



Aviation Investigation Final Report

Location:	Clearwater, Florida	Accident Number:	ANC18FA007
Date & Time:	November 7, 2017, 12:04 Local	Registration:	N922BA
Aircraft:	ICON AIRCRAFT INC A5	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot was conducting a personal flight over water in his light sport amphibious airplane. Recorded flight data indicated that the pilot performed a series of maneuvers near the shoreline at low altitudes. During the final maneuver, the airplane pitched up from about 210 ft, the throttle was moved almost to the idle position, the load factor increased to about 2 Gs, and the angle of attack increased steadily to 15° as the airplane reached 358 ft and banked more than 50° to the right. Immediately afterward, the airplane descended nose low and wings level and impacted the water. Multiple witnesses observed the airplane maneuvering between 5 and 300 ft over vessels in the water and close to houses along the shoreline.

The recovered flight data indicated no exceedances of design maneuvering limits during the accident sequence. Even though the data indicated that the airplane might have experienced a momentary aerodynamic stall, the lack of reliable end-of-flight data precluded this determination. Postaccident examination of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operations. The airplane performance study for this accident and the engine control unit data showed that the reduction in engine power before impact was a result of the pilot moving the throttle lever. Although bird feathers were found within the wreckage, no avian DNA was found, and there was no damage that could be attributed to a bird impact in the areas where the feathers were found.

The airplane's flight track and orientation at impact were consistent with a loss of control. The Icon Aircraft A5 pilot operating handbook stated that the emergency procedure for a loss of control was to pull the handle for the complete aircraft parachute (CAP) system. As part of the After Cockpit Entry checklist, the pilot was to remove and stow the CAP system safety pin in case the system needed to be activated. Because the pilot did not remove the safety pin from the handle before flight, he would not have been able to deploy the parachute system to arrest the descent before impact. Although the airplane's altitude and attitude were not consistent with optimal CAP system actuation, the handbook indicated no restrictions on the use of the CAP system.

Postaccident toxicology testing indicated that the pilot had used multiple psychoactive substances before the accident, including amphetamine, zolpidem, morphine, fluoxetine, and baclofen. Although the effects of these five substances have not been studied in combination, each of the substances is impairing or potentially impairing by itself. Some of these substances might undergo postmortem redistribution, and the measured levels might therefore not represent the antemortem levels. However, all of the substances were at or above the levels that affect the central nervous system functions, including judgment, executive functioning, alertness, attention, and psychomotor skills.

The substances that were simultaneously present in the pilot's system at the time of the accident most likely resulted in significant impairment that contributed to the pilot's decision to perform high-risk maneuvers. Further, the pilot's actions were consistent with sensation-seeking and a willingness to take risks. The pilot's risk-taking behavior was also demonstrated by his statement on social media (7 days before the accident) that flying the Icon A5 over water was "like flying a fighter jet" and his documented flight under a local bridge (12 days before the accident).

In summary, the circumstances of the accident were consistent with the pilot's failure to maintain control of the airplane while performing aggressive maneuvers at a low altitude and a nose-high attitude, which resulted in the airplane's low energy state. The pilot's decision-making ability and psychomotor skills were significantly impaired by the combination of substances that were present in his system at the time of the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's improper decision to perform aggressive, low-altitude maneuvers due to his impairment from the use of multiple psychoactive substances, which resulted in a loss of control.

Findings

Personnel issues	Use of medication/drugs - Pilot
Personnel issues	Decision making/judgment - Pilot
Personnel issues	Prescription medication - Pilot
Personnel issues	Aircraft control - Pilot
Personnel issues	Self confidence - Pilot
Aircraft	(general) - Capability exceeded
Aircraft	(general) - Not attained/maintained

Factual Information

History of Flight

Prior to flight	Medical event
Maneuvering-low-alt flying	Loss of control in flight (Defining event)
Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT)

On November 7, 2017, about 1204 eastern standard time, an Icon Aircraft A5 special light sport amphibious airplane, N922BA, sustained substantial damage when it was involved in an accident near Clearwater, Florida. The private pilot sustained fatal injuries. The airplane was operated as a Title 14 *Code of Federal Regulations (CFR)* Part 91 personal flight.

The airplane departed from Island Ford Lake in Odessa, Florida, about 1147. According to data from the Icon digital to analog (DAC) data memory unit that was installed on the airplane, the airplane climbed to a GPS altitude of 1,909 ft and proceeded north for 4 nautical miles (nm) before turning west toward the Gulf of Mexico. The airplane then flew for 10 nm at a GPS altitude of about 600 ft and descended over the gulf before turning south. During the final 3 minutes of the flight, the airplane was traveling in a southerly direction along the shoreline; figure 1 shows the flight track. During the last 2.5 minutes of the flight, the pilot conducted three maneuvers with high angles of attack (AOA) and load factors of almost 2 Gs; at that time, the airplane was over the water at GPS altitudes between 0 and 358 ft. During the final maneuver of the flight, the airplane entered a right turn, the engine power decreased, and the AOA reached 16°. The last recorded data point, at 1203:41, showed that the airplane's airspeed was 75 knots and heading was 354°.



Figure 1. Last 3 minutes of GPS flight track.

The airplane was also equipped with a Rotax engine control unit. The last recorded data point, at 1203:43, indicated an engine speed of 2,829 rpm and a throttle position of 27%.

Multiple witnesses in the area stated that they saw the airplane flying very low, between 5 and 300 ft, over the water as the airplane maneuvered south close to the shoreline. Some witnesses reported that the airplane was making steep turns and high-pitch climbs up to about 500 ft and that the engine sounded normal. A witness provided an image of the airplane over the water, as shown in figure 2. A commercial fisherman stated that the airplane flew over his vessel at an altitude that was less than 300 ft. Another commercial fisherman, who was located about 900 ft north of the accident site, stated that he observed the airplane flying from the north "really close" to houses. The airplane then flew south past his position, descended briefly, and climbed. After entering a steep climb, the airplane descended on an easterly heading in a steep nose-down attitude; the airplane's pitch attitude decreased as the airplane continued to descend. The witness reported that the airplane impacted the water in a 45° nose-down, wings-level attitude.



Figure 2. Still image of the accident airplane just before the crash (Courtesy of Mr. Fred Grunden.)

Pilot Information

Certificate:	Private	Age:	40, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	May 25, 2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 18, 2016
Flight Time:	721.5 hours (Total, all aircraft), 51.7 hours (Total, this make and model), 507.6 hours (Pilot In Command, all aircraft), 42.5 hours (Last 90 days, all aircraft), 22.7 hours (Last 30 days, all aircraft)		

The pilot had 14.5 hours of total flight experience in the accident airplane. The pilot made an entry into his logbook indicating that, while en route from the Peter O. Knight Airport in Tampa, Florida, to his home, he flew under the Skyway Bridge; the bridge has a 180-ft vertical clearance over the water. Recovered GPS data showed that the pilot flew under the bridge on October 26, 2017. A few days later, the pilot stated on social media, "flying the Icon A5 over the water is like flying a fighter jet!"

Aircraft and Owner/Operator Information

Aircraft Make:	ICON AIRCRAFT INC	Registration:	N922BA
Model/Series:	A5 NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	2017	Amateur Built:	
Airworthiness Certificate:	Special light-sport (Special)	Serial Number:	00022
Landing Gear Type:	Amphibian	Seats:	2
Date/Type of Last Inspection:	October 10, 2017 Condition	Certified Max Gross Wt.:	1510 lbs
Time Since Last Inspection:	15 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	46.5 Hrs at time of accident	Engine Manufacturer:	Rotax
ELT:	Not installed	Engine Model/Series:	912iS
Registered Owner:	On file	Rated Power:	100 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

The pilot accepted delivery of the airplane about 4 weeks before the accident. The airplane was equipped with an AOA indicator and a ballistic complete aircraft parachute (CAP) system.

The *Icon A5/Pilot's Operating Handbook*, section 2.7, indicated that the design maneuvering limits with flaps 0° and an airplane weight of 1,510 pounds were +4 and -2 G. (The accident airplane's takeoff weight was estimated to be 1,476 pounds.)

Section 2.16 stated that "there are no restrictions on the use of the CAP system. Optimal CAP actuation is from level flight above 500 ft AGL [above ground level]." Section 3.19 provided the following emergency procedures for a loss of control:

1. CAP Handle – PULL HARD

2. Ignition Key – OFF

Section 4.3 showed the After Cockpit Entry checklist, which included a step to remove and stow the CAP safety pin so that the pilot could activate the system quickly if necessary.

Section 7.2.1 stated the following:

A5 incorporates numerous features to help control the dynamics of stall and improve spin resistance,

including blended wing shapes, stall strips and wing cuffs. Stall characteristics depend on a number of factors, the most important being rate of stall onset, which can affect the dynamics of stall progression along the span. The A5 remains controllable throughout these various stall progressions up to 30° bank angles, even when fully stalled.

Section 7.6.2 stated that the airplane's AOA system works "by using static ports to measure the difference in pressure from the top and bottom of the left wing near the leading edge. These values are compared and computed to drive the AOA indicator electronically." The section also stated that "the AOA gauge provides 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." The face of the AOA gauge incorporates green, yellow, and red bands, as shown in figure 3, to indicate the available lift margin above stall. The *Icon Sport Flying Academics* manual indicated that, at the lower green band, the wing is not working hard, and lift forces are generated mostly by airspeed. The yellow band signifies that the wing is working harder (taking "a bigger bite" from the airflow); at the top of the yellow band, the wing will begin to stall. The red band begins at 15.6°, which is also shown in figure 3, and signifies an aerodynamic stall, at which point lift would begin to degrade.

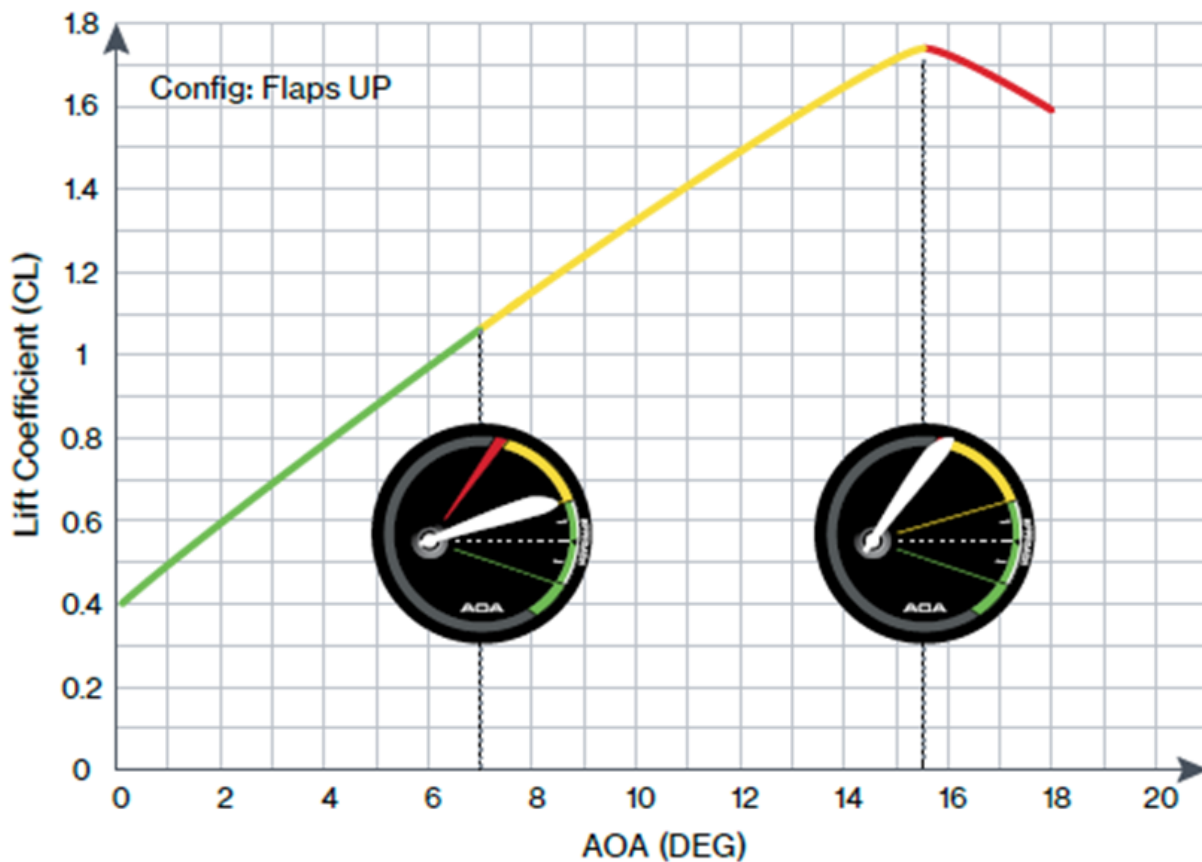


Figure 3. AOA information from the Icon Sport Flying Academics information.

The A5 *Sport Flying Operations* manual discussed energy management as part of the low-altitude considerations section. The energy management discussion stated the following:

Recall that our energy state at any given time is defined by our altitude and airspeed. So at low altitudes our energy is determined almost completely by our airspeed. If we get slow at higher altitudes, we can just push over and trade altitude for airspeed. At low altitude the throttle is our only tool for maintaining or adding energy to our airplane. We said during our discussion of turn performance that 60-75 KIAS [knots indicated airspeed] was the sweet spot for maneuvering the A5, and this holds true at low altitude as well. Much below 60 KIAS we find ourselves at relatively low energy. The aircraft remains controllable but will be more sluggish and less responsive to our control inputs. Lower speed also means less stall margin – meaning our AOA is high and approaching aerodynamic stall.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PIE	Distance from Accident Site:	19 Nautical Miles
Observation Time:	11:53 Local	Direction from Accident Site:	150°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/ None
Wind Direction:		Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.07 inches Hg	Temperature/Dew Point:	28°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Odessa, FL	Type of Flight Plan Filed:	None
Destination:	Odessa, FL	Type of Clearance:	None
Departure Time:	11:47 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	28.218334,-82.769447(est)

The airplane came to rest inverted in about 4 ft of water and was oriented on a 192° heading, as shown in figure 4. The empennage was separated and displaced forward of the wings. All major airplane components were located at the accident scene. The front fuselage and cockpit were highly fragmented, with pieces scattered within a 300-ft radius of the main wreckage.



Figure 4. Airplane wreckage at the accident scene.

The CAP system was not deployed, and the CAP cockpit handle pin was in its installed position. The fuselage canopy was located about 50 ft west of the wreckage with about 50% of the plexiglass fractured and missing. The left (pilot's) seat was separated from the fuselage. The pilot's three-point harness system was anchored securely to the left wall with the inertia reel intact, secure, and fully operable. The webbing exhibited fraying about 12 inches from the reel. The seatbelt buckle operated normally and locked in place when the tab was inserted.

The wings, wing tips, and nose section exhibited symmetrical fragmentation consistent with a wings-level impact. Both wings were attached and secured in the locked position.

Control continuity was established from the cockpit controls to the elevator, which exhibited full movement between stops. The torque tube was bent about 10° near the center; the forward pulley was intact with the bracket separated at the bond. The cables were traced through the system with no fractures. Secondary elevator stops were observed in place near the forward bellcrank. The pitch trim actuator rod remained intact. The pitch trim electrical connector remained attached to the torque tube, and all contact pins were intact.

Control continuity was established from the cockpit to the rudder through separations. The separations

were consistent with overload.

Control continuity was also established from the cockpit controls to each aileron. All aileron pulleys displayed impact indentations but exhibited full roll movement. The secondary aileron stops were observed in place. The right wing root aileron bellcrank was displaced inboard about 6 inches from the airframe mount but remained attached to the cables. Both flaps and the flap handle were in the retracted position.

The fuel tank cap was secure, the fuel tank was breached by the engine throttle cable, and no fuel was present. The engine remained attached to the airframe. The engine was manually rotated at the propeller, and continuity and compression were established for each cylinder. The propeller remained attached to the crankshaft.

No preaccident anomalies were noted with the airframe or engine that would have precluded normal operation.

Medical and Pathological Information

The Office of the Medical Examiner, District Six, Pasco and Pinellas Counties, Florida, performed an autopsy of the pilot. His cause of death was blunt trauma, and drowning was a contributory condition.

Toxicology testing performed at the Federal Aviation Administration (FAA) Forensic Sciences Laboratory identified the following drugs in the pilot's specimens:

Zolpidem was identified in the pilot's cardiac blood (0.088 µg/ml) and urine. Zolpidem is a sleep aid available by prescription as a schedule IV controlled substance that is often sold with the name Ambien. The drug information states the following:

Complex behaviors such as 'sleep-driving' (i.e., driving while not fully awake after ingestion of a sedative-hypnotic, with amnesia for the event) have been reported with sedative-hypnotics, including zolpidem. These events can occur in sedative-hypnotic-naïve as well as in sedative-hypnotic-experienced persons. Although behaviors such as 'sleep-driving' may occur with zolpidem tartrate alone at therapeutic doses, the use of alcohol and other CNS [central nervous system] depressants with zolpidem tartrate appears to increase the risk of such behaviors.

Amphetamine was identified in the pilot's cardiac blood (2.2 µg/ml) and urine. Amphetamine is a schedule II controlled substance that stimulates the central nervous system. It is available by prescription for the treatment of attention deficit disorder and narcolepsy. It carries a boxed warning about its potential for abuse and has warnings about an increased risk of sudden death and the potential for mental health and behavioral changes. In some preparations, the prescription drug is metabolized to amphetamine; commonly marketed names in this category include Adderall, Dexedrine, and Vyvanse. After a single 30-mg oral dose, early blood levels averaged 0.111 µg/ml, and average blood levels in adults using the long-acting prescription orally for a week were about 0.065 µg/ml. Amphetamine is also prepared and used as a street drug that can be snorted, inhaled, or injected. Generally, levels above 0.2

µg/ml indicate amphetamine misuse to maximize the drug's psychoactive effects.

Morphine was identified in the pilot's cardiac blood (0.192 µg/ml) and urine. Morphine is a powerful opioid pain medication available as an injection, a tablet, or a capsule and is identified as a schedule II controlled substance. Ranges for therapeutic levels are typically determined by giving novice users one or two doses and measuring their blood levels; such ranges are 0.010 to 0.100 µg/ml. With regular opioid use, brain physiology changes, leading to tolerance for both the desired analgesic and sedative effects and resulting in increased dosing. Chronic users may need the drug to feel and act "normally"; thus, a chronic user may appear to function normally at levels that could be toxic or even fatal to a first-time user.

Fluoxetine and its metabolite norfluoxetine were identified in the pilot's cardiac blood (0.984 and 1.569 µg/ml, respectively) and urine. Fluoxetine is an antidepressant available by prescription. It carries the following warning:

As with any CNS-active drug, fluoxetine has the potential to impair judgment, thinking, or motor skills. Patients should be cautioned about operating hazardous machinery, including automobiles, until they are reasonably certain that the drug treatment does not affect them adversely. However, major depression itself is associated with significant cognitive degradation, particularly in executive functioning. The cognitive degradation may not improve even with remission of the depressed episode, and patients with severe disease are more significantly affected than those with fewer symptoms or episodes.

Baclofen was identified in the pilot's cardiac blood (0.72 µg/ml) and urine. Baclofen is a muscle relaxant available by prescription. It carries the following warning:

Because of the possibility of sedation, patients should be cautioned regarding the operation of automobiles or other dangerous machinery, and activities made hazardous by decreased alertness. Patients should also be cautioned that the central nervous system effects of baclofen may be additive to those of alcohol and other CNS depressants.

Hydromorphone was found in the pilot's urine. Hydromorphone is an opioid pain medication available by prescription as a schedule II controlled substance. Other common names are Dilaudid and Exalgo. Hydromorphone is also a relatively uncommon active metabolite of morphine and a common metabolite of hydrocodone, which is not a metabolite of morphine. Hydromorphone carries the following warning:

Hydromorphone and other Schedule II opioid agonists, including morphine, oxycodone, oxycodone, fentanyl, and methadone, have the highest potential for abuse and risk of producing respiratory depression. Alcohol, other opioids and central nervous system depressants (sedative-hypnotics) potentiate the respiratory depressant effects of hydromorphone, increasing the risk of respiratory depression that might result in death.

Ibuprofen was found in the pilot's urine. Ibuprofen is an over-the-counter pain medication commonly sold as Motrin and Advil. It is not considered impairing.

No ethanol was detected in the pilot's vitreous specimens.

Review of the available personal medical records for the pilot indicated a history of substance abuse requiring inpatient rehabilitation twice between 2013 and early 2015 and diagnoses of chronic back pain, insomnia, and depression, which were treated with various prescribed medications. The pilot's personal medical records for 2016 and 2017 were not available.

Tests and Research

Airplane Performance Study

The data from the Icon DAC data memory unit and the Rotax engine control unit were used to evaluate the airplane's performance. The last second of data (11 recorded points) was not used in the study due to unreliable GPS altitude information.

The recorded data indicated that, at 1201:19, the pilot began a rapid climbing "S" turn from a GPS altitude of 0 to 134 ft and then descended to 36 ft; the airplane reached a maximum load factor of 1.94 Gs and a maximum AOA of 7.53°. At 1202:29, the pilot performed a second maneuver, a climbing right 360° turn from a GPS altitude of 19 to 136 ft; the airplane reached a maximum load factor of 1.93 Gs and a maximum AOA of 15.73°, which is within the red band on the AOA indicator (shown as an inset in figure 3).

At 1203:34, the pilot initiated a final maneuver: a climbing right turn from a GPS altitude of 210 ft and an indicated airspeed of 81 knots. The airplane's load factor increased rapidly to 1.91 Gs and then varied between 1 and about 2 Gs as the AOA increased steadily to 15°, which is at the top of yellow band on the AOA indicator. About 3 seconds after initiating the climb, the engine throttle lever was retarded from 99% to 27%, resulting in a corresponding decrease in engine speed from about 5,393 to 2,261 rpm. The lowest recorded indicated airspeed during the maneuver, 54 knots, occurred as the airplane reached a GPS altitude of 358 ft, the apex of the maneuver, with a low energy state. The computed bank angle exceeded 50° and the computed pitch angle exceeded 30° before the airplane descended toward the water.

Feather Study

Ten samples were recovered from the wreckage and were submitted to the Smithsonian Institution Feather Identification Laboratory for analysis. Two of the 10 samples contained feathers. No avian DNA was present in any of the samples. The airplane showed no impact damage that was consistent with a bird strike.

Additional Information

Minimum Safe Altitude

Title 14 *CFR* 91.119, Minimum Safe Altitudes, states in part that, except during takeoffs or landings, a pilot cannot operate an aircraft over "other than congested areas" below "an altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure."

Icon Aircraft Low-Altitude Flying Guidance

On May 8, 2017, an Icon Aircraft A5 impacted terrain while maneuvering near Lake Berryessa, California. The pilot and passenger were fatally injured, and the airplane was substantially damaged. The National Transportation Safety Board (NTSB) determined that the probable cause of the accident was "the pilot's failure to maintain clearance from terrain while maneuvering at a low altitude. Contributing to the accident was the pilot's mistaken entry into a canyon surrounded by steep rising terrain while at a low altitude for reasons that could not be determined." (For more information about this accident, see case number [WPR17FA101](#) at the [NTSB's website](#).)

According to Icon Aircraft management, as a result of that accident, a document titled "Low Altitude Flying Guidelines" was issued on October 23, 2017, and was distributed to A5 clients and owners. According to the chief executive officer of the company at that time, the document was created to emphasize some of the known hazards of flying light sport aircraft and provide mitigating solutions, even though that information was already available in company training and operating manuals. The company official stated that he "was certain" that the accident pilot received and reviewed the guidelines.

The preamble of the guidelines stated the following:

Low altitude...flying while exploring the planet in seaplanes and bush planes can be one of the most rewarding and exciting types of flying possible. Low altitude flying also comes with an inherent set of additional risks that require additional considerations. Traditional general aviation training focused on higher-altitude transportation flying does little to prepare pilots for the unique challenges of low altitude flying. This document is intended to help raise awareness and provide some time-tested guidelines and techniques for low altitude flying to help pilots cope with those additional challenges. These are not a substitute for FAA regulations or good judgment or training. Many of the guidelines and philosophies here were adopted from military, seaplane, and bush-flying techniques.

The guidelines reiterated the minimum safe altitudes in 14 *CFR* 91.119 and stated in part the following:

While good judgment and airmanship always takes precedence over any guidelines, the following maneuvering limits should generally be observed:

- *Above Soft Deck [in general, 300 ft agl]: Normal, non-aerobatic maneuvering (+/- 60 bank +/- 30 pitch)*
- *Below Soft Deck: Benign maneuvering (+/- 45 bank +/- 10 pitch)*

The guidelines also warned pilots "Do not show off."

Administrative Information

Investigator In Charge (IIC):	Price, Noreen
Additional Participating Persons:	Scott Olson; Federal Aviation Administration; Tampa, FL Jordan Paskevich; Rotax Aircraft Engines; Vernon Mike Turner; Icon Aircraft Inc.; Vacaville, CA Enrique Dillon; BRS Aerospace; Miami, FL Bret Davenport; Icon Aircraft Inc.; Vacaville, CA
Original Publish Date:	May 19, 2020
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=96297

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, "accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person" (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB's statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).