

Intro to flying...

We are flying in a Beechcraft Bonanza with a 'tail number' of **N78HF** (pronounced ' November seven eight, hotel foxtrot'), out of Chicago Executive airport (formerly Pal-Waukee). It is a 4-person, single-engine, piston airplane. It has headphones with an intercom.



"Bruce" as we call the plane, is spacious by small plane standards but still small in normal terms.



Here are the 4 basic parts of our flight:

- A) Pre-flight inspection & engine start
- B) "Run up", Taxi to runway, Takeoff
- C) Cruising
- D) Landing

Important note: If sitting in front, Do **NOT** put your feet on the **foot pedals** – they control the steering. Also, do not grab the yoke – it controls the plane.

a) Pre-flight walk around inspection, and engine start...

- About 5-10 minutes to just check for low tires, low oil, and drain a little gas from the underside of the wing tanks, looking for water.
- When we climb in the cabin (it's tight)), there's a checklist, including engine start. It is loud. Put on your headphones, and the intercom will be active about a minute after the engine starts.
The microphone should be about 1" from your lips.

b) "Run Up", Taxi to the runway, Takeoff

- After the engine starts, there's another 5-10 minutes of setup. I'll do a 'Run-up' wherein I rev the engine for about 10 seconds to check that things are running properly under a load.
- Radio communications is a large part of taking off:
 - First, we listen to the Automated Traffic Information System (**ATIS**) for Weather/wind/runway/etc information.
 - Next I contact "**Clearance Delivery**" to get authorized course instructions, write it down on my iPad, and repeat it back for confirmation.
 - Next I contact "**Ground Control**" for permission to taxi to the runway, and ask:
"Executive Ground, this is Bonanza 78HF with information Charlie requesting taxi.." He will reply something like:
Bonanza 78HF, proceed to runway 3-4 via Rwy 6 and Lima.
(You take off and land into the wind, which decides which runway you use)
- Then we taxi to the end of the runway. Runways are named by their direction, so runway 34 is 340 degrees. Straight North is 360 degrees, so 34 is 20 degrees 'left' of due north.



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- Then we contact the **Tower** Control when we are at the runway, ready for takeoff:
“**Executive Tower, Bonanza 78HF ready on 3 4**”. He will reply something like:
“**Bonanza 78HF, working on your release..**” or “**..cleared for takeoff on runway 3 4**”
- **Takeoff:** We move onto the runway, give full power and accelerate down the mile-long runway. When airspeed hits 70knots (~80 mph), I pull back on the yoke and the plane lifts into the air.
- I will retract the landing gear (small knob on the copilot side), and do a lot of messing with knobs for power, pitch, propeller setting etc. **I will be very busy these first 3-5 minutes and can't talk.**
- *After about 5 minutes*, we will have lifted off, gained altitude and turned to our desired course heading. **I can talk more freely at this point, but radio communication is always first.**

c) Cruising

- Ground Level is about 800' above Mean Sea Level (MSL). The altimeter displays MSL. We typically fly ~2500–3500' MSL, which is 1700-2700 Above Ground Level (AGL) for short flights (under 30 minutes). Longer flights (e.g., Door Cty) will typically be at about 7-8,000' MSL.
- We cruise at about 160kts (185 mph). *Feel free to chat!* But if you hear any radio communications that start with “Hotel Fox...”, that’s US and I have to listen to them first-and-foremost.
- Just remember **that if I hold up my hand, I need silence**: Either ATC (Air Traffic Control) has called me, or I need to be looking for something (like other aircraft). Or, I may push a button to isolate your headphones from me/ATC so I am not distracted when I need to talk to them. Nothing personal 😊.

d) Landing

- Landing at a Controlled airport (with an operating control tower) is different than landing at an Uncontrolled airport (no operating control tower). Chicago Executive is a Controlled airport. Lake Geneva, Door County, etc. are uncontrolled.
- You always precede landing by listening to the ATIS (weather) about 10-20 miles out from the airport.
- At a controlled airport you then contact the Tower, and follow their instructions. Those instructions may be “**straight in for runway 1 6**” or if busy “**You are number 2 for runway 1 6, following a Cessna about 2 mile ahead at your 11 o'clock position...**”
- At uncontrolled airports, everyone announces their actions on a designated ‘Unicom’ frequency. “**Bonanza 78HF entering downwind leg for runway 1 8 at Lake Geneva**” etc. Standard practice is to make a wide ‘U-Turn’ to the landing runway, to establish a standard ‘traffic pattern’ for all planes.
- **I will have to make many adjustments for landing, some starting 10 min before landing.** This will include lowering the gear, setting the flaps, propeller, and power settings, **so I will not be very talkative at this point, until after we have landed and have come to a stop.**
- To compensate for cross winds as we line up for landing, the plane may bank into the wind, but get opposite rudder to keep the nose (and wheels) aligned with the runway. This may feel like you’re slipping off your seat, but it’s part of a normal cross-wind landing.

To Exit:

- 1) Turn 90 Degrees
- 2) Left hand on FRAME
- 3) Right Knee on Seat

- 4) Swing left foot onto wing



- e) **I will need to be listening and talking on the radio until we are parked.**

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Are we there yet??? Where are we?

If you would like to 'follow along', the software that I use on my iPad for Navigation has a 'Passenger' app that pretty much shows you the same GPS map that I see! You can download it for free! It's called **Passenger**, by **ForeFlight**, LLC. Here's what it looks like on the iPhone App store: ->



Ok, the rest is 'just interesting...' only if you're curious about what all those airport markings are...

RUNWAYS

A series of white lights marks the edge of the runway, turning to yellow over the last 2,000 feet (600 m). Similarly, embedded runway centerline lights are white until the last 3,000 feet (900 m), where they alternate white and red until the last 1,000 feet (300 m), when they turn to red only.

Mounted signs help the pilot navigate crisscrossing runways and taxiways. Current runway location is a one- or two-digit number corresponding to the leading digits of its compass and reciprocal heading.

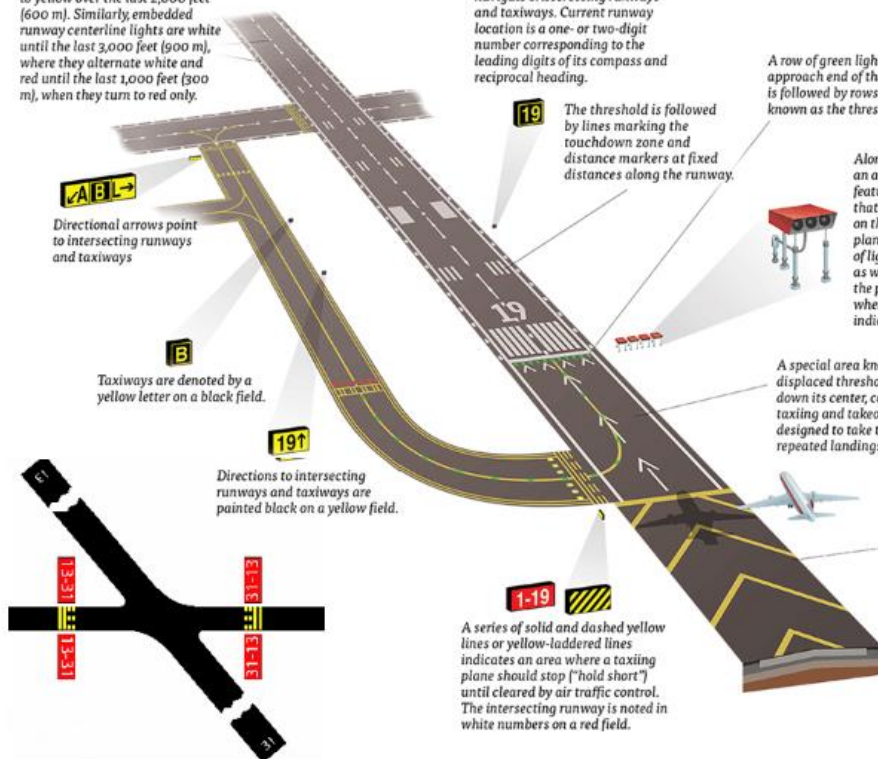
A row of green lights marks the approach end of the runway and is followed by rows of white lines known as the threshold.

Along the side of the runway is an approach-slope indicator that features a series of horizontal lights that appear white or red depending on the angle of approach of the plane. For one such indicator, a series of lights appearing from left to right as white, white, red, and red indicates the plane is on the correct glide path, whereas white, white, white, red indicates the plane is too high.



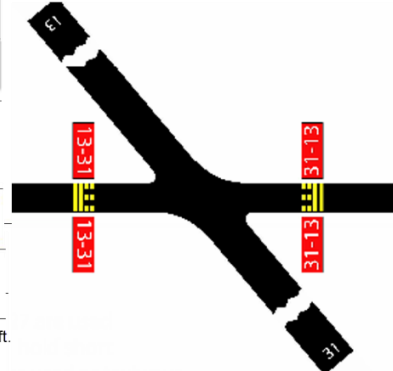


A special area known as a displaced threshold, with arrows down its center, can be used for taxiing and takeoffs, but is not designed to take the impact of repeated landings.

Blast pads painted with yellow chevrons are not intended for normal taxiing, takeoff, and landings.

A top surface course of asphalt or cement anywhere from two to 16 inches (five to 40 cm) thick sits on top of base and subbase courses of crushed stone or gravel. All three layers have a combined thickness of two to five feet (60 to 150 cm).



AIRPORT SIGN SYSTEMS

TYPE OF SIGN AND ACTION OR PURPOSE	TYPE OF SIGN AND ACTION OR PURPOSE
<p>18-36 36-18</p> <p>Runway marking, either on ground or knee-high sign. You are about to enter this Runway. Order shown is relative direction.</p> <p>"18-36" indicates that the Departure end for Rwy 18 is to your left (South Take Off), so you must be facing East;</p> <p>"36-18" indicates that the departure end for Rwy 36 is to your Left (18 on your right now), and you are heading West</p>	<p> Separates Runway from Taxiway or other Runway. This is what you "Hold Short" of.</p> <p> Taxiway Direction: Defines direction & designation of intersecting taxiway(s)</p>
<p>4 Runway Distance Remaining Provides remaining runway length in 1,000 feet increments</p>	
<p>B Taxiway Location: Identifies taxiway on which aircraft is located</p>	
<p> Taxiway Ending Marker Indicates taxiway does not continue</p>	
<p> You are on Taxiway Golf. Taxiway Alpha is 45 degrees back & left. Taxiway Lima is directly to your right.</p>	