

### PUTTING WINGS ON

### YOUR DREAMS

VOLUME XIV

**ISSUE** 4

Submitted by Jim Hudson Membership and Safety Director

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

I won't be long before the temperatures warm up, so its time to review the nemesis to us pilots- Density Altitude. Temps can be in the 90's in May, 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. The DA at the time of the accident was approximately 9,500'

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.
- Reduced Climb performance
- Longer Landing distances
- Lighter loads. Carry loads appropriate for the mission, may need to be less than gross.

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 160HP C172's would be at 120HP, just barely higher than a C152 at sea level. 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.

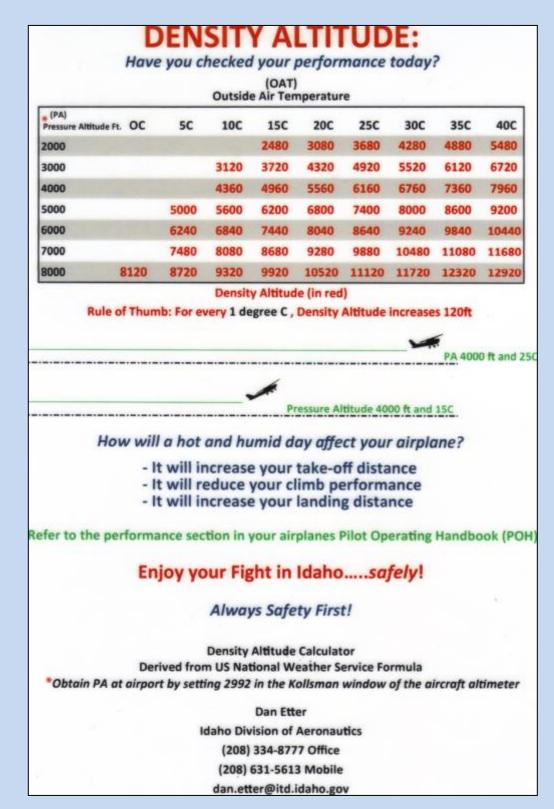
The Vx and Vy numbers in the checklists are for Sea Level and Gross weight conditions. Performance will be affected if you do not use the appropriate Vx and Vy for the respective weight and DA conditions. When pitching for Vx – don't focus on the air speed indicator – it lags actual airspeed – know the pitch attitude that results in Vx The weight and balance program on the club computers (and available to download fro the T-Craft web page – Site Index Tab under W) have tables at the bottom for each bird that show the V speeds changes with respect to take off and landing weight, and at different density altitudes.

Don't forget to lean properly for maximum power and proper tire inflation – every little bit helps. We have a compressor in the hanger and a tire gauge near the squawk sheet clipboards.

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 air strips. If you haven't flown with a plane at or close to gross weight, grab some bodies or gear and load it up. Then try some take-off's, landings where you know you have plenty of room and see the Compare your calculated difference. distances to the actual you obtained. Also, if you've never done stalls near gross weight, try it, you will notice a more abrupt break, and more vertical feet lost in the recovery. We should become very familiar with our aircraft in all conditions, so now is the time to refresh your skills with respect to DA and the hot weather coming.

Were all getting old enough – let's not be bold also.

A quick reference chart provided by the Idaho Division of Aeronautics. This reference chart "should" be in each aircraft, if they didn't grow legs. This chart is also available on the club website-site index tab.



Membership Director Fly Smart, Fly Safe, Have Fun, and - Don't do anything Stupid!

Jim Hudson Safety/Membership Director

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

#### **Calendar of Events:**

05/02/2017 – Plane Wash&Wax 05/10/2017 – Accounts due 05/09/2017 - Board Meeting 05/19-20/17 Idaho Aviation Expo – Idaho Falls 05/20/2017 - Accounts past due

05/30/2017 - Membership meeting

- June 10th Garden Valley Fly-In
- October Plane Wash, Fall WX Class

2017 - Calendar of events is available on the T-Craft website.

The Garden Valley Fly-in is June 10th.

If you have any ideas for safety meeting presentations or would like to arrange a presentation, contact Membership/Safety Director Jim Hudson

#### **Fuel Reimbursement**

\$4.17 per gallon. The fuel account balance as of 03/30/17 was approximately 2,172 gallons.

#### Top flyers for the month

Todd Bennett	21.2
Van Turney	7.0
Cassidy Brown	5.1

#### The top billing aircraft

13686	\$3,482.00
4464R	\$2,322.00
7593S	\$2,192.00

#### Hours flown for aircraft

13686	47.7
64R	32.7
375	25.6

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

#### **Breakdown of Membership**

Member Statistics: 104 Members (3 LSA only) 11 on wait list. 40 Class I Members (40%) 64 Class II Members (60%) 07 Inactive (voluntary suspension) 04 Suspended (BFR/Med/Attend/Billing) 09 Social Members (non flying, not

included in "Members")

#### Ratings

- 15 Student Pilots
- 66 Private Pilots
- 01 Recreational Pilots
- 14 Commercial Pilots
- 08 Air Transport Pilots
- **31 Instrument Rated Pilots**

#### BFR

Marjorie Wells Kevin Harvey James Peterson Ken Kaae Ben Brandt Tad Jones - Wings Gérard Cattin-Wings

#### Accomplishments

Cassidy Brown SOLO 4/12/17 – Jim Hudson CFI And – Super achiever Cassidy ran a Marathon on 4/23/17 !!



Level II Check Out Mike Escher

**New Members** Nate Straubhar – Student Pilot with Jim Hudson

The T-Craft telephone number is 208-546-4128.

#### HATS OFF

Kudos to President Ben and First Lady Vivian Brandt for striping in front of the hanger areas. They worked the Saturday of the poker run when it was cold and blustery outside. Additionally, they worked and cooked for the poker run.

Hats off and Kudos to Jeff VanHooser for striping with Ben and Vivian. He was bundled up and did a great job.

Kudos to Dennis Wheeler for working at the poker run. Dennis was busy, doing among other things, dealing cards. While I know Dennis will deny it, I'm sure that he's preparing for a new vocation in Las Vegas.

#### **COMMITTEE WORK**

The committee working on the future needs of the club met Tuesday, April 4, 2017. The committee was presented with an estimated maximum budget ranging from \$100,000.00 to \$125,000.00 to accomplish the goals set by the club. The committee established goals and set priorities for those goals. The minutes of the committee meeting are attached to the Board minutes from the April meeting and they explain the

goals and priorities set by the committee. While the work of the committee is extremely important, the committee will not have the final say in expansion plans or the purchase of a new aircraft. Those decisions would be left to the membership and the board.

During discussion of expanding the hanger, expanding the present T-Craft hanger to the west may not work because there is a water sump in the grass to the west of the hanger. There was a possibility of building a new hanger where the windsock is located. There has been discussion about tearing down the old FBO building to the northwest of T-Craft and building a through the fence hanger.

#### **AGAIN - POTENTIAL CLOSURE**

Director of Maintenance, James Eyre, has been advised that the airport might be closed for 5 days in August. Last year just certain areas of the airport were closed. If the entire airport is shut down, the board is considering re-locating some aircraft to Caldwell as has been done in the past.

#### CFI's

We now have 9 club member CFI's on the list of 22 <u>club approved instructors</u>. Only instructors on our list can instruct in club aircraft unless you get an exception from the board. A reminder for those interested in getting instruction in the Champ; only the instructors noted on the list are approved by the board to instruct in the Champ.

#### HOURLY RATES

Our most recent fuel purchase was at \$4.17, \$0.67 higher than our previous rate of \$3.50. This has resulted in our rate to increase as indicated below.

N1227G<br/>\$60.00
N67375<br/>\$60.00
N4464R<br/>\$71.00
N13686<br/>\$73.00

Image: Second se

#### SQUAWKS

7593S None

9989E 9989E was filled to just shy of 12 quarts on the dip stick. There is no reason to put that much oil in an engine. It simply blows out onto the belly.

1891X None.

13686 Annual went well

4464R Issue of tire replacements..

67375 None

1227G None

Remember to report squawks on schedule master. The old clip boards for reporting squawks have been retired.

#### CARE OF YOUR AIRCRAFT

A couple of issues have come up this month. One issue is replacement of main tires. We have replaced four right main tires since first of year. The reason for the replacements was flat spots. Please remember when braking, keep your feet on the floor and don't jam on the breaks. When landing you have a mile of runway so you don't have to land and skid the tires to make the first or second taxiway. Allow the aircraft to slow down and gradually and gently apply the brakes. Your aircraft will love you for that.

The second issue is cleaning and securing the airplanes after landing. Club policy requires us to clean the leading edges and the windscreen of bugs and foreign debris after we take an aircraft out. There should be no need for any such reminders, as a matter of common courtesy we should leave an aircraft in a clean condition after we have flown it. We learned as early as first grade, if we create a mess, we clean it up. That's the grown-up thing to do. PLEASE, after you land, clean the bugs off the leading edges and windscreen (no circular motions on the wind screen). Then use the furniture polish on the leading edges.

Planes and hanger doors are not being secured, gust locks not put in, hanger door pins not secure, lights being left on. Please double check the shut down check list items and make sure you clean and secure your airplane and hanger.

#### ONE LAST TIME THIS YEAR - COLD WEATHER FLYING

The heaters, cords and blankets are still out and need to be used. As I have said many times, if it's cold enough for you to wear a coat or a jacket, it's cold enough that the aircraft engines need heat. When you fly arrive early and take the time to hook up the engine heater and the oil sump heater. As Jim always reminds us, if we take care of the engines, they will last a long time and serve us well. Even if it feels warm out, it doesn't hurt to add some heat to the engine.

REMEMBER - Pre-heat - Pre-heat - Pre-heat - Pre-heat - Pre-heat - Pre-heat

#### MEMBERSHIP DUES

Effective February 1, 2016 membership dues were established at \$60.00 per month. At the Annual meeting this year membership approved continuing dues at the rate of \$60.00 per month. That rate combined with the low hourly charges for the airplanes made available because of the well timed fuel purchases and the great maintenance under the watchful eye of Maintenance Director Jim Eyre makes T-Craft the leader in high quality, low cost flying. Upgrades will not impact the hourly cost of flying an aircraft.

#### 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.

#### OFF FIELD FUEL REIMBURSEMENT

If you purchase fuel off site you will be reimbursed at the club rate per gallon, currently at \$4.17 per gallon. In order to get the reimbursement, send your receipt(s) to the club mail address to the attention of Reggie Sellers, or scan a legible copy and email to Reggie Sellers. DO NOT put your receipt in the club pouch, these are for Nampa fuel receipts only and your personal receipt will probably get lost.

#### FROM OTHER SOURCES

#### Basic Med Forms Released

April 24 – The FAA encourages general aviation pilots to learn how to meet the BasicMed requirements

Notice Number: NOTC7130

General aviation pilots can now prepare to fly under BasicMed without holding a Federal Aviation Administration (FAA) medical certificate as long as they meet certain requirements. They can fly under BasicMed beginning on May 1, the effective date of the January 10 final rule. It offers pilots an alternative to the FAA's medical

qualification process for third class medical certificates, while keeping general aviation pilots safe and flying affordable.

General aviation pilots may take advantage of the regulatory relief in the BasicMed rule or opt to continue to use their FAA medical certificate. Under BasicMed, a pilot will be required to complete a medical education course every two years, undergo a medical examination every four years, and comply with aircraft and operating restrictions. For example, pilots using BasicMed cannot operate an aircraft with more than six people onboard and the aircraft must not weigh more than 6,000 pounds.

#### A pilot flying under the BasicMed rule must:

- possess a valid driver's license;
- consent to a National Driver Register check;
- have held a medical certificate that was valid at any time after July 15, 2006;
- have not had the most recently held medical certificate revoked, suspended, or withdrawn;
- have not had the most recent application for airman medical certification completed and denied;
- have taken a BasicMed online medical education course within the past 24 calendar months;
- have completed a comprehensive medical examination with any state-licensed physician within the past 48 months;
- have been found eligible for special issuance of a medical certificate for certain specified mental health, neurological, or cardiovascular conditions, when applicable; and
- not fly for compensation or hire.

Pilots can read and print the Comprehensive Medical Examination Checklist and learn about online BasicMed online medical courses at <u>www.faa.gov/go/BasicMed</u>

#### By DAVE HUGHES, FAA

Some general aviation aircraft owners may not recognize the consequences of waiting to install Automatic Dependent Surveillance-Broadcast (ADS-B) Out until they discover in 2020 that they cannot easily fly out of their home airport. Many GA airports are located in or near airspace that requires ADS-B equipage. Without ADS-B Out onboard, pilots will need to seek exceptions from air traffic controllers to depart from their home airport, which might not be granted or could lead to delays.

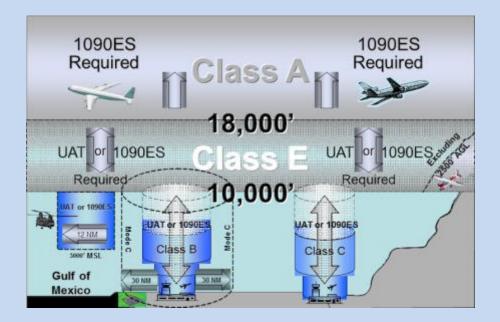
In 2010, the <u>FAA</u> published a rule mandating the use of ADS-B Out by Jan. 1, 2020, in most airspace where a transponder is required today.Pilots who fly from GA airports in or near congested airspace may not have studied how Class B and C airspace or a

Mode C veil might affect their operations to and from their home airport. ADS-B Out is required in all three of these types of airspace under the FAA rule. You should confirm whether the following types of ADS-B airspace could affect your operations:

- Class B airspace: Airspace from the surface to 10,000 feet above mean sea level surrounding the busiest 37 airports in terms of Instrument Flight Rules (IFR) operations. Airspace configuration is individually tailored and consists of a surface area and two or more layers. Class B is designed to contain all published instrument procedures once an aircraft enters the airspace.
- Mode C Veil: This airspace within a 30-nm radius of a Class B airport from the surface to 10,000 feet requires aircraft to have a Mode C transponder with altitude reporting.
- Class C airspace: Class C airspace usually consists of a 5-nm radius core surface area from the surface up to 4,000 feet above the airport elevation, and a 10-nm radius shelf area that extends no lower than 1,200 feet up to 4,000 feet above airport elevation. These airports have an operational control tower, are serviced by a radar approach control, and have a certain number of IFR operations. There are more than 120 Class C airports in the United States.

"Some pilots of aircraft based near Class B or C airports may find they did not anticipate the impact of the FAA's ADS-B rule when it takes effect in 2020," said Rune Duke, the Aircraft Owners and Pilots Association's director of government affairs for airspace and air traffic. "If they fly in Class B or C airspace or in the Mode C Veil, they need to be equipped."

Class B and C airspace is shaped like an inverted wedding cake. Even if a general aviation airport is not covered by the bottom layer, an aircraft may pass through Class B or C airspace on the way to or from a runway. The Mode C Veil around 37 Class B airports with a 30-nm radius extends from the surface to 10,000 feet.



GA hotspots often correlate to congested airspace where ADS-B is mandated in New York, Florida, California, and Texas.

"This is where the highest density of general aviation aircraft is located and where there are a lot of Class B and C airports," said Jens Hennig, vice president of operations for the General Aviation Manufacturers Association (GAMA). Nationwide, more than 20,000 general aviation aircraft are based at airports under a Mode C Veil, and those owners need to recognize how little time they have left to install ADS-B before the FAA rule takes effect.

"There are many general aviation pilots who do not fully understand where rule airspace is located," Duke said. "Pilots should investigate how rule airspace affects them and take action soon."

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### FROM THE FOLKS AT BOEING

# *The first Boeing 787-10 Dreamliner deliveries are expected in 2018.*

The Boeing 787-10 Dreamliner, the third and most recent addition to the company's Dreamliner family, recently made its debut at Boeing's South Carolina location. <u>Boeing</u> Chairman, President and CEO Dennis Muilenburg says the progress at the company's South Carolina location is a true American success story. "In just a few short years, our team has transformed a greenfield site into a modern aerospace production facility that is delivering 787s to airlines all over the world and supporting thousands of U.S. jobs in the process."

The 787-10, which is being built exclusively at the South Carolina location, is now preparing for its first flight in the coming weeks. This is reportedly the first Boeing commercial widebody airplane variant that has not been produced at <u>the company's Everett facility</u>.

According to Boeing Commercial Airplane's President and CEO Kevin McAllister, the 787-10 is the most efficient aircraft in its class, and is a result of years of hard work and dedication from Boeing's teammates, suppliers, and community partners in South Carolina, and across the world. He added "We know our customers, including launch customer <u>Singapore Airlines</u>, are going to love what the 787-10 will do for their fleets, and we can't wait to see them fly it."

The company, who currently has 149 orders from nine different customers around the world, currently plans on delivering the first Boeing 787-10 Dreamliners to customers in 2018.

#### **Boeing 787-10 Dreamliner Specs**

The 787-10, which features a fuselage with an additional 18-foot (5.5 m) stretch versus the 787-9, is the longest model in the Dreamliner family. According to the company, the 787-10 also features 10 percent better fuel use and emissions vs the competition.



Model Cockpit crew: **Boeing 787-10** Two

Seating:	330
Length:	224 ft (68.28 m)
Wingspan:	197 ft 3 in (60.12 m)
0.	10.03
Aspect ratio:	
Wing area:	3,880 sq ft (360.5 m <sup>2</sup> )
Wing sweep:	32.2 degrees
Height:	55 ft 10 in (17.02 m)
Eusologo dimonsions.	Height: 19 ft 6 in (5.94 m)
Fuselage dimensions:	Width: 18 ft 11 in (5.77 m)
Cabin width:	18 ft 0 in (5.49 m)
	6,722 ft <sup>3</sup> / 191.4 m <sup>3</sup>
Cargo capacity:	40 LD3
	or 13 (96×125) pallets
Maximum takeoff weight:	560,000 lb / 254,011 kg
Maximum landing weight:	445,000 lb / 201,849 kg
Maximum zero-fuel weight:	425,000 lb / 192,777 kg
Cruising speed:	Mach 0.85 (488 kn; 561 mph; 903 km/h)
Maximum speed:	Mach 0.89 (511 kn; 587 mph; 945 km/h)
Range at typical seating:	6,430 nmi (11,908 km)
Eval conceitre	33,384 US gal / 126,372 L
Fuel capacity:	223,673 lb / 101,456 kg
Service ceiling:	43,000 ft (13,100 m)
Engines (×2):	General Electric GEnx-1B or Rolls-Royce Trent 1000
Thrust (×2):	76,000 lbf (340 kN)

Featured Images: courtesy of <u>Boeing</u>

<u>Helicopters</u>



The Sikorsky/Boeing Future Vertical Lift platform pictured above, is a scalable design based on proven X2 Technology. Designed for long range, high speed, superior hover performance and good looks.

# VFR into IMC fatal for 182 pilot

MARCH 23, 2017 BY GENERAL AVIATION NEWS STAFF

The pilot was conducting a visual flight rules aerial observation flight and returning to his home base. Radar and weather data showed the Cessna 182 maneuvering in instrument flight rules conditions before radar contact was lost.

Examination of the accident site near El Paso, Texas, indicated the airplane hit rocky, mountainous terrain in a slight left-wing-low attitude at high airspeed, consistent with controlled flight into terrain, killing the pilot

It is likely that the mountainous terrain was obscured by clouds and low ceilings at the time of the accident, which prevented the pilot from seeing the terrain.

Although the wreckage was significantly fragmented and damaged by fire, no evidence of any preimpact mechanical malfunctions or failures of the airframe or engine were noted that would have precluded normal operation.

Probable cause: The pilot's decision to continue a visual flight rules flight into known instrument flight rules conditions, which resulted in controlled flight into terrain.

This March 2015 accident report is provided by the <u>National Transportation</u> <u>Safety Board</u>. Published as an educational tool, it is intended to help pilots learn from the misfortunes of others'

NTSB Identification: CEN15FA174

Weather photograph courtesy of T-Craft Member and Billing Director, Reggie Sellers.



# Flying Tigers – P-40 Tomahawk – Amazing WWII Color Pictures

Jun 12, 2016 Joris Nieuwint



The photograph P-40 Tomahawk #49 flown by Tom Hayward of the Third Pursuit Squadron --Hell's Angels -- of the American Volunteer Group was probably taken from aircraft #47 on May 28, 1942 near the Salween River Gorge on the China-Burma border. [via]

If you are asked to think of World War II fighters you might very well imagine planes with sharp noses and shark's faces. You might be thinking of the Flying Tigers, the aircraft of the 1st American Volunteer Group (AVF). Their pilots came from the United States Army Air Corps, Navy and Marines, but they were officially members of the Chinese Air Force.

The AVG was made up of three squadrons, with 30 fighters in each squadron. They trained in British–held Burma and their mission was to fight for China, which had been invaded by Japan in 1937. The Americans did not want Japan to win, and the Chinese needed help badly. In 1996 the US Air Force awarded the pilots of the AVG the Distinguished Flying Cross

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At the time the American Volunteer Group was created the United States was not at war with Japan, so it secretly created the squadrons at the request of the Chinese government. They first went into action on December 20, 1941. The Japanese attack on Pearl Harbour had occurred only twelve days before.

The Tigers were highly successful in combat. They were so successful in fact that they inspired Americans at home to believe that might be able to defeat the Japanese. Using original tactics, they destroyed 296 enemy aircraft, losing only 14.

On 4 July 1942, the American Volunteer Group was disbanded. The 23rd Fighter Group, under the command of General Claire Lee Chennault, replaced it, and it became part of the United States Fourteenth Air Force. Chennault had been largely responsible for the creation of the AVG, and kept the fierce–looking markings on the planes.

The American press still called them the Flying Tigers. The 23rd Fighter Group achieved similar victories to the AVG.

In 1996 the US Air Force awarded the pilots of the AVG the Distinguished Flying Cross.

# **Original WW2 Color Images**



Jack Canary was a Technical Rep with North American Aviation in China during World War Two. After the War, he continued to work with NAA and also built and restored aircraft. He worked as a consultant on the film "Tora, Tora, Tora" and was killed while flying a PT-22 for the film in 1968.



R.T. Smith next to the Disney "Flying Tiger" decal on the side of P-40 Tomahawk #40 in Kunming, China on May 23, 1942. [via]



R.T. Smith next to Chuck Older's P-40 Tomahawk #68 in Kunming, China on May 23, 1942. [via]



R.T. Smith in the cockpit of P-40 Tomahawk #40 in Kunming, China on May 23, 1942. [via]



Chuck Older and R.T. Smith after being decorated with the Fifth Class Order of the Cloud and Banner and the Star-Wing Metal in front of a P-40 Tomahawk at Yunnanyi, China. The photograph was taken on June 6, 1942. [via]



The photograph of the Third Pursuit Squadron — Hell's Angels of the American Volunteer Group was probably taken from aircraft #47 on May 28, 1942 near the Salween River Gorge on the China-Burma border. The shot of P-40 Tomahawks includes #68 flown by Arvid Olson, #46 flown by Bob Prescott, and #24 flown by Ken Jernstedt. [via]



The photograph P-40 Tomahawk #47 flown by R.T. Smith of the Third Pursuit Squadron — Hell's Angels — of the American Volunteer Group was probably taken on May 28, 1942 near the Salween River Gorge on the China-Burma border. [via]



AVG Third Squadron P-40 Tomahawks #75, #96, #47, #22 and #35 parked at Kunming in May 1942. [via]