

NEW AIRCRAFT

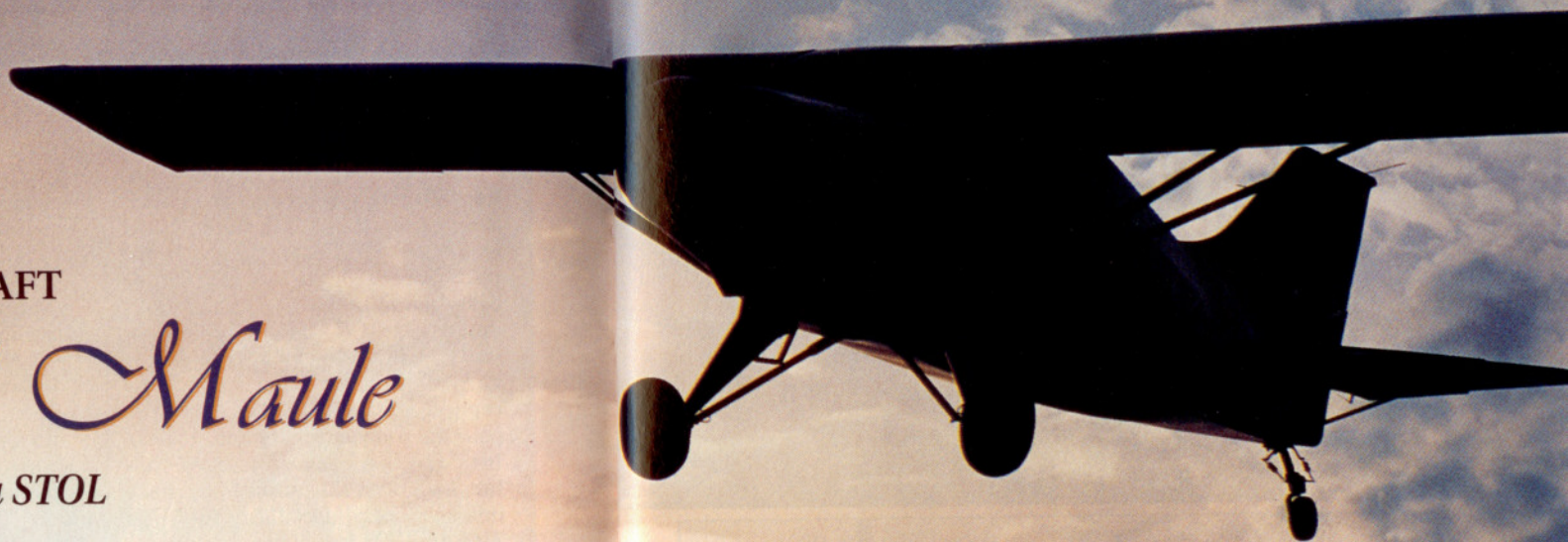
Low-Ball Maule

It's a steal, not a STOL

BY ALTON K. MARSH

There isn't much on the panel, but there isn't much on the price tag, either. A factory-new Maule MX-7-160 Sportplane taildragger for \$45,000? The new-airplane scent alone is worth that much. ■ To reach that price, Maule Air of Moultrie, Georgia, mounted a 160-horsepower Lycoming O-320 to its MX-7 airframe—normally powered by either a 180-hp or 235-hp engine—and substituted a fixed-pitch propeller for the constant-speed prop. The panel was then stripped to the bare minimum required for day/night VFR flight. There are no radios, but with the \$35 cigarette-lighter option you can plug in a hand-held, as some owners have done. ■ Aside from the bare panel, there is little difference between this aircraft and its more

PHOTOGRAPHY BY MIKE FIZER



expensive, more powerful cousins, the MX-7-180 and MX-7-235; the MX-7-180 is also on sale for \$51,995, by the way. The MX-7-160 has the same interior as the more expensive models—the seats no less comfortable, the cabin no less roomy. The sale price has lasted nearly a year. (At press time, Maule planned to sell only 10 more MX-7-160s at the discounted price. There was no decision on when the MX-7-180 sale would end.) If you miss out on this sale, there may be another in a few years; Maule has a history of holding sales (see “Shopping Maule,” November 1984 *Pilot*).

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the time and need longer range? Two optional 15-gallon tip tanks—for \$1,851—will give the airplane greater endurance than that of the average human bladder. Maule Air is betting the MX-7-160 will stir up some interest among buyers who would rather not buy used or were considering a homebuilt aircraft to save money. That's why the company is willing to sell it for little or no profit, down from its regular price of \$90,063.

Aware that most buyers associate Maule aircraft with short takeoff and landing (STOL) performance, Maule officials are quick to caution that while the MX-7-160 is a steal, it's not a STOL. It requires 1,180 feet to clear a 50-foot obstacle. The useful load is 100 pounds less than the 180-hp version, while its takeoff roll is 50 feet longer. Both aircraft land in 500 feet. (Several years ago, Maule founder B. D. Maule demonstrated the short-field capability of one of his more powerful models by taking off from inside his hangar and flying out the door. Maule performance data claims the Lycoming IO-540-powered MX-7-235, like the one B. D. used, takes off in 125 feet with one person and half fuel on board.)

It's a tailwheel airplane in a nose-





This is an "eyes outside" aircraft because there isn't that much to look at on the panel. Yet it has the same interior and wide cabin doors as the higher-priced Maules. The sporty engine cowling is a trademark of the Maule line.



wheel world, but most nosewheel pilots can make the transition in five to 10 hours of training. Many new owners go across Spence Airport, headquarters of Maule Air, to Maule Flight for tail-wheel transition training from Ray Maule, son of B. D. Along with wife Rautgunde, Ray also offers new and used Maule sales, refurbishment, painting, retrieval, and shipping. It's a crowded business card he carries. Most Maule owners seem to master their aircraft rapidly. One—with only 50 hours in his new MX-7-160—reports the Maule's low stall speeds make him comfortable landing in less than 300 feet. However, that requires a lower-than-normal approach speed of 43 knots and leaves little margin for error.

The aircraft was flown twice for this article: once in April in whipping crosswinds and again on a calmer but muggy September day. The crosswind component has been demonstrated to only 12 mph (10.4 knots) for certification purposes. Crosswinds that April day were 12 to 14 knots from 60 degrees off the runway heading, yet the aircraft could be lined up during the approach reasonably well with only partial control deflection. If Maule engineers desired, the aircraft could obviously be demonstrated with a higher crosswind component.

There are basically two tricks to flying the MX-7-160. One is how to get in it, and the other is how to turn it in flight. Getting in is simple if you put one foot on the step, then place the knee of the other leg on the middle of the seat. The key to turning is to make ample use of the rudder. During my flights, it seemed almost as though the ailerons were there only to assist the rudder. As I found out later, I wasn't far off. A flight training handout on the MX-7-160, written by instructors Ray Maule and Ken Hertz for the Mexican navy, advises pilots to lead with the rudder and follow with the aileron when rolling into and out of turns. In level flight, a rudder trim control on the panel may be pulled for fine tuning. Simply set the rudder input for straight flight, and pull the handle. That position becomes the new "centered" position, and the rudder may be operated normally.

The panel is kept Spartan in order to meet the sale price. There is no vertical speed indicator, no attitude indicator, no directional gyro, and no turn-and-bank indicator. There are a few basic instruments on one side, a

few on the other, and a great expanse of blank panel in between. The switches are vintage hardware-store variety: simple but functional, like the aircraft.

No money was wasted on fancy printing for the owner's manual. It is a clipped-together affair in a drugstore binder that includes no performance data. Maule leaves the performance data out to avoid giving product liability lawyers any more ammunition than necessary, Maule's Dan Spader said.

If the aircraft has a minor Achilles' heel, it is probably the paint—something Maule has heard before. It looks nice enough, but seems prone to chipping. After one new owner flew his MX-7-160 home in April, he noticed paint was missing from spots on the stainless-steel inspection ports. Also, a lineman accidentally scratched the paint while refueling during a fuel stop on the flight home. The owner then flew through a rainshower that removed the paint for nearly an inch on either side of the scratch.

The MX-7-160 uses a fiberglass engine cowling. Behind that is a metal boot cowl and metal cabin doors. The wing, flaps, and ailerons are also metal-covered. The aft fuselage and tail have a Ceconite fabric covering.

(Mach II Aviation of Fayetteville, Georgia, 404/461-0477, plans to offer a modification kit next year that will increase the maximum gross weight of many Maule models—especially those of 210 hp or greater—to more than 3,000 pounds, a 500-pound increase. Floatplane pilots will find the increase especially helpful. However, the kits will not offer much of a gross weight increase for the MX-7-160. Flight tests are not complete. Mach II also plans to develop gap seal and fuel tank modification kits.)

The excellent over-the-nose visibility of the MX-7-160, although less than that of the Decathlon I had flown the previous week, was greatly appreciated: Spence Airport is also home to an annual agricultural exposition. Powerline poles, needed by many of the exhibitors, have been erected in a maze on the ramp and are left up year-round.

While the crosswind flight in April offered the greater challenge, the evening flight in September offered the greater fun. Ray has a private, lighted grass runway at his home near Spence Airport. If routine landings at towered airports with concrete runways are getting boring, try a conventional-gear air-



Georgia timberland east of Moultrie, Georgia, forms a perfect backdrop for the MX-7-160 (above). The Maule production line is one of the busiest in general aviation (below). These aircraft await tail beacons. Maule has a healthy backlog of orders, and may discontinue the special prices on the MX-7-160 soon. You can tell by the nose it's a Maule.





craft on grass to restore the joy of flying—especially at night. The aircraft proved easy to fly and easy to land for the tailwheel-current pilot.

Takeoffs are accomplished with 24 degrees of flaps. The flaps have four positions: -7 degrees, 0 degrees, 24 degrees, and 40 degrees. The -7-degree position can increase cruise speed by a few knots and prevent floating during crosswind landings. The flap handle, operated by depressing a button on the end, seemed a little stiff at times.

Taxi required no unusual effort, other than to center the rudder and add power to straighten the tailwheel after a turn is made. The vernier-style throttle seemed unnecessary. During takeoffs and landings, I chose to keep the lock-

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ing button depressed at all times in case quick throttle movement was required. Even small, fine-tuning movements of the throttle are difficult when the fingers are busy holding the locking button. The tailwheel-current pilot will find it's easy to maintain directional control after the tail is lifted on the takeoff roll.

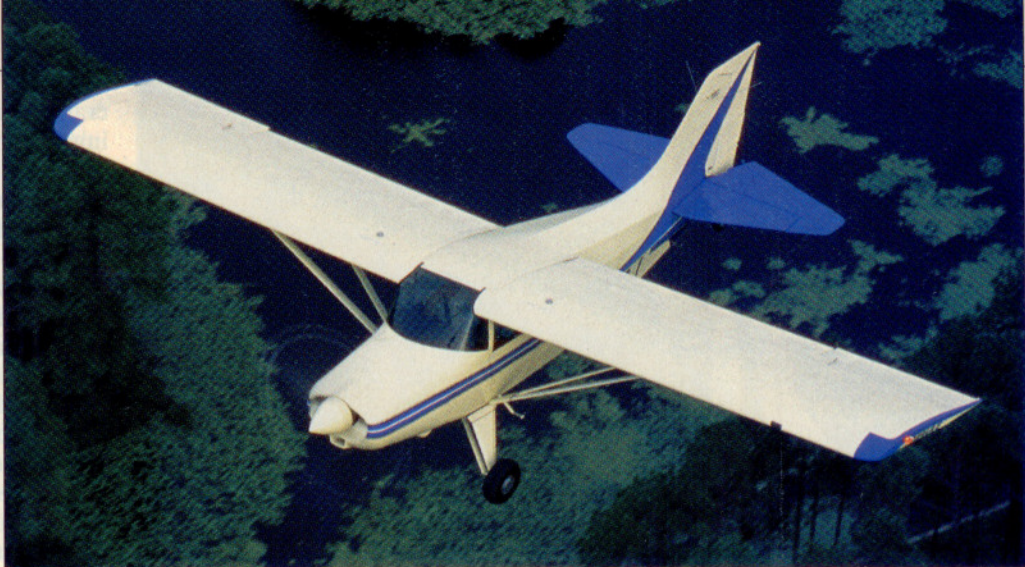
The aircraft is ready to lift off at 52 knots. Leave it on the ground much longer, and it will signal its willingness to fly by hopping slightly. If that happens, Ray advised, add back pressure at the first hop and climb out. We climbed out at 78 knots after flaps were raised. The trim control, at the pilot's lower right, is a metal wheel with a lip around the edge. Ray pointed out that the wheel can be operated quickly by placing a finger inside the lip at the front and moving it to the rearmost position.

Both flights included stalls, which were nearly unnoticeable, with only a slight break; the aircraft mushed straight ahead. We had two people and half fuel aboard. "Are we in it?" I asked Maule pilot Jim Butler as he demonstrated power-off stalls in April. "We are fully stalled," he said, obviously pleased that I had noticed the Maule's gentle behavior. The break is more pronounced with heavier loads, Butler said.

It was obvious the aircraft has interested bargain hunters. Two customers were picking up their new Maule MX-7-160s the day I dropped by in April, and a third was shopping, a tire-kicker. It is the only affordable new airplane game in town, said one new owner, and beats building a kitplane to save money. Yet Butler reports some are skeptical of a price so low. "They think maybe they're not going to get a whole airplane. Actually, there's not much difference in this airplane from the firewall back than the \$100,000 Maule."

As for speed, a normal cruise setting delivered the promised 103 knots indicated (2 to 3 knots more with the flaps at -7 degrees).

Landings are begun by reducing power to 1,700 rpm abeam the touchdown point, trimming to 70 knots, and dropping the first positive notch of



The MX-7-160 floats above swampland southeast of Moultrie, Georgia.

flaps (24 degrees). The second notch of flaps is selected on base (40 degrees), and airspeed is reduced to 60 to 65 knots. Airspeed is further reduced to 55 knots on final. It's important to nail the airspeed; the aircraft likes to float if brought in too fast. The aircraft settled easily into three-point landings without much argument, proving its worth as a

trainer. "I can't see why anybody would buy a [new] Piper Super Cub when they can buy two of these for the same price," Ray Maule said during the September flight. (Actually, there is only one new Super Cub left to buy. Piper will then stop production.)

While the general aviation industry rides peaks and valleys, Maule seems programmed for steady, modest suc-

FIRST LOOK

WATER WINGS

More water fun on less gas

By the time you read this, the "Experimental" placard should be off the window of Maule's new MX-7-180B floatplane. While the MX-7 powered by a 235-hp Lycoming O-540 is already a popular seaplane trainer nationwide, Maule Air is betting seaplane schools will appreciate the greater fuel economy of the 180-hp Lycoming O-360. It also uses a 76-inch Hartzell constant-speed propeller.

There are few performance specifications, since test pilots Ray Maule and Gary Black are still conducting test flights. Nor is there a price as yet, although the betting is that the new trainer will cost less than \$100,000. Maule Air founder B. D. Maule gave *Pilot* a first look at the new aircraft at Lake Maule, the water runway he built next to the Maule plant at Spence Airport south of Moultrie, Georgia.



The new seaplane trainer is designed to save money for flight schools.

The test aircraft is mounted on Edo floats, although another MX-7-180B sits in the hangar on Aqua floats. The Aqua Float Company of Brandon, Minnesota, won a supplemental type certificate to mount its floats on the aircraft in late summer. Buyers may request Aqua floats as an option or accept the standard Edo floats.

The panel layout and instruments will be familiar to Maule pilots. The major difference is a cable with a hook that attaches to the instrument panel to retract the water rudders. Rudders are released by unhooking the cable and lowering it to the cabin floor.

The first look included a quick trip around the pattern and my first ever floatplane landing. The aircraft was off in less than 15 seconds at 56 knots, and it was even ready to fly during a high-speed taxi at 45 knots for photography purposes. On downwind, I set the power to normal cruise settings and got 96 KIAS. Following my flight, an airline pilot visiting the Maule plant went around the pattern and, as I had experienced, made his first floatplane landing easily. "It's going to be a good trainer if first-time students are doing that well," said test pilot Gary Black. —AKM

cess. New aircraft crowd the assembly line, where—during my visit—some awaited tail beacon lights that were in short supply from the vendor.

Customers seem to like the Southern way of doing things at Maule Air, literally a mom-and-pop factory where B. D.'s wife, June Maule, helps run things.

Among the aircraft delivered by Maule this year are a dozen MX-7 and M-7 models with 235-hp engines, another dozen with 180-hp engines, and 11 of the low-ball MX-7-160s.

British flying clubs prefer the 180-hp models over the 235-hp model for glider-tow work because of the cost of fuel in Europe. A 235-hp trigeared MT-7-235 (the "T" is for trigeared) was shipped to Australia the day of my April flight.

B. D., 83, still rides his bicycle around the plant every day. Rocking chairs are stationed about the plant where he can sit to ponder a particular problem. I literally intercepted him at one point during his bike ride to ask how he manages to sell so many light aircraft when others have ceased production. "Well, they perhaps have too high a price, maybe. And perhaps they don't have as good an airplane as I do, maybe," he said. His most popular aircraft, he said, is the 235-hp MX-7 Star

Rocket, a five-passenger aircraft (the fifth seat is for kids). Maule finds most customers still prefer conventional gear to trigeared because the trigeared costs \$8,000 to \$10,000 more.

"Do you have any liability insurance?" I asked, touching on his favorite topic. "No, I don't have any at all. We haven't carried any for 10 years."

"Aren't you worried about getting sued?"

"You don't worry about that too much," B. D. said. "I remember when I

first came out in 1940 with the tail-wheel, I asked my patent attorney if I should get liability on it. He said, 'No, you don't need liability. You'll worry yourself to death.' Well, that was back in 1940. It's a

lot different now: People got lawsuit happy. I had a bunch of lawsuits 10 or 12 years ago, \$20 million worth of lawsuits in 21 [cases]. What I did was establish another company. I put [Maule Aircraft] in Chapter 11 bankruptcy. And when they [the court] said I had been in that long enough, I put it in Chapter 7 [liquidation] and wiped it out and kept on going with Maule Air. I don't know why other people don't do it."

Yes, things are done differently in the South, and successfully, if Maule Air is any indication. □

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While the industry rides peaks and valleys, Maule seems programmed for steady, modest success.

Maule MX-7-160
Base price: \$44,995

Specifications

Powerplant	Lycoming O-320-B2D
Recommended TBO	2,000 hr
Propeller	Sensenich fixed-pitch, 74-in diameter
Length	23 ft 8 in
Height	6 ft 4 in
Wingspan	32 ft 11 in
Wing area	165.6 sq ft
Wing loading	13.3 lb/sq ft
Power loading	13.8 lb/hp
Seats	4
Cabin width	3.5 ft
Empty weight	1,330 lb
Gross weight	2,200 lb
Useful load	870 lb
Payload w/full fuel	630 lb
Fuel capacity, std	43 gal (40 gal usable)
Fuel capacity, w/opt tanks	70 gal usable
Oil capacity	8 qt
Baggage capacity	250 lb
Performance	
Takeoff distance, ground roll	600 ft
	(one person, half fuel)
Takeoff distance over 50-ft obstacle	1,180 ft

Max demonstrated crosswind component 10 kt
Rate of climb, sea level 825 fpm
(one person, half fuel)

Cruise speed/endurance w/30-min rsv,
std fuel, 65-percent power 104 KTAS, 4 hr
Service ceiling 13,000 ft
Landing distance over 50-ft obstacle 500 ft

Limiting and Recommended Airspeeds

V _X (best angle of climb)	65 KIAS
V _Y (best rate of climb)	78 KIAS
V _{FE} (max flap extended)	82 KIAS
V _{NO} (max structural cruising)	128 KIAS
V _{NE} (never exceed)	135 KIAS
V _R (rotation)	52 KIAS
V _{S1} (stall, clean)	49 KIAS
V _{SO} (stall, in landing configuration)	37 KIAS

For more information, contact Maule Air, 2099 Highway 133 South, Moultrie, Georgia 31768; 912/985-2045; fax 912/890-2402. For information on flight training or used Maule sales and refurbishment, contact Maule Flight at Spence Airport, 290-I Harper Boulevard, Moultrie, Georgia 31768; 912/985-6197; fax 912/985-7276.

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