

MOONEY 205

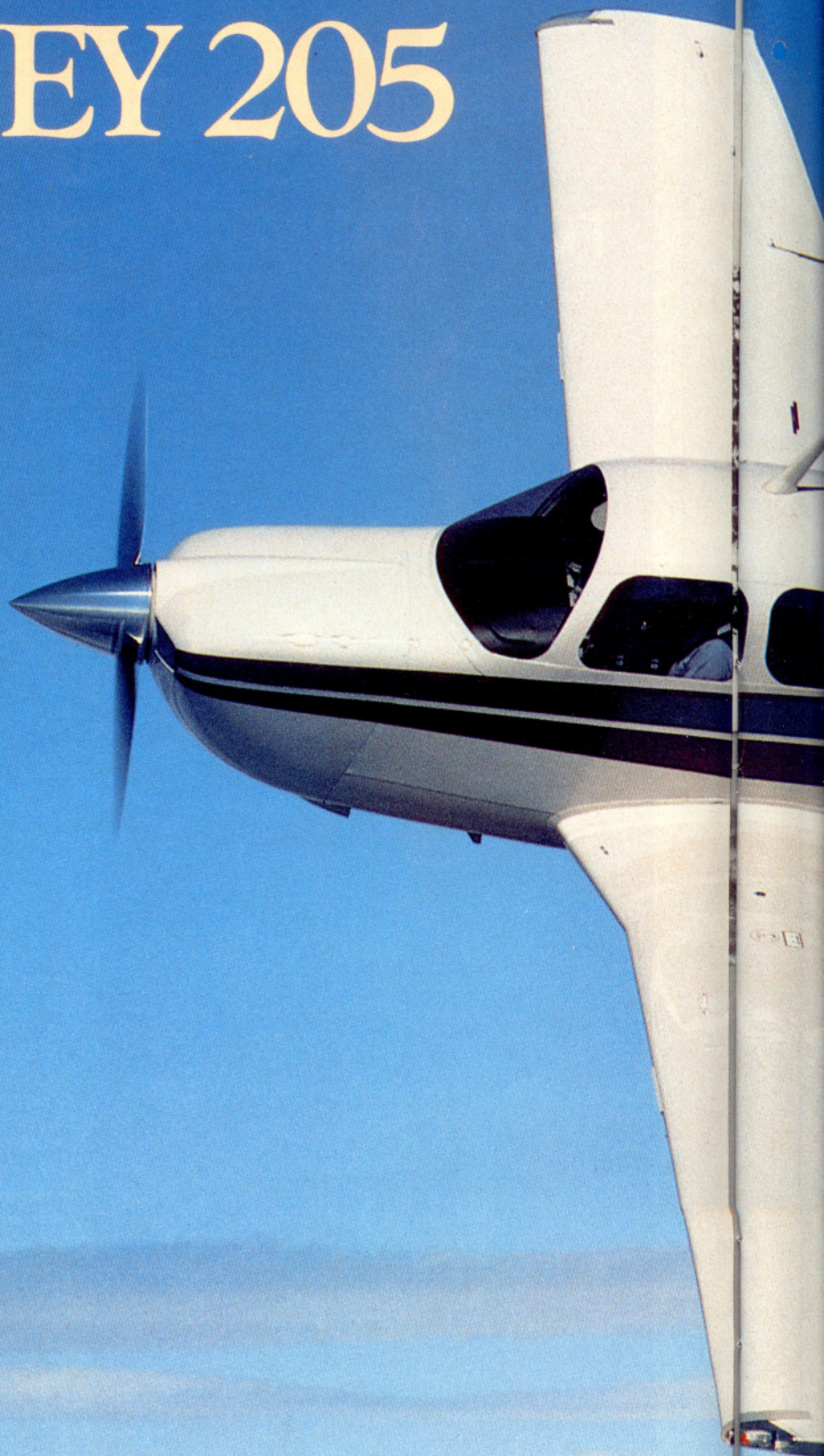
*One of the best-performing
lightplanes gets a little bit better.*

BY THOMAS A. HORNE

While other general aviation manufacturers are either retrenching or throwing in the towel, Mooney Aircraft presses on. Mooney spokesmen have recently said that the company intends to introduce at least one new product every year. In 1985, it was the "Lean Machine," a Spartan version of the M20J (Mooney 201) with a basic instrument flight rules instrument package as standard equipment for a price of \$99,999. Later in 1985 the company introduced the newest M20K (see "Mooney 252," *May Pilot*, p. 40).

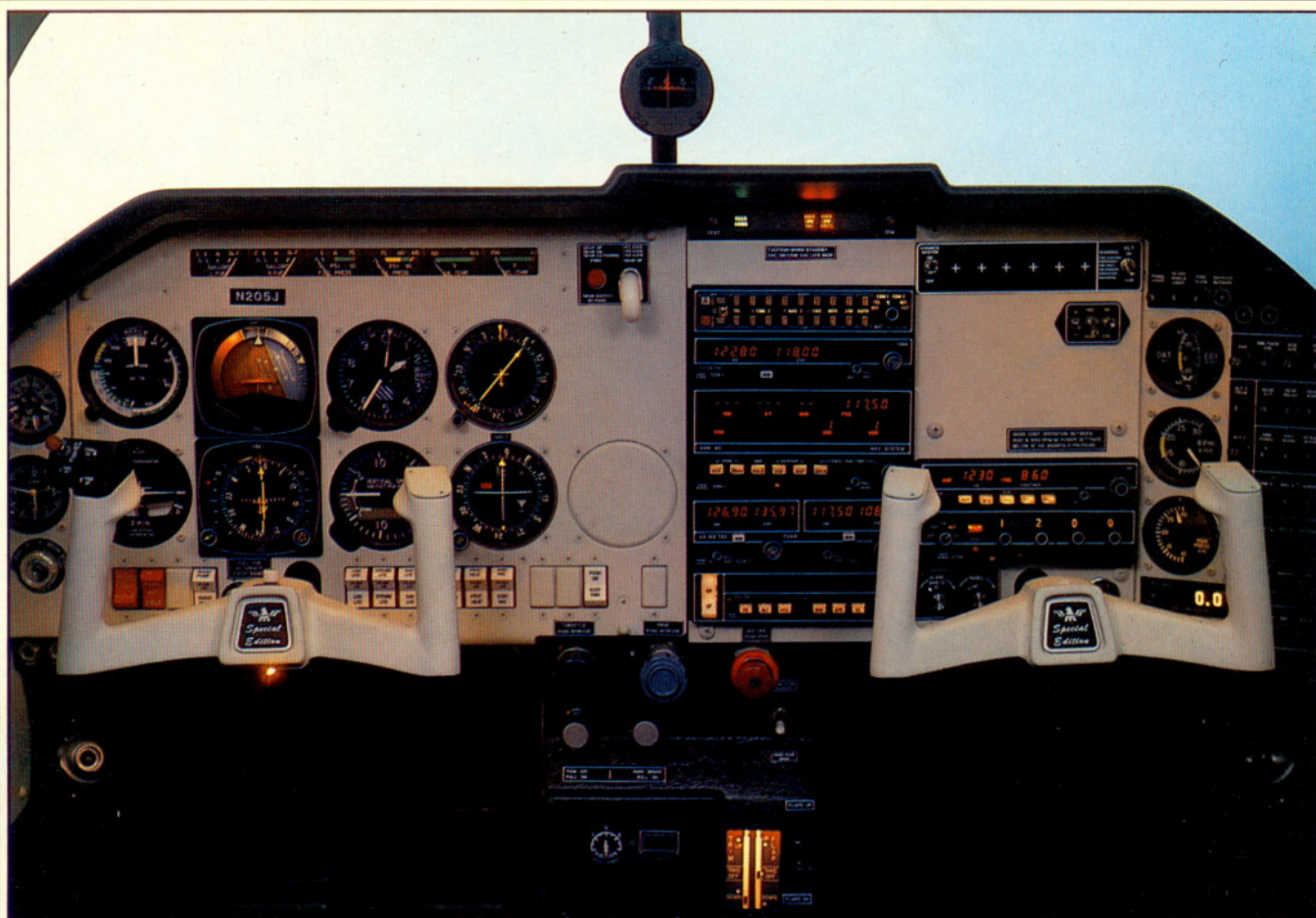
Now comes the Mooney M20J 205, an aerodynamically cleaned-up and modernized iteration of the Model 201. Much of the 205's design and equipment has been inspired by the features of the 252. And if the 252's reception is any indication, the airplane should prove popular. (In July, Mooney reported a backlog of orders for the 252 that will keep production lines busy until the end of November.)

The 205's engine—a 200-horsepower Lycoming IO-360-A3B6D—and external dimensions are the same as those of the 201, but the addition of an extra pair of main-gear inner doors boosts the airplane's top speed at sea level to 178



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knots, or 205 mph, four miles per hour faster than the 201. Mooney's cachet is to name its airplanes after their top speeds, expressed in miles per hour.

Other improvements derived from the 252 include:

- Increased landing gear operating speeds. Vlo (maximum landing gear operating speed) is now 140 KIAS for extension, up from the 201's 132 KIAS limitation. For gear retraction, there is a 107 KIAS limitation. Vle (maximum landing gear extended speed) is 165 KIAS, a good deal higher than the 201's Vle of 132 KIAS. The 252's Vle, though now placarded at 140 KIAS, is planned to be raised sometime this fall. The 205 and 252 share the same gear system, but flight tests authorizing the higher Vle had not been completed in time for the first production models of the 252.
- A 28-volt electrical system is standard and includes instruments that help the pilot to better monitor the electrical system's performance. A combination alternator loadmeter/bus loadmeter/voltage indicator is located to the left of the airspeed indicator. This allows the pilot to determine the exact nature and location of an electrical fault.
- A more powerful battery and alter-

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nator have been included. The 205's battery can deliver 22 ampere-hours of power, and the alternator output is 70 amperes. This addition makes starting easier and allows the electrical system to power more avionics equipment than was possible in earlier Mooneys.

- Cowl flaps are electrically driven and can be set in a range of positions. These dual cowl flaps fit under the exhaust stacks, unlike the 252's single, centrally located cowl flap.
- Preselect wing-flap control. There are two positions—Takeoff (15 degrees) and Full (33 degrees). Vfe is 132 KIAS for 15 degrees of flap, 115 for full flaps.
- Rounded window-corners.
- Gray-tinted windshield and side windows. Previously, Mooneys were provided with green tinting.
- White instrument panel and control yokes. Preceding models came equipped with a black panel and yokes.

The staff of AOPA Pilot spent a few days with N205JS, the second Mooney 205. This demonstrator was equipped with the "Special Edition" decor group (an extra \$2,600), which includes adjust-

able lumbar-support seats, center armrests, special upholstery, wool carpets and a metallic paint scheme. It also had the speed brake kit (\$4,110), which consists of two pairs of hinged spoilers that operate on the airplane's pneumatic system; a small button on the pilot's control yoke deploys and retracts them. The speed brakes can be deployed at any airspeed up to the airplane's 198-KIAS Vne (never-exceed speed). The speed brakes and the increased Vle can easily provide those steep descent profiles that controllers at busy airports often request. With the landing gear extended, the speed brakes deployed and the airplane held at the 165-KIAS Vle, the sensation is that of a Stuka-like descent profile. The vertical velocity indicator is pegged.

Mooney representative Todd Duhnke, AOPA 651311, who earlier this year set a new transcontinental speed record in a 252, demonstrated how one can fly a hot pattern by careful speed management. He flies downwind and base legs at 190 KIAS, slows to 140 KIAS after turning base to final, lowers the gear and slows to 105 KIAS on short final. Then it is time for the speed brakes and the touchdown. This radical procedure should not be attempted without a



long runway that will provide an adequate safety margin. But this maneuver does prove that the airplane can be compatible when sequenced for landing in a string of airliners.

In more conventional maneuvers, the Mooney 205 behaves like its predecessor. Cruise speeds and fuel consumption, according to the operating manual, are virtually the same, and the 205 retains the 201's ram-air door, which can be opened at altitude to obtain an extra inch of manifold pressure. For example, at 8,000 feet, 75-percent power and best-economy mixture setting, the 205 edges out the 201 by two knots—170 KTAS versus the 201's 168 KTAS—and a half-gallon per hour. The 205 burns 10.3 gph at that altitude and setting; the 201 burns 10.8 gph. Duhnke claimed that, at a full-throttle power setting under standard conditions at 6,500 feet, the airplane would cruise at 174 or 175 KTAS, a figure we verified in our flights. The 205's sea level rate of climb is approximately 100 fpm greater than that of the 201, which claims 1,025 fpm. Mooney attributes this small boost in performance to the drag reduction realized by the extra pair of landing-gear doors.

Controls are light, responsive and harmonious. On the takeoff roll, the airplane tends to do a little hop-and-skip routine before liftoff—caused, no doubt, by the relatively narrow main-gear track. Landings are nearly always accompanied by pre-touchdown floating that may seem excessive to those accustomed to flying other types of light-planes. This is where the speed brakes come in handy. Mooneys with speed brakes float less and land more smoothly, in our opinion. The speed brakes can be deployed throughout the landing sequence for both speed and descent management; yet their greatest benefit is realized when they are deployed before and during landing and rollout maneuvers.

A number of other options can be equally useful. A standby vacuum sys-



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tem is available (\$1,925), as is a dual-alternator installation (\$4,055). Apart from these safety items, a variety of avionics can be fitted, ranging from radar altimeters and slaved horizontal situation indicators to flight directors, autopilots, yaw dampers, weather radar and telephones. King and Narco are original equipment manufacturers of VHF and LF avionics. Weather avoidance equipment includes Sperry's Weatherscout I



color radar and 3M's Stormscopes.

Mooney's continuing efforts to improve their products confirm the notion that a market still exists for new light-planes of high quality. In spite of its high (\$300,000) base price, the Piper Malibu continues to sell at an average of 10 per month. With the 252's base price of \$123,400 and the 205's \$101,300, there is reason to expect that Mooney will continue in a strong competitive position, despite an industry-wide recession. As of July 31, 49 252s had been sold. The 205, introduced in mid-July, had already tallied seven sales in its first two weeks. This is a refreshing ray of hope in an otherwise gloomy landscape. And there is next year to look forward to. □

Mooney M20J 205
Base price \$101,300
Price as tested \$153,440
AOPA Pilot Operations/Equipment Category*:
Cross-country \$111,625 to \$117,495
IFR \$151,445 to \$169,330

Specifications
Powerplant Avco Lycoming
IO-360-A3B6D
200 bhp @ 2,700 rpm
Recommended TBO 1,800 hr
Propeller McCauley, constant-speed
two-blade, 74-in diameter
Length 24 ft 8 in
Height 8 ft 4 in
Wingspan 36 ft 1 in
Wing area 175 sq ft
Wing loading 16.4 lb/sq ft
Power loading 13.7 lb/hp
Seats 4
Cabin length 9 ft 6 in
Cabin width 3 ft 7.5 in
Cabin height 3 ft 8.5 in
Empty weight 1,711 lb
Gross weight 2,740 lb
Useful load 1,029 lb
Payload w/full fuel 630 lb
Fuel capacity, std 399 lb (384 lb usable)
66.5 gal (64 gal usable)

Oil capacity 8 qt
Baggage capacity 120 lb, 17 cu ft

Performance
Takeoff distance, ground roll 900 ft
Takeoff distance over 50-ft obst 1,800 ft
Max demonstrated crosswind component 11 kt
Rate of climb, sea level 1,050 fpm
Max level speed, sea level 178 kt

Cruise speed/Range w/45-min rsv, std fuel
(fuel consumption)
@ 75% power, best economy
8,000 ft 171 kt/843 nm
(64.8 pph/10.8 gph)
@ 65% power, best economy
8,000 ft 160 kt/922 nm
(56.4 pph/9.4 gph)
@ 55% power, best economy
8,000 ft 147.5 kt/1,045 nm
(46.8 pph/7.8 gph)

Service ceiling 18,000 ft
Landing distance over 50-ft obst 1,980 ft
Landing distance, ground roll 975 ft

Limiting and Recommended Airspeeds
Vx (Best angle of climb) 66 KIAS
Vy (Best rate of climb) 71 KIAS
Va (Design maneuvering) 116 KIAS
Vfe (Max flap extended) 132 KIAS
Vle (Max gear extended) 165 KIAS
Vlo (Max gear operating)
Extend 140 KIAS
Retract 107 KIAS
Vno (Max structural cruising) 176 KIAS
Vne (Never exceed) 198 KIAS
Vr (Rotation) 63 KIAS
Vs1 (Stall clean) 61 KIAS
Vso (Stall in landing configuration) 54 KIAS

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

*Operations/Equipment Categories are defined in June 1986 Pilot, p. 102. The prices reflect the costs for equipment recommended to operate in the listed categories.