down at a rapid descent at idle power, so descent planning is mandatory if you want to keep your engine happy.



3 Sisters – Chris Eriksson

Here's the scenario: You are 50 miles from KXYZ at 8000' and want to arrive in the terminal area at an altitude of 2000'. Here are a few rules of thumb for when to begin the descent:

Divide altitude loss needed by 300, so 8000-2000 = 6000 / 3 = 20 miles

60:1 rule. Compute miles per minute (MPM). @120 kts that's two miles/minute. so, @500' per minute to lose 6000', that's 12 minutes. Then using the MPM value, that results in 12 * 2 (MPM) or 24 miles to lose 6000'

Ballpark. A typical 172 covers 4-5 miles for every 1000' of altitude loss in a normal cruise descent, so around 24-30 miles required to lose 6000'

That covers the mental math, but there are vertical navigation features in some of our club aircraft that can be used instead. The GTN has two methods for descent planning, vertical navigation (VNAV) or a feature called VCALC. Only 515ED is VNAV capable so in 12382 and 1636H you'll need to use VCALC (though currently 12382 is not configured for VCALC).

The following show some of the screens for configuring each type for a 2000' target altitude and target waypoint @ 10 miles from KSLE when the aircraft is at 8500'. Suggest that you read the GTN pilots guide(s) and practice with the Garmin GTN/GDU 620 PC simulators to better understand

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the full VNAV/VCALC capabilities.

VNAV - By pressing the 'ALT' column next to a flight plan waypoint, you can place a point at a specified distance and altitude (MSL or AGL) from that waypoint. The GTN will compute a top of descent (TOD) and the PFD will show a pseudo glide path indicator (magenta carrot) that gives you vertical guidance down to your desired waypoint. All you have to do is keep the glide path indicator centered in the vertical tape and you will arrive at the desired waypoint and altitude.



The GDU 620 providing VNAV Guidance and the GTN descending to an Along Track Waypoint (ATK)



The VNAV page on the GTN 750. You can change the desired vertical speed or flight path angle, but changing one will change the other!



The Flight Plan page allows you to enter altitudes and along track waypoints on the GTN.

VCALC - is a GTN/GNX utility that does the descent calculations for you after entering the desired altitude, FPM and offset distance from a desired waypoint. The GTN/GNX will tell you when to descend and at what target descent rate is required to reach your desired altitude and waypoint. The VCALC display will constantly update descent rate as you progress toward your desired altitude and waypoint. In these screen shot examples, the prompts begin with a TOD count down and then a required vertical speed once the descent is in progress. The VCALC feature can be found on the GTN utilities page. VSR (Vertical Speed Required) and time to TOD (Top of Descent) can also be added as user fields on the main map page.

| Target ALT 2000 FT | Altitude Type MSL | | VS Profile 400 FPM | - D + | |
|-------------------------|----------------------|-----------------|-------------------------|---------------|--|
| Offset 10 NM | Before | Target Waypoint | | ADS-B 1200 | |
| Status Descend to ta | arget | | VS Required -334 FPM | -D+ KSLE | |

VCALC on the GNX 375



Note the Vertical Speed Required (VSR) field on the bottom left user field.

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