BUSH HAWK

The tailwheel Skyhawk that acts like a Skylane

BY DAN NAMOWITZ

The big taildragger rumbles up the taxiway and waddles onto the grass, sniffing for a place to tie down. It looks at home against the north woods backdrop—a bushplane back from some wilderness outing, perhaps. The prop stops; the pilot jumps out and walks over to where a few old cars are parked. He drives one of the autos back over to the airplane and unloads a briefcase, a microscope case, several bags of dog chow, and a dog. ■ It's Wednesday. Veterinarian Rick DuBois has flown the 30 miles from his home in Dexter, Maine, to Greenville, on Moosehead Lake, for his weekly rounds at the local animal hospital. Comparing the short flight to driving rural Maine

PHOTOGRAPHY BY MICHAEL P. COLLINS

roads—on which you can expect to find snowplowing in winter, paving in summer, and convoys of logging trucks any time—well, as they say, "you can't beat it with a stick."

DuBois, 38, became a pilot for many of the usual reasons. But, during those first few sessions in a Cessna 172, little did he know that there was bush flying in his future. In Greenville, DuBois had met a pair of local legends, Dick and Max Folsom of Folsom's Air Service, a father-and-son team that doesn't just make you into a pilot, they make you into a bush pilot.

With relatives in Canada and inlaws in the Midwest, DuBois and wife Robin (also a vet) had a lot of ground to cover. So when he let it be known that he was pondering the purchase of an airplane, the Folsoms worked some Moosehead matchmaking, and DuBois's bush-flying education began.

If this were the script for a television sitcom, we would now see DuBois's primary flight instructor exclaiming, "You bought a *what?*" That part-time CFI—not a "taildragger man," DuBois explained—bowed out, and Max Folsom discovered that he had not only made a sale, but also gained a student. He agreed to find time to instruct DuBois between charters, exhibition flights in the company's famous amphibious-float-equipped DC–3, and FAA checkrides. Some pilots warn that a 210-horsepower taildragger with twitchy habits on the ground is "too much airplane" for a new pilot. Others would say that DuBois could not have picked a better time to learn skills once common but now in decline.

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The airplane DuBois acquired was built in 1977 as a stock Hawk XP, the souped-up model Cessna designed to fill a perceived gap in the line between the 172 Skyhawk and the 182 Skylane. The XP was offered with a six-cylinder Continental IO-360-K engine derated to 195 hp at 2,600 rpm. Meeting the same indifferent reception as other intermediate designs perpetrated by Cessna, the XP's production lasted only five years.

But some pilots saw a chance to draw from Cessna's nosewheel inventory to fill a void in taildragger lineage between the 145-hp Cessna 170—out of production since the Skyhawk's ascendency—and the Cessna 180, the 230-

hp predecessor to the Skylane. In fact, Skyhawk taildragger conversions are fairly common. Four can be found within five minutes' flying distance of my home field.

Hardly was N1310V off the production lines and in the hands of its first owner when the modifications began. What emerged was a capable short-field machine. The mods were based on STCs owned by Bush Conversions of Udall, Kansas (STOL kit, aileron and flap-gap seals, and tailwheel conversion; 800/752-0748), and Isham Aircraft of Valley Center, Kansas (engine upgrade allowing the IO-360-K to operate for five minutes at 2,800 rpm and 210 hp; 316/755-0713).

If the airplane appeared transformed, it may have evolved more than its original pilot had anticipated. Only eight days after the tailwheel conversion was completed on February 1, 1980, a mechanic made this entry in the aircraft maintenance log: "Inspected main landing gear attach structure for damage after aircraft ran over snowbank on landing...." Someone had learned about tailwheel flying the hard way.

My turn to ride the bronco came when DuBois had put in a year as a pilot and decided to earn an instrument rating with me as the instructor. He had already given me one ride, and I looked forward to more. Over the course of last summer and autumn, we flew regularly; and as DuBois became an instrument pilot, I got better acquainted with his "tailhawk."

Skyhawk impressions begin to fade once you climb inside and strap yourself into the up-sloping seat. I'm just over six feet tall but the view ahead is all sky. The XP is three inches longer than a Cessna 172 and has the same wing area. Maximum ramp weight is 2,550 pounds, compared to the 172N's 2,300. The XP had a 90-pound gain in useful load, most given over to fuel when the airplane is flown with full tanks. The 1977 Hawk XP held 52 gallons, compared to 43 gallons for a 1977 Skyhawk. You gain 2,800 feet of service ceiling in the XP, topping out at 17,000 feet, according to Cessna's specs. "Top speed at sea level" is 134 knots, a gain of nine knots over the smaller craft. TBO on the bigger, thirstier engine is 1,400 hours, instead of 2,000 hours for the four-cylinder Lycomings that have powered Skyhawks since 1968.

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The panel is essentially a Skyhawk's, but the big control yokes bring a Skylane to mind, as do cowl flap, prop, and rudder trim controls. The Continental is injected, so there's no carburetor heat control to worry about when operating outside the green arc on the manifold pressure gauge (it's actually a combined mp and fuel pressure instrument). The tachometer is outfitted with a yellow arc from 2,600 to 2,800 rpm, to remind the pilot of the STC's restriction; 2,800 is redline.

Taxiing on a breezy day is a full-body workout. Brake and rudder/tailwheel steering must be used. Aileron deflected for the wind conditions is essential in any taildragger, but especially one modified to fly at absurdly low airspeeds. Up elevator when taxiing into the wind, with yoke slightly forward when taxiing downwind is the rule. Watch the speed taxiing downwind. You learn to make taxi turns to the left so that you don't have to combat wind and the left-turning tendencies generated by the engine.

After carefully lining up and advancing the throttle for takeoff, aggressive rudder and good peripheral vision are a must if you don't want the thrill-seekers on the sidelines to enjoy themselves too much. As Folsom describes the noise, the airplane "blats" at takeoff power. In about five seconds you can lift the tail with a firm, slow push on the yoke, and—now that you can see where you are going—let her fly. All that power provides quick acceleration, limiting your exposure to directional mishaps, and is very reassuring. In a standard cruise-climb configuration (24 inches mp and 2,400 rpm), with moderate takeoff weight and at cruise-climb airspeed, the XP yielded a 1,000-fpm rate of climb from sea level on a warm day.

Trimmed for cruise, you're in a Sky-

hawk again, except for that deeper rumbling from under the cowling and the 120 to 125 knots showing on the airspeed indicator. You're back in a Skylane with its heavier pitch and roll control pressures as you work through steep turns, slow flight, and stalls, which are heralded by generous buffeting typical of Cessna singles.

Now comes the moment we've been waiting for: shooting some landings. Back at the airport the wind has come up, Runway 33 is active, and DuBois notes that he will now get to see whether my calm-wind touchdowns of yesterday were any indication of how I will fare today, with 15 knots of wind blowing from 280 degrees. As we enter the downwind, the tower throws us a curve: other traffic is getting a little bit close. Would we mind making a short approach? I know DuBois usually lands the XP with 20 degrees of flaps, so I decide that this will be a chance to show him what his machine can do on a max-performance approach. With any luck it will also take his attention away from the matter of my touchdown and rollout.

I throttle back gradually, and the wide 76-inch prop flattens out, allowing the airspeed to race toward the white arc. Turning a close-in base leg, I extend the huge flaps in one stroke (like Skyhawks manufactured through 1980, this XP had 40 degrees of flaps) and we head for earth. Between drag and the headwind component, I still need a touch of power to carry us to the numbers, and I leave the power where it is as I fish for the centerline with the tailwheel, holding the left wing low and touching enough right rudder to keep the nose pointing to a heading of 330.

In the flare I am using x-ray vision to keep us aligned as the stall horn whines and the mains squeak on, one after the other. Full aileron into the crosswind. I add more right rudder as I bring the power back up and fly it off. Not bad. I hope I haven't distracted DuBois too much from my landing. An airplane like this keeps the pilot honest. It's refreshing.

In October, DuBois became an instrument pilot. Although the party was over for me, I could look back on some good flying and a pleasant training project. Best of all, I gained a veterinarian who vaccinates my cat on the kitchen table, sparing me a hellish drive to Dexter with an irate feline squawking 7700 in a carrying case on the seat next to me. Who says flight instructors don't have it made? □

To wheel, or not to wheel?

Although I hesitate to touch off the old debate about stall landings versus wheel landings in a taildragger when the wind is up, I will stick my neck out this far: Over several months of flying with Rick DuBois in his converted Hawk XP taildragger under wind conditions ranging from dead calm to "let's call it quits for today," I never encountered a time when the modified N1310V was not fully controllable down to stall speed in the landing configuration.

On the other hand, wheel landings (in which the pilot flies a faster approach, touches down in a flat attitude on the mains, and keeps the tail up with forward pressure during the rollout for better control effectiveness—or so the theory goes) require a surgeon's touch in the XP to keep the long spring-steel gear from catapulting the airplane back up into the gusts, not an attractive option.

A tailwheel checkout for a transitioning pilot under FAR 61.31(g) requires proficiency in wheel landings. But the essential point is this: No matter how you do it, at some point during the landing the airplane will pass through the airspeed range where flight-control effectiveness decays. Getting through that zone quickly is the key. I know working pilots who "wheel it on" every time and others who have flown various taildraggers over thousands of hours and have never performed a two-pointer. What works in one airplane may not be best in another. Each pilot must find his or her own way. Preserve all your options by being capable of both. ***—DN***