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July 2002

Happy 4th of July!

Here's to another year of freedom and independence in this great country of ours!

Yes, I realize that it is more than a little past the 4th but this author was out of town for several days and didn't have the foresight to get the newsletter out before leaving and for that I apologize.

Hopefully, all of you had a fun but safe holiday weekend with friends and family!

Increase in Private Plane Security Urged by Officials

** Portions of this article courtesy of the Kansas City Star **

The US Government is urging owners and operators of General Aviation Aircraft to step up security measures. They suspect that terrorists may attempt to use GA Aircraft to attack targets in the United States especially since security measures have been tightened at larger commercial airports will make it much more difficult if not impossible for terrorists to commandeer commercial aircraft as they did last September.

The Transportation Security Administration said it had "credible indications" that terrorists were planning attacks but did not know the specific targets or the methods that terrorists would use.

They are currently asking private plane owners to make sure that planes are locked when not in use. This is a

good idea even if the airport your aircraft is based at is manned 24 hours a day. Commercially available prop locks and wheel locks are a convenient way to help secure your plane. If you would like more information about commercially available devices, ask personnel at the airport and they will be able to tell you whom to contact for such equipment. In additions to locking devices, owners should make sure the doors of the aircraft are locked and the keys are not hidden somewhere on the outside of the aircraft. While this may be convenient for you, it is also convenient for someone who may be looking for an airplane to steal.

While Association officials say that GA aircraft are really too small to cause much damage, other experts say that a small aircraft can carry enough explosives to do some serious harm, especially if the aircraft is crashed in a heavily populated area. Private aircraft could also be used to scatter harmful chemicals or biological material.

We at Excelsior Springs Memorial Airport ask all of you to be extra vigilant. If you own an aircraft, go the extra mile and purchase devices that will help keep your aircraft safe. We also ask that if you are at the airport, be alert to suspicious persons or activity. If you notice persons or vehicles there that are not familiar or if someone inquires about the security at the airport or the security of the planes, report this to the local police who will in turn contact the necessary authorities.

We are a small airport but that doesn't mean that we are immune to the dangers that lurk in the world in this day

and age. Please do your part by staying alert and securing your aircraft.



A mother and her son were flying "Wonder Airlines" from Kansas to Chicago. The son (who was looking out the window) turned to his mother and said, "If big dogs have little dogs and big cats have little cats, why don't big planes have little planes?"

The mother, who couldn't think of an answer, told her son to ask the stewardess.

So the little boy goes to the stewardess and asks, "If big dogs have baby dogs and big cats have baby cats, why don't big planes have baby planes?" The stewardess asked the little boy, "Did your mother tell you to come and ask me?" "Yes, she did", the little boy answered.

So she told the little boy, "Go back and tell your mother that "Wonder Airlines" always pulls out on time."



So Say
The FAA

Density Altitude

When it comes to good old-fashioned hangar flying lessons, one subject that never seems to be discussed is density altitude. The reason being, too many pilots do not know enough about the subject. Yet, because of the inescapable influence density altitude has on aircraft and engine performance, it is important that every pilot understand its effects. Hot, high and humid weather conditions can change a routine takeoff or landing into an accident in less time than it takes to tell about it. There are three important factors that affect air density: *Altitude, Temperature, and Humidity.*

The higher the altitude, the less dense the air. The warmer the air, the less dense it is. Humidity is not generally considered a major factor in density altitude computations because the effect of humidity is related to engine power rather than aerodynamic efficiency. At high ambient temperatures, the atmosphere can retain a high water vapor content. For example, at 96° F, the water vapor content of the air can be 8 times as great as at 42° F. High-density altitude and high humidity do not often go hand-in-hand. However, if high humidity does exist, it would be wise to add 10% to your computed takeoff distance and anticipate a reduced climb rate.

Density altitude is a crucial criterion that determines the performance capabilities of an aircraft. As density

altitude increases, the molecules of air decrease which means there will be less air flowing over the camber of the wing. The further effects of high temperature and high humidity are cumulative, resulting in an increasingly high density altitude. Weight and Balance is another important consideration. For instance, if the CG is set to the aft position, a stall would be impossible to recover from and may result in a spin. If the CG is set to the forward position, a stall will be encountered in a higher than normal stall airspeed configuration.

The Pilot's Operating Handbooks prepared by the Airframe Manufacturer provide good information regarding the aircraft performance under standard conditions (59° F at sea level and 29.92 inches of mercury). However, if a pilot becomes complacent regarding aircraft performance or is careless in using the charts, density altitude effects may provide an unexpected element of suspense during takeoff and landing.

Density altitude effects are not confined to mountain areas. They also apply at elevations near sea level when temperatures go above the standard 59°. It's just that the effects are increasingly dramatic at higher elevations. Takeoff distance, power available (in normally aspirated engines), and climb rate are all adversely affected, and while the indicated airspeed remains the same, the true airspeed increases. Too often, a pilot who is flying in high density altitude conditions for the first time in an aircraft with a normally aspirated engine becomes painfully aware of the retarded effect on the aircraft performance capabilities.

Additionally, at power settings of less than 75%, or at density altitudes above 5,000 feet, it is essential that normally aspirated engines be leaned for maximum power on takeoff unless equipped with an automatic altitude mixture control. Otherwise, the excessively rich mixture adds another detriment to overall performance. Turbocharged engines, on the other hand, need not be leaned for takeoff in high density altitude conditions because they are capable of producing manifold pressure equal to or higher than sea level pressure.

Density altitude is not to be confused with pressure altitude, indicated altitude, true altitude or absolute altitude, and is not to be used as a height reference, but will be used as determining criteria for the performance capabilities of the aircraft.

When the temperature rises above the standard temperature for the locality, the density of the air in that locality is reduced and the density altitude increases. This affects the aircraft aerodynamic performance and decreases the horsepower output of the engine. Pilots should make a practice of checking their aircraft performance charts during preflight preparation. This is important when temperatures are above normal regardless of the airport elevation.

From the pilot's point of view, an increase in density altitude results in increased takeoff distance, reduced

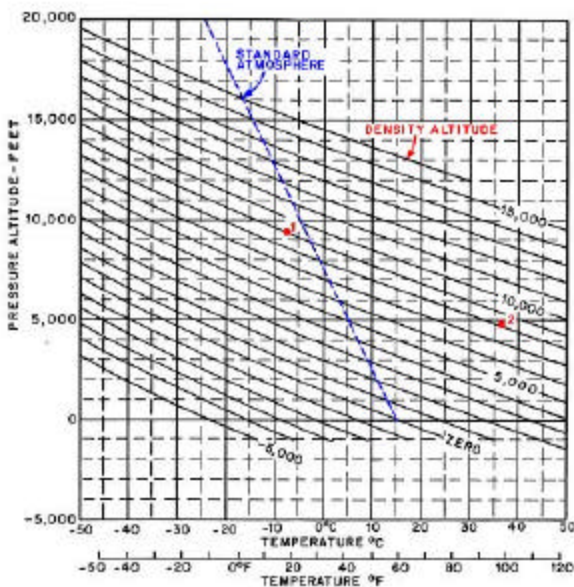
rate of climb, increased true airspeed on approach and landing (same IAS) and increased landing roll distance.

High temperatures sometimes have such an effect on density altitude that safe operations are impossible. In such conditions, operations between midmorning and midafternoon can become extremely hazardous. Aircraft performance can become marginal and it may be necessary to reduce aircraft gross weight for safe operations. Therefore, it is advisable, when performance is in question, to schedule operations during the cool hours of the day, early morning or late afternoon, when forecast temperatures are expected to rise above normal. Early morning and late evening are sometimes more ideal for both departure and arrival.

A pilot's first reference for aircraft performance information should be the operational data section of the Aircraft Owner's Manual or the Pilot's Operating Handbook developed by the aircraft manufacturer. When these references are not available, the Koch Chart or the following graph may be used to figure the approximate temperature and altitude adjustments for aircraft takeoff distance and rate of climb.

Use the following graph to find the density altitude either on the ground or aloft. Set your altimeter at 29.92 inches; it now indicates pressure altitude. Read outside air temperature. Enter the graph at your pressure altitude and move horizontally to the temperature. Read density altitude from the sloping lines. **EXAMPLE:** Find density altitude in flight. Pressure altitude is 9,500 feet; and temperature is 18° F. Find 9,500 feet on the left of the graph and move across to 18° F. Density altitude is 9,000 feet (marked "1" on the graph). **EXAMPLE 2:** Find density altitude for takeoff. Pressure altitude is 4,950 feet; and temperature is 97° F. Enter the graph at 4,950 feet and move across to 97° F. Density altitude is 8,200 feet (Marked "2" on the graph). Note that in warm air, density altitude is considerably higher than pressure altitude.

DENSITY ALTITUDE COMPUTATION GRAPH



Next FOESA Meeting Date

Since we didn't have a meeting in June to discuss the results of the fly-in, we will need to have a meeting relatively soon in July. Please make note of the date and the time and do your best to be there.

The meeting is set for Wednesday, July 24, 2002 at 5:30 p.m. at the airport. If you would like to bring some sort of munchie to share, that would be great.

This should be an interesting meeting so be sure to do your best to be there.

Flight is the only truly new sensation
that men have achieved in modern
history.

James Dickey

Resurfacing Project at Airport to Start Soon

The resurfacing of the runway and the ramp will begin on Wednesday, July 10. Your help with this project would be greatly appreciated. Those of you who are up there frequently and/or fly in and out of the airport know that it is a job that is desperately needed.

We will be meeting up there to work on it every evening starting July 10 and running however long it takes to get the job done. The more folks who come out to help, the quicker the job can be done so please make an effort to come out and help us get our airport looking better and easier to take off and land at.

For more information, contact Art Gentry, President of Excelsior Aviation, at Excel Computer Store at 816-630-3444. He will be happy to give you any additional details.

Last month's aircraft was a Cruseair

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