

May 2012

T-CRAFT AERO CLUB

The
monthly
newsletter of
T-Craft Aero
Club

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DENSITY ALTITUDE- JIM HUDSON

Safety – Membership Director

Turns Bold Pilots into Old Pilots If you Survive !!

I don't often repeat newsletter articles; it's always good to review the effects of DA. Last year it had almost reached 100°F in early June. At that time, Caldwell was reporting a Density Altitude of 5200'. McCall reached 77°F at 6 PM, resulting in a DA of 7150'. It's already been over 90°F and summer will be here soon. And with it, the nemesis to us pilots – Density Altitude.

Here are some things to keep in mind as Density Altitude goes up:

- ↪ Power is Reduced
- ↪ Lift is Reduced
- ↪ Prop performance is reduced

Resulting in:

- ↪ Longer Take off Distance.
- ↪ Climb performance reduced
- ↪ Longer Landing distances
- ↪ Lighter loads.

A normally aspirated engine loses approximately 3.5% BHP per 1000' increase in DA from Sea Level. So yesterday if you were leaving McCall at 6 PM, the 230HP C182 would be putting out 75% available HP on take-off

or 173HP. Our new powerful 160HP C172's would be at 120HP. That assumes that you are leaned for maximum performance.

Takeoff Rules of Thumb:

- ↪ A 10% increase in gross weight results in 20% increase in takeoff distance.
- ↪ A 10 % decrease in power will increase takeoff distance by 20%
- ↪ At a given gross weight, each 1000' increase in DA will cause a 10 % increase in takeoff distance.
- ↪ If you have not reached 70% of Vx IAS by 50% of the runway - ABORT

Landing Rules of Thumb:

- ↪ A 10% increase in IAS will cause a 20% increase in landing distance.
- ↪ Landing distance increases approximately 5 % per 1000' increase in DA above Sea Level.

Don't be fooled by what looks to be the "right" ground speed for rotating on takeoff and fairing on final. As DA goes up, true air speeds/ground

BATH TIME



Scrub-a dub-dub

This last month we had a chance to get together and wash the birds for the upcoming flying season. We had a terrific turn-out and according to many, the planes were washed up in record time, leaving plenty of opportunities to eat and socialize. Thanks to everyone who came out to help!

speeds go up and can be deceiving and possibly result in a stall if you do not pay attention to IAS – Indicated Air Speed. You need to take off and land at the appropriate IAS. V_x and V_y change as DA goes up and change with weight. Some POH's indicate this in their performance tables, some do not. For every 1000' increase in altitude V_x increases approximately 0.5 mph and V_y decreases 0.66 mph. Also remember V_x & V_y speeds decrease as weight decreases. V_x and V_y can be reduced $\frac{1}{2}$ of the percent of weight reduction. If weight is reduced by 5% from gross weight, V_x and V_y can be reduced 2½ %. Consult the respective POH for exact numbers when published.

The V_x and V_y numbers in the checklists are for Sea Level and Gross weight conditions. Performance will be affected if you do not use the appropriate V_x and V_y for the respective weight and DA conditions. When pitching for V_x – don't focus on the air speed indicator – it lags actual airspeed – know the pitch attitude that results in V_x

The weight and balance program on the club computers (and available to download from the

T-Craft web page) have tables at the bottom for each bird that show the V speed changes with respect to take off and landing weight, and at different density altitudes.

Don't forget tire inflation – every little bit helps. We have a compressor in the hanger and a tire gauge near the key lock box.

This is the time of the year to dig out the POH and review takeoff, rate of climb and landing performance numbers and the appropriate takeoff and landing speeds, especially at higher elevation strips. Were all getting old enough – lets not be bold also.

Fly Safe Fly Smart, Have Fun, AND don't do anything Stupid.



More on Lasers

In the past 18 months, the FAA have worked to raise public awareness about the dangers of shooting a laser at an aircraft. Unfortunately these dangerous incidents are still on the rise and have included pilots from our own club. As part of our ongoing effort to stop these threats to pilot, crew, and passenger safety, the Federal Aviation Administration has launched a new website, www.faa.gov/go/laserinfo.

The site includes statistics, research on the dangers lasers pose, and links for reporting laser incidents. It also features downloadable videos.

When someone shines a laser into the cockpit of an airplane overhead, it interferes with the flight crew and risks the safety of everyone aboard that plane. Yet, despite previous attempts to educate people about the dangers involved, the number of such incidents around the country has been increasing.

If you are hit with a laser, contact the appropriate Air Traffic Control (ATC) facility as soon as possible following the incident. For guidance, see [AC 70-2, Reporting of Laser Illumination of Aircraft](#) (PDF). After landing, you need to complete the [Laser Beam Exposure Questionnaire](#) and fax it to the Washington Operations Control Center at 202-267-5289.



Kids and FLying Call for stories---

Next month we will highlight kids and flying and we need your short stories about flying with kids. Please email rob@adventureiq.com with your story!

Call for stories and

pictures- Now that we have both Father's and Mother's Days behind us- we want to feature those who made us proud parents- the kiddos!

In the next issue we want to feature flying with kids-- any kids--

Looking for great short stories, antidotes, pictures, etc. Email to Rob@AdventureIO.com by June 20th.

SURVIVAL SEMINAR COMING IN JUNE!



Training/Events:

May 29th 7 PM EAA/
CAP, T-Craft
Membership Meeting.

May 30th 7 PM
"Nampa Airport
Operations & You"
Topic: Safe aircraft
operations at the
Nampa AvCenter
Hanger
(FAA Safety Team)

June 12th 7 PM Club
Hanger, T-Craft Board
Meeting.

June 26th 7 PM Club
Hanger, Survival
Training.