



Valley Flyers

"Just Plane Fun!"

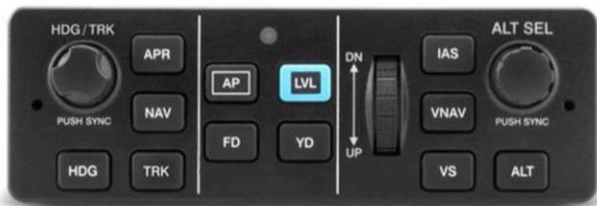
885 Lancaster Dr SE
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September 2018



N1636H Update

Our Cherokee should be back in our hangar anytime now, with a brand new autopilot! The attitude indicator has now been replaced with a Garmin G5. The G5 displays attitude, airspeed, altitude, turn coordination, ground speed, and GPS track. This is also the brains of the autopilot. The GFC 500 interfaces to the G5 and will fly as the G5 commands. Our new mode controller (the buttons and knobs to control the autopilot) has advanced options that can carefully control the aircraft. The autopilot modes are displayed at the top of the G5 so you can always see what modes are active or armed. Active modes are in green, while the armed modes are in white. The G5 and the GMC (Garmin Mode Controller) are shown below.



G5 (top) and GMC (bottom) show our new controls in the Cherokee.

The mode controller allows us to set our autopilot modes. The left side of the mode controller is all lateral modes. The center portion controls base autopilot functions. And the right side controls the vertical modes of the autopilot. Now our autopilot

system in 36H cannot use all of the buttons on the mode controller, as some require systems that we simply do not have or could not have in a Cherokee. So some of the buttons will be left unused, but we are still left with a significant amount of control in the aircraft that go along with a high end autopilot.

Basic Functions:

One key thing to understand with an autopilot is that the flight director is able to be set without turning on the autopilot. When the flight director is set without the autopilot being enabled, the flight director displays magenta wings on the attitude indicator that show what the autopilot would do, if the autopilot was to be turned on. This is important as it is best to always set your flight director to what you want the autopilot to do prior to engaging the autopilot. Otherwise when the autopilot engaged, it may do something you did not mean for it to do. So first thing, is to hit the FD button to bring up the flight director. Once it is displayed, you can set in the modes you would like the autopilot to fly, and once you are happy with them, hit the AP button to engage the autopilot. On the center portion of the GMC, there is a YD button, or yaw damp button. There is no approved yaw damp for the Cherokee aircraft, so this button does not do anything when pressed. There is also a blue button for LVL on this center portion. This is the Level Mode button that when pressed will immediately bring the wings level, and raise the nose to a level pitch. This mode exists for if you ever get disoriented and feel you are losing control of the aircraft.

Lateral Modes:

Our GFC 500 is capable of only a few lateral modes at this time. The default lateral mode is Roll mode. Roll mode comes on anytime you initially hit the Flight Director (FD) or the Autopilot Engage (AP) buttons. Roll mode just holds the roll attitude set at the time that the mode is set in. Our VOR course indicators cannot interface to the G5, so we cannot do the approach (APR) mode or the navigation (NAV) mode. We also do not have a heading input to the G5, so the heading (HDG) mode cannot be used. However, the

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G5 has an internal GPS, so it can follow GPS track using the track (TRK) button. The knob on the left side is a track button. It allows you to select what ground track you would like the autopilot to fly. The track selection is displayed on the G5.

Vertical Modes:

The G5 vertical modes are all on the right side of the GMC. The default mode, is Pitch mode (PIT). This mode is similar to roll mode in that it holds the pitch selected. The pitch can be changed with the Up/Dn vertical wheel on the mode controller. The Altitude (ALT) button can be pressed to hold the current altitude. The knob on the right side controls the altitude preselect. The knob controls what altitude the aircraft will level off at if you use the autopilot during a climb. For the climb/descent modes, we have two options with our autopilot. The best option for climbs is to use the Indicated Airspeed (IAS) mode button. This holds a selected airspeed. The IAS mode will be the most stable during a climb. The airspeed selection can be changed with the vertical Up/Dn wheel. This does not have throttle control, so for it to climb, you still have to make it. But if you set the speed at 80 knots, and put full power in, generally our Cherokee will climb. The other climb/descent mode, Vertical Speed (VS) is best for descents. The most stable descent will happen in VS mode. You can set the vertical speed with the Up/Dn wheel as well to set a climb or descent. The VNAV button does not function without a GTN, but the above described IAS and VS modes really expand the Cherokee's capabilities.

Other Functions:

The GFC 500 also has stability protection. This can be turned on and off in the G5 at any time when the autopilot is not engaged. This can be turned on and off by pressing the knob on the G5, and scrolling right to the ESP option and pressing the knob again. If the stability protection is on, Level Mode will auto engage when the bank angle exceeds 45 degrees, or when excessive pitches are encountered. Keep in mind if you want to do steep turns, you will want to turn off ESP.

The GFC 500 also has multiple ways to be turned off. If the autopilot is ever doing something you did not want, disable the autopilot. The first method to disable the autopilot is to press the AP button again. The second method and probably the easiest, is to press the AP Disconnect button on the pilot yoke. Pressing this immediately disables the autopilot. The final method, which should be the last result, is to pull the AP circuit breaker on the right side of the cockpit.



Puget Sound at Sunset-Chris Eriksson

Monthly Events

We had no monthly event for August, but on September 23rd the club will get people together to fly out to the **Jordan Chicken Run Cruise In & Fly In, Gillette Field (private OR51 at Jordan, OR)**. Annual chicken dinner 10:30am – 3pm. It is a combination fly-in, car show, raffles, poker walk, vendors, and all you can eat dinner. Dinner includes BBQ chicken, potatoes and gravy, green beans, noodles, cole slaw, roll, and dessert (1 free dinner for fly-in; Adults \$15, Children 5-12 \$5, Children 4 and under free). Gillette is a grass strip 2900 ft, 735' MSL, CTAF 122.9. This strip is just east of Salem, and will make for a short but fun flight into a nice grass strip nearby.

For an October event, we will fly out to Packwood, WA (55S) and walk into town for lunch. We will fly out on October 20th, leaving at 9 am. Packwood is in a valley in the cascades, which should provide some nice scenery in the fall. We will be flying over the cascades, and enjoy the nice fall weather before the weather turns for the winter.



Packwood Airport-WSDOT

Have you had a memorable trip, flying experience, or words of wisdom from which others in the club would benefit, or that you would like to share? Please send your stories, tips, quotes and pictures to **Chris Eriksson** for inclusion in future newsletters.



Upcoming Events

- Every Friday Morning: **Lenhardt's for Donuts, Lenhardt (759)**. All are welcome starting at 9 am.
- 1st Saturday of the month: **Breakfast fly-in at Starks Twin Oaks Airport (753)**. 8:00-10:00 am for only \$7 (\$3 youth).
- 3rd Saturday of the month: **Breakfast fly-in at Creswell Hobby Airport (77S)**. 9:00-10:00 am all you can eat for \$5.
- 4th Saturday of the month: **Lunch fly-in at Infinite Air Service, Albany Airport (S12)**. Noon-2pm. Drop in, have lunch, socialize, and get low-cost fuel.
- September 8-9: **Annual WAAAM Fly In at Hood River (4S2)**. The annual hood river fly in is on September 8-9. The fly in attracts hundreds of aircraft per year. There is food, airplane rides, and the incredible WAAAM museum!
- September 15: **Myrtle Creek Fly In (16S)**. There is a pancake breakfast in Myrtle Creek (just south of Roseburg) from 8 am to 11 am. They will have pancakes, eggs, sausage, juice, and coffee. All are welcome!
- September 12-16: **National Championship Air Races and Air Show, Reno, NV**
- September 23rd: **Jordan Chicken Run Cruise In & Fly In, Gillette Field (private OR51 at Jordan, OR)**. Annual chicken dinner 10:30am – 3pm. Fly-in, car show, raffles, poker walk, vendors, and all you can eat dinner. Dinner includes BBQ chicken, potatoes and gravy, green beans, noodles, cole slaw, roll, and dessert (1 free dinner for fly-in; Adults \$15, Children 5-12 \$5, Children 4 and under free). Gillette is a grass strip 2900 ft, 735' MSL, CTAF 122.9.

Final KSLE Runway Closures (Hopefully)

The grooving and final striping at the intersection of both runways is now scheduled for Monday-Tuesday, September 10th-11th. BOTH runways will be closed beginning at 7:00 a.m. on Monday, September 10 until 7:00 p.m. on Tuesday, September 11th. At 7:00 p.m. on September 11th runway 16/34 will reopen and runway 13/31 will remain closed until 7:00 p.m. on Wednesday, September 19th. The project should be

complete with both runways open and operational at this time.

As always please check your NOTAMs before you fly. As a reminder, NOTAMs cannot be entered into the system until 72 hours before closure, so if you need any information or updates beyond 72 hours please contact the airport manager and they will be happy to assist.



Review of Airspace Rules:

Airspace is one of those topics that should be reviewed often to keep a good understanding of the various airspaces and requirements for those airspaces. Take a look at this table from the FAA with regards to airspaces and the rules regarding them. Don't forget to review updates to the AIM and the free aviation handbooks the FAA provides online. They are great resources!

Airspace Classification (Not to scale)						
	Class A	Class B	Class C	Class D	Class E	Class G
Entry Requirements	ATC clearance	ATC clearance	Prior two-way communications	Prior two-way communications	Prior two-way communications*	None
Minimum Pilot Qualifications	Instrument Rating	Private or Student certification—local restrictions apply.	Student certificate	Student certificate	Student certificate	Student certificate
Two-Way Radio Communications	Yes	Yes	Yes	Yes	Yes, under IFR flight plan*	None
Special VFR Allowed	No	Yes	Yes	Yes	Yes	N/A
VFR Visibility Minimum	N/A	3 statute miles	3 statute miles	3 statute miles	3 statute miles**	1 statute mile†
VFR Minimum Distance from Clouds	N/A	Clear of clouds	500' below, 1,000' above, 2,000' horizontal	500' below, 1,000' above, 2,000' horizontal	500' below,** 1,000' above, 2,000' horizontal	Clear of clouds†
VFR Aircraft Separation	N/A	All	IFR aircraft	Runway operations	None	None
Traffic Advisories	Yes	Yes	Yes	Workload permitting	Workload permitting	Workload permitting
Airport Application	N/A	• Radar • Instrument approaches • Weather • Control tower • High density	• Radar • Instrument approaches • Weather • Control tower	• Instrument approaches • Weather • Control tower	• Instrument approaches • Weather	• Control tower

*Exception: temporary tower or control tower present
 **True only below 10,000 feet
 †True only during day at or below 1,200 feet AGL (see 14 CFR part 91)
 AGL—above ground level
 FL—flight level
 MSL—mean sea level

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