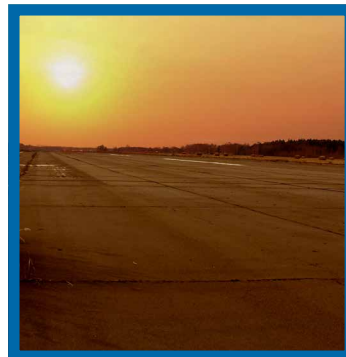


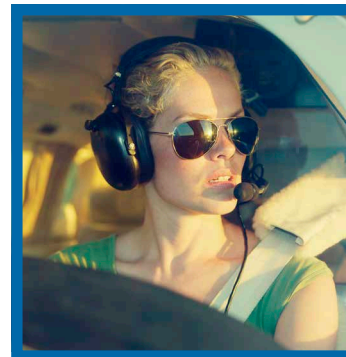
On Approach

Avemco® Policyholder News

Summer 2022



Heat + Humidity =
Trouble
P2



Dealing with
Distractions
P3



Our People
P4

HEAT + HUMIDITY = TROUBLE

It's time to recall some of the things you learned in ground school but haven't thought about for a while—at least not since last summer. You remember the old memory shortcut about “high, hot, and heavy” degrading performance. “Heavy” is obvious. And while we all know that our aircraft don't perform as well at high altitudes and hot temperatures, it's important to understand why not.

If you've walked across a hot parking lot, you know it's even hotter on the pavement. Paved surfaces, especially black asphalt, absorb the sun's rays and make the air above them even hotter. Of course, this happens on runways too.

Runway temperatures can be as much as 40 F hotter than what the AWOS or ATIS says on a sunny summer day. Plan for that and adjust your takeoff distance calculations appropriately. You might want to get the temperature from your airplane's Outside Air Temperature gauge in addition to the AWOS or ATIS to use on your takeoff performance chart.

When we're talking about “high altitude,” it's density altitude that we're talking about. At high density altitudes, the air is less dense because heat expands things. The hotter the air, the less dense it becomes. As you know, wings generate lift by interacting with air, and engines develop power by combining fuel with air. Then propellers turn power into thrust by reacting with the air. Anything that reduces the density of air will reduce the airplane's performance. Hence, “high” and “hot.”

But what about humidity? Though it might seem counterintuitive, air loaded up with water vapor is lighter than dry air. According to the FAA's Pilot's Handbook of Aeronautical Knowledge¹:

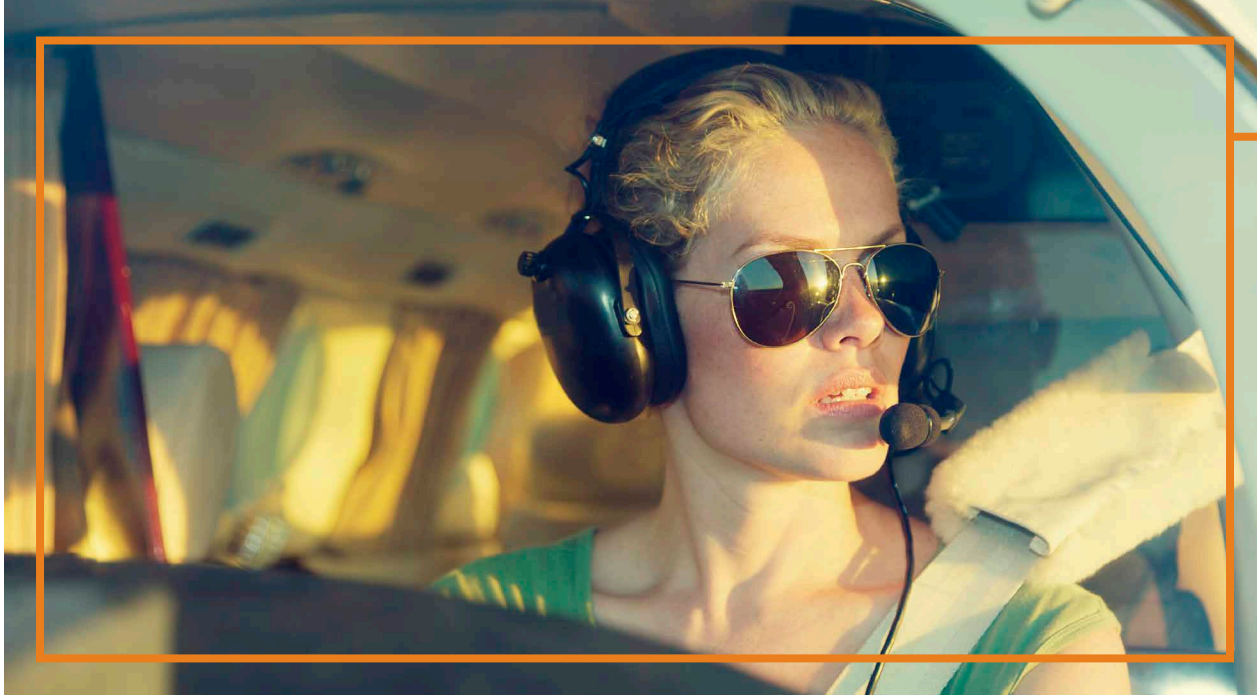
“The small amount of water vapor suspended in the atmosphere may be almost negligible under certain conditions, but in other conditions, humidity may become an important factor in the performance of an aircraft. Water vapor is lighter than air; consequently, moist air is lighter than dry air. Therefore, as the water content of the air increases, the air becomes less dense, increasing density altitude and decreasing performance. It is lightest or least dense when, in a given set of conditions, it contains the maximum amount of water vapor...” Then, we add heat to the equation. “...As temperature increases, the air can hold greater amounts of water vapor. When comparing two separate air masses, the first warm and moist (both qualities tending to lighten the air) and the second cold and dry (both qualities making it heavier), the first necessarily must be less dense than the second. Pressure, temperature, and humidity have a great influence on airplane performance, because of their effect upon density.

Take a look at the performance section of your POH. If the humidity is high — say, above 50 or 60% — it may be wise to add additional length to the runway requirements over what the takeoff performance chart says to account for moist air. You might also want to plan for a decreased rate of climb, especially if you have to clear an obstacle.

The NTSB files are full of accidents caused by pilots who didn't take heat and humidity, let alone altitude, into account before blasting down a runway

To make sure you don't become one of them, please spend a few minutes in the books accounting for takeoff performance loss next time you fly.

¹ The Pilot's Handbook of Aeronautical Knowledge 2016. Published by the FAA and currently located at https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak/



DEALING WITH DISTRACTIONS

By Gene Benson, Pilot and Aviation Educator

I was proudly watching my grandson demonstrate his newly acquired skill at riding a bicycle devoid of training wheels. He was navigating the front lawn of his parent's house quite confidently. That is until the next-door neighbor stepped outside, waved, and yelled, "Hello!" Our young bike rider looked back over his shoulder toward the neighbor and promptly peddled directly into a bush. The rear of the bike rose up, launching number one grandson into a suborbital trajectory with a splashdown on the lawn about six feet ahead of the bush. Thanks to his mom's insistence on a helmet, kneepads, and elbow pads, the only serious injury was to his pride. For not paying attention while riding, his mom enforced a mandatory safety stand down, otherwise known as a timeout. The GBSB (Grandpa Bicycle Safety Board) determined the probable cause of the

accident as follows: Collision with a bush resulting from loss of situational awareness by the rider, which was caused by a distraction. Contributing to the accident was the bush.

Distractions continue to result in accidents of all kinds. The young bike rider's mom told him that he needed to pay attention to what he was doing. Of course, that's right, but it's often easier said than done, especially when flying an airplane. We can't eliminate distractions, but we can do some things to help prevent the distraction from becoming a catastrophe.

Distractions can occur both before aircraft movement and while in motion. We should take steps to avoid these distractions. This would include doing

preflight planning in a quiet environment rather than at the counter in the airport coffee shop. It would include doing the preflight inspection before passengers arrive and begin asking us questions. It also means briefing passengers on the "sterile cockpit" (no unnecessary conversation during critical operations). We should do this before the doors are closed. We must complete the programming of the GPS or autoflight system before we begin to taxi. And the granddaddy of all distractions can largely be avoided by making sure all latches on doors, luggage compartments, and cowlings are secure. Of course, a well-maintained airplane is less likely to present distractions such as alternators dropping offline or landing gear malfunctions.

But some distractions are likely to present themselves even with our best efforts at avoidance. So, we must also be prepared to mitigate the effects of the distraction when it occurs.

Prior-to-movement distractions can be just as dangerous as the ones that happen while in flight if they cause something to be skipped during an inspection or while running a checklist. Generally, if distracted during a procedure, we should go back three steps from where the distraction occurred.

The old advice of "aviate, navigate, communicate" continues to be valid while in motion. Aviate means to fly or taxi the airplane. That must be first in our priorities. We must discipline ourselves to maintain aircraft control and keep the airplane clear of obstacles and terrain (if in flight) regardless of what else is happening. If ATC calls with the IFR clearance while we are taxiing, we must tell them to

standby until we are stopped. The call from ATC is the distraction, but our response is the mitigation. A passenger becoming ill during flight is a distraction, but our request for another passenger to assist the sick person is our mitigation. In the absence of another passenger to help, our seemingly heartless response that we will help by landing at the nearest suitable airport rather than trying to deal with the sick person is our mitigation. Then there is that unlatched door. There are very few airplanes that won't keep flying with a passenger door, baggage door, or cowling unlatched. The sound of rushing wind or the sight of an access door flapping in the breeze is a distraction to be sure. Our quick analysis that the airplane is still flying and controllable and our resolve to maintain focus on aircraft control and terrain avoidance is our mitigation.

Pilots who fly into bushes while distracted are generally more damaged than grandchildren running bikes into bushes, even if mom makes us wear our protective gear when we fly.

Avemco is a sponsor of Gene Benson and his aviation-safety program. Until the end of December 2022, Gene is offering a free online course that is eligible for 1.5 credits towards Basic Knowledge-3 of the FAA WINGS program. Click [here](#) to register.

Gene Benson has had a lifetime of aviation experience. He has lived and breathed aviation from his first official flying lesson at the age of 14, to his first solo on his sixteenth birthday, to his 8,000 hours of flight instruction given. He has served as the Dean of Aeronautics for an aviation college, as an instructor for a major domestic airline, consultant to several foreign and domestic airlines, and to business aviation. His academic background includes degrees in psychology, education, and business. His specialty now is the application of human factors to error reduction and safety in aviation and other industries. He is presently a FAAS Team Lead Representative and has recently served as a member of the NBAA Safety Committee. View Gene's work at genebenson.com and register for his aviation safety events at [Vectors for Safety](#).

OUR PEOPLE: TEAM AVEMCO'S NEWEST UNDERWRITERS



Max Conrad, Aviation Underwriter

People come to Avemco the same way they do to aviation. From all walks of life. Some of our underwriters come from other insurance companies, some are pilots. But Max Conrad is one of several Avemco Underwriters to come from a background as an airframe and avionics technician. Max was on a track to a career in aviation maintenance with a degree from Pennsylvania College of Technology. He was working at a repair station when the pandemic hit and the facility downsized. That's when he saw a recruitment ad for Avemco. It was a happy twist of fate. Max says, "The beautiful thing about aviation is there are so many niches and avenues to success. I've always been a big customer service guy. My dad owns a construction company and my mom owns a travel agency." So a career working directly with the flying public turned out to be a natural. "If I was buried in a maintenance hangar, I'd have limited exposure to the pilots. I can interact with pilots and talk about their planes. What they've done to improve them. What they plan to do." His experience under the cowling turned out to be surprisingly relevant to aviation underwriting and a great fit for Avemco.



Ryan Mills, CPCU, Aviation Underwriter

For Ryan Mills, becoming an Avemco Aviation Underwriter was a natural progression of his career in insurance and his passion for aviation. However, his love of aviation came much later than it does for many pilots. It wasn't until Ryan took a job in Mooresville, NC that the freedom and excitement of general aviation took hold of him. Ryan earned his Private Pilot Certificate in December 2021 and is working towards his instrument rating. His prior stint in insurance involved working at a leading insurer in the property/casualty industry.

MEET AARON FITZGERALD, RED BULL HELICOPTER PILOT

Not a lot of people know how to fly. Even fewer fly helicopters. Only three people in the entire country fly helicopter aerobatics, and only one flies for the Red Bull Flying Bulls. Aaron Fitzgerald will be making a personal appearance at the Avemco Insurance Company Booth Hangar A 1158 at EAA AirVenture 2022, on Monday, July 25.

Aaron is quick to tell you that he has four teammates flying for Red Bull in Europe. But in the U.S., he's one of a kind. He has logged more than 9,500 hours in the air, about 700 in fixed-wing, the rest in helicopters. He started by flying TV news helicopters in Los Angeles and has flown in flight test programs for NASA and Lockheed Martin. Fitzgerald has been the aerial coordinator for several aviation projects that broke world records. He still flies for films and television as an aerial coordinator, camera ship pilot, and stunt pilot with over 100 films and television shows on his resume. Along the way, Aaron has racked up two Emmy nominations and a BAFTA award for his aerial work from the British Academy of Film and Television Arts. He holds an ATP and a type rating in the UH-60 Blackhawk and puts that type rating to work fighting fires with the

U.S. Forest Service. That is, when he's not wowing crowds in 10 to 15 air shows a year flying the Red Bull MBB BO-105.

Before joining the Flying Bulls, he had flown for Red Bull in other capacities, including the only US pilot authorized to track alongside competitors on the course at several Red Bull Air Races, filming the action for worldwide broadcast. However, he never flew helicopter aerobatics before joining The Flying Bulls in 2017, where he was trained in the BO-105.

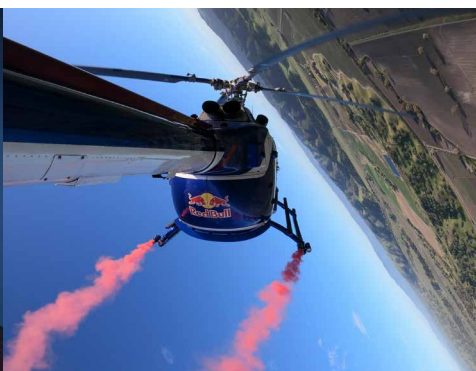
The BO-105 has a unique hingeless rotor system that gives it added maneuverability. Its twin Rolls Royce 250 C20B turbine engines each produce 420 HP to give it that power. The aircraft was designed originally as an attack helicopter for the German army in 1970 and was manufactured in Germany and Canada through 2001. Today, it is flown by military and police forces in 55 countries and, of course, by the Red Bull Flying Bulls in the U.S. and Europe.

You'd think so much extreme flying would be enough for Aaron Fitzgerald. But when he's not flying with the Flying Bulls, you can often find him



flying aerobatics just for fun in his Super Decathlon 8KCAB. Meanwhile, the next generation of Flying Fitzgeralds is not far behind. His 17-year-old son, Owen is a Private Pilot working on his instrument rating and about to fly his first aerobatic competition in Dad's Decathlon. Meanwhile, his younger son, Liam, is planning to solo on his 16th birthday. Both kids take their training at the classic tailwheel airplane mecca of Santa Paula, CA. (KSZP).

Aaron Fitzgerald is a busy guy, but you can see him and the Red Bull Helicopter in action at EAA AirVenture 2022 Monday, Tuesday, and Wednesday. **Even better, you can say hi to him at the Avemco booth, Hangar A, Booth 1158 Monday, July 25, and ask him yourself what it's like to fly a helicopter upside down.** We hope to see you at OSH!





Readback is your chance to tell us what you think about everything we have to say and do - including our PIREPs, articles, emails and previous issues of the *On Approach* newsletter. Content has been or may be edited for length and style before publication.

RESPONSE TO “LOOK BEFORE YOU LEND”

I take a more strict and doctrinaire approach:

1. Any person who wants lessons in my plane is my student and I am the CFI.
2. If it's desired that a student fly solo cross country, then we make sure he or she joins a flying club that is structured and insured for that purpose.
3. If someone still wanted to fly my plane, they will have to buy it.

--Anonymous CFI

RESPONSES TO “INSURING TO VALUE”

What a timely PIREP! I'm in the process of a serious equipment upgrade and while at it, I'm going to have it appraised again. Thanks for the great information!

--Jim Manint

Excellent article. Enjoyed the simple, clear explanation regarding insured levels.

Thank you -

--Bill T

Thanks for the article on insuring value. Food for thought. I verified I have my airplane insured with AVEMCO for the correct hull value, but it was interesting to consider the pros and cons of over-insuring or under-insuring the market value of the airplane. Essentially cons of not insuring for the market value.

--Stan Stewart

I love the information you provide, now I need to find out the value of my plane since I upgraded the panel.

--Don Ingram

Thanks for the article about how much to insure the hull coverage for an often misunderstood subject.

--Donald Welty

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MONDAY | JULY 25, 2022 MEET & GREET WITH RED BULL HELICOPTER PILOT

Meet Aaron Fitzgerald, renowned Red Bull Helicopter Pilot

WEDNESDAY | JULY 27, 2022 GARY REEVES MEET & GREET

Future and current instructors will have the chance to meet and ask the 2019 FAA National CFI of the Year, Gary "GPS" Reeves questions on the best way to use autopilots, GPS, ForeFlight, and other technology during primary and IFR training. All attendees get access to special free online CFI Pro Tips.

TUESDAY | JULY 26, 2022 WOMEN MOVING THE NEEDLE DAY

We'll be hosting influential women in aviation at our booth throughout the day. You don't want to miss it!

THURSDAY | JULY 28, 2022 MEET & GREET WITH PAUL DYE & MARC COOK OF KITPLANES

Meet and share your kit-building stories with Paul Dye, Editor at Large, and Marc Cook, Editor in Chief.

FLIGHT SAFETY DETECTIVES

Meet former NTSB investigators and hosts of the *Flight Safety Detectives Podcast*, Greg Feith & John Goglia.

Events subject to change. Please visit our website and follow us on social media for more information and updates on these events as they become available.

**Can't make it to Oshkosh this year?
Follow us on social media and don't miss out on the fun!**



On Approach

Avemco Policyholder News

SUMMER 2022

On Approach

Avemco Insurance Company
8490 Progress Drive, Suite 200
Frederick, Maryland 21701

Customer Feedback and
Aviation Insurance Questions:
(800) 638 8440
avemco@avemco.com

Online: avemco.com

Claims: (800) 874 9124

Publisher

Avemco Insurance Company

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