



EAA CHAPTER 175 SMOKE SIGNALS

NEXT MEETING

August 26, 2017

Scavenger Hunt 9:00

Bar B Q 1:00-2:00

See notes in body of newsletter.

EVENTS

Events in our area from EAA, AOPA, SPA, and others:

The Summer Quiet period is here!	
[Or, we have to find a better source of listings :<]	

Minutes

EAA 175 CHAPTER MEETING MINUTES

DATE: July 22~~24~~, 2017

LOCATION: Chapter House, Tampa Executive Airport (KVDF)

ATTENDANCE: 10

Business Meeting

The chapter meeting was called to order at 0900 by Jeff Kaloostian

.

Old Business

Meeting Minutes and Treasurer's Report.

Meeting minutes for June were provided in this month's distribution of Smoke Signals. No corrections were recommended by attending members, so a motion was made and seconded, and passed without objection. No detailed treasurers report was provided at the meeting.

Jeff reminded members that we would like to have members volunteer as officers for our chapter. Please express your interest in being part of our leadership to any of our current officers.

New Business

Steve Reisser presented more information on our upcoming Aviation Scavenger Hunt which will be held in lieu of our regular chapter meeting August 26th. The event will be held at Skyport Aviation beginning at 0900. This event will draw from all EAA pilots within a 75 mile radius. EAA national will send out emails and the event has been posted on several internet sites. We are expecting a large turnout so it is important that we have as many chapter

members present to assist in many tasks to make our event a success. Later, Richard Iffeld will distribute emails to all chapter members to assist in the event. We will need many volunteers beginning at 8 AM. The flight briefing for pilots will occur at 0900, and departures from 0930 to 1030 will be based on TAS cruising speeds (slowest aircraft depart first). The course will entail locating 8 unique ground features requiring the pilot and a passenger to discover and photograph the items. A document will be given with clues to the hunt during the pilot briefing. Participants should have at least 2 hours fuel onboard to cover the 126 NM trek. Also, pilots must carry either paper or digital Miami and Jacksonville sectional data. Following the return of all pilots we will have hot dogs, chips and drinks for all pilots, passengers, families, and visitors. We need all hands-on board to make this event successful. Steve passed out a volunteer sign-up form. Because of Oshkosh our turnout for this meeting was low so please plan on coming so you can be instrumental in a successful flying event.

A motion made to end the business meeting so 0921, seconded, and accepted without objection.

Chapter Program

Jeff presented a program titled "Drones in Our Airspace". He discussed some terminology; UAV (unmanned aerial vehicles), or as UAS (unmanned aircraft systems) which include the components of the control station (CS) + datalink + unmanned aerial vehicle (UAV). UASs range from the very small recreational drone that can fit in the palm of your hand which are very inexpensive to multimillion dollar military drones. The technologies that have allowed tremendous advances in drones even at the recreational level include; remote controls, power and sustained flight, flight stabilization, autonomous navigation, integrated circuitry and robotics.

The FAA expects growth of drones from it's current number of 400,000 to 2.3 million by 2020. The uses of drones are not ever expanding from the military to the civilian sector. They include:

- Aerial photography
- Crop monitoring
- Seed sowing and spraying
- Herd monitoring
- Traffic monitoring
- Monitoring coastline
- Search and Rescue
- Customs Payload Scanning
- Immigration enforcement
- Monitoring pipeline/power lines
- Fire Service/ Forest and Civil
- Sport Games
- Cell Network
- Meteorological services/research
- Fisheries
- Water and river
- Police enforcement
- Entertainment
- Recreational drones now range from \$50 to \$3,500 depending on the sophistication of sensors and capabilities. The most popular are manufactured by DJI and Parrot.
-
- Safety in our airspace is very important and even recreation users must be aware of restrictions and limits of flight. One of the best ways to find out where it is safe to fly is by using an FAA App called "Know Before You Fly". It graphically depicts restriction for drones, primarily beyond a 5-mile perimeter of airports and heliports. Permission can be attained from airport operators or ATC to enable flights within the 5 mile perimeter. Many manufactures

have built in “fencing” to prevent operations within restricted drone airspace which will ground you unless manually overridden.

Below are safety guidelines for recreational drone pilots.



ABOUT FLY RESPONSIBLY ▾ FACTS ▾ RESOURCES NEWS SUPPORTERS

What are the safety guidelines for sUAS recreational users?

- Follow community-based safety guidelines, as developed by organizations such as the [Academy of Model Aeronautics \(AMA\)](#).
- Fly no higher than 400 feet and remain below any surrounding obstacles when possible.
- Keep your sUAS in eyesight at all times, and use an observer to assist if needed.
- Remain well clear of and do not interfere with manned aircraft operations, and you must see and avoid other aircraft and obstacles at all times.
- Do not intentionally fly over unprotected persons or moving vehicles, and remain at least 25 feet away from individuals and vulnerable property.
- Contact the airport and control tower before flying within five miles of an airport or heliport. (Read about best practices [here](#))
- Do not fly in adverse weather conditions such as in high winds or reduced visibility.
- Do not fly under the influence of alcohol or drugs.
- Ensure the operating environment is safe and that the operator is competent and proficient in the operation of the sUAS.
- Do not fly near or over sensitive infrastructure or property such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
- Check and follow all local laws and ordinances before flying over private property.
- Do not conduct surveillance or photograph persons in areas where there is an expectation of privacy without the individual's permission (see AMA's [privacy policy](#)).

Users of commercial and recreational UAS should be aware that in remote, rural and agricultural areas, manned aircraft, including fixed-wing aircraft and helicopters, may be operating very close to ground level. Pilots conducting agricultural, firefighting, law enforcement, emergency medical, wildlife survey operations and a variety of other services all legally and routinely work in low-level airspace. Operators controlling UAS in these areas should maintain situational awareness, give way to, and remain a safe distance from these low-level, manned airplanes and helicopters.

There are basic rules specified in FAR part 107 for the operation of drones. There are also ways to circumvent those basic rules but the process is lengthy and expensive typically requiring a lawyer to file a request for waiver under FAR part 333.

If you want to become a drone certified pilot you can get to all the nitty-gritty details at the website: https://www.faa.gov/uas/getting_started/fly_for_work_business/becoming_a_pilot/

If you're NOT already a pilot and/or don't hold a current BFR then here is the process:

Requirements and Process for Becoming a Pilot

- Instructions for first-time remote pilots
- Instructions for part 61 pilot certificate holders

First-Time Pilots

To become a pilot you must:

- Be at least 16 years old
- Be able to read, speak, write, and understand English (exceptions may be made if the person is unable to meet one of these requirements for a medical reason, such as hearing impairment)
- Be in a physical and mental condition to safely operate a small UAS
- Pass the initial aeronautical knowledge exam at an FAA-approved knowledge testing center

Pilot certificate Requirements

- Must be easily accessible by the remote pilot during all UAS operations
- Valid for 2 years – certificate holders must pass a recurrent knowledge test every two years

If you ARE a pilot holding a current BFR then here is the process.

Eligibility:

Must hold a pilot certificate issued under 14 CFR part 61

Must have completed a flight review within the previous 24 months

Remote Pilot Certificate Requirements

Must be easily accessible by the remote pilot during all UAS operations

Valid for 2 years – certificate holders must pass either a recurrent online training course OR recurrent knowledge test every two years

Application Process:

Complete the online training course "Part 107 small Unmanned Aircraft Systems (sUAS) ALC-451" available on the FAA FAASTeam website – initial training course areas include:

Applicable regulations relating to small unmanned aircraft system rating privileges, limitations, and flight operation;
Effects of weather on small unmanned aircraft performance; Small unmanned aircraft loading and performance
Emergency procedures;

Crew resource management; Determining the performance of small unmanned aircraft;

Maintenance and preflight inspection procedures.

Complete FAA Form 8710-13 (FAA Airman Certificate and/or Rating Application for a remote pilot certificate).

ALL certified pilots must take the below FAA online Small Unmanned Aircraft Systems course.

Course Overview

Welcome Guest
Login Here

Part 107 small Unmanned Aircraft Systems (sUAS)

Description: The part 107 small Unmanned Aircraft Systems (sUAS) course describes the certification and operational requirements to operate sUAS in the National Airspace System (NAS) under Title 14 of the Code of Federal Regulations (14 CFR) part 107, small Unmanned Aircraft Systems. For part 61 pilot certificate holders with a current flight review, successful completion of this online course satisfies the training requirement before applying for a part 107 remote pilot certificate with an sUAS rating. All other interested individuals may complete this online course as a self-study resource. Individuals without a part 61 pilot certificate or current flight review are required to take the FAA Unmanned Aircraft General (UAG) Knowledge Test at an FAA-approved Knowledge Testing Center before applying for a part 107 certificate.

Cost: No

Course Overview: Introduction
Course Content
Downloadable Reference Materials
Course Review

[Enroll in Course](#)

FROM JEFF:

Hello all...hope you're having or had a great summer and maybe even got some flying in! This weekend is our local Flyout... we need all hands on deck for this. Please call myself, Denny or Steve to help! For those who attended EAA AirVenture, we're looking forward to hearing all about it. Here are some Facts and Figures from the EAA Homepage:

Attendance: Approximately 590,000, an increase of five percent over 2016. Comment from Pelton:

Total aircraft: More than 10,000 aircraft arrived at Wittman Regional Airport in Oshkosh and other airports in east-central Wisconsin. At Wittman alone, there were 17,223 aircraft operations in the 10-day period from July 21-30, which is an average of approximately 123 takeoffs/landings per hour.

Total showplanes: 2,991 (up 5 percent over 2016): 1,107 homebuilt aircraft (second straight year over 1,100), 1,162 vintage airplanes (up 12 percent), 351 warbirds, 168 ultralights and light-sport aircraft, 79 seaplanes, 54 rotorcraft, 60 aerobatic aircraft, and 10 hot air balloons.

Camping: More than 11,600 sites in aircraft and drive-in camping accounted for an estimated 40,000 visitors throughout the week.

Commercial exhibitors: 881.

Forums and Workshops: A total of 1,050 sessions attended by more than 75,000 people.

Social Media, Internet and Mobile: More than 15.4 million people were reached by EAA's social media channels during AirVenture (double the 2016 total).

Guests registered at International Visitors Tent: A record 2,527 visitors registered from a record-tying 80 nations. (Additional unregistered international visitor counts push the total higher.) Top countries represented by registered visitors: Canada (583 visitors), Australia (346), and South Africa (204).

Media: 906 media representatives on-site, from six continents.

What's ahead for EAA AirVenture Oshkosh 2018 (July 23-29, 2018)? Comment from Pelton:

“We’re already talking to people about the possibilities for 2018 in all areas, from aircraft anniversaries to new technology and innovations. We saw new programs, such as the Twilight Flight Fest following the afternoon air show, attract big crowds and show a bright future. We’ll be announcing these features and attractions as they are finalized. We’re also going to continue working hard on the visitor experience to maintain EAA’s high standards. We’re excited for the future and what’s ahead for next year!”

FROM DENNY:

Let's happening in my world and I will announce what is coming at the meeting this week, so a short note this month.

Remember, no breakfast this week as we are hosting a flying event instead of our regular meeting, we will gather at 0900 and participate in flying activities after which we will hold a burger burn. We will plan for the entire event to last until 1 p.m....so it will not be an all-day event. Steve Reisser is developing a series of simple flying tasks and he will make a short presentation on what he has accomplished and what is needed to make the event a success. Don't forget the real goal is to get as many members flying as possible. If you have access to an airplane, please bring it to the meeting.

For the 23 September 17 meeting we are planning to have the FAASTeam report on the new Pilots Bill of Rights BasicMed requirements. BasicMed is an alternative form of aviation medical compliance that became available to pilots starting May 1, 2017. The team will address how BasicMed works, who is eligible to use it, and what you need to know to determine if it is right for you. We are confirming this review qualifies for FAA Wings credit. Plan to attend and find out about this wonderful privilege.

I have a visit by the ICON team planned for 28 Oct 17. The ICON A5 is an American amphibious light-sport aircraft being developed by ICON Aircraft. ICON has setup a training facility at Peter O'Knight airport meeting will be at the Club House on 28 Oct 17 meeting. This is a “not to miss” event.

The November meeting will be held on the third Saturday to deconflict with Thanksgiving. Jeff is working his magic to bring in a speaker. Jeff will give us more during our meeting.

OK, that is it for now. Most of all enjoy your time with the aviation community and don't forget to...

....keep 'em flying.

Feature

The Incredible Shrinking airline seat.

While 34 to 35 inches of pitch was once common for economy class, the new normal is 30 to 31 inches, with several major carriers deploying 28 inches on short and medium flights.

And, most of us aren't shrinking! The opposite may be regrettably true.

But, working in secret, a number of intrepid researchers are showing that the airline cabin does not have to be a torture chamber!



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EAA Chapter 175 Aviation Scavenger Hunt Tampa, FL Saturday, August 26, 9am to 2pm

WHAT:

You're invited to join EAA Chapter 175 for our Aviation Scavenger Hunt!

The pilot briefing will be at 9am at Skyport Aviation. Pilots and spotter will be given hints prior to departure to help you discover and take a digital photograph of mystery ground features. Pilots successfully identifying-photography all items will receive certificates of accomplishment.

Following the scavenger hunt there will be a cook out for pilots, families, and guests. So whether you want to sit back enjoy the show or take on the challenge, you are invited to join us for the event!

Skyport Aviation has agreed to exempt participants from any ramp fee

WHERE:

Tampa Executive Airport (KVDF)
Skyport Aviation

6530 Tampa Executive Airport Rd
Tampa, FL 33610

CONTACT US:

Steve Reisser, Secretary, Chapter 175
(813) 482-1308 or Steveninthesky@gmail.com

AVIATION SCAVENGER HUNT

AUGUST 26, 2017, 9 a.m. to 2 p.m. A Saturday outing for pilots and families enjoying flying, food, and camaraderie.

Pilots and spotter will be given hints prior to departure to help you discover and take a digital photograph of mystery ground features. Plan on a 2-hour flight (100 KTs), approximately a 126 mile flight. Pilots and their spotters will find it helpful to have both Miami and Jacksonville current sectionals, or current digital sectionals covering the same area. Slower aircraft will depart first. Please pay attention to quadrangle MEFs (minimum elevation figures), airspace restrictions and the floors of controlled airspace. Pilots successfully identifying-photography all items will receive certificates of accomplishment.

Following the scavenger hunt there will be a cook out for pilots and their families.

WHERE: Meet in the lobby of Tampa Executive Airport's FBO, Skyport Aviation, by 0900 for your pilot briefing. Skyport Aviation has agreed to exempt participants from any ramp fees.

Questions: Please contact steveninthesky@gmail.com or Steve Reisser at [813-482-1308](tel:813-482-1308)

X-PLANE CORNER

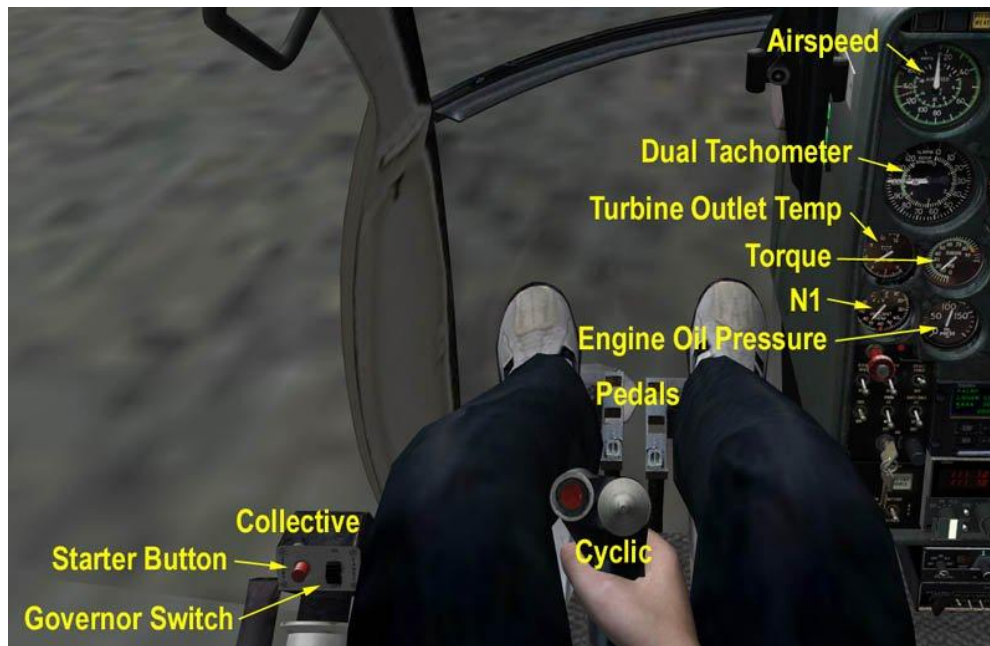
Installment 5

Here's a quick tutorial on basic helicopter flight in the sim,— not going into detail here about how specific systems work or things that apply to all X-Plane aircraft, just some of the differences that apply to helicopters to get you started. We'll use the Hughes 500D but much of this will also apply to all helicopters.

Controls

One important consideration – you truly need full joystick controls to effectively fly a helicopter in X-Plane, including pedals & throttle (configure it to control "collective", and remember that it's backwards – raising it or pulling back = add pitch). Anything short of that limits your control severely!

First, a description of the main controls:



Cyclic, in the pilot's right hand – controls the helicopter's pitch & roll attitude by cyclically changing the main rotor pitch. Push the stick forward & the rotor disk tilts forward, etc.

Collective, in the pilot's left hand – controls the main rotor blade pitch. Raising it increases the pitch on all blades, lowering it reduces the pitch on all blades.

Pedals, controlled by your feet – increases or decreases the pitch of the tail rotor blades, push your left foot fwd & the nose turns to the left.

Throttle – in the sim it's handled automatically by a rotor governor, it will attempt to maintain rotor rpm at 100%. Most real ones do the exact same thing – older piston ones mechanically (which require some pilot input, they aren't perfect), most modern ships have true governors.

Gauges

The single most important gauge on the panel for a helicopter pilot is the rotor tachometer. If you lose rotor rpm in flight, *very bad things* start happening – below a certain point the rotor blades will stall, it's generally not recoverable as they can start to diverge from their normal plane of rotation & start hitting things.

Most helicopters have a dual tachometer with both engine & rotor needles, in normal operation the needles overlap & appear as a single needle – makes it very easy to see if the engine has failed. On this particular one the inner needle is rotor rpm & the outer one is engine rpm.

Most of the other gauges are also applicable to airplanes, so we're not going to talk about them here.

Flying

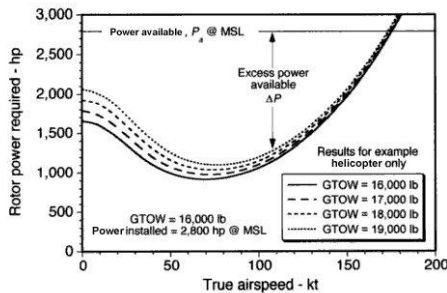
In the real world, student pilots are trained by an instructor that would normally start you off with easier tasks like straight & level forward flight, followed by some turns & then maybe a few minutes of hovering starting with one control at a time at the end of the lesson. The instructor would also save you from certain death (repeatedly) at first as most students lose control pretty rapidly especially in a hover!

Helicopters take practice, they aren't naturally stable – another thing that takes time is learning how the controls all interact with each other. The average pilot in the US takes about 65 hours to get a private pilot rating, 15-20 hours before they even solo (if training in a Robinson, 20 hours in the minimum to solo per FAA regs these days). So don't expect to instantly be perfect at everything

Adjusting any one control almost always requires compensation with one or more others, with practice you'll start doing that without having to think about it. You're almost always making small corrections, especially in a hover – the controls are very sensitive, most people will over control at first. There's also a slight lag between making an input & when the ship responds that adds to that tendency.

Performance

It takes more power to hover than in low/medium speed forward flight, and it takes less power to hover near the ground within about one rotor diameter (in ground effect – IGE) than it does to hover out of ground effect (OGE) – these are important things to keep in mind. Detailed performance charts & theory are way beyond the intended scope of this basic tutorial, there's a wealth of information available online for those interested.



Note that the helicopter is tilted slightly to the left even in a stationary hover – the tail rotor thrust, used to compensate for main rotor torque, actually pushes the entire ship to the right & compensating for that requires a bit of left roll.

Once you're off the ground, pedals are used to maintain heading, cyclic your position, collective your altitude – at first, you probably won't be able to keep it from moving around quite a bit. Don't feel bad, you'd go through the same thing in a real one!

Hover

In X-Plane you don't have the luxury of an on-board instructor – so we'll go ahead & start off on the ground, ready to lift off. You should have the cyclic & pedals centered, collective fully down, and rotor rpm at 100% with the governor "on". Wind – always know where the wind is coming from, takeoff & land into it as much as possible.

Slowly start raising the collective – as the ship gets light on the gear it may start to drift or spin, letting you know to make a cyclic or pedal correction to compensate. It should take you several seconds to lift off, think "smooth". Our example helicopter will require some left pedal & left cyclic as you get light.

With practice you'll be able to shrink the size field required to contain your hovering – one tip that applies both in the sim as well as the real world is don't look down at the ground right next to you. Look further out, it's much easier to judge small attitude changes before you start moving. You're at a disadvantage in the sim to begin with because there's no "feel" or peripheral vision so it's hard work.

Departure

Ok, now let's transition to forward flight – from a hover, add a small amount of forward cyclic to start moving. You only want to nose down a few degrees & start gradually accelerating. Maintain heading with the pedals,

you shouldn't need to add any collective at this time – as you pass through about 15-20 kts airspeed you'll notice a large increase in lift (known as ETL, effective translational lift).

Continue to accelerate, keep your altitude relatively low until you reach about 50 kts & then adjust your attitude to start climbing. The exact target climb speed varies by type, we're going to use 60 kts here. Keep the ship in trim with pedals, the yaw string is your friend here.

Cruise

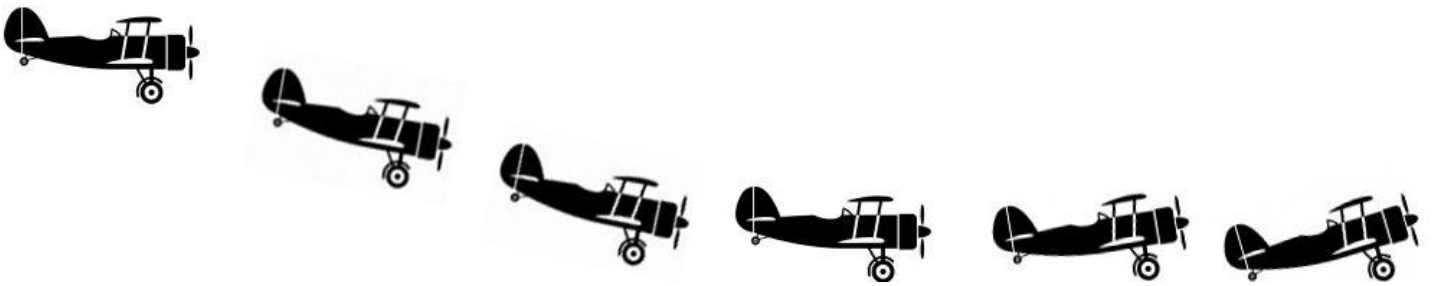
As you reach the desired altitude, accelerate to the desired speed (we'll use 80 kts here) & then reduce collective as needed – which will require you to also adjust the pedals & cyclic of course! Use cyclic to adjust your attitude & in turn your airspeed.

To turn, just apply a bit of cyclic in the desired direction– that's all you'll need in a shallow turn. Steeper turns will require either collective or aft cyclic to avoid descending.

To accelerate, you'll need a combination of collective & forward cyclic; the opposite to slow down. In either case you'll have to make a pedal adjustment to stay in trim. Try accelerating to 120 kts, then slow back down to 80 kts again – as always, do it smoothly & things are much easier. Note the power required at those speeds – much higher at 120 kts than 80.

Ok, so now you're ready to head back down & land – unlike airplanes, a helicopter final approach isn't done at a constant speed. You're continuously slowing down as well as descending, aiming to end up passing back through ETL at around 10' above the ground. A "normal" approach angle is also steeper than airplanes would use, about 10 degrees.





ODDITIES



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Kepp em flying!