# CLASSICALLY QUICK

## The Mooney M20E is a good performer at a good price

**BY IAN J. TWOMBLY**

Since its beginnings, the Mooney name has been synonymous with speed. Pilots like to go fast, and Mooney marketing knew that—and has played up the speed credentials for practically every airplane to ever come out of the Kerrville, Texas, factory. But today is a different day. The factory is more or less closed, the painful

PHOTOGRAPHY BY CHRIS ROSE


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reminder of a once-in-a-century recession. Our go-fast, spend-fast culture has been ousted and replaced with the words of politicians such as *austerity measures* and *debt ceiling*. Now it's cool to talk about low fuel burn and miles per gallon—in an airplane! Ironically, old Mooneys are still relevant, even in this monetarily induced malaise. The four-decades-old Mooney M20E (and most of the other Mooneys, for that matter) is a modern efficiency champion.

The Mooney M20E is a 200-horsepower, fuel-injected, four-seat version of the company's "short-body" models. Mooney took the popular concept of one wing design and one or two fuselage options with different engines to the extreme. Look at a Mooney on the ramp and it's sometimes hard to tell if it's two years old or 20. That one wing has more or less been the mainstay of the entire line. Most recently—that would be four years ago—Mooney only produced long-body models. But in the 1960s, it offered both the short body and long body. The M20E was the powerful short-body version, but as a result of some design tradeoffs, they are a great value in today's market.

Mooney's speedy M20E should have been nicknamed the "Yeah, but." It is fast, almost surprisingly so. It is also very efficient. Yeah, but, it's fairly tight inside. Yeah, but, there are a few expensive maintenance issues. Yeah, but, they are somewhat pricey for what you get. Yeah, but, there are a few basic design flaws. If you can get past the "yeah, but," it is an exceptional performer and at the top of the pack when it comes to going fast on the least amount of fuel.

### The good

Start to compare the M20E to its certificated competition and there's no question it wins in the performance category. We flew Jens Scott's 1964 M20E for this report. Scott bought his airplane a little more than a year and a half ago for $58,000. For that he got an airplane with original paint and interior, but an updated panel with an S-Tec autopilot, Garmin GNS530, and digital engine analyzer. His airplane also has pretty much every speed mod you can get, with the exception of a few gap seals. A more typically equipped M20E from that era goes for around $36,000.

With all this Scott says he pulls the power way back and plans on 145 knots while burning 7.5 gallons per hour.

Those numbers are so silly they seem made up, and perhaps they are. We couldn't reach that on our test flight, but we were at gross weight, down low, and it was a warm day. In those conditions we were seeing more like 135 knots on 7.5 gallons an hour. Either way, those are great numbers and result in about 18 nautical miles per gallon in a no-wind situation.

It's surprising that Scott, the owner of a racetrack and a former professional race-car driver, would fly at such a leisurely pace, but it does help to keep noise in the cockpit down (a common complaint of passengers, he says), and obviously he's burning less fuel. There is another reason to fly slower, however. The M20E has the odd paradox of wanting to spend most of its life in the yellow arc. Push the airplane up past 20 inches down low, and you will accelerate—

**Jens Scott's M20E is a study in contrasts. The modern panel (upper left) and the new cowling (below) seem at odds with the vintage step crank to the left of the pilot (left).**

## SPECSHEET

### 1964 Mooney M20E

**Price when new: $18,450 Price as tested: $58,000**

### Specifications

| | |
|---|---|
| Powerplant | Lycoming IO-360-AIA |
| Recommended TBO | 2,000 hr |
| Propeller | Two-blade Hartzell constant speed |
| Length | 23 ft 2 in |
| Height | 8 ft 4 in |
| Wingspan | 35 ft |
| Wing area | 172 sq ft |
| Wing loading | 14.9 lb/sq ft |
| Power loading | 12.8 lb/hp |
| Seats | 4 |
| Empty weight, as tested | 1,681 lb |
| Max gross weight | 2,575 lb |
| Useful load, as tested | 894 lb |
| Payload w/full fuel, as tested | 582 lb |
| Fuel capacity, std. | 52 gal (52 gal usable) 312 lb (312 lb usable) |
| Baggage capacity | 120 lb |

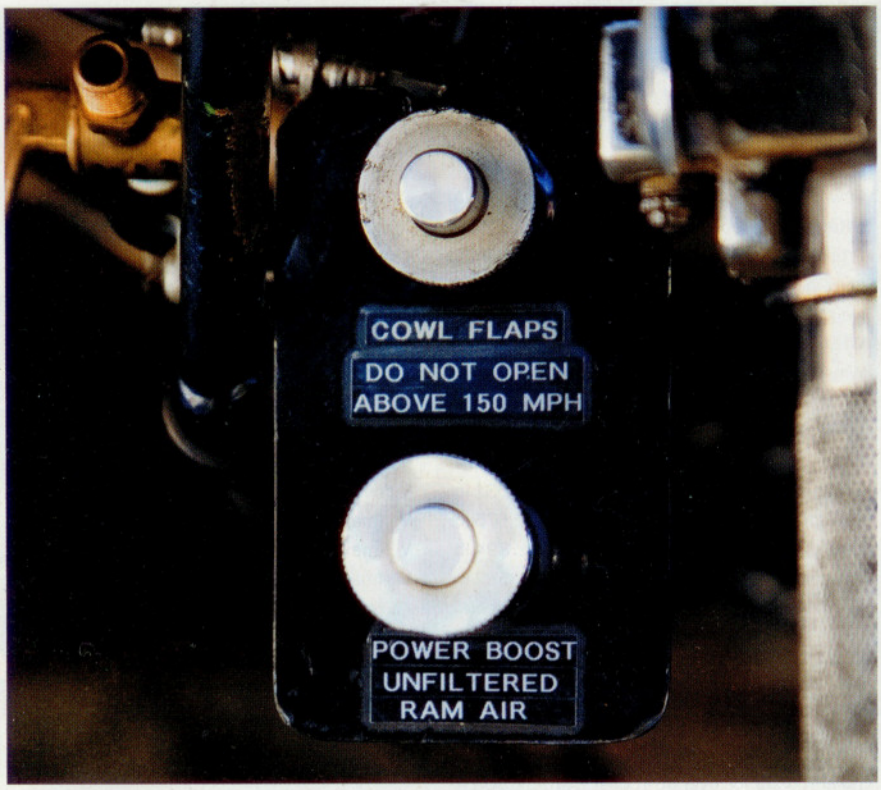
### Performance

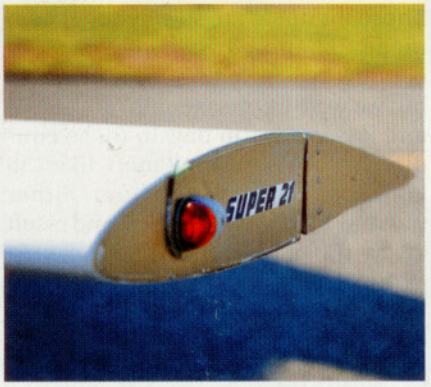
| | |
|---|---|
| Takeoff distance, ground roll | 760 ft |
| Takeoff distance over 50-ft obstacle | 1,300 ft |
| Rate of climb, sea level | 1,120 fpm |
| Max level speed, 2,500 ft | 168 kt |
| Cruise speed/endurance w/45-min rsv, std fuel | |
| @ 75% power, best economy, 7,500 ft | 159 kt/3.7 hr (73 pph/12.2 gph) |
| @ 65% power, best economy, 7,500 ft | 150 kt/4.2 hr (65 pph/10.9 gph) |
| @ 55% power, best economy, 7,500 ft | 141 kt/5.1 hr (56 pph/9.3 gph) |
| Landing distance over 50-ft obstacle | 1,550 ft |
| Landing distance, ground roll | 595 ft |

### Limiting and Recommended Airspeeds

| | |
|---|---|
| $V_X$ (best angle of climb) | 70 KIAS |
| $V_Y$ (best rate of climb) | 91 KIAS |
| $V_A$ (design maneuvering) | 115 KCAS |
| $V_{FE}$ (max flap extended) | 87 KCAS |
| $V_{LE}$ (max gear extended) | 104 KCAS |
| $V_{LO}$ (max gear operating) | |
| Extend | 104 KCAS |
| Retract | 104 KCAS |
| $V_{NO}$ (max structural cruising) | 130 KCAS |
| $V_{NE}$ (never exceed) | 164 KCAS |
| $V_{S1}$ (stall, clean) | 67 KIAS |
| $V_{SO}$ (stall, in landing configuration) | 57 KIAS |

*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.*




**You have to look no further than the small Power Boost lever below the panel (above) to see evidence of Mooney's obsession with speed. The straight wing tips and rectractable step are two signature old-school Mooney traits (upper and lower right).**

quickly—into the yellow. In fact, at full throttle and level flight, we were pushing redline while flying at 2,500 feet. Clearly you could fly all day long in the yellow arc, and it's not as if Mooneys are out there shedding parts, but it's a bit of an uneasy feeling nonetheless.

That abundance of power also makes itself evident in the climb. When his airplane is light, Scott says he can easily reach 1,500 feet per minute off the runway, and average 1,000 feet per minute to 10,000 feet. In our test, we were climbing solidly at 1,000 feet per minute off the runway. He also says he can, "Fly as high as I want." And forget about the cooling problems of other airplanes with this sort of speed. We were showing cylinder head temperatures of around 300 degrees. Scott says the only concern is an occasional high oil temperature, which comes down easily with a cruise climb at 115 knots. If he needs more power, Scott can engage the Power Boost, a knob below the panel that, when pulled, allows air to bypass the filter. The result is a one-inch increase in manifold pressure, and bragging rights.

Useful load is another area where the airplane is strong. Scott says, "You run out of room before you run out of useful load." He's developed an expert's touch at packing for longer trips, even going so far as to seek out perfectly sized pieces of luggage that fit snugly like a puzzle. His airplane has a useful load of approximately 900 pounds. That allows for four adults while carrying less fuel, two adults and two children almost anytime, and two adults and lots of bags with full fuel. But considering the low fuel burn and 52 gallons, there's no doubt it will fly longer than you can sit in the seat.

Under the category of "beauty is in the eye of the beholder," styling and some functions on the old Mooneys are either unique and quaint or annoying and dated. There are curtains on the side windows, and a step that retracts with a hand crank. The gear is operated manually via a swinging lever called a Johnson bar. Raising the gear makes the pilot look as if he's operating a steam engine. A big swinging motion takes the large lever from flat on the floor between the front seats to sitting in a clip vertically under the panel. Good operators can get this done in one big swoop. Newbies struggle against the air pressure and curse the thing. There's something almost romantic about seeing it done well, although those looking for modern conveniences might think otherwise.

### The bad

And then there are the "yeah, but" things you can't ignore, the most critical of which is probably space. If you are sitting in the front seat with someone behind you and you are anything above average height, you will be jamming your knees into the panel. The back seats aren't much better. Scott says the airplane has a 200-mile fun radius. That's the distance he can take his friends and family where they still think it's really cool and don't mind being squished. Beyond that, however, the water at the beach just isn't as inviting.

Published dimensions can be terribly misleading, though. Most people would consider the Bonanza to be pretty large inside, but headroom can be an issue for some. Likewise, the short-body Mooneys are almost the same length as the early Cherokees, but you don't hear too many people complaining about those. The only way to know how well you will fit is to sit in one. Keep an open mind and you may be surprised.

Looking on the bright side, you'll likely fit better after your maintenance costs thin your wallet. Like many older airplanes, the M20E has its problems. One of the worst gremlins is the propeller hub airworthiness directive. If the

propeller is the stock two-blade Hartzell, it requires an eddy current inspection every 100 hours. Assuming your shop can perform this, it's not too expensive, but it's obvious how it could become a hassle. Big-ticket items include leaking fuel tanks and corrosion.

It's not uncommon for the old wet-wing tanks to seep, weep, or leak. Having them resealed is many thousands of dollars, and not exactly optional maintenance. Corrosion is an issue on all older airframes, leaving you with the possibility of a scrapped airplane. Key to avoiding many of the expensive items is a thorough prepurchase inspection. A few shops around the country specialize in Mooneys, so it's not a bad idea to start there.

It would be convenient to say the M20E is a wonderful flying airplane that does justice to its good looks. But the reality can be otherwise. Thanks to a unique curved aileron, the force required in roll is considerably higher than you would expect. Some owners swap out ailerons for this reason, but for those airplanes that have the originals, expect to build some muscles. Some people also have trouble landing with the rubber doughnut gear. If you come in fast and force it on the runway, the airplane can bounce and get into pilot-induced oscillations, although seemingly not as easily as the long-body versions.

The rubber doughnut gear is one of the many styling points unique to Mooneys. The vertical tail is another. When you see a stock M20E on the ramp it looks like a dated airplane. The large, open-mouth cowling and the somewhat vertical windscreen are throwbacks to another time. Thankfully, modifications to update the windscreen and cowling are prevalent. One of the most popular mods is often called the "201 windscreen." That refers to the fact that it's designed after the Mooney M20J 201. It is a single piece and has much greater slope than the original.

The original panel is also considerably dated. Its non-T layout and old radios scream for an upgrade. And for whatever reason, many airplanes on the market today feature somewhat ancient panels.

**The market**

There are a number of M20Es on the market in a wide range of conditions. If you're looking for a fixer-upper, you can find one of them for around $25,000. The average asking price is roughly $52,000 with standard radios and a T-configuration panel. According to *Vref* (www.aopa.org/members/vref), an early M20E with standard radios, no speed mods, and a mid-time engine should fetch $36,000. A premium airplane with a Garmin GNS530W, the 201 windscreen, and a nice autopilot should be $52,000.

The Mooney is hard to put in a class with competitors because it's unlike most airplanes. It's faster than a Cherokee, Piper Arrow, Cessna Cardinal, or Cessna 182, but smaller than a Bonanza F33. If speed and efficiency are your goals, and space isn't as much of an issue, an M20E is hard to pass up. And besides, none of those other airplanes is cool enough to have a power boost. AOPA

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**Love it or hate it, the Johnson bar landing-gear control is a fixture in older Mooneys (below). It sits next to the hydraulic flap control, which sticks below the panel. The easy access to baggage continues in the same form today (bottom right). The door handle was redesigned in later models (below right), probably in an effort to wring out another knot.**