

Big-City IFR

If you do it right, most IFR flying is dull and boring. But being legally current doesn't mean you're ready to mix it up with the big boys.

BY PAUL SANCHEZ

It's always interesting that those of us who have earned at least a Private pilot certificate, had to endure a minimum number of training hours and completed at least one practical test with an examiner think our performance should be adequate for any airspace, any airport, any rated aircraft and any avionics at any time.

Unfortunately, it just ain't so, and GA pilots continue to find new and imaginative ways to demonstrate that we're not always ready for the challenge of a new operating environment. While we might legally be able to fly our Traumahawk into O'Hare during the Friday evening push, we won't endear ourselves to anyone. And, just because we have

Our hero in this fictional tale decides to borrow a Saratoga like the one pictured below and fly it into Detroit's evening rush. What can go wrong? Everything.

the ratings, the equipment, the recent minimum experience and the need doesn't mean we're qualified to go smoking into Big City International any time we want.

Destination: Detroit

For example, let's look at "Joe" (the names have been changed to protect the innocent...), who has a Private certificate with an Instrument rating. He flies out of a non-towered field and did a flight review 23 months ago in a modestly equipped Warrior. Joe manages to get at least three daytime touch and goes every 90 days or so. Night requirements we won't get into. In a nutshell, Joe fulfills all FAR 61 requirements to act as pilot-in-command of a daytime flight with passengers on an IFR clearance.

Joe wants to attend an event in Detroit, located in the convention

center right next to Detroit Metropolitan Wayne County Airport (DTW), so he decides to fly there. Joe's good buddy/safety pilot offers to lend him his Saratoga, newly equipped with two Garmin color moving map GPS navigators and an S-Tec flight director/autopilot. The direct distance from their home airport near Zanesville, Ohio, to DTW is a mere 147.2 nm—piece o' cake. Since he has not gotten an IFR clearance in the last 10 years, he'll plan to do this trip VFR. So much for Joe's flight planning.

Late the following afternoon, Joe takes off. A push of the "Direct" button shows DTW 147.2 nm to the north-northwest. Joe starts to settle down a bit and notices the aircraft has an autopilot; he had never flown with one before, and decides to try it. The Saratoga makes an immediate hard-right turn before Joe can find the autopilot disconnect switch. He makes a mental note to set the bug first before engaging heading mode on the autopilot.

After reaching 10,500 feet, Joe presses the autopilot's altitude-hold button and congratulates himself on job well-done; it won't be long before he will be on the ground at DTW. He makes minor course corrections with the heading bug, since the autopilot is not staying on the course line.

Commanding Weather

Now, with only 117 miles to go, Joe notices that he can't see the ground below him. At the moment, the 'Toga is in VMC, but not being able to see the ground unnerves him. With much regret, Joe does something he has not done in 10 years: consider filing an IFR flight plan.

He scrounges around in the map pockets and finds an expired low-altitude en route chart. Comparing the moving map to see where he is on the chart, he then looks for the nearest Center frequency. Joe calls up Cleveland Center, uses the mov-



ing map to gives his position from the nearest VOR, and asks for an IFR clearance into DTW. Cleveland Center issues him a squawk code, and because Joe sounded intelligent on his request, gives him the IFR clearance to DTW after a minor number of questions.

Baptism By Rapid Fire

Since it finally dawns on him that he probably won't get a direct routing to DTW, Joe starts to enter a flight plan into the GPS. Before he can finish, Cleveland Center gives him another communications frequency to use. This time he writes down the new numbers before switching radios, but forgets to turn the switch on the audio panel. His check-in produces the usual admonishment from the same controller who issued the frequency change.

Changing the selected communications radio to the one with the correct frequency puts Joe in touch with the desired sector. "These guys talk awfully fast on the radio," Joe thinks to himself; the 10 landings he did at a towered airport many years ago were not at all like this.

Joe can handle, barely, changes to the Saratoga's speed and altitude but he can't keep up with the rapid-fire communication/navigation instructions he keeps getting from Detroit Approach. He listens to the ATIS and learns DTW is advertising a 600-foot ceiling with two miles of visibility. This makes Joe feel like he is the guest participant at a Roman coliseum, with the lions on the opposing team.

Plan? What Plan?

Because he had trouble figuring out the autopilot's altitude and vertical speed pre-select functions—you have to tell it the desired altitude and rate of descent—Joe is still in the descent to 8000 feet with the power reduced to 18 inches when he is told to continue to 6000 feet. The controller also requests

Preflighting For Big-City IFR

If you haven't flown into the heart of Class B, or you haven't been to the selected airport lately, getting your act together for flying a personal airplane into a major terminal is a lot more complicated than launching on a familiar route. In the fictional instance addressed in the main text, our hero's pre-flight planning is basically non-existent, and he ends up paying the price. Here are some recommendations for big-city IFR that take one beyond a simple Duat flight-planning session.



Charts/FBO

- Ensure you have a current TAC for the terminal in question. The arrival/departure routes plotted on these charts can be invaluable.
- Use a current copy of the Airport/Facility Directory (A/FD) to read up on your destination, its runway/taxiway layout, lighting, etc.
- Thumb through the approaches available at your destination and get a feel for what surprises might be in store.
- Then figure out which arrival you'll get, how you'll transition to the approach and what speeds/power settings you'll want and when.
- Finally, use the taxiway chart to figure out which FBO you'll use and how you'll taxi there after landing.
- Big-city FBOs aren't always friendly to piston airplanes. Call ahead to check on parking, fuel prices and other services you need.

Weather/Delays

- Before takeoff, ensure you have the current en route and terminal weather. Call the AWOS number in the A/FD for runway(s) in-use.
- Check the FAA Air Traffic Control System Command Center Web site <<http://www.fly.faa.gov>> for delay information.
- En route, check with Flight Watch each hour for an update on your destination's weather.

Work With ATC

- Pay attention to the Center and Tracon controllers. They have the "flick" and you'll learn more by listening than talking.
- Get the arrival ATIS as soon as you can. Use it to pre-set the tower and ground control frequencies.
- Be sure to keep your GPS's flight plan updated with routing changes and arrival/approach procedures to reduce your workload.
- This isn't your local CTAF. Keep transmissions brief and professional. Read back the clearances.
- Be prepared for the "keep your speed up to the marker" request. Get the pre-landing checklist done as early as possible. —J.B.

Know Your Ride

It should be silly to say this, I know, but too many pilots with lots of experience in-type don't really know how to extract maximum performance from their airplane or its avionics. Punching into Megalopolis International during the Friday evening push is not the time to be experimenting with power settings and gazing at the placards for



the maximum landing gear extension speed. Nor is it a good time to wish you'd updated your GPS data base or spent more time learning your moving map. Here are a few things you should know about your ride before attempting big-city IFR.

Speeds/Power Settings/Pitch

- What is the power setting and pitch attitude necessary to hold a glideslope at 120 KIAS? If you don't already know, you'll likely be very busy on the ILS final.
- Do you know your airplane's V_{le} and V_{lo} ? If you have to look them up, or look up the definitions, then you're probably not ready for big-city IFR.
- Does your airplane have an approach-flap setting at an airspeed higher than the airspeed indicator's white arc? If so, it could be useful to help get you slowed down.
- Many airplanes require re-trimming after flaps or landing gear are deployed; some don't. Do you know how much trim to crank in for each configuration change?
- You might get a hold if the weather is down and it's rush hour. Do you know your airplane's best endurance speed and configuration? You've anticipated this and have plenty of gas, right?

Avionics

- Punching the "Direct" button for your destination on the GPS is likely to increase your workload at the wrong time. Know ahead of time which arrival fix you'll likely use and plan for it.
- Know how to load and activate arrival and approach procedures into your navigators' active flight plan. Know, also, which arrivals aren't present in the data base.
- Many terminals have more than one ATIS, tower and/or ground control frequency. Don't blindly accept the first one that comes up out of the data base when pre-setting the radios. Verify it.
- What are you going to do if something in the panel fails? We've all gotten too dependent on GPS; is your #1 NAV set for the ILS and the #2 configured for the arrival?
- Finding that obscure intersection on the chart can take too much time. Know how to scroll through the data base's stored fixes to find it. Compare the resulting bearing to the chart for verification. —J.B.

that the Saratoga maintain at least 150 knots, and to change frequencies. Joe checks in with the new sector as the autopilot levels off at 6000.

The controller asks the Saratoga's indicated airspeed. Suddenly remembering his direction to maintain at least 150 KIAS, Joe realizes the airspeed needle is pointing accusedly at 115 KIAS. He fudges his response, "125 knots." Detroit Approach rightly berates him for not doing the requested 150 knots or better.

Now Joe is not very sure about the outcome of this flight at all. How is he going to do the ILS 21L at 150 knots indicated when the last 50 home airport approaches he did in the Warrior were at 90 KIAS? Joe would like to cancel the IFR and go to the other Detroit airport but he is already in the clouds at 6000 feet.

Since DTW's Runway 21L is 10,001 feet long, Joe figures he might be able to use all that pavement to dissipate the excess airspeed from the 150 knots requested to the 78 KIAS he remembers as the Saratoga's recommended airspeed on final approach. He keeps his fingers crossed.

Soon, Joe is given a vector to the localizer's final approach course at 5000 feet. The mental sweat is accumulating but since Joe had already loaded the approach, he figures he can handle this. Now his bigger worries are his landing gear extension speed limitation of 132 KIAS and how to stay on the glideslope with that speed. Using flaps is out of the question, since the maximum speed for flap extension is 110 KIAS and he'll be well above that.

Final Approach

Running through the pre-landing checklist printed on the instrument panel, Joe ensures the landing gear is down with three green lights. His airspeed has dissipated to 110 KIAS so he can lower 10 degrees of flaps. He's now on a one-mile final but

Detroit tower tells Joe to maintain no less than 110 KIAS until the runway threshold for the Boeing traffic sneaking up behind him. There are just 30 more seconds left in this nightmare and Joe promises to himself he'll never be so woefully unprepared again.

The Saratoga floats a few thousand feet down Runway 21L as Joe reduces the power to idle, adds full flaps and slowly bleeds off all that energy with surprisingly few pitch excursions. Finally, the airplane quits flying—dropping a couple of feet to the pavement—it was a firm arrival, but a landing is a landing, and all of the airplane's big parts are still attached.

Joe makes a quick left turn off the runway, switches to the ground control frequency when advised, and the controller asks him which FBO he wants. Never having been to an airport with more than one FBO, Joe can't come up with an answer. He wonders if he can rent a car to drive back home. Eventually, he parks the Saratoga, cuts the master switch and slinks into the FBO, hoping no one was monitoring any ATC frequencies.

What Did "Joe" Do Wrong?

The quick answer is "everything," starting with Joe's decision to fly into the heart of Class B airspace without ever having done so before. Like a typical accident chain—even though this fictional tale did not result in an accident—this was the first link.

A second link was his failure to obtain and understand a thorough pre-flight briefing. Had he better understood the weather and the need to obtain an IFR clearance, he would have been better prepared with the appropriate charts and a more-detailed plan.

A third thing Joe did wrong was to attempt this flight in an unfamiliar airplane. Not only was Joe not accustomed to the Saratoga and its equipment, he was behind the air-

The Buddy System

There's a first time for everything, including a rush-hour IFR arrival at Big City International. If you haven't done this before, it would be a good idea to take along someone who has, like a CFII or local corporate jock on his day off.

Grabbing some VFR-only buddy out of his Aeronca to tag along probably isn't the best solution, however—you might be better off single-pilot.

If you do take a second pilot along, be absolutely certain of each pilot's duties: Two pilots trying to fly the same airplane at the same time is second only to a Private pilot with a #2 Phillips screwdriver as one of the most dangerous things in general aviation.

The smart thing to do is agree on each person's duties before even turning the key. The pilot lounge is the best place to go over the flight plan, charts and procedures you'll use so both of you are on the same page; don't wait until airborne to have this chat.

Use the carriers' "pilot flying, pilot not flying" division of labor. The guy flying is solely responsible for aviating and decision-making while the other guy handles communications, makes sure the correct charts are available, looks for traffic and watches over the guy flying. You'll do fine. —J.B.



plane all the time. His unfamiliarity with the navigation, communication and autopilot systems led to course deviations and a failure to follow his descent and turn clearances.

A corollary to his lack of experience in the Saratoga was his inability to make maximum use of its capabilities and performance. In the smooth air Joe encountered in the descent, there was no good reason to reduce the Saratoga's power so much. Slowing down in the descent is not what the controllers expected and—in the end—just prolonged Joe's agony. As long as the air is smooth and the airspeed is not in the yellow arc, there's no good reason to reduce power, especially in a busy terminal area, until well-established on final.

Not having the correct—and current—charts readily available in the cockpit is another issue. Even though Joe hadn't planned to file and fly IFR, sometimes plans can

change. If he'd checked weather before takeoff, he would have known better. Going ahead and planning to do the whole flight IFR, even if the weather is CAVU, would have been the smart play.

Conclusion

As this fictional tale demonstrates by combining a lot of the little mistakes we've all made into one flight, being legally qualified for a planned flight is not the same as being prepared for it. While we often measure the success of a flight by whether or not the airplane can be used again, the real measure of our abilities as pilots is in planning, execution and professionalism. By these measures, Joe's flight was a disaster.

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