

Pilot Flight Check: MOONEY's New Executive



The hand of new ownership is applied to the Mooney — and the outcome is a better airplane

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■ Mooney—she flies through the air with the greatest of squeeze. But not any more.

Republic Steel Corp.—the Cleveland ironworks that bought the Mooney Aircraft plant at Kerrville, Tex., and put the Mooney line back in production—has been eradicating the stigmas, valid or invalid, that have been attached to the craft.

One of the prime blemishes on the Mooney's nose has been its cabin size. The elbow squeeze resulted from the craft's narrow body, which is set atop an air-slicer wing. The combination, however, has produced a plane with a reputation for being a fast-flying fuel skinflint.

For years the company has said that a couple of inches don't matter when you've got a single-engine craft that will move you along at 180 mph.

Now, Mooney says it will keep up its airplane's speed, give you more elbow room, and, as an added bonus, throw in a redesigned panel and cockpit controls.

Although Mooney has been advertising its "new dimension" airplanes since March, actual availability of the wider-cabin planes is not expected until this month. The PILOT recently put in a day with a "halfdimension" Mooney—an M20F Executive with the new panel, but without the widened cabin. (By the way, the cabin is wider through changes in its interior contour; outside dimensions remain the same.)

Mooneys have a certain rugged quality, all the more apropos for an airplane produced under the auspices of a steel company. That ruggedness spreads to the plane's handling, for the Mooney flies tight and firm. The craft's reputation for speed still remains valid. And the notoriety of its compressed cabin is well-founded, though probably exaggerated.

The Mooney lacks many of the trappings commonly associated with light airplanes. For instance, there are no control cables ("push-pull" metal rods go out to the control surfaces instead). The aircraft has no elevator trim tab (a spin of the trim wheel moves the whole empennage section from a pivot at the tail-cone attach points). Also unique are the control surface "seals" that block air passage between the control surfaces and the structure to which they are attached.

Most impressive about the new Mooney are its panel and controls. Everything the pilot looks at and flies with has been overhauled. The new panel, covered with black vinyl bonded directly to the aluminum, provides a wide and low look to the cockpit. The panel width remains about the same, though, and the windshield area is still relatively small.

continued



At Conn-Mooney Sales, Inc., Danbury (Conn.) Municipal, two '75 Executives grace the ramp (left and center). The standard wingtip strobe installation (bottom photo) eliminates the tail-mounted rotating beacon to further reduce drag. Photos by the author.

MOONEY EXECUTIVE

Specifications

Engine	Lycoming 10-360-AIA, 200 hp
Propeller	Hartzell 74 inch, constant
	speed
Empty weight	1,640 lb
Useful load	1,100 lb
Gross weight	2,740 lb
Baggage	120 lb
Wingspan	35 ft
Wing area	167 sq ft
Length	24 ft
Height	8 ft 4 in
Fuel capacity	64 gal usable
Oil capacity	8 qt
Wing loading	16.4 lb/sq ft
Power loading	13.7 lb/hp
Basic price	\$33,065
Performance	
Top speed	185 mph
Cruise, 75% power	177 mph
Range, 75% power	1.100 mi
Service ceiling	18.800 ft
Rate of climb	1.055 fpm
Takeoff distance (ov	er 50 ft) 1.384 ft
Landing distance (ov	ver 50 ft) 1.786 ft
Stall	
Gear, flaps down	62 mph

68 mph



MOONEY'S NEW EXECUTIVE continued

Immediately noticeable on the panel is a significant decrease in switches and other clutter. Four switches are handily placed on other controls. The left handle of the pilot's control yoke has thumboperated mike and map-light buttons, and there's a trigger-finger autopilot override on the back of the yoke. The throttle, a pistol-grip handle, is topped by the landing-light pushbutton switch. Six more rocker switches complete the electrical functions of the airplane pitot heat, fuel pump, strobes, nav lights, master, and a radio master (which eliminates the need for shutting down each individual piece of radio equipment).

Flight instruments are in two horizontal rows; radios are stacked in two piles to the right of center panel. Gas, oil, and temp gauges are in a narrow row above the primary instruments, directly in line with the pilot's eyes. In that position they are frequently observed, during both VFR flying (when switching eyes from inside to outside the cockpit) and IFR flying (since they are immediately above the gyro horizon and altimeter).

Prop and throttle dials are to the far right of the panel but are angled toward the pilot, and I found them to be easily readable. The glare shield is topped off with a row of five annunciator lights. "Hi Vac" and "Lo Vac" warning lights are found there, eliminating the vacuum suction gauge, a dial that will likely be missed by some pilots.

At top center panel is the landinggear knob—far away from any other controls, so as not to be confused with flap, alternate air, or other levers.

An excellent system of inside lighting

is incorporated in the new Mooneys. Three rheostats allow varying light intensities on center, left, or right portions of the panel, and the flip of a switch changes the lights from white to red. These rheostats are on the power control pedestal, along with heat and ventilation knobs.

In a day of flying, both VFR and IFR, including cross-country, airwork, and pattern flying, the new panel and associated flight controls proved easy to get used to and totally utilitarian. . .

... Except for two things. Farther down the power pedestal, a couple of inches above the cabin floor, are the flap and trim indicators. Beside them is the hook for mike stowage. If mediumto-short people are in front and the seats are pulled forward, they come up against the pedestal, blocking the two indicators from view and compressing the mike in its holder.

During my day of flying the mike remained in my lap. The flap indicator was hardly necessary, since the flap switch now has three positions (up, half, full down). And the trim indicator was looked at only when my neck felt in need of a good stretch.

A late-winter cross-country in the new Executive went from Montgomery County in Washington, D.C.'s northern suburbs, to Danbury, Conn. The 215-nm flight took about 1 hour 15 minutes, runway to runway. Good tailwinds helped, and New York radar told us the shiny red-white-and-blue Exec was slipping over the TCA at 188 knots.

At the time, Paul Kully (Mooney regional sales manager based in Akron, Ohio) and I were cruising at 9,500 feet, holding 75% power with 22 inches mp and 2,500 rpm. With the airspeed needle pointing to 153 mph, and a temperature at altitude of 23° F, the true speed computed to 176 mph, right in line with published speeds for a partially loaded craft (we were about 350 pounds under gross). Red-lining the power at that altitude (22 inches mp and 2,700 rpm) added 3 mph to the airspeed. Noise levels were quite acceptable.

Sixty-percent power (21 inches mp, 2,400 rpm) at 3,000 feet, later in the flight, realized a true airspeed of 143 mph.

The Mooney is a bit tight in front. The front seats slide very far back to permit access from the single passengerside cabin door. Once the seats are pulled into position, there isn't much leg room. Most likely, your right leg will brush the center pedestal while your

The clean, new panel for the Mooney places engine and fuel gauges in a row above the flight instruments and leaves plenty of room for more radios. Awkward location of fuel selector, on the floor under the pilot's knees, can be seen at bottom left.



MOONEY'S NEW EXECUTIVE continued

left is touching the fuselage wall.

The tight fit for one's legs makes getting to the fuel-selector handle quite a chore. Access to the handle, which is located on the floor in front of the pilot's seat, is best accomplished using a leanright, reach-with-right-hand-under-yourlegs, turn-handle-with-outstretched-hand method. In this position, however, you cannot see, much less read, the settings on the handle (it has three—right, off, left—and to get from right to left the handle must be rotated through the "off" position).

The Executive, the top-of-the-line Mooney, has a fuselage stretched 10 inches, giving back-seat passengers adequate leg room. But those 10 inches would surely be missed by occupants of the rear seats in the Chaparral or the Ranger.

One Mooney factory pilot, during a flight last year in a '74 model, said that when he rode the right side he always pulled his seat a little forward or a little behind the position of the pilot. This, he said, prevented the two occupants from bumping shoulders and, during demonstrations, gave the pilot a feeling of more spaciousness.

On my flight, however, this did not present itself as a problem, and I seldom felt cramped. The expected addition of a couple of inches of elbow room will be welcome but certainly is not required.

The Executive has a maximum allowable weight of 2,740 pounds. Standard empty weight is 1,640, and the craft flown for The PILOT weighed 109 pounds more, including avionics, gyros, and other added equipment. Full fuel is 64 gallons (384 pounds) and oil is 15 pounds. That left a potential cabin loading, with full fuel, of 592 pounds—a good load considering that, at cruise power in that configuration, you'd have a range of almost 900 miles and an endurance of close to six hours.

Behind the craft's baggage area (in which 120 pounds are allowed) is a compartment for the battery and remote avionics equipment. An access door on the port side of the fuselage is fastened on with 22 screws—somewhat of an inconvenience when you want to check the water in your battery.

Handling the Mooney in flight requires moderate forcefulness. Standard (but \$890 extra) out of the factory is Mooney's "positive control" autopilot. The basic system is a Brittain wing leveler, which is on all the time unless over-ridden with the left-hand triggerfinger switch on the yoke. During takeoff and landing, and in slower flight, the switch override simplifies handling, but at high cruise speeds the force required to turn the yoke in this airplane was the same whether the override was used or not.

The positive-control system, of course, makes single-pilot instrument flying that much more stable. It will, too, make a coordinated recovery from a turn, exerting control over both ailerons and rudder.

From Danbury we flew on to Worcester, Mass. As we passed Hartford, a snow squall required us to air-file for an instrument approach to Worcester Municipal. During the instrument phase of the flight, the PC system handled much of the work while the pilots dug around for approach plates and tuned in the compass locator, ILS and communications frequencies on the radios.

Takeoffs and landings throughout the flight demonstrated the need to maintain a firm hand on the airplane. A shortfield liftoff took two hands on the yoke, in fact, to provide enough back pressure to acquire a steep 65-mph climb off the runway.

Landings at Danbury were done on the field's short Runway 17 (3,100 feet), with winds of 18 knots from 190 to 200 degrees. The crosswind required moderate right aileron and full left rudder to hold the centerline down to the cement. Full flaps and 80 to 85 mph are normal on final. Power needs to be carried into the flare, for without it the craft sinks rapidly with loss of speed.

The flare itself, even with nose-up trim, takes considerable back pressure, and practice is a virtue when it comes to accustoming oneself to the craft's landing characteristics. Steering is very sensitive during rollout, and only the lightest foot pressure is needed while trundling to a halt.

Brakes are equally effective, and it's not difficult to lock the mains in an attempt to shorten your rollout. The owner's manual suggests that you "do not skid the main wheels . . ." and recommends raising the flaps and applying back pressure on the yoke to provide "maximum" braking. Note: Toe brakes are standard on the pilot's side only. It costs \$253 extra to get them on both sides.

A short-field takeoff at Danbury consumed about 800 feet of pavement, but at the halfway point of Runway 17 the craft was a good hundred feet in the air. In a steep climb, visibility over the nose is nil, so tilting the nose back toward the horizon is desirable. Passing through 3,000 feet with temperature at 42° F, a power setting of 26 inches mp/ 2,600 rpm gave the Executive a 1,000fpm climb. A ram-air induction control (allowing air to bypass the filter and be forced into the fuel injectors) gives about one inch of extra manifold pressure for increased climb performance or a few mph extra cruise speed.

At 7,500 feet the Mooney, with its 200-hp Lycoming engine, still performed briskly, showing a climb of 800 fpm at 100 mph.

From a cruise configuration, the craft will slow relatively quickly, but considerable retrimming is necessary with extension of either flaps or gear. With everything down and power off, the craft I flew stalled at 58 mph indicated. Raise gear and flaps and the stall speed increases to about 64. A departure stall (half flaps and climb power) came at 55 mph indicated. In no case was the Mooney unruly, though the craft demonstrated a noticeable wobbliness before it nosed into the stall. With prompt recovery, there was almost no altitude loss from 3.000 feet where the stalls were initiated.

Although I found stalls to be relatively mild, the craft's owner's manual warns that if stall recovery is delayed, or if the aircraft is stalled in an uncoordinated manner, it will likely spin. Intentional spins are prohibited.

A King radio package plus DME, valued at about \$9,800 from Mooney, was installed in the Executive I flew. Base price for that airplane is \$33,065, so with radios, encoding altimeter, EGT, ELT, dual brakes, radio wiring and antennas, and positive control, the aircraft's total price came to \$45,503.

It's interesting to note that all this added equipment is priced as an option, but, except for the dual brakes and the encoding altimeter, it is installed on every production airplane. Mooney calls these "scheduled production options" and notes that "no orders can be accepted that do not include these items." Several avionics packages are available.

Shoulder harnesses are a real option, not installed on this airplane. An inertiareel system for the front seats costs \$145. Other options are few: most equipment comes standard on the Mooney, including gyros, wingtip strobes, electric outside temperature gauge, eight-day clock, sun visors and other cabin amenities, heated pitot, and zinc chromate anticorrosion treatment.

In the years since Al Mooney created his first Mooney airplane after World War II, the craft has been the stepchild of several different companies, each with its own idea on how to raise its offspring. On one occasion, too, the craft was an orphan.

In the house of Republic Steel now, Mooney seems to have arrived in a happy home, and one which is quickly learning how to raise an exemplary airplane.