

# Discovery Flight- IFR

## *The Pilot Club*

February 24th , 2023  
0100Z | 8:00PM EST

Not a TPC Member?! Click [here](#) to join!



- Recommend airplane: single or twin engine 100-150 kts. No jets, airliners, or gliders please.
- Set the weather to live weather or IMC
- **Turn off ATC voices in your sim.**
- You must be a VATSIM member with an approved pilot client installed prior to this flight – see the end of this document for instructions for registering.
- Download airport charts prior to flight

- **WANT TO LEARN MORE?:** Sign up for the TPC Flight School's Private Pilot License Course (PPL) which mimics real world flight training and receive your VATSIM P1: [The Pilot Club Flight School](#)



## Suggested add-ons, charts, and training resources

1. Please look at airport diagrams and departure and approach charts

FSX/P3D	X-Plane 11	MSFS 2020
		<a href="#">We Love VFR - Region 2 »</a> <a href="#">Microsoft Flight Simulator</a>

2. IFR Clearance :
  - a. [IFR Clearance Practice | Listen and Practice IFR Clearance Readbacks \(youtube.com\)](#)
3. Briefing an IFR Approach:
  - a. [How to Brief an Instrument Approach | Reading Approach Plates | IFR Approaches \(youtube.com\)](#)
4. RNAV Approach Video:
  - a. [\(1\) How to Fly an RNAV Approach | GPS Approach with Garmin GTN 650 - YouTube](#)
5. All about ILS:
  - a. [\(1\) How ILS Works | Instrument Landing System Explained | IFR Training - YouTube](#)

## Flight plan - IFR

KCHA JILIS T398 RESTS KGSP (RNAV - 151 NM) OR KCHA V311 NELLO V415 PELAM KGSP (non RNAV - 191 NM)
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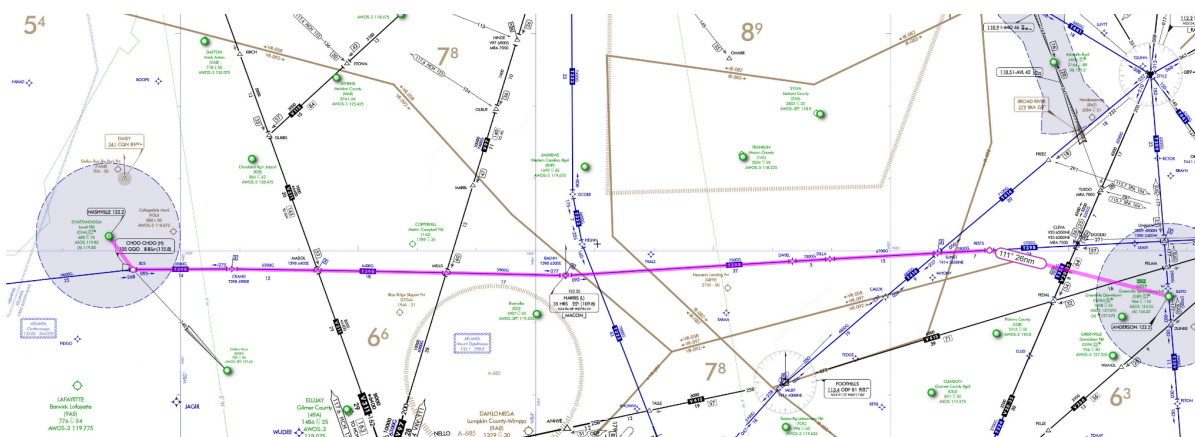
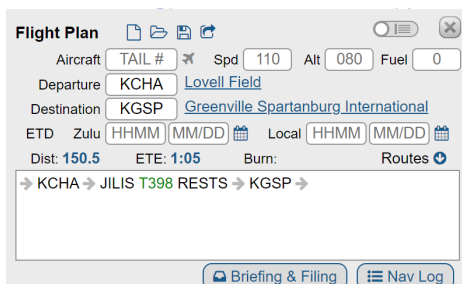
## Alternative flight plan

Using **SkyVector** to get flight route and airport information:



Use the Briefing section of this document to understand the flow of the flight. Use Sky Vector, a free website ([SkyVector: Flight Planning / Aeronautical Charts](https://www.skyvector.com/)) to visualize the route and obtain important airport chart supplements.

Once you load up Sky Vector, click on “Flight Plan”, then enter either the RNAV or non RNAV route into the large white box below. **Also, click on the World Lo button on the top right corner, which will display the IFR map.** If everything was entered correctly, it will look like this:



Hover over the hyperlink of each airport name and click “Airport Information” to get a diagram of each airport.

## Discovery Flight Purpose

The purpose of the discovery flight is to experience the thrill of (simulator) flying and introduce some foundational skills. There is a lot to flying, including navigation, chart reading, flight rules (VFR v IFR), knowing the weather and weather minimums, knowing your aircraft and its performance, and communicating with Air Traffic Control (ATC). We’re going to use the “crawl, walk, run” model and focus on just the essential basics to fly to: **“Aviate”, “Navigate”, and “Communicate”**. That is, we’re going to always fly the airplane safely (**Aviate**), know where we are and how to get to our destination (**Navigate**), and talk

to ATC (**Communicate**) All other details, like route of flight, fuel requirements, weight and balance, etc. will already be handled for you.



## Briefing

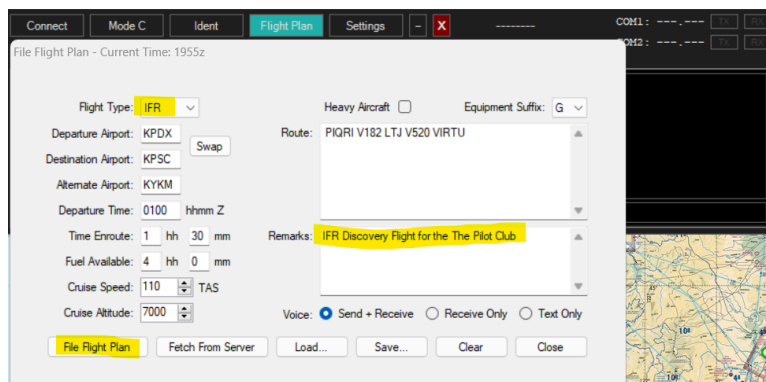
**Prior to this flight, it's HIGHLY recommended you read all of the courses at [Flying Essentials Course — The Pilot Club](#), including the Instrument Flight Rules Basics!**

After a 10-15 minute introduction in Discord, we'll all spawn in **at Lovell Field (KCHA) in a parking area, not a runway**. If you're using VATSIM, connect to vPilot once at KCHA. Since we're flying IFR, **a Vatsim flight plan is required**.

This flight will have several distinct phases including startup, departure (aka takeoff), enroute, arrival (aka arriving at our destination airport) and landing. Key points are bolded below, additional knowledge points are in italics:

## Filing an IFR Flight Plan

This flight requires a flight plan to be filed on a VATSIM client, such as vPilot. Below an example flight plan from a previous flight **so don't use this one**. Please pay careful attention to the fields highlighted in yellow and make sure you enter them.



## STARTUP: Weather, Clearance, Ground, Taxi to Runway

“Roger Roger, clearance Clarence”

It's HIGHLY encouraged that you know how to start your aircraft prior to this flight. If you don't know how, please use a Cessna 172 or 152 and one of our instructors can assist.

- It is highly encouraged to use appropriate checklists during your flight, please consult the TOC or TM if you are unfamiliar with checklists.
- Check ATIS for current weather conditions and takeoff runway. **Write down the information code from the ATIS.**
- **Contact Clearance/Delivery on the appropriate frequency. This step is REQUIRED. Here is the communication flow:**



- YOU: “Chattanooga Clearance, Cessna TPCXXXX, IFR to Greer”
- The response back from CLEARANCE will be in the C.R.A.F.T. format. **Write this down because you need to read it back and abide by the instructions:**
  - **C = Clearance.** Describes which airport you’re cleared to. For our flight it should be Greer.
  - **R = Route.** The series of way points of airways you must follow for your flight.
  - **A = Altitude.** The altitude you are cleared for during your flight.
  - **F = Frequency.** The frequency you need to change to for the departure controller. Do not switch to this frequency until you are told to.
  - **T = Transponder Code.** You will need to enter this code so ATC can identify you on radar.
- Read back the C.R.A.F.T clearance and switch to the ground controller when instructed to.
- An example clearance may sound like this: *“TPC1234 Cleared to the Greer, Chattanooga 8 departure, radar vectors JILIS then as filed, maintain 5000, expect 7000 1-0 min after departure, departure frequency XXXX, squawk 1234.”*
- Obtain clearance from the Ground Controller to Taxi to the departure runway. **You’ll be told which taxiway(s) to follow to get to the active runway. Keep note of them.**
- Runways are aligned pointing to a magnetic compass heading, with the last 0 of the heading removed. *For example, if we’re taking off from runway 26, when your aircraft is at the end of runway 26, you’ll be pointing to 260 magnetic, which is West.*

## **TAKEOFF/DEPARTURE: Up, up, and Away!**

- While holding short of the runway, switch to the tower frequency to request takeoff clearance.
- Once cleared for takeoff, depart and climb using  $V_y$  speed (best rate of climb, in a Cessna 172 it’s 74 KIAS) **AND follow the directions ATC gave you as the R in C.R.A.F.T. or any other instructions they give you.**
- Continue to communicate with ATC and follow all instructions. Switch to the departure controller when instructed to by ATC.
- **When contacting a new controller, say your call sign and altitude.** For example “Chattanooga DEPARTURE, TPCXXXX, 3000 climbing 5000”
- The controller will respond with “TPCXXXX radar contact” and then any additional directions.

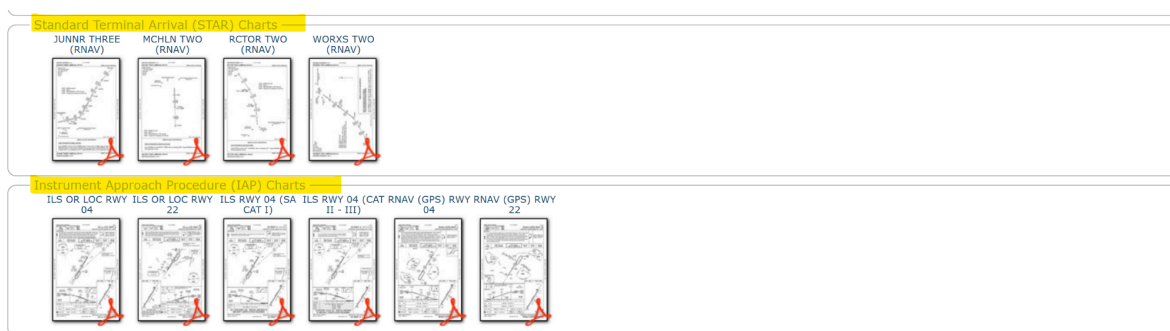
## **ENROUTE: Stay on course!**

- **You will always tuned/in contact with ATC during the entire flight. Be sure to verify you are tuned to the correct controller.**

- **Verify your position using several different methods.** ATC is expecting you to follow the route you filed on your flight plan.
- You can use several methods to follow your route, such as GPS and VOR

## DESCENT/ARRIVAL: I'm going in....

- Tune to Greer ATIS to get a weather update when about 20 NM away from the airport
- **There are different IFR approach procedures that are available which ATC can assign you. Whatever program/tool you use to obtain IFR charts, make sure you look at the Instrument Approach charts.** Below are examples of all of the approaches available at Greer.



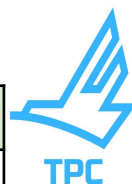
## LANDING: Wheels Down, look out below ....

- **Obtain and read back any additional landing clearance instructions**
- **Follow your landing checklist items**
- **Land Safely.** If you feel as if you're not set up for a safe landing, GO AROUND and inform the tower controller. Better to go around and try again than crash and burn (reference: <https://youtu.be/lr5d3sGxSXQ>)
- Once safely on the ground, exit the runway at an available taxi way.
- Switch to the ground controller and request a taxi to the parking area.
- Taxi using the route provided by the ground controller.

## Airport information

Take a few minutes to become familiar with the airport, the runway diagrams, etc. Most of the information can be found on Skyvector's site. Each airport links to their respective pages.

## Departure



Name	ICAO	Elevation <sup>1</sup>	Runways
<a href="#">Lovell Field</a>	KCHA	683 ft	02/20, 15/33

**Lovell Field** is a (control) towered airport within **Class C** airspace. There are numerous parking areas and taxiways so please have the airport diagram handy.

Name	ICAO	Elevation <sup>1</sup>	Runways
<a href="#">Greenville-Spartanburg Intl</a>	KGSP	694 ft	4/22

**Greenville-Spartanburg International Airport** is a (control) towered airport within **Class C** airspace.

## VATSIM

One of the goals during the flight is to have air traffic control support from real people through the VATSIM network. Register for a free account at [vatsim.net](https://vatsim.net) and complete the new member orientation in order to join the network.



When filing a flight plan with VATSIM make sure to add the following remarks to help support the club and increase our presence on the network.

**/RMK OPERATED BY THEPILOTCLUB.ORG**

## The Pilot Club Training Operations Team

- Elliot J, TPC24 – TPC Training Manager / ATO CFI
- David E, - Assistant Training Manager / ATO D-CFI
- Mike D, TPC1079 - TPC Training Ops Coordinator

For more information about this organization visit [thepilotclub.org](https://thepilotclub.org). There is also good information on the [Standard Operating Procedures](#) page. We also have a very active Discord server.

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<sup>1</sup> All elevations are indicated as feet mean sea level.

## References

1. [https://www.faa.gov/air\\_traffic/flight\\_info/aeronav/digital\\_products/vfr/](https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/vfr/)
2. <https://notams.aim.faa.gov/notamSearch/nsapp.html#/>