

A Fighter For The Masses

This South African LSA offers big-plane performance in a nimble, economical package

Story And Photos By Marc C. Lee

What can you do with a Sling? In today's world, an aircraft needs to be fun, stable, efficient and—most of all—useful. Gone are the days when pilots would look only at cruise speed and climb performance when considering a new aircraft. Today's pilots are different from the former fighter jocks of the '60s and '70s. More than anything, they want to know what an airplane is capable of and what it can be used for. They have families and busy careers, and they need aircraft that can be used as tools for travel without costing a fortune to operate. But, they're still aviators and want something that speaks to them emotionally and fuels their passion for flying. It's there, in the realm of almost impossible expectations, where the South African Sling light-sport aircraft stands out.



The Airplane Factory's Sling lives in the passionate "pilot's airplane" corner of the aviation spectrum. With its sliding canopy, all-metal construction and nimble handling, the Sling feels like a lot more airplane than it is, and it touches pilots in the same place where P-51s and fighter jets do—the senses. Though it's neither a warbird nor a fighter jet, it feels like one, and in today's world of glass cockpits and one-touch autopilots, that's a huge selling point for pilots who love to fly for the thrill and adventure of it.

My editor says I fall in love with everything I fly, and while she may be right in a general sense (is there really a "bad" airplane?), this little beauty left its mark on my soul when I flew one three years ago. Like falling in love on a faraway vacation then having to go home, I've been anxious to fly the Sling again and see if my first impressions were just romantic longings or true perceptions of an exceptional airplane.

The only way to evaluate an airplane from a practical sense is to take an adventure in it. After all, real pilots will do just that. They won't sit with a pad on their knee jotting down fpm climb rates or true-versus-indicated airspeeds, or noting clean and dirty stall speeds. Pilots want to know what this airplane can do in a practical sense, and I'm happy to pretend I own it.

One thing that immediately sets this airplane apart is the gauntlet of globe-trotting journeys it has endured. To prove the aircraft to themselves and the world, Mike Blyth and James Pitman, The Airplane Factory's founders, flew the production prototype Sling 2 around the world in 2009. While naysayers said the two were crazy to fly an LSA with a Rotax engine over the most desolate parts of our planet, the Sling performed flawlessly, flying numerous legs over 2,000 nm (3,600 km) over the world's oceans, jungles and deserts. To further prove the reliability of their design, the pair flew a four-place Sling around the world—this time from west to east—even flying a nonstop leg from Brazil to Cape town without a hitch.





Airplane Factory President, Matt Liknaitzky, and Sling owner Craig Spirko compare performance of the fuel-injected and standard Sling.

Mojave Desert Adventure

For today's adventure, Matt Liknaitzky, president of the Sling's main distributor in the U.S. in Torrance, Calif., and I will fly a real-world mission to the remote El Mirage Dry Lake in the Mojave Desert, near Adelanto, Calif. El Mirage is a special place: a remote, flat playa nearly 12 miles long and several miles wide. The dry lake formed from an undrained basin. Silt and clay are deposited into this basin during periods of heavy rain. When the "lake" dries from evaporation, a hardpan dry lakebed is left.

The lake's hardpack clay surface has a compacted chalk-like feel—like compressed talcum powder—that's so forgiving for landing an aircraft that I'm suddenly enlightened as to why the U.S. Air Force did so much testing here during the 1950s and '60s. Landing an airplane on this playa is intoxicating, as it combines the best of both dirt fields and grass strips. The lake lacks much dust, and fine cracking on its surface resembles a well-made, crisp brownie. It's a perfect surface. Weekends bring a wide range of enthusiasts here—from land racers to ultralight pilots to model rocket builders. During the week, it resembles the moon, and the myriad of films, commercials and print ads created here convey the alien nature of this place.



Controlled by the Bureau of Land Management (BLM), El Mirage Dry Lake offers an unusual hardpack surface that attracts aviators. Aircraft operations are limited to weekdays.

Liknaitzky and I will fly the Sling from John Wayne Airport (SNA) in the heart of Southern California's busiest airspace—and itself a frequent entry in the top 10 busiest commercial airports in the nation. We'll get a chance to push the Sling's capabilities and avionics, using them to thread our way through this hive of aerial activity and on to the harsh and desolate environs of the Mojave Desert. We'll stay VFR—as many Sling owners would—and meet up with a second two-place Sling piloted by Craig Spirko, an entertainment industry professional. Scouting a location like this might be something Spirko would do in his job, and

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though I had landed at El Mirage before, this would be the first time for both of them.

The Sling itself is a fascinating airplane. The design was conceived in 2006 by Blyth, a South African ultralight pioneer. His passion for flying instilled in him a desire for an LSA that had better performance and handling characteristics than anything else out there. Together with outdoorsman Pitman and aeronautical designer Jean d'Assonville—both also from South Africa—the team labored for five years toward their goal of bringing such an airplane to life. The result is an all-metal, stressed-skin, riveted, light-sport aircraft known for its proven durability, reliability and ease of construction. Made with tempered-grade 6061-T6 aluminum, the Sling's recognizable hallmarks are its sliding bubble canopy (affording amazing visibility), composite landing gear and squat, fighter-like stance. If you squint a little, it looks like a cousin of the famous T-37 "Tweet" tandem military trainer jet.



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The Sling comes in two variations: the two-seat original and the four-seat Sling 4. Both are powered by the tank-like Rotax engine. The Sling 2 we were flying was fitted with the new Rotax 912 iS fuel-injected engine, though the standard Rotax 912 ULS is what I flew during my first Sling experience, and both offer spry 100 hp performance. While both engines are fuel misers (the 912 ULS sips a mere 5 gph), the main attraction to the 912 iS is an unheard of fuel flow of about 3.8 gph at cruise. Meanwhile, the Sling 4 is powered by the turbo-charged Rotax 914 series, which offers better performance at high altitudes, along with 115 hp. Both include an optional airframe parachute system (a \$6,837 add-on).

Flying The Sling

Lowering myself into the Sling's surprisingly spacious cockpit, I'm greeted by the control sticks and adjustable seats. Unlike many LSAs, these seats are substantial and would be comfortable on the long hauls the airplane is known for. The simple panel is adorned with dual MGL Avionics touch-screen MFDs. Also based at Torrance Airport, MGL was the first company on the noncertified market with a full-color EFIS. Their newest touch screen is pretty amazing and has more than enough capability for the Sling, with engine monitoring, 3D terrain, weather, radio and transponder control, and autopilot, along with a beautiful moving-map GPS. The Rotax 912 iS features FADEC (full authority digital engine control), so performance management is a single-lever operation. The "finger brakes" feature takes a little getting used to with its console-mounted lever (buyers can get toe brakes instead for an additional cost).



Using a sliding canopy is just plain fun and brings out the inner fighter pilot in you. From a practical standpoint, it provides great ventilation and visibility, though it also adds another item to be aware of before takeoff. With the canopy locked and the Sling accelerating quickly down the runway, takeoff is quick. One thing to look out for on the Sling is a slight tendency to porpoise if you don't keep the stick back on rotation. Its sensitive pitch control, though, is a thing of beauty once the Sling is airborne.

Climbing out, I experienced a rush of emotion as I remember why the Sling won me over so completely three years ago: its control harmony and feel. You fly the Sling with your fingertips and wrist, not your arm. Everything you want it to do, you just exert the slightest pressure on the stick, and the Sling obeys. It's not a twitchy airplane like a Pitts, or even approaching unstable, like say, an Extra. It's a forgiving platform with the sweetest control response you can imagine. Coupled with that wraparound canopy and the seat position, and it's a mini-fighter for the masses. If this airplane doesn't put a smile on your face, you don't love flying.

For the nitty-gritty crowd, we were seeing climb rates of about 850 fpm, but we were fully loaded on a sweltering day. Cruising at 7,500 feet, our fuel flow was pegged between 3.7 and 3.9 gph, and we were indicating 110 knots most of the way. Weaving around the SoCal airspace, I'm reminded about the long trips this airplane has made. Full of fuel (38.6 gallons useable), this airplane will go nearly 10 hours averaging 115 knots, and the non-injected Rotax will go eight hours at the same clip. It was made for long, cross-country hauls.



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The Sling is equipped with MGL Avionics' 10-inch touch-screen EFIS with moving map GPS, full AHRS, customizable screens and complete engine monitoring.

No airplane is perfect, of course, and the Sling pays for its durable design with nominal carrying capacity. With a useful load of 500 pounds, heavier pilots need to make trade-offs on range. The truth is that few people need eight- or 10-hour range, so a couple of 200-pound folks could go three to four hours with a light suitcase. I'm a small guy, and I calculated my wife and I could travel six hours with 75 pounds of baggage easily. It's certainly not a pickup truck, but for two people, it fits the bill well enough.

Approaching El Mirage Dry Lake, we pass over Adelanto Airport (52CL), where General Atomics and NASA continue to do flight testing and research on unmanned aerial vehicles (UAVs), including the Predator and Altair drones. Nearby are Edwards Air Force Base, the Lockheed Skunk Works and Mojave Spaceport. The Sling feels right at home.

Both Slings make a final pass to make sure the lake is clear of people and machines, then set up for the approach. The Sling is a docile creature and settles into 70 knots with flaps down on final. The lakebed extends as far as the eye can see in a disorienting swath of nothingness in every direction. There's nothing to break up the surface of the playa, and we both lose depth perception. It's the same effect as landing a seaplane on undisturbed, calm water. Looking to the nearby Shadow Mountains, we regain a slight sense of where we are and manage to touch down at the right attitude and speed. Landing on this moonscape isn't like anywhere else.

The Sling can be purchased as an S-LSA certified factory-built aircraft, or as a homebuilt E-LSA (experimental), or as an amateur-built aircraft. The E-LSA has a maximum gross weight of 1,320 pounds to fit the LSA category, while the amateur-built version is 1,540 pounds, though both aircraft are identical. S-LSA aircraft are assembled in Torrance, Calif., after having been manufactured at the Sling factory in Tedderfield Airpark in Johannesburg, South Africa. After assembly, the Slings can either be flown or shipped to owners in the U.S., Canada or Mexico. A national dealer network is growing that will support the aircraft and their owners. The ready-to-fly, factory-assembled Sling has a base price of \$135,000, with the fuel-injected Rotax 912 iS

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engine adding another \$10,312 to the price. The Sling 4 only comes as a kit for the homebuilder with a price tag of \$44,297 for everything minus the engine. The Sling 2 kit is \$32,590 plus the engine.

The Sling will fulfill the needs of most pilots while still maintaining that sense of adventure and thrill that attracted them to flying in the first place. It should have competitors shaking in their boots, specifically because it's such a joy to fly, but offers the features of a much larger airplane. Sitting on the El Mirage playa with the sun glinting off its brilliant white exterior, the Sling looks fun just standing there. And fun is what this airplane is all about.

From Box To Sky In Four Days

One of the major selling points of the Sling LSA for homebuilders is its ease of construction. All the metal parts of the Sling are punched precisely and routed by CNC machines. A cadre of quality assurance managers inspects parts before they're sent to buyers. Major assemblies are sold as "kits" and include all components for that sub-assembly. For example, the "Wing Kit" is a self-contained set of all the parts necessary to build the wings. It includes already-assembled flaps, ailerons, spars, fuel tanks, etc. Think of a more sophisticated Ikea (the Swedish furniture maker), and you get the picture. All you have to do as the builder is supply the 1,000 people hours the factory says it will take to finish the airplane.

Since the Sling manufacturer likes to prove what they say in every sense, they decided to launch the Sling 4-4-40 Challenge—a team of 40 workers from the Airplane Factory built a Sling 4, from kit to flight, in an unprecedented four days.

The challenge took place at the 2014 Africa Aerospace and Defense Expo at the Waterkloof Air Force Base in South Africa. The build team was a mix of highly skilled workers, and some marketing, administrative and catering staff. The team worked around the clock, with the day and night being split into 10- and 14-hour shifts. In just the first day, the center and rear fuselage were constructed and joined, the gear and undercarriage were assembled, and the engine was wired and made ready for installation.

By the end of day three, the Sling 4 was rolled out of its build area, both wings were attached, landing and strobe lights were connected and working, and the avionics were fired up. The Sling flew early on day four, even undergoing paperwork and certification.

The challenge was another milestone in the Sling's impressive evolution and another public display of the airplane's innovative yet simple design. Slings have now circumnavigated the globe twice, and in 2011, the Sling 5577 Challenge took place, in which five men from the factory and five women who had never even touched a rivet gun built a Sling 2 in seven days.