



JEFF SKILES

COMMENTARY / CONTRAILS



Technology With Training Wheels

Flying a Pacer with an electronic flight bag

BY JEFF SKILES

I CAN'T SAY THAT I am a big proponent of latest and greatest. I was late to the party with such things as dishwashers, microwaves, and computers. My VCR (remember those) blinks 12:00, and I may have been the last man on the planet to get a cellphone. Don't get me wrong, I like modern conveniences, but with most things I prefer to stay on the trailing edge of technology and let others be pioneers.

THE OLD WAYS

When I began in aviation the aeronautical gear you carried was fairly minimal. If you were flying locally, you would be pretty well outfitted with a set of foam earplugs. When flying cross-country you might grab a sectional chart on the way to the plane. That was pretty much it. There was no need to have a fancy flight bag chock-full of electronic devices that somehow assist you in making a 25-mile flight to view the fall colors. There wasn't any such thing as flight-planning software and no requirement for the plethora of charging cables vying for attention at the lone cigarette lighter power point.

Back then, a call to flight service would bring on a full briefing marathon with the briefer yammering on about fast-moving cold

fronts over Montana and troughs tragically stalled along a line between No-wheres-ville, Texas, and Never-heard-of-it, Tennessee. Eventually the briefer would get around to what you were really calling for—the current and forecast weather for your one-hour local flight. But those pearls would only be dispensed after a 10-minute penance communicating the big picture. I assume that weather briefers were paid by the time they spent on the phone because that was certainly maximized at every opportunity.

PURE MAGIC

Today however we have amazing capability we could never dream of 30 years ago. As I said, I'm not a tech junkie, but I have become a convert. I too am now one of those

guys striding to their aircraft with charger cords dangling from their pockets. Why? Because of the amazing capabilities modern equipment gives you.

The weather information alone is worth the price of admission to the electronic flight club. I have made several 1,000-plus mile flights this year, and in every case the real-time weather, fuel cost, and ground services information available changed my route and factored into my decision-making.

I use an iPad Mini with the professional version of ForeFlight accessing information through my Stratus 1 ADS-B receiver. I couldn't have even uttered that last sentence with comprehension two years ago, but now I don't want to ever be without this equipment again. In fact, I consider this setup to be superior to the electronic flight bag software we use at the airline.

I recently had the opportunity to put my equipment to the test. A friend of mine, we'll call him Sam, bought his first airplane recently in far away Kalispell, Montana, and needed company for the trip home to Minneapolis.

TECHNOLOGY GETS US THROUGH

Kalispell sits in a bowl in the mountains and makes its own weather. The terrain combined with abundant moisture from Flathead Lake can sock in the valley with fog for weeks at a time. Yet, only 50 miles through the mountains to the east lies the vast, undulating surface of the Great Plains rolling unbroken for 1,000 miles. Sam and I thought it was the first 50 miles that would be the problem, but we couldn't have been more wrong.

A large high-pressure area was pushing its way south from Canada, and the Nostradamus-like weather prognosticators foretold clearing skies and fair winds. At least it looked good on the 48-hour outlook chart; in fact it looked perfect, but the swirling highs and lows splattered across the map had plans of their own. As often is the case, the charts promised much but conspired to disappoint.

It was mid-afternoon before we departed Kalispell pointing our nose to the east across the Continental Divide. With only a scant week until the winter solstice, it wouldn't be long before a curtain of darkness would descend upon the rugged features of the far northern Rockies.

The sun falling low on the horizon silhouetted the craggy peaks as we weaved along following the serpentine course of U.S. Highway 2 far below. After only an hour of flying in this old Piper Pacer we found ourselves clear of the mountains to the east and angling toward Great Falls for our first fuel stop.

FOG, FROST, AND OTHER UNPLEASANT PHENOMENA

Sam had planned to overnight in Great Falls and strike out in the morning for home, but the last 24 hours harbored optimistic forecasts continually changing for the worse as

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low overcast skies stubbornly persist along our route. Great Falls sits at the confluence of the Sun and Missouri rivers, and the latest ADS-B weather coming through on my iPad calls for freezing fog not scheduled to clear until the next afternoon.

Not wanting to be stuck in fog and frost we alter course for Helena, Montana, where it is forecast to stay clear through the night. This holds true, and the next morning dawns bright. We meet the sun shouldering itself over the horizon as the Pacer climbs briskly in the chill for Lewistown, Montana. As we pass Great Falls to the north the weather is as expected, one-quarter mile visibility in freezing fog. Our modern conveniences saved us from a long day mired on the ground staring at the malevolent conditions.

A blanket of snow has been spread upon the Montana plains overnight, and an undulating sea of white cast against the bluest of skies greets our arrival in Lewistown. The course ahead however looks ominous as a solid low cloud deck crowds upon the mountain ridge to the east of the airport. The Pacer is a no-question VFR airplane, and with clouds stretching all the way to the Great Lakes, flying over the top is simply out of the question. We must either find a route underneath or resign ourselves to a day sampling the charms of Lewistown.

My ForeFlight app can overlay information on the course map including TFRs, weather radar, satellite cloud cover, and much more. The most valuable data at the moment is a ceiling representation at every airport reporting weather. A little box appears over each airport displaying a color—pink for low IFR, red for IFR, blue for marginal VFR, and green for VFR—with a numerical value representing the ceiling height. Today the green box for VFR isn't showing anywhere on the map.

A ROUTE HOME

Our planned route directly to Aberdeen, South Dakota, is displaying IFR ceilings

the entire way, albeit with good visibilities below the clouds. This doesn't make for a promising flight, but the app displays an area of blue squares about 100 miles to the north of our planned course where we can stay in 1,200- to 1,700-foot ceilings and continue eastward.

Departing Lewistown we find a convenient cleft in the cloud bank allowing us to get below the deck sitting hard against the ridge's eastern flank. A pilot has to judge the safety of any flight operation, and while this would certainly be considered scud running, the visibilities below the clouds are good and we are following a sparsely traveled highway that can be used for a landing in the event things go very wrong. A Pacer can be set down just about anywhere, and frankly, over the eastern plains of Montana, there just isn't that much out here to run into.

Today however we have amazing capability we could never dream of 30 years ago. As I said, I'm not a tech junkie, but I have become a convert.

Still, the prospect of flying the next 700 miles in marginal VFR wouldn't be appealing at all without accurate and up-to-date weather-reporting information along the way.

With the widely scattered reporting points in eastern Montana, however, we are forced to divert even farther north to find the blue boxes with ceilings in the teens.

After a quick fuel stop in Sidney, Montana, we point our nose toward Jamestown, North Dakota, but once again the Stratus ADS-B generated weather shows that now turning south toward Aberdeen we will gain higher ceilings.

Two and a half hours of flight finds us in Aberdeen trying to warm ourselves in the FBO after the frigid temperatures aloft; the heater in the

Pacer has proven to be a miserable disappointment. After viewing our breath in the cabin for the last three hours we are reluctant to leave the warmth of the FBO, but with only 211 miles to go we push on for Minneapolis.

NIGHTFALL

By now the day is getting long in the tooth, and a two-hour flight in darkness under a 1,500-foot overcast is not an appealing thought. But, we are flying into more heavily populated areas with a plethora of airports that report weather through ADS-B. I wouldn't even consider such a flight at night without real-time weather information.

ForeFlight and the ADS-B receiver once again prove their worth as we divert south of our course to seek higher ceilings. Before long, two frozen pilots are on approach to Flying Cloud Airport after a long day having traveled 1,000 miles in what I would call very challenging conditions.

HOW DOES IT WORK?

ForeFlight can display a course over both sectional and IFR charts and also will file your flight plans and get weather briefings based on the route you select. It will do your flight planning by calculating time, distance, and fuel burn, and it has many other useful screen overlays including obstacles and terrain information. A Stratus ADS-B receiver gives you the most current in-flight information, including weather radar, winds aloft, current and forecast weather, fuel prices, and NOTAMs, as well as providing a more reliable GPS receiver than is provided by the iPad's internal sensor. While Sam and I were forced to fly an extra 165 miles, we made it home safely in marginal conditions where we otherwise would have found difficulty.

DEBRIEFING THE FLIGHT

The next day I opened my app and found largely IFR ceilings across the route we had just traversed. Without the iPad, ForeFlight, and the Stratus, we would still be sitting in Great Falls waiting for the fog to lift. The day and a half journey could have stretched into a week, but with the aid of modern technology we were able to fly home in a purely VFR airplane and do so in complete safety. *EAA*

Jeff Skiles, EAA Lifetime 336120, is an ATP and CFII-ME who has been an airline and light airplane pilot for almost 40 years. He previously owned a Cessna 140 and a Waco Y0C and currently flies a Cessna 185. Jeff can be reached at JeffreyBSkiles@gmail.com.

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