



# WaterFlying

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# A5 CHECKOUT



# BREAKING GROUND IN THE ICON A5



BY MARK TWOMBLY

*It's not really new, but what's behind it is*

**H**ave you seen one flying? Not so long ago you probably would have answered, “Nope, no ICON A5 sightings here.” That is changing. The Vacaville, California, company has delivered 130 A5s and hopes to get another 40-50 in customers’ hands in 2021. Finally, after a 13-year gestation since a prototype first flew, A5s are getting around, their owners seeing and being seen.

PHOTO BY BRAD FULLER



It has been a long and arduous journey for ICON to get to this place, involving years of development and production startup; more than \$100 million in investment; the departure of one of the two founders of ICON and the high-energy force behind the A5 concept and its development; and, most unfortunately, a couple of high-profile fatal accidents that had nothing to do with A5 design or structural issues.

To be fair, ICON is not the only general aviation manufacturer to experience a tumultuous birth and early childhood. Think Robinson Helicopter, which survived and eventually thrived after some early mast-bumping and rotor delamination accidents, and Eclipse and its ultimately fatal production, management, and financial struggles. The difference is the A5 is a Light Sport Aircraft (LSA), supposedly a simple, low-cost alternative to the production airplanes we all grew up with. And it's a seaplane—historically a small subset of the overall general aviation fleet. No LSA, much less one that operates off the water, has sought or received such attention from the aviation community—and even the public at large—as has the A5.

Splashy (pun intended), clever, well-financed marketing has had a lot to do with the attention-getting, but once people became aware of the A5 there had to be something there to sustain interest over the journey from initial announcement to delivery of the finished product. That something was—is—the A5's head-turning aesthetics and, more importantly, its groundbreaking bundle of features, at least for an LSA.

## GETTING NOTICED

On the design front it is a stunningly attractive airplane. Right or wrong, looks are what people notice first in just about anything—whether it is cars, airplanes, or other people—and lots of people from within and without aviation have noticed the A5.

More important than looking good is the A5's package of safe-flying features, and topping that list is the emphasis on angle of attack. Thank ICON co-founder Kirk Hawkins, a former Air Force F-16 pilot, and the cadre of military fighter pilots he brought into the company early on for insistence on angle

of attack (AOA) rather than airspeed in slow-speed situations and when maneuvering.

Like all LSAs, especially seaplanes, the A5 is a relatively slow, high-drag airplane. The difference between typical indicated airspeed in cruise (with side windows removed) and the no-flaps stall speed is only about 25-30 kts. That small margin can quickly disappear with a loss of power or pilot inattention or ham-fistedness, especially when maneuvering, and failure to react quickly can quickly lead to trouble. Angle of attack is a better quick-reference instrument than an airspeed indicator for determining where the airplane is aerodynamically at the moment, and where it soon will be. (See sidebar.)

Second on the list of admirable safety features is inherent stall/spin prevention, achieved by employing a package of airframe devices. First is the “blended wing”—a lower angle of attack on the outboard portion of each wing compared with the inboard portion. It's achieved through use of a prominent cuff protruding from the leading edge of the outboard portion of each wing; this keeps the outboard wing flying when the inboard portion is at a stall-inducing angle of attack. Also, vortex generators on the upper surface of the wing and each side of the fuselage keep air flowing over the wing and tail surfaces at lower speeds and higher angles of attack. Stall strips on the wings and fences on the flaps also aid in stall/spin prevention.

A third novel safety feature not found on other LSAs, much less most small general aviation aircraft, is an extensive fault-detection and annunciator system. The A5 has 18 electrically driven items, each one protected by a replaceable fuse located on a ceiling-mounted panel in the baggage hold. The fuse panel also has a 30-amp resettable circuit breaker for the alternator that powers aircraft systems and charges the battery. (A second 15-amp alternator powers the engine.)

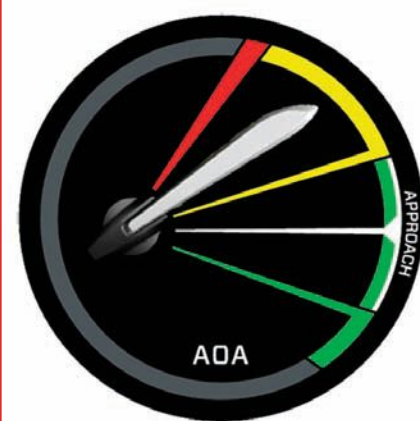
The pilot is alerted to serious electrical, engine, and fuel system problems by an instrument-panel-mounted annunciator with four attention-getting amber Caution lights and three red Warning lights, including one ominously labeled “Land Aircraft.” Depending on the condition, the lights illuminate individually



Most of the training conducted at ICON's Tampa center is done in salt water. The A5's 95 percent carbon-fiber airframe is minimally subject to corrosion.

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## THE ICON AOA



ICON Angle-of-Attack needle in mid yellow arc, a typical indication for a glassy or rough-water landing or a minimum-radius climbing turn to avoid obstacles.

ICON has designed an intuitive AOA display, prominently positioned at the top of the instrument panel, with color coding and target points for various phases of flight and maneuvers. A quick glance provides an instant, easily comprehended grade on your piloting performance—too fast, too slow, or just right—during critical slow-speed and maneuvering flight such as a tight turn.

The gauge essentially works as a graphic lift indicator. ICON says it gives the pilot “a visual indication of how hard the wing is working to generate lift and how much more lift it can supply at any given time.” It's easily interpreted: green zone—lots of lift in reserve, plenty of aft-stick movement available; yellow zone—caution, be careful about applying more aft stick; red zone—not good, no lift left, we're stalled.

The AOA system is based on comparing the difference in pressure measured at two tiny ports on the left wing: one on the upper surface of the leading edge, one below. Tubing connects the ports to a fuselage-mounted computer that converts the pressure differential to an electrical signal that

drives the gauge.

The horizontal line on the gauge depicts the optimum approach angle of attack. The drill on a normal approach to landing is to reduce power to about 3,000 rpm, flaps and gear as needed, and pitch to put the AOA needle on the white line. In normal situations that's about 60 kts. In the flare, apply a bit of aft stick to put the AOA needle on the yellow line and adjust power to drift down to touchdown. For a glassy or rough-water landing put the AOA needle in the mid-yellow band for a slower-speed touchdown.

The white line represents maximum lift-to-drag ratio, and that's where you want the needle to be in an idle-power or loss-of-power descent at about 1,000 fpm. You can also fly the white line in cruise flight to achieve best range.

During a turn, the AOA system provides a direct indication of margin above stall, as convincingly demonstrated in ICON's box-canyon turn maneuver. The AOA gauge is disabled at airspeeds below 30 knots.



or in combination to alert the pilot to a memory response or the Emergency Procedures checklist.

## OPTIONAL AUTOPILOT

A fourth safety feature that will be available in 2021 is an optional Garmin G3X autopilot. The autopilot includes ESP-X (Electronic Stability and Protection), which provides wings-level stability even when the pilot is hand-flying the A5. ESP-X also will increase pitch to reduce an overspeed condition and lower pitch to correct an underspeed condition. The G3X works with the Garmin G3X Touch flight display, which will be offered as an option to the Garmin 796 that is standard equipment.

Despite all of those built-in safety features, if the worst happens for whatever reason and an uncontrolled reunion with the ground appears to be inevitable,

the A5's ballistic parachute can save the day. Reach back and up to grasp the red handle, pull, and soon you'll be descending at about 1200 fpm under a canopy to a survivable touchdown.

One more commendable safety feature that isn't built into the A5's avionics, airframe, or systems but may be the most critical component contributing to incident- and accident-free A5 flying is the company's approach to the piloting experience. It begins with a detailed curriculum for ground and flight training, extends to a remarkable mobile-device app that A5 pilots can use to assess risk factors for a planned flight, and even includes the checklist tucked into a pocket in the cockpit. (See sidebars.)

I got a first-hand look at ICON's training philosophy and practice when I went through transition training at the company's Tampa, Florida, training center. It's one of two ICON pilot training centers; the other is at the company's headquarters and final-assembly facility at the Vacaville

## CHECKLIST COMPLETE

The last LSA seaplane I flew was typical of a lot of airplanes in that the checklist was a crumpled piece of paper jammed in the bottom of a side-wall pocket. It clearly was suffering from neglect. Not so an A5 checklist. It is as professional as they come—laminated, spiral bound, and comprehensive.

The 14-page (seven pages front and back) Normal Procedures section covers all phases of a flight: the preflight inspection, cockpit preparation, engine start, taxi, takeoff, climb, cruise, land and water approaches and landings and shutdown. The checklist also has a 12-page (six front and back) Emergency Procedures section.

The A5 checklist is far and away the most extensive and complete preflight-to-shutdown checklist you'll find in any LSA or in the vast majority of certificated seaplanes.



The A5 cruises past Albert Whitted Airport in St. Petersburg, Florida, south of Tampa.

BRAD FULLER



airport. ICON also has about three-dozen independent ICON-Authorized Flight Instructors (IAFI) who can train customers in their new A5s, and four independent flight schools that operate A5s for training.

## TRANSITION TRAINING

ICON's factory training program offers two transition training pro-

grams to authorize pilot-in-command authority in the A5. One is for non-seaplane-rated pilots—Private or higher pilot certificate or Sport Pilot. The training culminates with an LSA Airplane Single-Engine Sea (ASES) endorsement. ICON refers to this as its TX-L course—Transition-Landplane pilot. The second program—TX-S or Transition-Seaplane pilot—is for customers who hold either an FAA Single-Engine Sea rating or LSA ASES

endorsement. The desired outcome of the TX-S program is for the student to complete the ICON Proficiency Check in the A5, which confers PIC authority.

ICON originally intended to train nonpilots, which represent about a third of A5 buyers, but now it directs nonpilots to the IAFI network or authorized flight schools to earn the Sport Pilot certificate. Some authorized instructors are able to take the student all the way through seaplane training.

## BOOK LEARNING

**H**ungry for lots of information about the seaplane you are flying? ICON certainly fills that need for its customers. For example, the A5 POH is 152 pages long and covers everything you need to know about the A5 from Limitations, Emergency Procedures and Weight, Balance and Equipment List to Handling and Servicing.

But there's more information, lots more. Before reporting for A5 transition training, ICON expects the student to do some preparation, or "Pre-Arrival" in ICON lexicon. It centers on four Sport Flying Manuals developed in-house by ICON. The first, the *Course Guide*, details the training curriculum and schedule for each course. For example, my first TX-S session called for a 1.5-hour flight bookmarked by 30-minute briefs. The *Course Guide* identifies the prerequisites for the session, the Desired Learning Objectives, the topics covered in the lesson, the Briefing Items, and the Flight Profile.

The second manual, *Sport Flying Academics*, is an impressive 188-page book intended to provide the student "with the basic aviation and aircraft knowledge needed to start flying" and to prepare the student for the FAA knowledge exam. *Sport Flying Academics* was written primarily for the nonpilot customers that ICON had planned to train, but it is an excellent reference for any pilot to have on the shelf, especially if you're interested in Light Sport Aircraft. It covers the gamut of aeronautical topics from basic aircraft aerodynamics and aircraft performance to aeromedical factors and pilot decision-making. The text is written in a conversational style and is accompanied by lots of photos and explanatory illustrations, charts, and graphs. It is ICON's version of the FAA's Pilot's Handbook of Aeronautical Knowledge, customized for LSAs in general and the A5 specifically. Well done.

Manual 3, *Sport Flying Operations*, is 155 pages of detailed explanations on every aspect of operating a seaplane on hard surfaces, on the water,



and in the air. Although the book references A5 procedures when appropriate, it, too, is a useful reference manual for any seaplane pilot.

The final manual in ICON's series is the *Sport Flying Supplement*. ICON says it's optional reading for those interested in a deeper dive into several of the topics covered in *Sport Flying Academics*, and that it is. You might want to rummage around in the closet for those old high school or college textbooks to help you understand all of the higher math offered in the Basic Aero and Aircraft Performance chapters. The *Sport Flying Supplement* also has a Reference section with an illustrated tutorial on how to tie various types of knots, and an extensive guide to VFR Aeronautical Chart Symbols.

ICON is working on combining the four manuals into two: one for general aviation knowledge and the second for seaplane-specific training.

That's a long explanation of ICON's approach to academics, but the point is that the company has taken an unusually thoughtful and thorough approach to providing its customers with extensive knowledge resources before they take their first flight in an A5, and as reliable references to consult again and again. It's unprecedented in the LSA field, and rivals long-established general aviation training providers like the Cessna Pilot Center program.



ICON instructor Sean Stamps (standing, left) with Genesah Duffy, ICON's Manager of Training and Flight Operations.

BRAD FULLER





Floorboards come out for cleaning and washing down the interior.

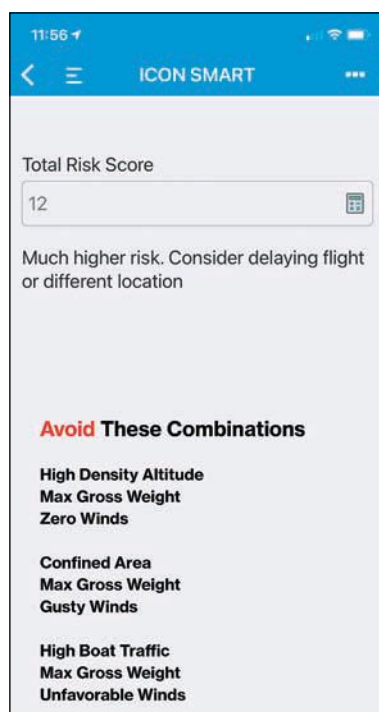
## GO, OR NO-GO?

“I love my seaplane and enjoy taking friends to some of the lakes within about 40 minutes of my home. The other day I invited a friend who is on the heavy side, and now he wants to take me up on the offer, so to speak. I’m a bit concerned because of his weight. Also, the wind forecasts for later today and tomorrow are calling for around 10-15 kts. I’m wondering if it’s wise for me to do the flight.”

It’s a typical scenario for seaplane owners, and the answer is usually based on gut feel rather than a dispassionate evaluation of all the relevant factors. A5 owners now have something better to turn to: a mobile-device application that guides an A5 operator through a series of questions about the payload (pilot, passenger, and baggage weights), fuel load, weather, takeoff and landing site information, flight time, and even the pilot’s experience and physical and mental states.

The app computes total weight and center-of-gravity location to determine if they are within limits, takeoff and landing distances for both land and water, and generates a Total Risk Score for the planned flight. A higher score generates a cautionary note such as “Somewhat riskier than usual. Review personal minimums. Consider alternatives to reduce risk.” The highest Total Risk Score would be generated if the planned flight involved a confined area landing, gusty winds, rough water, or heavy boat traffic. The pilot would be advised to avoid the flight.

Think about that for a moment. A mobile-phone app that can give you accurate weight-and-balance information and takeoff and landing distances, as well as serving as that little voice in your ear either affirming your flight-planning decisions or pointing out that maybe it’s not such a good idea to fly today. That would seem to be a superb tool for any seaplane pilot, and a terrific addition to ICON’s considerable collection of safety information resources for A5 pilots.



The nonpilot training curriculum calls for 20 to 25 hours of academic preparation followed by four to six weeks of ground and flight training to earn a Sport Pilot certificate with an LSA ASES endorsement. The TX-L course calls for five hours of academic study before reporting for the training, which includes five to six flights plus pre- and post-flight briefings conducted over three to four days. The last flight serves as a proficiency check and awarding of the LSA ASES endorsement.

My TX-S training called for the same pre-arrival book learning followed by three flights and briefings conducted over two days.

I reported for the training at ICON’s Tampa center, located at the Peter O. Knight Airport on Davis Island just south of downtown Tampa. It’s a beautiful setting—the island sits on the north end of Tampa Bay with the city skyline close by, and the airport is next to a large marina where scores of sailboat masts bob and weave in the sometimes gentle, sometimes active wind and waves.

It’s curious that ICON chose the location because most of the flight training involves water landings and takeoffs in Tampa Bay—salt water. The rationale was to demonstrate the A5’s versatility to operate in fresh or salt water thanks to its 95-percent carbon-fiber construction. After almost four years of salt-water training, there have been no major corrosion problems, according to Genesah Duffy, ICON’s Manager of Flight Operations and Training. The A5 Pilot’s Operating Handbook includes detailed instructions on when and how to treat the airplane’s exterior and interior after operating in salt water, using fresh water from a low-pressure garden hose followed by a Salt-Away rinse and application of corrosion inhibitor on metal parts.

## LOW-ALT OPS

The weather wasn’t cooperating on my first day of training, so I spent the morning in ground school with Genesah. Among the topics covered was ICON’s “Low Altitude Flying Guidelines.” The document identifies 300 feet AGL as the “soft deck” below which pilots should

“shift a significant portion of their attention to terrain and obstacle avoidance... while also maneuvering more benignly.” It defines “benignly” as +/- 45-degrees of bank and +/- 10 degrees of pitch.

It also recommends a technique to escape from an inadvertent entry into a box canyon, a situation that claimed the life of two ICON employees in an A5. The technique calls for full power, pitching up 5 to 10 degrees above the horizon, immediately rolling into a steep bank in the most open direction, and pulling to put the AOA needle in the middle of the yellow band, just below stall warning. Done correctly the technique should result in a course reversal in a diameter of about 500 feet at gross weight at sea-level conditions. Impressive.

Genesah and I reviewed weight and balance information for the A5 I would be flying in my first lesson, ASN 11. The A5 has good payload/fuel flexibility. ICON applied for and was granted a 250-pound gross-weight increase over the standard 1,430 pounds for LSA seaplanes, but the approval came at a point in the A5’s development that allowed ICON to take advantage of only an 80-pound increase in this first version of the airplane. ASN 11 weighed in at 1,073.5 pounds empty. If there were just one relatively light person aboard, some ballast could be needed to maintain acceptable center of gravity, but we would be two people plus five pounds in the baggage area for a payload of 330 pounds. That allowed for a generous 18 gallons of gas—just two less than the 20-gallon-capacity tank—to get to the A5’s 1,510-pound max takeoff weight.

The higher gross weight does take a bit of a toll on power-to-weight ratio. Other LSA seaplanes with the same 100-hp Rotax 912iS powerplant should perform better at gross weight simply because at max takeoff weight they are 80 pounds lighter. Of course, lots of factors go into actual takeoff, climb, and cruise performance such as airfoil design and wing area, wing angle of incidence, and hydrodynamics, among others. The Performance section of the A5 POH lists a 690-foot ground-roll takeoff distance from a hard-surface runway at gross weight in sea level and 80 degrees F conditions.



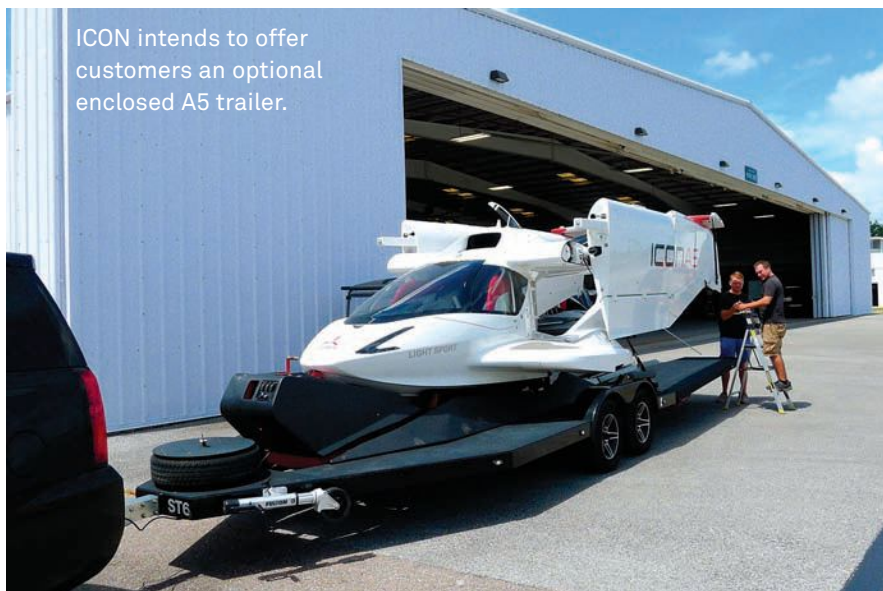
Seagings are positioned above the hull and rise out of the water soon after applying power.

BRAD FULLER





It's an easy one-person job to fold or unfold the wings.



ICON intends to offer customers an optional enclosed A5 trailer.



The A5 nosewheel castors, so steering is accomplished using differential braking of the main wheels.

BRAD FULLER

A water takeoff in those same conditions should consume 900 feet, according to the POH.

## ATTENTION TO DETAIL

I returned on a better-weather day to fly with ICON instructor Sean Stamps. The first order of business was an extensive preflight inspection, during which I noticed several things that speak to attention to detail in the A5's design and construction. The rudder pedals are adjustable. The interior floorboards are removable for washing down and cleaning the cabin. The fuel tank is sumped by attaching a giant plastic syringe with a clear plastic tube to a small orifice inside the fuel filler port and drawing a measure of fuel into the syringe to check for water and contaminants. If the sample is clear, you push the syringe plunger down to force the fuel back into the tank. Neat!

The prominent Seawings, as ICON calls the sponsons on the fuselage above the V-shaped portion of the hull, serve a number of purposes. They provide flotation and stability when the A5 is sitting idle on the water, they house the main landing gear, and they offer a convenient step for pilot and passenger to enter and exit the cabin. Stepping up on a Seawing also makes it easy to visually check the engine air intake and oil supply.

It was a breezy day, and on the taxi to the runway I had to fight a crosswind that wanted to weathervane the aircraft. The nosewheel castors so you steer using differential braking of the main landing-gear wheels, and it took a fair amount of braking to keep tracking straight on the taxiway.

Normal runway takeoffs and landings are done with no flaps deployed. The A5 accelerated briskly on the takeoff run and climbed at about 400 fpm to cruise altitude.

On the short flight to the practice area

south of Davis Island we did some airwork, including the box-canyon maneuver. It's a climbing, minimum-radius turn demonstration that instills confidence in the A5's edge-of-the-envelope maneuverability and the value of the AOA. The power-on and power-off stalls I did with Stamps also were confidence-inspiring, as the stalls are nothing more exciting than observing the nose gently bobbing while the aircraft descends at about 1,200 fpm, with good roll control at conservative bank angles (up to 30-degrees bank, according to

ICON), providing plenty of time and relatively little stress to correct the stall-inducing pitch/power condition.

## NO IAS

Most of the first two flights with Stamps were devoted to water landings and takeoffs and on-the-water maneuvering. The steepest ascent encountered in negotiating the A5 learning curve was incorporating the AOA into the approach procedure. It wasn't a difficult task, though, and the rewards are real.

## A POSITIVE PLACE

Developing the A5 was a years-long effort for ICON, but when development transitioned to production and delivery it seemed the company's woes were just beginning. Production processes ran into trouble, promised production and delivery rates never materialized, there was turnover among senior executives, and, meanwhile, the price of the A5 kept climbing to north of \$400,000. So it was encouraging to hear Warren Curry, Vice President of Sales, Marketing, Flight Operations and Service, say that ICON began 2021 "in a positive place."

According to Curry, production processes are now stable and production rates are appropriate for the market. ICON delivered 22 A5s in 2020 and hopes to double that figure, or more, in 2021. The first international deliveries have begun—to Greece, the United Arab Emirates, and Japan,

with South Korea and Ukraine likely upcoming. ICON is preparing to offer some new options for the A5 in 2021, the reception from customers who have taken delivery of their aircraft is positive, and the backlog on confirmed purchases is healthy, Curry says, adding, "We do have stability."

The ratio of pilot to nonpilot A5 buyers is about 70/30, according to Curry, but "it needs to be closer." From the beginning ICON courted nonpilots, and Curry says, "Our goal still is to bring new people in."

Base price of an A5 today is \$359,000. Options include ADS-B, custom paint, and the Garmin G3X Touch and two-axis autopilot. Curry says ICON is looking at ways to increase the usable weight of the A5, an upgrade that also would involve the Rotax engine. The company will announce a "product development enhancement" this year.



A5 lineup in Tampa includes aircraft used for training and ones awaiting delivery to customers.



It soon becomes apparent that the AOA display is primary on approach and landing—to water or land—while the airspeed indicator is a secondary instrument. In fact, the ICON Course Guide profile for the first transition training flight calls for the instructor to cover the airspeed indicator for all water and land landings and takeoffs so the pilot will concentrate on the AOA gauge.

It doesn't take long to develop confidence in relying on the AOA to achieve and maintain the desired pitch attitude on approach and landing while controlling descent rate with power. It's especially helpful when a precision approach is needed to glassy or rough water, a confined area or a short runway. For example, the configuration for a glassy water landing is to reduce power to about 3,000 rpm and deploy full flaps (30 degrees) on the downwind, and pitch to put the AOA needle on the white line, which equates to about 60 knots indicated airspeed.

Maintain AOA white line turning base, turn final so you'll be at least 200 feet above the water when aligned with the intended landing area (no turns

below 200 feet), and prior to crossing the last visual reference (LVR) pitch up slightly to put the AOA needle mid-yellow while adding a bit of power to achieve a 150- to 200-fpm descent rate. Inside the LVR adhere to the three Ps—pitch, power, and patience—to maintain the AOA indication, descent rate, and pilot positivity until touchdown. The most difficult task is keeping the vertical speed indicator, a small electronic depiction on the Garmin 796, in your scan.

## YELLOW LINE

A normal water landing is executed using the same procedures except that you maintain white-line AOA until about 10 feet above the water, at which point you apply enough aft stick to put the AOA indication on the yellow line and adjust power to descend slowly to the surface.

A normal landing on a hard-surface runway or grass is done using the same procedures and AOA indications as a normal water landing except that the landing gear is extended, of course, but no flaps are deployed.

Some thoughts, in no particular order, about the A5 as a result of my time in the transition course.

It handles higher water well. There was a fresh breeze on my first outing with Sean, and we did a number of water landings and takeoffs. I was impressed with its ride in active water, with no tendency to porpoise. ICON says maximum wave height for the A5 is 12 inches. It has a retractable water rudder and maneuvers well while idle taxiing.

It will sail. We were able to maneuver left and right while slowly sailing backwards in a light wind with flaps down, canopy open, and manipulating rudder and ailerons appropriately.

One of the most compelling features of the A5 is its folding wings. Folding the wings reduces the A5's lateral footprint from 35 feet to just eight feet—a huge benefit for storage purposes. With Sean's supervision I folded the wings and found it to be a quick and easy one-person job to unlock a surprisingly lightweight wing, pull it out from the wing root, twist it to vertical, and walk it to the rear where it pins to the horizontal stabilizer. Unfolding is done in reverse.

## A5 Specifications and Limitations

Dimensions

Wingspan: 34.8 ft

Length: 23 ft

Draft Gear up/down: 14 in/26 in

### Airspeeds

Gear and Flap Speed: 75 kts

AS Limit windows in/out: 120/90 kts

Best Rate of Climb: 58 kts

Best Angle of Climb Flaps/No Flaps: 50 kts/54 kts

Stall Speed Flaps/No Flaps: 39 kts/45 kts

Max Demonstrated Crosswind: 12 kts

Operating Maneuvering Speed, MTOW: 87 kts

Max Structural Cruise: 95 kts

Never Exceed Speed: 120 kts

Max water speed gear extension/retraction: 4 kts

Max water rudder extended: 10 kts

AOA White Line: ~60 kts

Max wind speed for opening the canopy: 25 kts

### Weights

Max Human Weight per person: 250 lbs

Max Gross Weight: 1510 lbs

Max Baggage/Cargo Weight: 60 lbs

### Engine

Rotax 912iS 100hp @ 5800RPM (5 min)

Max Continuous Engine Power: 97 hp @ 5500 rpm

Fuel capacity: 20.1gal/20 usable

Approved Fuel Types: Unleaded Automotive w/ up to 10% ethanol, min RON 95 and 100LL.

### Spin-Resistant Airframe (SRA) required items

2 Wing Stall Strips

Wing Vortex Generators: Up to 3 missing on each wing with 3 good ones between any 2 missing

Fuselage Vortex Gens: 5 per side

Flap Fences: 1 per side

Windows out requires wind deflectors to be installed.

### FAA Exemption-Required Equipment

Interior panels

Floorboards

Covers

AOA

CAP system

### CAP Activation

1200 fpm

Landing gear will extend automatically

Optimal CAP activation: 500 feet AGL

### Miscellaneous

Max wave height: 12 in

Service Ceiling at Gross Weight (100 fpm climb): 15,000 ft

Airplane in water time limitation: 96 hrs



One of the more unusual and attractive features of the A5 is its sports-car-like instrument cluster. In fact, BMW was consulted in the design phase.





Proper use of the Angle-of-Attack indicator makes for successful glassy water landings.



A happy A5 PIC.

## TRAILERING

On my second day of training I saw a very cool ICON option—a trailer to transport the A5 over the ground. Back your folded-wing A5 out of your home garage, winch it up onto the trailer and drive it to the lake and back, or haul it across the continent while enjoying countless wide-eyed stares and energetic thumbs-up approvals.

Turns out the trailer was a prototype. ICON is revising the design to make it an enclosed trailer, and the company hopes to begin delivering them to customers this summer.

As more A5s are put into service ICON is tracking operational issues and providing updated parts where necessary. While preflighting for my second training flight I noticed that the leading-edge fairing on the right Seawing was a bit loose. Sean checked with an ICON mechanic who identified the problem as a damaged bit of mounting hardware. He fixed the problem and said ICON has designed an improved version that is being shipped to owners.

I completed the three flights feeling confident in the A5, but I was not yet finished with the TX-S course. All pilots transitioning into the A5 must complete a written exam to qualify as an ICON A5 pilot-in-command. The exam covers applicable sections of FAR 61 and FAR 91; rules and procedures for safe off-airport operations and low-altitude flying; and A5 flight characteristics, operational limitations, and systems. The test, which poses 43 questions plus a table of V-speeds that must be identified, is open book and ICON helpfully lists appropriate references.

Sean emailed the test to me, I sent the completed test back, and soon an electronic certificate arrived, signed by Genesah Duffy, attesting to my successful completion of ICON A5 Seaplane Transition Training.

Can the A5 be considered a groundbreaking LSA, especially one that can land on and take off from the water? Given the level of sophistication in its design, the safety enhancements built into the aircraft, and the considerable effort the company has put into providing customers with remarkably extensive information resources about sport flying in general and the A5 specifically, the answer is a clear yes. ■

BRAD FULLER

iconaircraft.com



# ICON A5 Adventure. Upgraded.

Introducing the new 2021 ICON A5 Limited Edition aircraft with Garmin G3X Touch™ flight display, available with optional autopilot.

Delivery positions as early as September 2021 are available.

Contact ICON Sales at [fly@iconaircraft.com](mailto:fly@iconaircraft.com) or (707)-564-4100 to request a sales demo flight or learn more about special ownership programs.

