



## PUTTING WINGS ON

## YOUR DREAMS

VOLUME XIII

ISSUE 6

### Density Altitude

## Turns Bold Pilots into Old Pilots .... If you Survive !!

Its that time of the year as the temperatures warm up to review the nemesis to us pilots– **Density Altitude**. It won't be long before were in the 90's and a couple years ago 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'. Many of you have seen the effects of DA (along with some poor decision making) in the 2012 Bruce Meadows accident on YouTube. If you want to see a great example of the effects of DA, watch this video: [Bruce Meadows Accident](#)

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 if you were leaving McCall at DA 7150', 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 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.

**Vx and Vy 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 Vx increases approximately 0.5 mph and Vy decreases 0.66 mph. Also remember Vx & Vy speeds decrease as weight decreases. Vx and Vy can be reduced ½ of the percent of weight reduction. If weight is reduced by 5% from gross weight, Vx and Vy can be reduced 2½ %. Consult the respective POH for exact numbers when published.

The Vx and Vy numbers in the checklists are for Sea Level and Gross weight conditions.

Performance will be affected if you do not use the appropriate Vx and Vy for the respective weight and DA conditions. When pitching for Vx – don't focus on the air speed indicator – it lags actual airspeed – know the pitch attitude that results in Vx

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 Vspeed changes with respect to take off and landing weight, and at different density altitudes.

Don't forget to lean properly for maximum power and also proper 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 procedures and speeds, especially at higher elevation strips. We're all getting old enough – let's not be bold also.

A quick reference chart provided by the Idaho Division of Aeronautics follows on page 8 below.

*Fly Smart, Fly Safe, Have Fun, and – Don't do anything Stupid!*

Jim Hudson  
Safety/Membership Director

### **T-Craft Events to look forward to for the upcoming year.**

July 12th at 7:00 PM: Board meeting, at the T-Craft Hanger  
October - Plane wash and Fall Wx Class

#### **HATS OFF TO:**

Dale Reese stepped forward and took care of cooking at the Garden Valley fly in. Thank you Dale. A big thanks to Captain John Hook at MAF for his excellent presentation on backcountry "terrain" flying, June 7. Also a big thank you to Jim

Manley for arranging the program.

### **July 2016**

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

### **Calendar of Events:**

7/12/2016 – Board Meeting.  
No General Membership during July  
7/10/2016 - Accounts due  
7/20/16 – Accounts past due  
8/23/16-Cpt. Hook MAF- Short field techniques seminar.

### **Fuel Reimbursement**

\$3.50 per gallon.

The fuel account balance as of 03/20/16 was 7739 gallons.

### **Top flyers for the month\***

David Lamoreaux	14.7
Brian Paige	14.1
Ivan Sudac	13.8

### **Highest billing aircraft\***

7593S	\$2,780.00
1227G	\$2,534.00
4464R	\$2,232.00

**Hours flown for aircraft\***

1227G	52.8
4464R	34.4
67375	41.9

\*These figures are reported at the directors meeting earlier in the month.

**Breakdown of Membership**

51 Class II, 38 Class I, 3 Social and 8 voluntarily inactive. There was one resignation.

**95 Members**

**04 Social Members** (non flying)

**37 Class I Members** (39%)

**58 Class II Members** (61%)

**08 Inactive**

**Ratings**

**15 Student Pilots**

**61 Private Pilots**

**01 Recreational Pilots**

**Accomplishments:**

SOLO's



Jimmy Gross soloed 06-14-16

John Baglein CFI

**10 Commercial Pilots**  
**08 Air Transport Pilots**  
**28 Instrument Pilots**

**Welcome New Members:**

Todd Bennett Class II  
Sponsor Mark Turner

**Congratulations to:**

Carl Fetterman - Has moved to Class II membership.

**BFR's**

Lan Smith, Ernest Meshack-Hart, Don Allen, Cale Dobson and Steve Moore.

The results of the **Garden Valley fly** in competition.

Kent Murri won the bomb drop  
Tad Jones won the spot landing contest  
Tad Jones won the top gun award.

If you've achieved a new rating, BFR, Solo, or other significant accomplishment, please inform the Membership Director Jim Hudson, or Secretary/Newsletter editor Bert Osborn

If you have news or pictures that you would like to have included in the newsletter please submit them to Bert Osborn at [1berto@cableone.net](mailto:1berto@cableone.net)

### ISSUE FOR THE MEMBERSHIP:

The question has been asked, "should T-Craft continue to pay for the land line in the pilot's lounge?" The Billing director has sent an email to the club members soliciting their input on whether or not to keep the land line.

### Hourly Rates



**N1227G**  
**\$48.00**



**N67375**  
**\$55.00**



**N4464R**  
**\$68.00**



**N13686**  
**\$70.00**



**N1891X**  
**\$99.00**



**N9989E**  
**\$107.00**



**N7593S**  
**\$109.00**

### SQUAWKS

All of the aircraft are available for flight. **13686** experienced an electrical problem and was down for a few days. June was a busy month for flying. Lots of flying was done at the Garden Valley fly in. If you missed it this year, make sure you put it on your calendar for 2017.

**67375** No active squawks to report. Maintenance removed and replaced the left main. Will remove and replace nose tire sometime this week.

**9989E** The VCDI does not deflect half up during instrument check of GNS430. HCDI deflects half left correctly. There remains the squawk about the occasional TX failure on COM.

Upon depressing PTT switch, radio indicates TX but no voice is heard on ICS or on COM radio. After turning the radio off and back on, TX works fine.

**7593S** No squawks to report. Removed the GTX 327 and installed the new GTX 335 txp. Tied into the G430W making 93S ADS-B OUT compliant.

**1891X** No squawks to report.

**4464R** No squawks to report. The 100 hour has been completed. She is still humming along with good compression checks on all cylinders. Engine time since overhaul is 2,503.83 hours. 503.83 hours past recommended TBO. Maintenance removed and replaced right main. Removed and replaced pilot yoke grip PTT.

**13686** Was grounded because of an electrical failure. The WAAS certified Garmin 430 is functioning well. Try a GPS precision approach into Nampa or Ontario next time you fly.

**1227G** completed its annual and has been flying regularly. 27G has new cam locks, new plugs and the compression checks done during the annual were all good. The mechanic changed the mains, and suggested that we use re-tread tires. They are thicker and cheaper. The new lap belts were installed and look very professional. The mechanic fabricated and installed a new crank for the front seat. The side window latch was broken. Removed the good rear latch and put it forward. The mechanic Skip will make a replacement latch.

#### **ADS-B REPORT**

93S and 686 have both been upgraded to WAAS certified Garmin 430's. 89E, 64R and 375 will follow. T-Craft will try to upgrade 2 aircraft per year. 93S is now ADS-B out compliant.

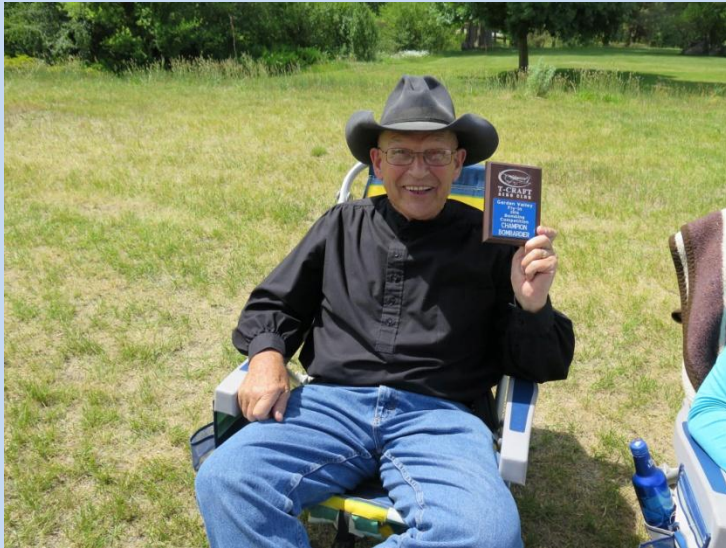
#### **MEMBERSHIP DUES**

Effective February 1, 2016 membership dues dropped to \$60.00 per month. That rate combined with the low hourly charges for the airplanes and the great maintenance under the watchful of Maintenance Director Jim Eyre makes T-Craft the leader in high quality, low cost flying.

PLEASE REMIT PAYMENT IN FULL BY THE 10TH OF THE MONTH.

Your account will be PAST DUE if not received by the 20th and there will be a \$10.00 late fee. There will be a finance charge if your account is over 30 days past due and flying privileges will be suspended.

**WINNERS AT THE GARDEN VALLEY FLYIN**





# DENSITY ALTITUDE:

Have you checked your performance today?

(OAT)  
Outside Air Temperature

* (PA) Pressure Altitude Ft.	0C	5C	10C	15C	20C	25C	30C	35C	40C
2000				2480	3080	3680	4280	4880	5480
3000			3120	3720	4320	4920	5520	6120	6720
4000			4360	4960	5560	6160	6760	7360	7960
5000		5000	5600	6200	6800	7400	8000	8600	9200
6000		6240	6840	7440	8040	8640	9240	9840	10440
7000		7480	8080	8680	9280	9880	10480	11080	11680
8000	8120	8720	9320	9920	10520	11120	11720	12320	12920

Density Altitude (in red)

Rule of Thumb: For every 1 degree C , Density Altitude increases 120ft



How will a hot and humid day affect your airplane?

- It will increase your take-off distance
- It will reduce your climb performance
- It will increase your landing distance

Refer to the performance section in your airplanes Pilot Operating Handbook (POH)

Enjoy your Flight in Idaho.....safely!

Always Safety First!

Density Altitude Calculator

Derived from US National Weather Service Formula

\*Obtain PA at airport by setting 2992 in the Kollsman window of the aircraft altimeter

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## REMEMBRANCE - PART II



By Jim Eyre

I have visual contact with a helicopter plummeting downward. Being empty of troops & low on fuel (high DA conditions existed) I broadcast my intentions to follow it in. Sure the crew have their hands full just trying to be in some state of control into the eventual crash landing. Close enough now to see they still have troopers on board. I think to myself "how many will survive." I can imagine what is going thru those young frightened minds. I land on a slight rise above the downed aircraft keeping rpms up for quick takeoff. My crew chief & door gunner (both 19) immediately leave the relative safety of our helicopter to assist or carry dazed & shocked individuals scattered around the wreckage back to our ship. Some they carry are KIA. We are taking AK-47 fire from the bad guys coming out of their spider holes. Rounds hitting & tearing holes in our metal frame. Thinking please let no vital component get hit/damaged. Waiting for that round with my name on it. My peter pilot (PP) happens to be a new guy (FNG in grunt language). He is 20, I just turned 28 (the "old" man to youngsters in our company. BTW the average age in Vietnam was 19 compared to 26 in WWII). PP becoming very upset that we are going to die. Do I dare leave my position as AC, climb in back & engage with the M60 door gun? Decide I had better stay on controls for a fast get away if we make it to that stage. I carry a small .38 cal revolver with 6 tracer rounds loaded (better to see where my shots are going). Fire a couple rounds out my open window. Must save two rounds as Charlie likes stringing up helicopter pilots & skinning them alive. I hit my PP on his flight helmet with butt of my revolver telling him I will not let them take us alive. I keep saying a silent prayer that I will never have to make that decision. If I get shot & unable to fly can I depend on my PP to fly us out of this hell hole? Have no other recourse. He must. AH-1 "Cobra" gunships appear & start their beautiful daisy chain run laying down a solid screen of hot lead & rockets between us & the bad guys. The Cobra is a new gunship having recently arrived in VN. Our ship is taking shrapnel damage from the gunships. I loved every bit of it. Rounds exploding so close it sure is a great feeling knowing that Charlie couldn't get any closer & was crawling back into his hole. The gunships are aware of our crew chief & gunner gathering individuals from the downed aircraft & provide cover fire for them. Most of the troopers & crew from the crashed helicopter need help getting up a slight incline to our bird. One of the downed pilots takes his "Chicken Plate" (protective vest) off to lighten his load & takes a round to his chest (probably would have survived had he not). KIAs are being stacked in our ship like a pile of cord wood. Survivors climb aboard seated

where they can. No announcement to “fasten seat belts & return seat backs and tray tables to upright and locked position”. When we think we have everyone a survivor yells “missing a trooper”. Another yells “a trooper fell out high in our descent so could be anywhere”. I yell at my crew chief & gunner we must get out of here now. Sorry we have no time to search for the missing trooper. They both get back on their M60s putting additional hurt on the NVA. These young crewmen acted in a fine display of courage with complete disregard for their own personal safety & certainly saved lives. Seemed like we had been on the ground for eternity as I make radio call that we were lifting out with possibly a trooper MIA in general vicinity. The density altitude is high as our helicopter strains under the increased load as we now have 13 souls on board. Being low on fuel is in our favor. Gunships keep up a barrage as I baby my helicopter off the ground. I am glad that I was taught & practiced heavy load takeoffs using low rpm by a warrant officer serving his 3rd tour. The low rpm light comes on. We get an intermittent squeal from the horn. I continue into translational lift gaining as much airspeed as I can before pulling additional collective to climb out of the kill zone. Suddenly a round pierces the floor near my right leg and smashes into the instrument panel! A miracle I was not hit and lose a leg. The attitude indicator is not so lucky. Thankfully no Purple Heart for me today.



close call.



Damaged from A Shau Valley

The gun ship cover was great keeping the little bastards in their spider holes. We took hits but nothing critical was damaged. Very thankful none of my crew was hit. We fly direct to Camp Evans Medevac pad on East Coast with gunships (Tomcat call sign) providing aerial coverage. I call ahead to alert medevac pad what we had on board. Medical personnel & gurneys were ready on our arrival. I don't know the final outcome of those we brought out. At least 3 were KIA when placed in our ship. Several had serious wounds. Lots of blood covered our cargo deck. As we cleared the valley we hear the mission controller call in fast movers to drop liquid fire (napalm) on the downed helicopter wreckage to prevent any possible salvage by Charlie & frying him in his spider holes as well.



mp Evans



Tapalm Run

To this day I carry the burden of leaving someone behind. My decision was based on the immediate situation, my fuel status and the assumption his body probably would never be found. He was reported MIA by his unit later in after action report. My crew chief & gunner were appropriately recognized for their actions in a later ceremony.

After the initial assault into the valley several LZs reported being short of ammo. Without the emergency resupply the troops on the ground faced uncertain odds. Command asked for volunteers (I did so with another crew) to fly back into hell to deliver ammo & water to the beleaguered troops. These crews were very courageous to return in impossible weather conditions, treacherous terrain & intense enemy fire. I hope they survived as I did & were properly recognized for their heroic efforts.



Shau Valley

LZ Vicki where Orange Flight inserted troops



For actions this fateful day I was awarded the Distinguish Flying Cross later upgraded to a Silver Star. I went over 1000 hours combat flying this day & will continue to accumulate until my 365 days in hell finally come to an end.

Maj.Gen Tolson

Cpt. Eyre



All 10 helicopters in my Orange flight made it back to home plate! Plenty of bullet holes but nothing vital was hit, especially no crew member. My cargo deck is crimson from the spilled blood of dead, dying & walking wounded during rescue. We will take her to the river for a wash.



Washing

all the blood out!

About the Soviet built 37mm guns – you would hear loud squeals for about 3 seconds over the FM radio followed by about 3 seconds of silence then another 3 seconds of squeal. First squeal meant the gun had acquired a target (you). During the silence the gun computer is calculating target speed & direction.

A Shau Valley





37mm Soviet Built

At end of second squeal a radar-guided 37mm round is on its way to greet you! Red glowing object that grows larger as it gets closer. Air crews were instructed to immediately dive & turn 90 degrees to avoid getting hit. Of course this helpful information was available only “after” the initial thrust into the Valley of Death. Now we really understood why hearing was part of flight physical. If you missed picking up the squeals or only heard the second thinking was it the first – whole day could be ruined quickly. Several times while flying in or near the valley I did pick up the ominous squeal. Couple times we saw rounds passing us especially glowing at night. While flying to a combat assault we did so in a loose trail formation. This provided each ship the ability & space to take evasive action if need be. Imagine the stress placed on each crew not knowing if a 37mm round had your name on it. Talk about keeping a sterile cockpit. Each aircraft had 3 radios – FM (talk to ground troops), VHF (talk with artillery, gunships, & Air Force), & UHF (between our aircraft). With 3 radios squawking it sometimes is difficult knowing which it was. It was our company SOP for one pilot to closely monitor the FM for 37mm squeals & the other pilot to listen to the other two radios. I got so I could monitor all 3 & distinguish between each. Was this Darwin’s “Survival of the Fittest”?

The 1<sup>st</sup> Cav Division brought the cavalry raid (historically carried out by small forces of mounted horsemen conducting rapid attacks into enemy territory with limited objectives (Custer comes to mind) to VN with helicopter-riding troopers. The near-by border with Laos enabled the NVA to strike our positions in the valley by accurate indirect fire with complete immunity from us pursuing them into Laos. This was later dealt with.

The raid into the A Shau Valley terminated 17 May 1968. It disrupted a principal supply area & infiltration route & certainly harassed the NVA forces. However the Cav paid dearly during this raid. In addition to many helicopters lost/damaged there were 86 KIA, 47 MIA & 530 wounded. The 9<sup>th</sup> Marine Regiment moved into the valley in January 1969. Another bloody incursion.

Despite the passage of time, there are some aspects of the Vietnam War that will never be forgotten until the last participant dies. This is simply one war that engendered too much bitterness. Few of us felt any loyalty to this war. But we did possess a great loyalty and kinship to each other, to our reputations as individuals and as units. The attitudes of troops reflected the society that sent us there. Like vets of all wars, we encountered the realities of combat and discovered that ideology does not sustain one under such circumstances. Our sense of motivation was a buddy system: we were in this and nobody cares, but at least we can care about each other. 1968 as I stepped off plane in Boise, while in uniform, I was cursed, spit at & called hurtful names by people I was prepared to give my life for so that they could have that privilege. No welcome home banner. My two young sons could not understand why these people were so loud & mean to me when they were so happy to have daddy finally back home. I continue to carry that moment & will to my end.

President Reagan "Who can doubt that the cause for which our men fought was just? It was-however imperfectly pursued – the cause of freedom."

There were about 12,000 US helicopters in VN. Many as 5,000 destroyed. Being a helicopter pilot was classified as most dangerous job offered by the military. 1 in 18 helicopter pilots did not return alive. I am thankful and blessed to not have my name inscribed on that black granite wall in Washington D.C



Part of Ho Chi Minh Trail



The following article was copied from a news lead issued by the Associated Press. It is the property of the Associated Press or the local reporting agency.

Plane crash kills 1 on freeway where it once landed safely.

The following article is the property of the Associated Press - By BRIAN MELLEY - Associated Press

Emergency personnel investigate the scene of plane crash, Saturday, April 2, 2016 in Fallbrook, Calif. A small plane crashed on a Southern California freeway Saturday and struck a car, killing one person and injuring five others, authorities said. (Don Boomer/The San Diego Union-Tribune via AP)



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LOS ANGELES (AP) — A small plane that made headlines when it landed safely on a Southern California freeway years ago crashed on the same stretch of road Saturday, slamming into a car and killing a woman in the vehicle.

Five others, including the pilot and his passenger, were injured in the crash on a stretch of Interstate 15 that has been the scene of several emergency landings.

Witnesses said the single-engine plane appeared to be having problems before it banked and came down, California Highway Patrol Officer Chris Parent said. One man said he didn't hear the plane's engine as it passed overhead.

The Lancair IV landed on its belly and skidded about 250 feet before striking the rear of a black Nissan Altima sedan that was stopped on the shoulder of the road in San Diego County near Fallbrook. The driver of the car had pulled over to synchronize the Bluetooth device on his phone, Parent said.

The impact crumpled the back of the car, fatally crushing Antoinette Isabelle, 38, of San Diego in the back seat and injuring three others in the vehicle, authorities said.

"The plane went completely into the trunk and pushed the rear bumper almost into the rear passenger seat," said John Buchanan, spokesman for the North County Fire Protection District.

Pilot Dennis Hogge, 62, and his female passenger suffered major injuries, Parent said. The driver suffered moderate injuries, and his other two passengers were expected to survive their injuries.

The plane was once owned by major league catcher Matt Nokes, who made a noteworthy landing on busy I-15 when the engine quit on its second flight on Feb. 18, 2000.

Nokes guided the high-performance \$500,000 plane to a smooth landing and safely taxied off the road without injuries.

Nokes went on to fly the plane every day for five years without incident before selling it. He said it had been rebuilt several times since he sold it.

"It was crazy," Nokes told The Associated Press on Saturday. "Everything worked out so beautifully. It was almost a humorous thing. Unfortunately, it doesn't always turn out that way."

When Nokes heard about the crash, he unsuccessfully tried to reach Hogge. He didn't realize Hogge had been injured.

He described Hogge as a good man, an outstanding pilot and a master plane builder.

"It's just horrible to hear about," said Nokes who spent 11 years in the majors, mostly with the Detroit Tigers and New York Yankees.

The stretch of freeway is no stranger to unusual landings. Parent said he's aware of three other planes that have come down on that stretch of freeway about 50 miles north of San Diego in the past decade.

Nokes said the freeway is a popular route for flying because there are fewer flight restrictions than along the Interstate 5 corridor.

The crash caused major backups throughout the day on the freeway that runs from the Mexican border through Las Vegas and Salt Lake City to Canada.

The Federal Aviation Administration and National Transportation Safety Board will investigate the crash, FAA spokesman Ian Gregor said.