

IFR Apprenticeship Flights

-Yeah, I had to work a little to make that acronym work 😊

Most any endeavor we are taught – from archery to yoga – usually starts with “Watch me do it first once or twice, *then you* try it.”; except flying where the student is put in the left hand seat and asked to perform from the first minute. Kind of like learning to play the piano onstage in front of your parents starting with your first lesson. Maybe there’s a subconscious guilt that the student isn’t “getting their money’s worth” if they’re not in the left seat.

To give the budding IFR student a good overview and to lower the apprehension level, consider this simple ‘~3 flight prelude’ to the standard IFR training. Each Flight is about a 1 hr round trip lunch flight (~30 minutes each way and a break for food and implicit ‘debriefing’ in the middle of the lesson) as an example.

(Even if you only do the first “observation only flight”, the student will start with a far better appreciation of IFR flying than most otherwise do...)

First flight – First Leg:

A towered airport is much preferred for departure and landing.

Should be in VMC, or MVFR at worst.

“Seeing this in your mind’s eye” later in IMC is what this is largely about, and you can’t picture later what you haven’t seen for real in the first place.

Start at the corner McDonalds or couch in the FBO. Using ForeFlight as the vehicle for these items (but could be WingX or whatever the student will be using), do a basic Flight Plan, much like you would for a VFR flight. Don’t get fancy; start and stay with the basics at first. Too many instructors (in any discipline) try help the student by deluging them with too much too soon and end up confusing not helping.

Tap the “FILE..” button to show how that basic information is fed into an FAA Flight Plan.

Don’t mention alternates on the Filing for this flight. At most, expose them to its existence.

A GPS/RNAV Approach is much preferred: Pull up the Approach Plate and explain it with no more detail than something like “We start here at something called the IAF at this prescribed altitude, go to here, then at this thing called the Final Approach Fix we begin our 3 degree descent to the airport – make sense?”

In the Cockpit:

Student will be in the right seat the whole flight.

Do the now-additional step of Clearance Deliver to get your CRAFT. Spend a minute and review that a CRAFT is just 2-3 additional things that you would do for a VFR flight, no real magic, just a little more structure and pre-planning

Take off and fly like normal.

Student will observe the ‘climb and maintain’; change heading when told, change altitude when told, do things on radar vectors that weren’t in the CRAFT and learn that “Eh, get used to a fair amount of unexpected improvisation on even the most typical flights”

Point out the frequency change hand offs which are much more frequent than a VFR flight (Departure, Center, Approach, ATIS, Tower...)

Include the GPS PROCedures on your GPS, but leave it at “the GPS and ForeFlight are all adhering to the same FAA plates we have to follow, just in different formats.

With ForeFlight and VMC the student sees the You are Here blue dot on the Approach Plate and absorb “Yep, fly to those waypoints that those altitudes, and begin your descent at that FAF thing...” And you also point out the various airplane settings like power, mixture, prop, flaps, and ultimately landing gear. THAT is a lot of juggling that the student has to absorb, and

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watching someone do it first makes that whole “Mind’s eye image” a lot easier from the right seat.

Land as normal as possible. No mention of Going Missed, Missed Holds, etc.,
Debrief at lunch and answer any questions.

Possibly pull out the Approach plate and show them how you found the Initial Approach Altitude, the FAF, and the MDA. Not much more than that. This is the student’s first IFR flight and routine as it may be to you, it is a TON of information flooding his/her brain.

Possibly discuss how the GPS has a Load and Activate, which is for waypoints a lot like what “Standby” and “Active” are for frequencies.

First flight – Return Leg:

Over lunch, pull up the Approach plate for a GPS approach back home and see if the student can identify the IAF, FAF, IAA, MDA, etc. Only talk about as much as is essential for the return flight, nothing else on the Plate

Let the student press the FILE ForeFlight button – they have filed their first IFR flight plan!

Give them a full-sized copy of the CRAFT sheet (electronic or paper, but full sized, nothing too hard to read – save ‘shorthand’ for later!) and see if they can get the Clearance along with you, and review it with them before take off

Return as normal.

See if the student can program the GPS with the PROC; Load and Activate as appropriate.

After landing, debrief with any questions. Avoid the temptation to share any information with them that isn’t essential to this flight.

Second Flight:

Exact same as the First, but now the student is in the left seat IF they are comfortable doing so.

You as instructor will handle the radio *only* if the student fails completely.

Expect and accept numerous inaccuracies, including sloppiness in headings, altitudes, & minor radio lapses. This about getting the whole gestalt of flying in the student’s head first, then honing in on the details a few lessons down the road. Many instructors (from math to piano to ...) dwell on precise performance on each section before moving on; **IAF** is the antithesis of that.

Recall that these are just a few Preliminary/introduction flights to give the student the big picture.

The student should be focusing brain cells on sucking in /grasping the ‘big picture’, and focusing on the (important) details in the upcoming lessons but not now.

Subsequent Flights:

Repeat this same exact flight (in no worse than MVFR) over and over until the student can fly this IFR flight with competence. VMC, Towered Airports, GPS approach, no AutoPilot.

Continue these ‘lunch trips’, but add in the incremental complexity (in any order that circumstances provide) of IMC, non-towered-airports, ILS approaches and Autopilot usage. Try to make no more than 1 change of the above-4 variables per flight, as the student will probably advance to this ‘left seat student IFR flight’ fairly quickly, but still need a fair amount of practice for it to ‘sink into the memory muscles’, and that reinforcement of past lessons will be an implicit part of the ‘oh, and we’re going to learn on more new thing on this flight..”

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Epilogue

Ok, by this time the student can fly a basic IFR flight between two well-known airports, half-way decently, with competence and some respectable level of confidence.

Maybe about 3-5 flights at this point.

The instructor can now begin the 'checklist' of standard King/BPPP items for their IFR sign training and sign off like they would withstanding these IAF flights.

But for the cost of (oh, maybe, call it) 5, 1-hour flights (and prep and lunch) they have an extensive perspective on everything else that that will learn.

Typical IFR training is at least 50 hours, so this IAF method represents maybe 10% of their total time and expense. And arguably, it may do such a good job of putting everything in perspective, that they will be more efficient in their subsequent 'hone in on the details' training lessons and actually reduce their overall training time as well as increase their confidence and competence.

A common adage when a student earns his IFR ticket is "This is a license to learn", that implicitly means that you need practice to drill these procedures into your subconscious memory and reflexes.

IFR flying is not just a series of independent tasks strung together like beads on a string. It is a continuum of JPT: Juggling Priorities and Transitioning from one task to another, be it suddenly being told to change altitude or course when in the middle of leaning the engine, or getting new frequency assignments when you're in the middle of checking your map or weather. Put another way, "the whole is more than just the sum of the parts". IAF helps drive home that lesson starting with the first IFR flight.

Another way of looking at IAF is this: If you had an experienced and competent IFR pilot who had no formal CFII training but was going to teach you what he knew, he would say "Come along with me as I fly IFR, and you'll take over a little bit at a time, until you've finally taken over all the things that I know". This is how Journeymen and Apprentices learned in time gone by. "Chapter by Chapter specific focus" can be very useful but arguably much more so as an appendix to learning, not the primary venue. *And remember, we're only talking about 3-5 initial flights here; after that you can focus on any specifics you want.*

The variables to be introduced as seamlessly as possible into each flight are:

- VMC, then MFVR/IMC
The student should be able to do everything at least once in VMC with "eyes open" so that they have a "mind's eye" vision of situational awareness when flying in IMC.
- Towered, then non-towered
Void Times, GCO/Telephone/etc. and additional freq changes are another layer to education.
- GPS, then ILS
GPS approaches are much easier to grasp and better defined.
- Manual, then AutoPilot
I spent a *whole day* comprehending my Avionics!
It was the most useful time I spent in my IFR training.
Your Garmin 530/430 can be your absolute best friend in single-pilot IMC – or your nemesis.
- Standard Landing, vs Going Missed
- Holds and other miscellaneous "Gotta have seen at least once in your training.."