Mooney M20R Ovation2 DX

One of the best long-range business singles just got better

Generations of enthusiasts have continued to preach the gospel of the Mooney. How it sprints while sipping fuel. How its strapped-in, sports-car feel makes you one with the airplane. How its somewhat-heavy control forces make it a great instrument platform. But of all the Mooneys, the new Ovation2 DX may be the most coveted. That's because its 300-horsepower Teledyne Continental IO-550 engine—derated to 280-hp for less internal stress and a lower noise signature—and generous standard avionics package make it one of the fastest and most capable long-range business singles.

Let's take the airplane's speed profiles first. Running wide open at 22 inches of manifold pressure and 2,500 rpm, with mixture set at 50 degrees rich of peak (this turns out to be 16

The gospel according to Mooney

BY THOMAS A. HORNE

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gph), the Ovation2 will turn in a very respectable 190 KTAS at 8,000 feet under standard conditions. This is some seven knots more than the Ovation2's predecessor—the Ovation, built between 1994 and 2000—thanks to the 2's switch to a more efficient two-blade McCauley propeller.

PHOTOGRAPHY BY MIKE FIZER



Engine management is simple: Shove everything full forward for takeoff, then use the mixture to lean while climbing. This is easily done by keeping the pointer of the ship's EGT (exhaust gas temperature) in the blue arc. You don't need to fool with cowl flaps because the coolrunning IO-550 doesn't need them. At this setting, the M20R manual says you can fly for 900 nm and land with a 45minute fuel reserve.

Best-economy cruise settings involve running at 50 degrees lean of peak EGT. At 55-percent power (17 inches manifold pressure and 2,500 rpm) and 14,000 feet you should realize 176 KTAS, burn 10.4 gph, and cover 1,275 nm with a 45minute reserve.

The big news for the 2003 Ovation2 is the "DX" equipment package. The DX

brings with it a hefty installation of Garmin avionics—a Garmin 530/430 GPS/VHF nav/com setup, a Garmin GTX 330 Mode S transponder with traffic reporting capability, and a Garmin GDL 49 datalink receiver. The GDL 49 comes with a subscription for Echo Flight's datalink weather service, which beams Nexrad imagery as well as other textual and graphical weather information right into the cockpit. Echo Flight accesses broadcast satellite services via a request-and-reply function.

A Honeywell Bendix/King KFC 225 digital autopilot and flight control system rounds out the DX's panel, and this incorporates altitude preselect, vertical speed, and airspeed-hold modes of operation in addition to the usual headinghold and nav-tracking features. There's something else new about the instrument panel: It's been lowered by two inches. This step was taken in response to complaints by some pilots that they didn't have enough forward visibility in Mooneys—especially during taxi, takeoff, and landing. Engineers squeezed the panel vertically, then tightened the radii of the "bow tubes" support tubing that forms the upper rim of the panel. This allows the redesigned glareshield to ride lower and provide more of a forward view.

At a base price of \$384,950, the Ovation2 DX is highly competitive with other modern piston singles. Finding a similarly equipped high-performance piston single at this price would be a challenge, especially given that the Ovation2 also comes with a standby vacuum system, a



second alternator, dual batteries feeding a dual-bus electrical system, a J.P. Instruments EDM-700 engine analyzer/fuel flow system, and Precise Flight speed brakes as standard equipment.

But bolt on the options and you're easily facing a \$450,000 price tag. Many customers don't seem to mind, though. Popular options have been the L3 Stormscope WX-500 (\$7,500), Honeywell's new KI-825 EHSI (electronic horizontal situation indicator, exchanged for the standard mechanical KI-525 HSI for \$7,500), standby electric attitude indicator (\$2,400), oxygen system (\$6,500), air conditioning (\$19,900), and TKS "weeping wing" certified known-ice protection system (\$39,990). Mooney says that some 60 percent of its customers opt for the TKS system. The DX versions of the new Mooney line use Echo Flight's request-and-reply method of receiving datalink weather, presented on the ship's Garmin GNS 530. Radar imagery for Houston was requested, then popped upon the display (bottom right) within a minute. Exterior lighting controls are set in an overhead panel (below right), while the oxygen system—a popular option—is monitored via controls just forward of the pilot's armrest (below left).









Of course, adding any options encroaches on the airplane's useful load. A standard-equipped Ovation2 DX has an empty weight of approximately 2,315 pounds. Add full fuel, and available payload drops to 519 pounds. With the TKS system topped off, subtract another 98 pounds. In exchange for these compromises—and all airplanes are

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compromises—you have a nearly allweather airplane.

The day I flew the Ovation2 DX a storm system was moving through Texas. It had clobbered the Texas hill country, where the Mooney factory is located, and was heading for Houston. The mission was to take off from Mooney's home airport at Kerrville Municipal/Louis Schreiner Field, overfly the San Antonio Class C to check out the GTX 330's traffic information service (TIS) capabilities, call up some weather using the GDL 49, and look at the airplane's performance.

After setting flaps at the 10-degree takeoff setting, accelerating to 65 kt, and lifting off, the Ovation2 DX settled into a 1,400-fpm climb. That's using the best-rate-of-climb speed of 105 kt. Lowering the nose to 120 kt improved forward visibility without much of a reduction in

climb rate, which turned out to be 1,200 fpm.

The Mooney airframe, with its roll cage and reinforced tube structure, has withstood the test of the years and provides excellent cabin integrity in the event of a crash.



Although some complain that Mooney interiors are cramped, late-model ergonomics are exemplary, with unequaled legroom.

Cruising at 7,500 feet, power was set to 77 percent using the optional EDM-800 engine analyzer, which can be configured to show percent of maximum rated horsepower. With 23 inches of manifold pressure and 2,500 rpm, running at 50 degrees rich of peak and burning 17.2 gph, true airspeed was 189 kt. Not bad at all, considering that the outside air temperature was 11 degrees Celsius above standard.

By dialing up one of the Nav pages on the GNS 530, you can select from a menu to request weather information. First I requested Nexrad imagery, and there it was-the storm complex was over Houston, and it was dissipating. There was image pixellation, to be sure (it's a fact of life with datalinked Nexrad), but the resolution was good enough to make out the storm's precipitation contours. I then made similar requests for METARs in the region, as well as graphical representations of the VFR and IFR weather around the country. Nearing San Antonio, traffic began to pop up on the 530's display. The transponder receives its TIS data from approach control radars, and the result is traffic symbology that shows a nearby airplane's altitude relative to yours, along with a vector symbol that depicts the target's motion. This makes it easy to not only see the target's altitude, but also whether it's on a collision course with your flight path. Voice annunciation—"traffic, traffic"—completes the GTX 330's impressive capabilities.

Some of the gripes you hear about Mooneys have to do with the airplane's slipperiness. The DX comes with speed

SPECSHEET

Mooney M20R Ovation2 DX Base price: \$384,950

Specifications

Powerplant	ledyne Continental
10-550-G, 28	0 hp @ 2,500 rpm
Recommended TBO	2,000 hr
PropellerMo	Cauley two-blade,
consta	int speed, 76-in dia
Length	
Height	8 ft 4 in
Wingspan	
Wing area	
Wing loading	19.3 lb/sq ft
Power loading	
Seats	4
Cabin length	
Cabin width	
Cabin height	3 ft 9 in
Standard empty weight	2,315 lb
Max gross weight	3,368 lb
Max useful load	1,053 lb
Max payload w/full fuel	519 lb
Fuel capacity, std95 g	gal (89 gal usable)
Baggage capacity	.120 lb, 20.9 cu ft

Performance

brakes as standard equipment, and they can be deployed at any speed. They're handy for descending at healthy rates without building excessive airspeed. Prelanding checks are conventional, but special attention to energy management is vital for good landings. Fly 100 kt on the downwind leg, 90 kt on base, 80 kt on final, then slow to 75 kt crossing the threshold. Bleed off more airspeed as you close on the runway, and your landing will be uneventful. Cross the threshold much above 80 kt and you'll bounce or float like mad, then porpoise if you're impatient and try to force it on the runway. This is perhaps the only Mooney dark side, but it's easily conquered with practice, which you receive as part of the training that comes with the purchase of a new airplane. Speed brakes can help you keep airspeed under control on approach, too, and can be left deployed should a go-around be necessary. Mooney says they don't affect initial climb rates at low altitudes all that much.

The Ovation2 DX, like its big brother—the \$434,950 270-hp turbocharged, 220-kt Bravo DX—represents Mooney's latest effort to bring more value to its

@ 65% power, best economy	mixture,
10,000 ft	kt/1,105 nm
	(12.4 gph)
Service ceiling	20,000 ft
Landing distance over 50-ft obs	tacle
	2,500 ft
Landing distance, ground roll	1,100 ft

Limiting and Recommended Airspeeds

V _x (best angle of climb)	85	KIAS
Vy (best rate of climb)1	05	KIAS
V _A (design maneuvering)1	27	KIAS
V _{FF} (max flap extended)1	10	KIAS
V _{LF} (max gear extended)1	65	KIAS
V ₁₀ (max gear operating)		
Extend1	40	KIAS
Retract1	06	KIAS
V _{NO} (max structural cruising)1	74	KIAS
V _{NE} (never exceed)1	95	KIAS
V _R (rotation)	67	KIAS
V _{S1} (stall, clean)	66	KIAS
V_{SO} (stall, in landing configuration)	59	KIAS

For more information, contact Mooney Airplane Company, Louis Schreiner Field, Kerrville, Texas 78028; telephone 830/896-6000; www.mooney.com

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.

new line of airplanes. The company's lower-cost airplane, the Ovation, is a stripped-down version of the Ovation2. Its base price is \$299,450, and has a Garmin GMA 340 audio panel/intercom, a Garmin 530 GPS/nav/com, and a Garmin GTX 327 Mode C transponder as the standard avionics package. The Ovation replaces the Eagle2, which had a three-blade propeller limited to 2,400 rpm. This gave the Eagle2 40 fewer horsepower than the Ovation—even though they share

the same engine.

The decision to add high-end Garmin avionics to an already-respectable panel ought to help Mooney as it tries to recover from a series of economic setbacks. One thing's for sure: Links to additional information on Mooney's piston singles may be found on AOPA Online (www. aopa.org/pilot/ links.shtml). Keyword search: Mooney.

Mooney's airplanes were never the cause of the company's financial woes.

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A tradition soldiers on Mooney's new president has high hopes

Mooney's airplanes may be exemplary, but its corporate history is marked by a tradition of tense financial straits and a contorted chain of ownership. Designer Al Mooney ran the original company, which was based in Wichita. In 1953 the company moved to Kerrville, Texas. According to company lore, this move had a political impetus. Mooney wanted to save money by moving to a location where labor would be less expensive. The Kerrville newspaper picked up on this and urged Mooney to move to Texas. Mooney ignored the pleadings, and Kerrville sought political help by asking then-Sen. Lyndon B. Johnson to put the arm on Mooney. LBJ put in the call.

"Does Kerrville have any trained aviation workers?" Mooney wanted to know. "No," LBJ replied.

"Any factory we could move into?" No again.

"Any airport?" No again.

"Well, what do you have down there?"

"A whole lot of money!" said Johnson. And that's how Louis Schreiner Field and today's Mooney factory reportedly came to be.

Since then, money problems have continued to be an issue with Mooney. One axiom holds that when Mooney has good management, it lacks money. And when it has money, the management falls down.



After a failed fling with Mitsubishi to market the MU–2 twin turboprop as the "Twin Mooney," the company's finances dwindled through the 1960s. Then Butler Aviation, headed up by Paul Dopp, bought Mooney in 1970. Under Dopp's brief tenure the company came to a standstill. Republic Steel bought Mooney from Butler, then a French consortium under Alexandre Couvelaire saw Mooney through a heady stretch in the 1980s. It was Mooney's high point, marked by the introduction of several popular new models, including the 252 (an offshoot of Republic's 231), the Mooney Porsche-powered PFM, and a joint venture with Socata—the TBM 700 single-engine turboprop (the M stands for *Mooney*).

In a strange twist, Christopher Dopp, Paul Dopp's son, later came to power. By July 2001 the company was in the hole for \$18 million, and declared bankruptcy. The younger Dopp left the picture, and Congress Financial Corporation became Mooney's senior secured creditor. Then things happened fast.

Advanced Aerodynamics and Structures Inc. (AASI), of Long Beach, California—makers of the failed Jetcruzer 500—purchased Congress Financial's position at auction in April 2002 and took over Mooney's operations. AASI hired veteran general aviation executive Roy Norris to head up the new effort. Norris promised a new line of Mooneys—at drastically reduced prices—with the Jetcruzer 500 serving as the company's flagship. Then he canned the under-performing Jetcruzer and left the company. AASI's Long Beach facility was closed in December 2002, and all operations were consolidated at Kerryille.



Today, the Mooney Aerospace Group is Mooney's holding company, and the operating company is called the Mooney Airplane Company. LH Financial, a New York investment bank, has put together a group of private and corporate investors who have put \$20 million into Mooney. Wealthy individuals and an Austrian bank have also anted up.

Then there are some 3,000 public investors. Mooney trades as a penny stock under the MASG title, and some 500,000 to 1 million transactions occur daily. Its performance can be monitored online (www.pinksheetstock. com); last time we checked, Mooney was trading at just a hair over 1 cent.

According to J. Nelson Happy, president of the Mooney Aerospace Group, the company is struggling back from the precipice. "If we act half intelligently it'll work out," he said. "We can make a decent return on selling 100 planes a year. That's not a gold mine, but it should be satisfactory. We need another \$6 million, and if we get it we should be profitable by late summer of this year. Right now we need more working capital. We're cash-short, but investors have been putting more money in, and this allows us to buy parts." Meanwhile, Mooney's workforce—drawn down to a dozen employees during the depths of the bankruptcy—has rebounded to 161 staffers; Happy says the company will eventually have 350 employees.

Sales have been slow, but the pace is improving. Happy thinks Mooney will sell 75 airplanes this year, 100 in 2004, and 120 in 2005.

Speaking earlier this year, Happy, an aviation products defense attorney before being hired by AASI, admitted that much work lay ahead. As a company, Mooney has "fallen down on service," he said. "And this is our single biggest challenge. We have 37 service centers now, but our goal is to have 40, with two or three of them authorized to do major structural repairs."

Building value is another goal. This is where the DX model improvements and the extension of the new-aircraft warranty period from 24 to 36 months come in.

Happy's ultimate plans for Mooney? "To build the company," he said. "We have to diversify, have a range of products—bigger airplanes, longer-range airplanes—not right now, but in the long term. Single-product general aviation companies aren't long for the world." Then he hints at even bigger hopes. "We wouldn't want to sell Mooney. Just the opposite. We'd like to buy other companies."

Big words for the head of a company that now sells just two to three airplanes a month. But if history has shown anything, it's that Mooney always seems to spring back from the most desperate turns of fate—or mismanagement. —*TAH*