Okay, who's looking for a new four-seat, IFR-equipped airplane for under $100,000?

BY SETH B. GOLBEY

"What's that airplane?" the airport visitor asks of the shapely taildragger. Eyeing the sculpted fabric empennage and massive vertical fin, you reply confidently, "Oh, that's a Maule," and hope the visitor doesn't press you to be more specific. Could be an MX–7-180 with a carbureted 180-horsepower Lycoming and 30-foot 10-inch wingspan (the "short" wing). Could be an MX–7-235 with a carbureted or fuel-injected 235-hp Lyc and the short wing or an M–7-235 with the same engine choice but the extra-long wing (35 feet 8 inches). Could be an M–6-235 with the long wing (32 feet 11

PHOTOGRAPHY BY MIKE FIZER

inches) and one of the big engines. If it's an M–6 or M–7, it could be on amphibious or straight floats. Could be an out-of-production M–4 or M–5. Then you look at the front end. Oops, that's no piston engine under that sleek cowl. Wait, must be an MX–7-420 with the short wing and a 420-shaft-horsepower Allison 250 turboprop. Or if it's on floats, it's the M–7-420 with the Allison and a 33-foot 8-inch wingspan. If it's on hydraulic wheel skis, it's anybody's guess.

The heck with it anyway. Because there, at the end of the ramp, is a Maule you can instantly identify, for it has the one thing no other Maule has—a nosewheel.

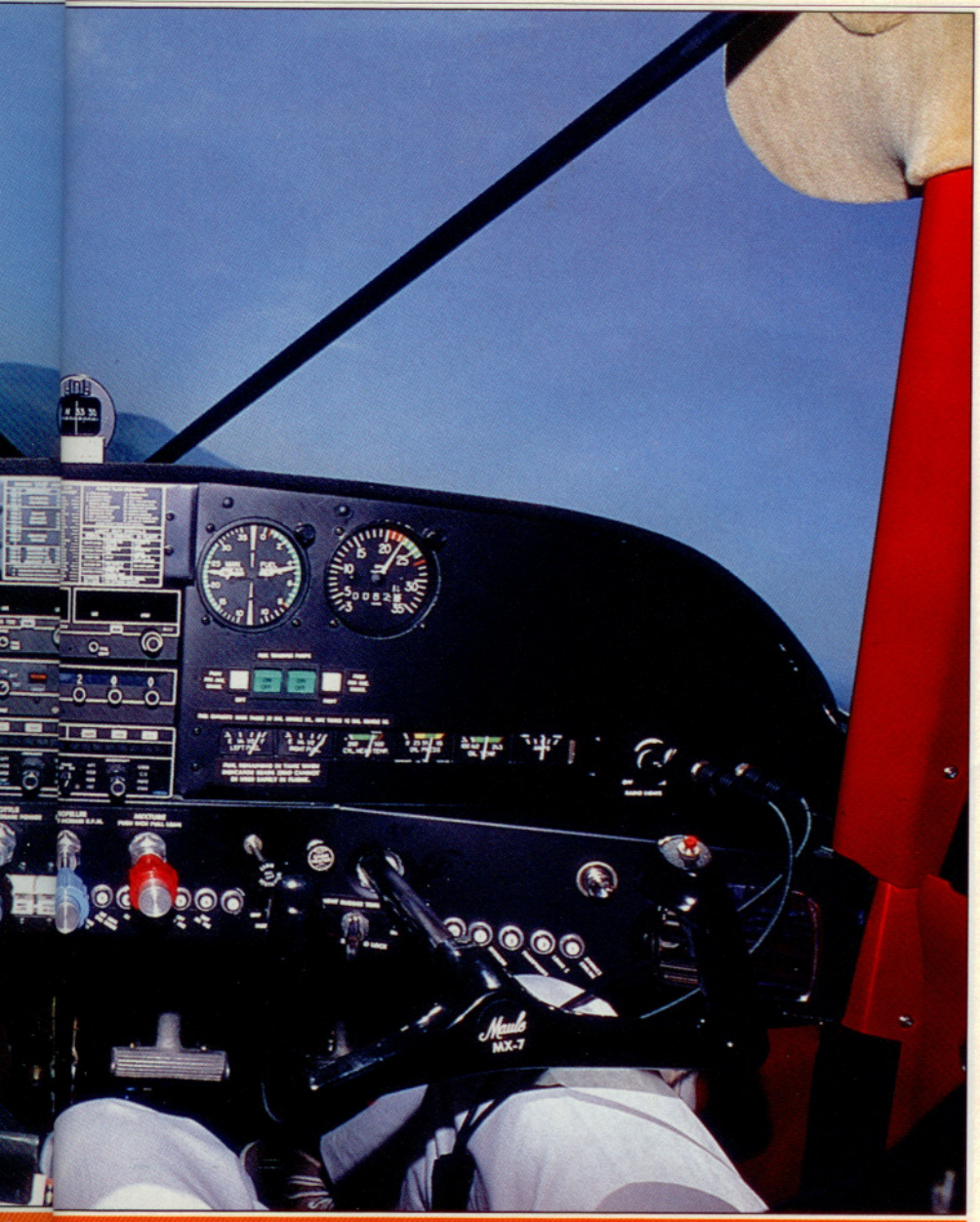
That's the MXT–7-180, you tell your visitor, with a Lycoming O-360, a 76-inch Hartzell constant-speed propeller (a three-blade McCauley is an option), and the short wing. Aside from the husky nosewheel, it is generally similar to its tailwheel cousins: four-place cabin with optional fifth jump seat, all-metal wings, welded tubular steel fuselage frame, fabric-covered empennage and tailfeathers, and 70-gallon fuel capacity (and at 9 gallons per hour at 65-percent power, that's quite a bit of flying).

Belford D. (B. D.) Maule flew the first airplane of his own design in 1932. In 1961, the family-owned and -operated Maule Aircraft Corporation received FAA certification on B. D.'s first production design, the four-seat M–4, the current line's direct progenitor, which remained in production until 1975. The M–4 was succeeded by the uprated M–5, which first flew in 1971. The M–6 was certified in 1981. The M/MX–7 design was introduced in 1984. The company moved to its present location at Spence Air Base in Moultrie, Georgia, in September 1968 and changed its name to Maule Air, Incorporated, in 1984. The trigear was certified in December 1990. Maule has delivered 1,600 airplanes since the first M–4 was rolled out.

Why a trigear? According to B. D.'s son Ray, because flight schools and individual pilots asked for one. Although no bulk orders have been signed as yet, Maule could produce the trigear at a rate of five per week, if necessary. By late May, about 10 had been delivered.

The beefy nose gear is similar to Piper's design, using a steel strut mounted on a tubular steel truss attached to the motor mounts at the fire wall. Shock absorption is provided by an air/oil strut, and the tire is an oversize 6.00 × 6 (the

The 38-inch cabin cross-section, while



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mains are 7.00 × 6s). The main gear is a two-piece affair of spring aluminum bolted to a saddle attached to the longeron in the center section that runs beneath the front seats. The new main gear resembles nothing as much as a Cessna Caravan's in miniature, which is just what you want in an airplane that is likely to find many uses in areas far from paved runways.

The fuel system is a bit more formidable than what you're used to in small singles. The tanks are in the wings, a 20-gallon main inboard and a 15-gallon auxiliary outboard on each side. There are two fuel gauges on the panel; press a button over each to see the aux fuel level for that side. There's also a pair of switches for the transfer pumps. The engine feeds only from the mains, so standard procedure is to drain the mains to the one-quarter-full level, then turn on the transfer pumps to refill the mains from the aux tanks. (Do it too early, though, and you'll pump fuel overboard.) Fuel transfers at only 0.4 gallons per minute, so it takes awhile to move all aux fuel to the main tank. Each main retains 1.5 gallons unusable fuel. During the preflight, there are seven fuel drains to check—one for each tank, two at the low point of the system (under the pilot's door), and a gascolator drain under the engine compartment.

You'll want to pay particular attention to weight and balance during preflight, not because the airplane is particularly easy to load out of limits, but because there are so many loading options. All seats but the pilot's can be removed in favor of cargo. You can load 170 pounds in area A (where the copilot's seat goes), 350 pounds in B (where the back seat goes), and 250 pounds in C (the baggage compartment, where the optional fifth seat goes). Different limits apply when the seats are used. The 3.8-inch CG range at max takeoff weight of 2,500 pounds expands to 6.9 inches at a takeoff weight of 1,600 pounds or less.

You'll also want to familiarize yourself with the flap system. Operated by a Johnson bar between the front seats (which calls for a longer reach and has a heavier "feel" under air loads than in, say, a Cherokee), the flaps have four positions. With the handle on the floor, you're in the cruise setting, which reflexes the flaps upward, relative to the wing chord, −7°. The first notch is called "up"; at 0°, this setting is used for climb. Takeoff setting is the second notch: 24°; this is also the setting to use

for best-angle climbs. Landing calls for the third notch, 40°.

AOPA Pilot traveled to Laconia, New Hampshire, to sample the flying qualities of the new Maule under the watchful eye of Jeffrey Newcomb, president and director of sales of Pick Point Air, Maule's New England and northern New York dealer. Newcomb has three trigears for sale: N123PP, N234PP, and N345PP.

With full fuel and Newcomb and me aboard, 123PP was still about 235 pounds shy of max takeoff weight, leaving plenty of room for photographer Mike Fizer and a pile of his gear. Even nearing max weight, the Maule couldn't wait to fly, but it took me a couple of takeoffs to learn that the airplane wants a smooth but decisive rotation to minimize the ground run. Best rate of climb is found at 90 miles per hour (78 knots) with 0° flaps; best angle, 75 mph (65 kt) with flaps 24°. (The airspeed indicator is calibrated in mph; speeds are IAS.) We easily maintained a 1,000-fpm rate of climb before nosing the airplane over a little to improve engine cooling.

The optional swing-out windows open parallel to the bottom of the wing, and we couldn't resist tooling around over beautiful Lake Winnipesaukee on a warm, late-spring afternoon with our elbows in the breeze. The airplane can also be operated with the passenger and baggage compartment doors off up to 131 mph (114 kt). Fizer reported no discomfort in the back seat due to the open windows. Newcomb and I were quite comfortable up front; the 38-inch cabin cross-section, while hardly capacious, is not at all cramped, and Newcomb had only to move his left leg slightly to allow me to reach the elevator trim wheel between the seats. Thanks to a cranky right knee, I personally would like to see a little more aft seat travel on the pilot's seat, and this apparently is in the works down at Maule's factory.

Leveling off at about 1,000 feet agl, we used a relatively low power setting (23 inches and 2,300 rpm) so as not to exceed the maximum window-open speed of 120 mph (104 kt); this power setting yielded an average 110 mph (96 kt) on this 25° Celsius day. Later, at 24-squared and the flaps at −7°, we averaged 125 mph (109 kt). The pilot's operating handbook contains no power settings or performance figures, so the pilot is forced to use the Lycoming engine manual and experience to set power. Vne is 182 mph (158 kt); the top

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of the green is found at 147 mph (128 kt). Maneuvering speed is 125 mph (109 kt).

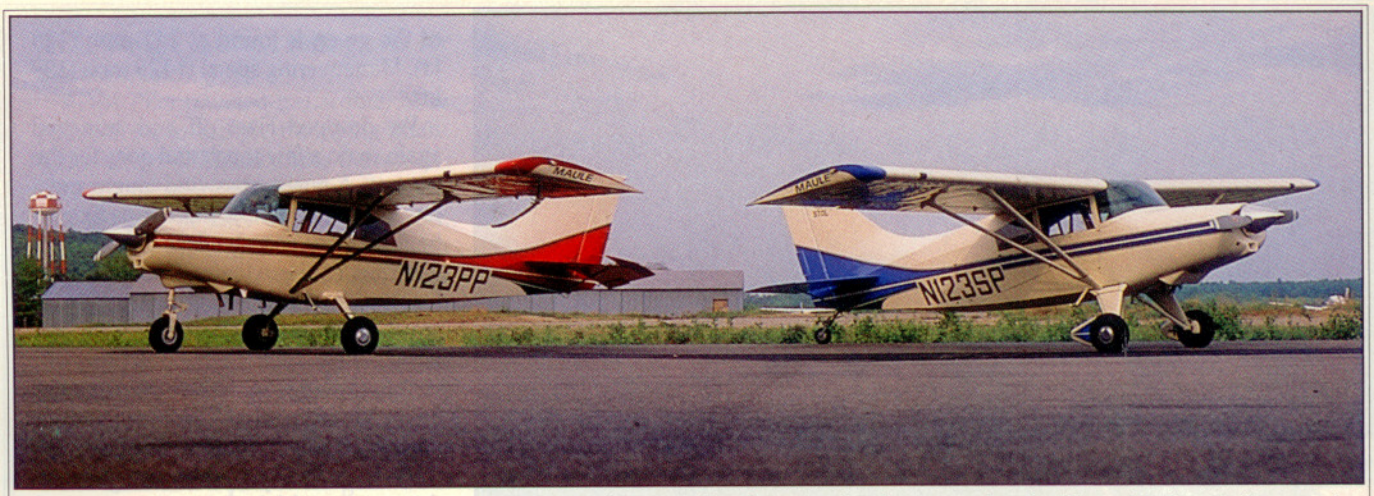
We dropped Fizer off and launched again to do a few touch and goes for the camera. A gusty crosswind taught me a few things about how this Maule likes to be flown. For one, the flaps span 18 feet 3 inches of the wing's 30-foot 10-inch length, so the ailerons are relatively small (less than half the area of the flaps). The rudder is powerful, however, so this airplane requires a high degree of control coordination. This is not hard to achieve, but it does take practice. Aileron and elevator pressures are light; rudder pressures higher. A spring-powered right rudder trim is available for those long climbs. To help a little with coordination, a rudder-mounted servo tab automatically adds rudder as the ailerons are deflected.

The maximum demonstrated crosswind component is just 14 mph (12 kt). Our first approach was with 24° of flaps (max flap-extension speed is 95 mph [83 kt]), and a gust in the flare ballooned us about 12 feet above the runway. Inelegantly, I initiated a go-around, which requires nose-down trim with power application. Flap retraction had to wait until I was happy with the trim, and I noted that a smooth go-around seems to require better pilot coordination than is the case in the four-place airplanes I normally fly. I attribute this more to my inexperience in the airplane than to any fundamental aerodynamic differences.

A second approach, this time with flaps at 0°, yielded a better result. The POH says −7° flaps can also be used for landing with a crosswind, and Newcomb tells me the technique works well. Later in the day, when the wind had died down, a full-flap approach and full-stall landing put us down at the threshold of the runway; with no braking, by the time we had reached the first VASI box, the airplane was rolling at a walking speed.

We also practiced a bit of slow flight at 45 mph (39 kt) with the stall horn peeping merrily away. The horn gives a good 10-mph warning of the impending stall, which, when it comes, is clean and straight. Any tendency for wing-drop is easily overcome with rudder. Flaps-down stall speed is 50 mph indicated (43 kt), and flaps-up stall is 62 mph (54 kt) at max takeoff weight. With just one person aboard and half fuel, flaps-down stall speed drops to 40 mph (35 kt).

The hallmark of the Maule is its short-



field performance, and the trigear follows in the family tradition. The letters STOL are painted on every Maule's tail fin, and for good reason. According to factory specs, at max takeoff weight, the trigear will take off over a 50-foot obstacle in 600 feet and land over the same obstacle in 500 feet. With one person and half fuel, takeoff ground roll is claimed to be 200 feet, with a 1,200 fpm rate of climb. If this can't be attributed to 180 horses, it can be to the airplane's modified high-lift USA 35B wing cross-section. (Of course, power doesn't hurt. That's part of the reason for the turbine-powered trigear currently in flight testing in Moultrie. Other reasons include excellent hot-day/high-altitude performance and potential sales in regions where avgas is scarce.)

Is fabric a liability in a modern light airplane? Not according to several experts we consulted, one of whom noted that occasional re-covering provides an excellent opportunity to inspect for corrosion—a much more difficult process in an all-metal airplane. The Ceconite material Maule has been using since 1983 has an expected life of 20 years, according to its manufacturer. The cost to re-cover and paint a Maule would be about $10,000, according to Ray Maule.

Another strong point of the trigear is its price—just $79,995 base. Included as standard equipment is corrosion proofing, cabin soundproofing, a full gyro panel, Bendix/King nav/com, strobes, and a raft of other equipment. N123PP, decked out with a King KX 155 nav/com, encoder, transponder, Northstar loran, David Clark Isocom intercom, Precise Flight Pulselite system, four-point harnesses, skylight, swing-out windows, and an abrasion boot package that protects the leading edges of the gear and struts, along with a long list of other options, can be had for $97,988. N345PP, with somewhat fewer optional goodies, will go for $91,490. Newcomb includes a 10-hour transition course (and full fuel tanks) in the price of each airplane. The training is provided by instructors at Sky Bright, an FBO located at Laconia Airport, which also offers Maule maintenance. Optional avionics, including autopilots, can be installed by New Hampshire Avionics, also at Laconia.

The MXT-7 is not only a fine personal aircraft, it would obviously make a first-class primary or instrument trainer. In the most positive sense of the word, it is challenging to fly. The pilot flying the Maule regularly will hone his stick-and-rudder skills to a high polish. The airplane is easy to fly, yet to fly it precisely and to extract the most from its remarkable performance capabilities, the pilot must be familiar with his airplane and proficient in handling it. As four-seaters go, it is comfortable, quick, stable, and a heck of a lot of fun to fly. There is the strong temptation to hop in the trigear and take it to the beach, to the mountains, or to the lake—with the knowledge that it will be equally at home shooting the ILS to minimums at Washington National. Add to that its reasonable purchase price and its promise of relatively low maintenance, its flexibility to serve in a variety of roles, from personal transportation to training and from cargo hauling to search and rescue, and its ability to fly off of any reasonably flat surface, and it looks like B. D. Maule and family have made a successful transition from taildragger to tricycle, combining the ruggedness of the former with the ease of handling of the latter.□

Maule MXT-7-180
Base price: $79,995

Specifications

Powerplant	Lycoming O-360-C1F, 180 hp at 2,700 rpm
Recommended TBO	2,000 hr
Propeller	Hartzell, constant-speed, two-blade, 76-in diameter
Length	23 ft 6 in
Height	8 ft 4 in
Wingspan	30 ft 10 in
Wing area	157.9 sq ft
Wing loading	15.1 lb/sq ft
Power loading	13.89 lb/hp
Seats	4–5
Cabin width	38 in
Empty weight	1,410 lb
as tested	1,486 lb
Max takeoff weight	2,500 lb
Useful load	1,090 lb
as tested	1,014 lb
Payload w/full fuel	670 lb
as tested	594 lb
Fuel capacity	70 gal (67 gal usable) 420 lb (402 lb usable)
Oil capacity	8 qt
Baggage capacity	250 lb
Cargo capacity	770 lb

Performance

Takeoff distance, over 50-ft obstacle	600 ft
Landing distance, over 50-ft obstacle	500 ft
Max demonstrated crosswind component	14 mph (12 kt)
Rate of climb	1,200 fpm
Service ceiling	15,000 ft
Max range (30-min reserve)	950 sm (826 nm)
Cruise speed (75-percent power at optimum altitude)	140 mph (122 kt)
Fuel consumption (65-percent power)	9 gph

Limiting and Recommended Airspeeds

Vx (best angle of climb)	75 mph (65 kt)
Vy (best rate of climb)	90 mph (78 kt)
Va (design maneuvering)	125 mph (109 kt)
Vfe (max flap extended)	95 mph (83 kt)
Maximum window open	120 mph (104 kt)
Maximum doors off	131 mph (114 kt)
Vne (never exceed)	182 mph (158 kt)
Vc (design cruising)	147 mph (127 kt)
Vs_1 (stall, clean)	62 mph (54 kt)
Vso (stall, in landing configuration)	50 mph (43 kt)

For more information, contact Pick Point Air, Inc., Post Office Box 220, Mirror Lake, New Hampshire 03853; telephone 603/569-1338, or Maule Air, Inc., Lake Maule, Route 5, Box 319, Moultrie, Georgia 31768; telephone 912/985-2045.

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, max takeoff weight conditions unless otherwise noted. □