



April 2016

APA NEWSLETTER

President's Report

Tommy Thomason, APA President 2

Executive Director's Report

Jim Timm, APA Executive Director 3-5

Backcountry Update

Mark Spencer, APA Vice President 6-7

AZ Aviation Accident Summary

Jim Timm, APA Executive Director 8-9

GAJSC Topic of the Month

Aircraft Performance and Limitations 11

Durango Getaway Report

Brad Lawrence 12

Pilots Win Lawsuit Against Glendale

Richard Goldman 14

— SHORT FINAL —

GAARMS Report - TAA and Risk Mitigation

Fred Gibbs 15-18

The Next Gen of Airman Certification Standards

Howard Deevers 19-20

Upcoming Event Flyers

..... 21-23

APA Website & Newsletter Contributors

Stefanie Spencer, Webmaster 24-25

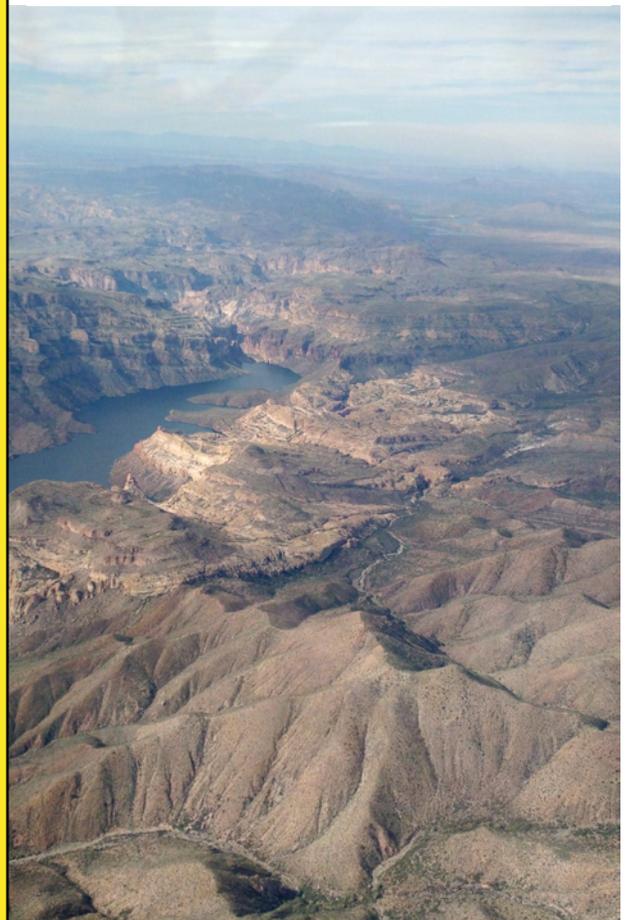
In this issue:

Backcountry Update

Durango Getaway

TAA & Risk Mitigation

**Next Gen Airman
Certification Standards**



President's Report

Aviators and Aviation Enthusiasts,

Welcome to the April 2016 issue of the Arizona Pilots Association monthly newsletter. It's hard to believe how many great flying events, weather, and friends we have been able to enjoy this past month with more to come. Our monthly fly-in event to Grapevine was so much fun with a few new aviators and enthusiasts present to enjoy Paul and Charlie's delicious lunch of spaghetti and meatballs. Fred Gibbs' annual GAARMS was another very helpful and informative event. Although not attended as much as it could have been, due mostly to location, the FAA wants Fred to continue with the GAARMS program as they believe it has made a very positive impact on reducing aviation accidents in Arizona. The FAAS-Team once again conducted a number of safety seminars. For those of you that use or transit the various practice areas around the Phoenix area, visit www.aftw.org to become familiar with the frequencies, reporting points, recommended procedures, etc. Don't forget to check the APA calendar frequently for upcoming aviation related events. Also, if you know of any aviation events that we don't have on the calendar, drop a line to our [webmaster](#).



Have Fun, Fly Safe,

Tommy

Hangars for Sale

SkyRanch at Carefree — www.skyranchcarefree.com

480 488-3571 — [Click here for a PDF list...](#)

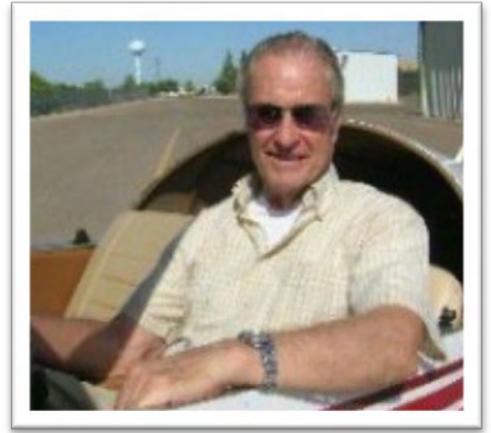
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Executive Director's Report

Jim Timm — April 2016

I hope all of you are out enjoying the great flying weather we have been having as much as I have. It's obvious that spring must be here, because I can't believe the amount of bugs I've been picking up flying. It appears that I've either been spending too much time flying at low altitudes, or this spring's bugs are turbocharged so they can now fly higher! In any case, fly safe and make sure it's only bugs that you're hitting!



In past articles, we've discussed concerns over the potentially significant proliferation of UAV's, both hobby and commercial, and the potential risk of a mid-air collision with one of them. There are obviously many of them out there, and they are not all flying by the rules by staying under 400 feet and away from airports. In a recent airspace users meeting, almost all of the control towers in the Phoenix metro area reported experiencing the intrusion of drones, or UAV's, into their Class Delta Airspace. I read a comment about an A380 landing at LAX having a very close encounter at 5000 feet near the airport. So our area is not unique, and they are out there. What's the probability that we may hit one? I've recently seen a couple of articles that have attempted to put the UAV collision concern into perspective when also considering the potential of a collision with a bird. According to a recent report from the Mercator Center of George Mason University in Fairfax, Virginia, they propose that compared to the enormous population of birds, damaging bird strikes are rare with the most serious incidents resulting from large birds in flocks. The Mercator Center analysis has been based on actual bird strikes, not near misses or simple sightings. They point out that there have not been any recorded UAV collisions with aircraft, and they question the number of drone near-misses provided by the FAA, noting that "the FAA had been counting simple sightings as near misses." Their conclusion was that since the addition of UAV's to the airspace is similar in many respects to an increase in the bird population, and because UAV's spend far less time in the air than birds, they concluded that the risk of a collision with a small drone flying in solitary formation is minimal. I hope this proves to be a valid conclusion.

MISCELLANEOUS ITEMS

Be aware, many airports in the Phoenix area are reporting that they have had occasional sightings of UAV's operating in their airspace. Please keep an eye out for them when flying at reduced altitudes anywhere in the Phoenix area.



INFORMATION CORRECTION: In the last newsletter it was reported that the FAA was considering the discontinuation of several ILS instrument approaches around the country and here in Arizona, but it contained errors. The correction is that the FAA was considering the removal of *Instrument Approach Procedures (IAPs)* that were underused and/or being replaced by RNAV procedures. The only IAPs proposed for removal were NDB and VOR approaches. In Arizona there were four locations that IAP's were considered for removal and they were Bisbee Douglas Intl (DUG) VOR RWY 17, Nogales INTL (OLS) VOR or GPS-A, Casa Grande Muni (CGZ) VOR

RWY 05, and Grand Canyon Nat'l Park (GCN) VOR RWY 03. Only the Nogales IAP was removed from service, effective 12/10/15. The IAPs at the other three locations will remain in service; however, they will again be reevaluated at a future date.

If you have not yet received it, you should be getting one soon, the FAA Annual General Aviation and Part 135 Activity Survey for calendar year 2015. They need our help in obtaining accurate information on general aviation activity and safety for the past year. This annual GA Survey is the FAA's primary source of information on the general aviation fleet, the number of hours flown, and the ways people use general aviation aircraft. The data gathered helps determine funding for infrastructure and service needs, assesses the impact of regulatory changes, and measures aviation safety. The GA Survey is also used to prepare safety statistics and calculate the rate of accidents among general aviation aircraft.

Be aware, there is still a significant amount of airport construction activity still going on in the Phoenix and Tucson areas, and around the state. Be sure to check for NOTAMs before taking off for another airport so you don't encounter a nasty surprise when you get there.

The April reporting period was not bad, but it certainly could have been better. Fortunately there were only three accidents reported. One was devoid of any detailed accident information, and of the other two, one had a serious injury and the other did not involve any injuries. I only hope we can continue the year with a minimum of injury accidents and certainly no more fatal ones. Everyone out there, watch what is happening, and please fly carefully. See my April accident summary for details.



Looking for a backcountry airplane? *Then this plane is for you!*

For Sale - 1974 Helio Super Courier HT-295 STOL. One of 19 factory built tri-gear Helios. Recent annual, all ADs, overhauled prop., 3560 TT, 2010 SMOH, (2) top o/h since last M/O. S-TEC 50 Autopilot, Garmin GNS-530W. Based at KSDL. \$185,000, Includes demo flight.

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APA is still working with various airports around the state, providing the pilot and aircraft owner perspective in the process of updating their Airport Master Plans. An update of the Sedona Airport (SED), Deer Valley Airport (DVT), and Grand Canyon Airport (GCN) master plans are currently in process.

THINGS TO DO - PLACES TO GO FOR BREAKFAST:

- The first Saturday of the month fly in breakfast is at Coolidge Municipal Airport (P08).
- The second Saturday of the month, Ryan Field (RYN) fly in buffet breakfast should have restarted. However, breakfast is available at the restaurant next door.
- The Falcon Field EAA Warbirds Squadron fly in breakfast and car show is on the third Saturday.
- The third Saturday of the month there is a fly in breakfast at Benson (E95) at Southwest Aviation. (There are special fuel prices for breakfast attendees.)
- Also on the third Saturday, around noon, a donation lunch is served by the APA at the USFS Grapevine Airstrip next to Roosevelt Lake.
- The last Saturday of the month there is a fly in breakfast at Casa Grande Municipal Airport (CGZ). The Airport's restaurant, Foxtrot Cafe, operating in the Terminal Building, is open 6:30am to 2:00pm Monday thru Saturday. On the last Saturday of the month they have a "Fly in Breakfast Special" available on the menu; the price for adults is \$7 and kids \$5.

Jim





Backcountry Updates

By Mark Spencer

Spring has brought some pretty good flying weather for us this year, and with it some great backcountry flying and events. This weekend's fly in camp at **Pleasant Valley (24AZ)** just north of the beautiful and historic community of Young, went off without a hitch. Just after the first two aircraft arrivals, a light rain fell on the area, helping to keep dust down for the entire weekend. Our friends from Young, Chuck Freegard and Barry Dille, provided their usual friendly smiles along with Barry's port-a-john. Chuck once again graciously left his extended cab pickup for us to use, allowing us to visit the incredible Antler's Restaurant twice this weekend, where our appetites were easily quenched by Scott's incredible cooking. We



Young Locals and pilots hang out at the new shade area at 24AZ



Our newest members enjoy their first backcountry fly in camp at Pleasant Valley, Young (24AZ), Scott Harrison & Vandy Ford

had a small group staying over both nights, and our big Saturday lunch was all you could eat sausage or hamburgers, all cooked up by our new friend Scott Tabor from Globe. Scott was also part of Carl Guilliams' crew that transported and installed the new shades at PV for us. Barry & Carolyn Dille returned with Barry's guitar and entertained us late into the night around the campfire.

Tuweep is always one of the first airstrips brought up at our backcountry events, and I've been invited to sit down

with the State Land Commissioner and her top staff once again later in April. The intent is to work out an approach to re-opening this little gem. This may be our last shot at re-opening Tuweep through the political process, and we are truly hopeful that Governor Ducey will keep his commitment made to us to support equal and open access to state trust lands. Our only request is that the aviation community be given the same privilege of access under the current recreational permit system as other recreators, no more, no less. We know that the state land department will find, just as the USFS and BLM



have, that we are among the most responsible and safest users and partners they'll work with.

There are two more months to enjoy the 3rd Saturday (actually starting Friday) at **Grapevine** before our summer shut down, so check your calendar and meet us out there at what has become one of our most popular airstrips. It's truly hard to describe the beauty of Grapevine, especially if you've never enjoyed a sunset or sunrise there. Check our [calendar](#), print your [safety brief](#), and join us this month! With Brad and Kit hosting, you can be assured an incredible BBQ lunch on Saturday, and if you are camping, it's potluck on Saturday night.



Rounding out April will be our spring fly-in to the old [Double Circle Ranch](#). This airstrip is now officially Z66, and you won't want to miss the fireplace in the old lodge and stories of the old west with your friends, fellow pilots, and locals. I'll be sharing the story of Geronimo's massacre at the ranch on Saturday night, from an eye witness account record taken down in 1929 from a San Carlos Apache, John Rope.

As always, watch our [Facebook](#) page for last minute scheduling changes due to bad or questionable weather, or email me [mspencer@azpilots.org](mailto:m Spencer@azpilots.org).



Mark

Finish Your Instrument Rating!

Are you one of the many pilots who started instrument training, only to quit out of frustration with the quality or pace of your training?

I will design a **personalized** program for you to **minimize the time and cost to finish your rating** and **insure you get the training you need!** I specialize in instrument training (I have given over 2500 hours of instrument flight instruction) and have helped many pilots complete their instrument rating.

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- Columbia Factory Flight Instructor, Avidyne & Garmin 1000
- Author of the book *Glass Cockpit Flying*
- FAA Master WINGS Holder
- Advanced and Instrument Ground Instructor

Bob Littlefield, Gold Seal CFI, CFII, MEI

602-228-9145 • bob@flightskills.com • www.flightskills.com

April Aviation Accident Summary

by Jim Timm

The following are the NTSB reports of the aviation accidents that occurred in Arizona from late February thru late March, 2016. We will use this detailed accident information in the coming year to develop safety programs and briefings that will help pilots learn from the mistakes being made by others and hopefully take the action necessary to prevent similar accidents from happening to them.

From a flight safety standpoint, this reporting period, while not too bad, could have been better. Fortunately, only three accidents had been reported. One was devoid of any detailed accident information, and the other two had detailed preliminary reports issued. In those reports, one accident incurred a single serious injury, and the other accident did not involve injuries. An accident that had occurred last January 23rd has finally had a findings report issued, and it is included in this summary.

I hope a low accident and serious injury rate can continue for 2016, and I also hope we have met our quota for fatal accidents for 2016. Please fly carefully out there! Based on information available when this summary was prepared, the three accidents in this period are as follows:

(Accident previously reported sans information)

Accident Date: **Saturday, January 23, 2016**

Report Dated 3/22/16

Title 14 CFR Part 91

Location: Prescott

Aircraft Type: Cessna TR182

Injuries: 2 Uninjured

GEAR UP LANDING

The pilot reported that he became distracted while looking for other traffic during the final approach, and "failed to lower the gear." The airplane skidded about 330 feet to a stop on the runway. The pilot reported that the landing gear configuration warning horn did not sound, but also reported that he was aware that the horn was inoperative. The fuselage sustained substantial damage. The pilot reported there were no other mechanical malfunctions or failures with the airplane that would have precluded normal operation.

Accident Date: **Wednesday, March 2, 2016**

Report Dated 3/3/16

Title 14 CFR Part 91

Location: Fountain Hills

Aircraft Type: Piper PA22-150 (Apparently modified to PA20-150 configuration)

Injuries: 2 Uninjured

POWER LOSS INFLIGHT

On March 2, 2016, about 1600 MST, a Piper PA-22-150 airplane executed a precautionary landing onto a sandy wash following a partial loss of engine power near Fountain Hills, Arizona. The private pilot and passenger were not injured; however, the airplane sustained substantial damage to the wings. The local personal flight originated from Phoenix-Mesa Gateway Airport (IWA), Phoenix, Arizona.

The pilot reported that they were flying low, about 700 feet above the ground, taking pictures of the river when the airplane's engine started to sputter. The pilot added full power and ensured that the mixture and carburetor heat were full forward. Unable to regain full power, he landed the airplane on a sandy wash. During the landing roll, the airplane sunk into the sand and the right wing impacted vegetation. The airplane nosed over and came to rest with its back against a berm.

Visual meteorological conditions prevailed at the

time of the accident, and no flight plan was filed.

Accident Date: **Saturday, March 5, 2016**

Report Dated 3/18/16

Title 14 CFR Part 103: Ultralight

Location: Queen Creek

Aircraft Type: North Wing Apache

Injuries: 1 Serious

FORCED LANDING DAMAGE

On March 5, 2016, about 1346 MST, an experimental, North Wing Apache, weight-shift-control (WSC) trike, collided with terrain following takeoff from a field, southeast of Queen Creek. The trike was previously registered to a private individual and was operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 103. The pilot sustained serious injuries and was the sole person on board. During the accident sequence, the trike sustained substantial damage.

According to local law enforcement officials, the pilot reported hearing a "snapping" sound about 200 feet, above ground level, and performed an emergency landing in a field. Subsequently, the trike sustained substantial damage to the wings during the landing.

Visual meteorological conditions prevailed and no flight plan was filed. The local personal flight departed at an undetermined time.

Accident Date: **Sunday, March 13, 2016**

Title 14 CFR Part 91

Location: Chandler

Aircraft Type: Cessna 140

NO NTSB INFORMATION AVAILABLE



We just completed a major upgrade, which now makes the app available on ALL devices, including the web. Please upgrade your app to the latest version. If your phone does not support the app, then go to our new website, www.airportcourtesycars.com

The site is mobile friendly and you can place its icon to your phone or tablet screen. Both versions show Google maps for each state, the app version still shows the entire US map which some people prefer. The site currently lists over 1560 cars.

Thanks for your input and contact us with any questions, new listings, or corrections to airportcars101@gmail.com And please check out our advertisers and FBO's who offer you fuel discounts.

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Glenn

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Tanya



GAJSC



General Aviation Joint Steering Committee

[Aircraft Performance and Limitations](#)

This outreach guidance is provided to all FAA and aviation industry groups that are participating in outreach efforts sponsored by the General Aviation Joint Steering Committee (GAJSC). It is important that all outreach on a given topic is coordinated and is free of conflicts. Therefore, all outreach products should be in alignment with the outline and concepts listed below for this topic.

Outreach Month: April 2016

Topic: Aircraft Performance and Limitations

The FAA and industry will conduct a public education campaign emphasizing best practices in calculating and predicting aircraft performance and in operating within established aircraft limitations..

Background: Investigations of General Aviation Loss of Control Accidents often cite inadequacies in predicting aircraft performance and flight operations conducted outside of established aircraft limitations. The GAJSC feels a substantial reduction in general aviation fatal accidents would result from better prediction of aircraft performance and adherence to aircraft operating limitations.

Teaching Points:

- Discuss the importance of aircraft performance calculations.
- Show pilots how they can assess their individual performance capabilities.
- Offer suggestions for increased safety in takeoff and landing operations.
- Encourage pilots to explore pilot and aircraft performance with their CFIs.
- Provide high level information on where aircraft limitations come from.
- Encourage operations within established aircraft limitations.

References:

[General Aviation Power Point Presentation](#)

[Aircraft Weight and Balance Handbook \(FAA-H-8083-1A\) – Chapter Six](#)

[Pilot's Handbook of Aeronautical Knowledge \(FAA-H-8083-25A\) – Chapter Eight](#)

[Alaska Off-airport OPS Guide](#)

DOWNLOADS:

[PowerPoint Presentation Slides...](#)

Getaway Flight to Durango, CO—May 28



Silverton Durango Mining Train

Your unforgettable experience begins long before you arrive at *Soaring*. Your Durango zip line trip starts with a first class train ride through breathtaking mountain scenery to our remote, Alpine location, including traveling through remote mountain terrain untouched by the public. You'll even traverse through the canyon along a 200' drop to the Animas River below. It is so spectacular that this view has been featured in numerous films, including "Butch Cassidy and the Sundance Kid." When you arrive at our resort to begin your thrilling day full of zip lining, our friendly Sky Ranger guides will help you with your gear and assist you while zip lining throughout the day. We will serve a gourmet lunch and snacks during your five and a half hours of *Soaring*. For your full day zip line adventure, lunch and snacks as well as all of the equipment, guides and train ride are all included in the price.

www.soaringcolorado.com



Something different for this APA Getaway Flight. A venue that is indisputably awesome in the mountains of Colorado. This zip line excursion is for all ages. No running, flying or any athletic ability required.

We fly into Durango-La Plata County Airport (KDRO) Saturday morning May 28, pick up a rental car, and drive to the train station for the ride from Durango to *Soaring - Tree Top Adventures*. We'll spend 5 hours on the zip line park which includes a short ground school, gourmet lunch, and tons of fun. At the end of the day, we take the train back to Durango where we drive to our hotel and have a group dinner. Sunday morning you're free to check out Durango and plan your return flight accordingly. [Perry Null](#), APA Member in Gallup, NM, is coordinating the trip. Call Perry to get information on the Zip Line excursion, rental car and hotel. He has negotiated extremely low rates on everything. Perry's mobile is 505-722-3806.



Zip Lining over the Animas River



Trip Coordinator - Perry Null 505-722-3806 He has negotiated rates for the zip line excursion, the rental car and the hotel in Durango. perrydnull@gmail.com

AIRPARK NAME / CONTACT	CITY	Homes / sites	REALTOR
Big Springs Airpark Mgr: Peter Hartman (928) 626-7207	Prescott	12	
Castle Wells Mgr: Gerald DaFoe (810) 516-9122	Morristown	5/10	Pat Mindrup - WEST USA Realty 928-671-1597 pat@wickenburgpat.com
Eagle Roost Airpark Mgr: John Greissing (928) 685-3433	Aguila	85 / 115 (5 acre lots)	Pat Mindrup - WEST USA Realty 928-671-1597 pat@wickenburgpat.com
Flying Diamond Airpark Mgr: Lou Cook (520) 399-3879	Tucson	20/97	
Flying J Ranch Mgr: Howard Jenkins (928) 485-9201	Pima	2/ 28	
Hangar Haciendas Mgr: Scott Johnson (602) 320-2382	Laveen	39 lots w/sep taxi ways	Kevin Baker - Realty ONE Group 480-432-9800 azaviationproperties.com
High Mesa Air Park Mgr: Phil DiBartola 928-428-6811	Safford	/19 (2.5 acre lots)	
Inde Motorsports Ranch Airport Mgr: John Mabry (520) 384-0796	Wilcox	4/9 (1 acre lots) on 100 acres w/race track	
Indian Hills Airpark Mgr: Gerry Breeyear (928) 916-0608	Salome	75	
La Cholla Airpark Mgr: Larry Newman (520) 297-8096	Oro Valley	122	
Mogollon Airpark Admin: Cheri Thomas (928) 535-3071	Overgaard	60	
Montezuma Heights Airpark Mgr: Glen Tenniswood (928) 274-1233	Camp Verde	43/44	
Moreton Airpark Mgr: Daniel Kropp (602) 315-0323	Wickenburg	2	Pat Mindrup - WEST USA Realty 928-671-1597 pat@wickenburgpat.com
Pegasus Airpark Mgr: Jack @ 1st Svc Res (480) 987-9348	Queen Creek	15/40	Kevin Baker - Realty ONE Group 480-432-9800 azaviationproperties.com
Pilot's Rest Airpark Resident: Dave Mansker 818-237-0008	Paulden	4/25	
Ruby Star Airpark Mgr: Wendy Magras (520) 477-1534	Green Valley	13 / 74	
Valley of the Eagle (Sampley's) Airpark Mgr: Jerry Witsken (928) 685-4859	Aguila	30	Pat Mindrup - WEST USA Realty 928-671-1597 pat@wickenburgpat.com
Skyranch at Carefree Mgr: Tommy Thomason (602) 708-2040	Carefree	20	Kevin Baker - Realty ONE Group 480-432-9800 azaviationproperties.com
Stellar Air Park Mgr: SRUA, Inc. (480) 295-2683	Chandler	95/105	Kevin Baker - Realty ONE Group 480-432-9800 azaviationproperties.com
Sun Valley Airpark Mgr: Jim Lambert (928) 768-5096	Fort Mohave	55/107	
Thunder Ridge Airpark John Anderson janderson72j@gmail.com	Morristown	9/14 (on 160 acres)	Pat Mindrup - WEST USA Realty 928-671-1597 pat@wickenburgpat.com
Triangle Airpark Mgr: Walt Stout (702) 202-9851	White Hills	115 acres	
Twin Hawks Mgr: Tim Blowers (520) 349-7677	Marana	2/40 (4 acre lots) on 155 acres	
Western Sky Mgr: Mr. Hauer (877) 285-0662	Salome	all 200 acres for sale	Pat Mindrup - WEST USA Realty 928-671-1597 pat@wickenburgpat.com
Whetstone Airpark Mgr: Brian Ulmer (520) 456-0483	Whetstone	5 / 12	

Pilots Win Lawsuit Against City of Glendale Arizona

March 28, 2016 - After a four and a half (4 1/2) year dispute with the City of Glendale Arizona, the Glendale Airport Pilots Association (GAPA) has won a Motion for Summary Judgment against the city, stopping the city's attempts to dictate the usage of privately owned hangar spaces on the airport. According to Richard Goldman, President of GAPA, it has been the city's view that they can change the lease agreement at any time they wish by revising the airport Rules and Regulations, not to mention the city's attempts to use the FAA grant assurance program as leverage for their attempts to enforce restrictions on hangar uses. Goldman further states, "We won the Motion for Summary Judgment where the city acquiesced and thus abandoned the right to enforce rules that were actually in place, but never enforced for over a decade. We won the judgment, but there are many more issues still out there unsettled. We are not through with them yet."

In April of 2014, approximately 20 pilots and hangar owners filed a lawsuit in the name of Glendale Airport Pilots Association (GAPA) against the City of Glendale alleging, among other things, breach of contract, broken promises, loss of property values, and state and federal constitutional issues. The suit was filed in Maricopa County Superior Court. Early on the FAA, through Mr. Kevin Willis in Washington DC and Mr. Tony Garcia in Los Angeles, attempted to support the city in their efforts to dictate hangar usage by assuming authority they did not have. When the lawsuit was filed, the FAA scattered for the high weeds. Due to the FAA and the city administration, the airport has been damaged both in property values and airport activities, and will probably take several years to fully recover.

Will GAPA continue to exist now that the lawsuit appears to be over? Goldman replied, "GAPA is a non-profit organization on the airport created to defend all pilots and hangar owners from government intrusion, and yes, GAPA will remain active as long as it is needed."



Short Final

The following articles contain content that is not necessarily the opinion of the APA.

GAARMS Report: April 2016

By Fred Gibbs

Those of us who fly the new glass-cockpit **Technically Advanced Aircraft (TAA)** need to read the following:

Technically advanced aircraft (TAA)—those with a primary flight display (PFD), multi-function display (MFD), and GPS—are sexy. Pilots are drawn to them like Pooh Bear to honey. Besides being eye-catching, TAA attempt to address some of the biggest problems in aviation by providing pilots with a lot of supplementary safety information. Moving maps designed to improve situational awareness make it almost impossible to get lost. Databases store more information at the touch of a button than a thirty pound chart case. We can display more weather information in the cockpit than was even available 30 years ago. Combine all that with an autopilot that provides time to gather and interpret, you would think we'd be a lot safer.



Well, according to the NTSB, we're not! Here is what the NTSB has to say on this subject:

Pilots of TAA kill themselves more often than steam gauge aviators — **almost twice the rate**. Technology advances address many of the leading causes of GA fatalities: loss of control, controlled flight into terrain, fuel problems, midair collisions and weather. So, where's that improved safety? Even more perplexing is that pilots flying TAA have higher ratings and more experience. A majority are instrument rated. Could our training be at fault? We must recognize that advanced avionics are conceptually more complicated and require more time to learn and remain proficient. Focusing training on areas of automation that are prone to surprise will limit how often we are, well, surprised. Plus, we can't let the vivid displays trick us into making bad decisions the way adult beverages did on our twenty-first birthday.

COGNITIVE CONCEPT



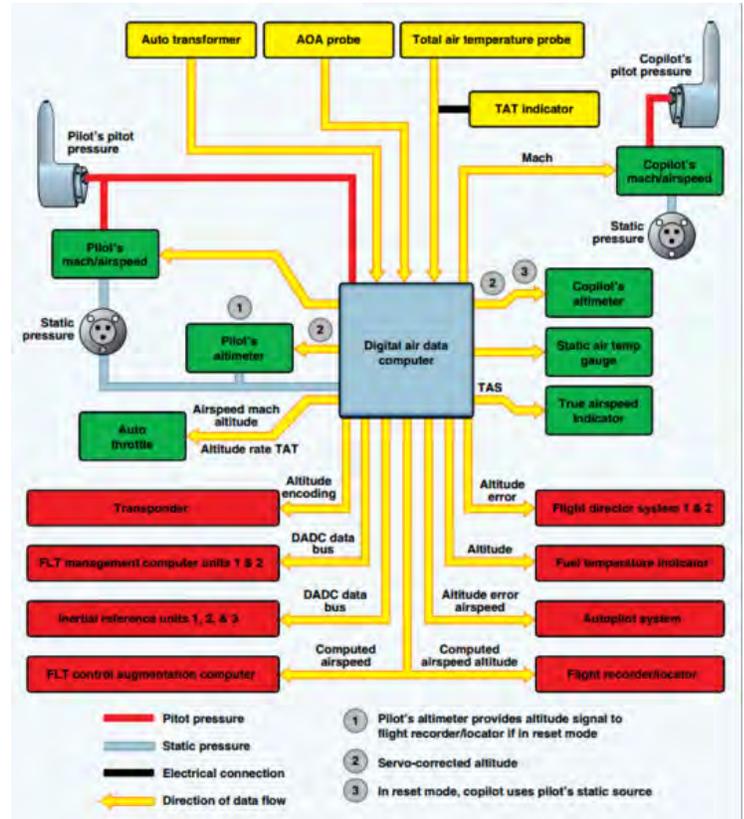
To understand how and why we err during instrument flight, we need to briefly journey into the dark recesses of the mind. Our reality is simply the brain's model of what is taken in through our senses. Humans experience a relatively narrow portion of the world. Your dog smells and hears many times better than you. Nonetheless, our sensory input provides enough information to create a functional mental model of the world.

Ever get burned touching a hot pan? This is an aberration in our mental model caused by an inability to sense the heat of the pan before touching it. After a few blistered fingers, we learn to (usually) check if the pan is hot. Learning and experience improve our

mental model. A key aspect of mental modeling is that the model will always be imperfect. But we can improve that model over time, and even approach real accuracy. Hazardous IMC hijinks are

caused by inaccuracies in our mental models. Air France 447, an Airbus A330, with all of its technology, stalled from 39,000 feet, smashing into the Atlantic at over 10,000 feet per minute. If the pilots of the flight were put in a simulator and told to do a stall, they'd likely recover easily. The key to understanding the crash is realizing they never attempted to recover from a stall because they never recognized it. It was not a possibility based on their mental models. (Actually, they may have come to the correct conclusion too late to change the outcome.)

Instrument training includes recovering from unusual attitudes. These drills are a breeze because pilots are prepared for them. Yet pilots fail to recover from graveyard spirals/spins in flight due to misunderstanding the difference between their mental model and reality. Here is one pilots' story - *After over correcting the localizer position, I noticed my airspeed was high and my artificial horizon showed excessive bank. I heard my marker beacon three times through the struggle. The controller asked if any CFIs were on the frequency. One was... Afterwards, I talked to the CFI who explained the graveyard spiral. I thought unusual attitude recovery was easy—it was when I practiced it under the hood.*



This type of report is not uncommon with pilots who survive graveyard spins/spirals. Good resource management includes bringing more people into the loop when necessary to help identify mental failures.

Situational awareness is a broader mental model of reality. In addition to developing situational awareness, instrument pilots must also model instrument, navigation, and communication equipment. Steam gauge instruments are fairly easy to diagram and understand. We can draw a functional diagram of an airspeed indicator that describes the operation well enough to understand its errors. It is simply impossible to do the same for an Air Data Computer (ADC) or Attitude Heading Reference System (AHRS).



An tube,

is not true with airspeed on a PFD. Red X's appear on the airspeed tape when the ADC recognizes a failure. You'll notice EFIS failures quicker, but there's no residual useful information to be had. How a system fails provides information on why. Without an understanding of what gener-

Even FAA publications have trouble describing them in much detail. Instrumentation in TAA incorporates a fundamental shift in understanding. Applying basic physics to mechanical constructs gives us a functional understanding. The same is not true with advanced avionics. Knowing pressure transducers, accelerometers and chips comprise black boxes doesn't provide a clue about how they operate. Instead, the functions of the black boxes are hidden with cryptic lines of software.

A steam gauge generally works predictably through most failures. An airspeed indicator fails by not indicating correctly. Block the pitot and the airspeed remains constant until you change altitude. The same with airspeed on a PFD. Red X's appear on the airspeed tape when the ADC recognizes a failure. You'll notice EFIS failures quicker, but there's no residual useful information to be had. How a system fails provides information on why. Without an understanding of what gener-

ates a failure, a pilot can only guess about the source. The NTSB reported an incident where a pitot tube became blocked in flight. The system interpreted the loss of ram air pressure as an ADC failure. The airspeed, altitude, and vertical speed tapes were replaced with red X's. Troubleshooting a single round-gauge airspeed failure versus a complete ADC failure is quite different. If the airspeed indicator just stopped working like a traditional plane, the pilot may have thought about turning on pitot heat.



The NTSB asked the pilot in the above report about his use of the installed traditional standby instruments. The pilot stated that the event happened so quickly that he did not initially look at the backup airspeed indicator, but when he did, it was at zero. The pilot also stated that he did not look at either the backup altimeter or backup attitude indicator. This pilot panicked—which is a normal response to suddenly realizing your mental model is wrong—and it resulted in him using the airframe parachute. Switching from traditional to advanced flight instruments takes a physical system and makes it abstract.

Navigation has always been an abstract task to some extent. The complexity increases in TAA. The black boxes that comprise the system aren't just actual, but theoretical. People whose job it is to think about this stuff consider a "black box" to be any machine where the user can only see the inputs and outputs but not the process. A calculator is a black box; two plus two is input and four is displayed without requiring the user to have any understanding of the electronic processes inside. Indeed, the user need not have any knowledge of basic arithmetic either. Advanced avionics are largely black boxes. Differences between mental and actual modeling of avionics modes is called automation confusion, or automation surprise. Since mental models are never perfect, automation surprises are inevitable. Training can help minimize the potential for automation confusion and create better mental models.

TRAINING

The FAA recognized TAA challenges and developed the FAA-Industry Training Standards (FITS) in 2003 to create scenario based training (SBT) that is now common. SBT aims to eliminate the gap between practice and performance through experience. Entering a graveyard spiral during training is better practice than recovering from an unusual attitude. These experiences expand a person's mental model before getting a burned hand, but FITS failed to address the advanced technology of TAA.



THE GOLD STANDARD FOR AVIATION SINCE 1935

Did you know that there is an organization that dictates practically everything about the avionics in our aircraft? The Radio Technical Commission for Aeronautics (RTCA) was founded in 1935 and provides the foundation for virtually every modern technical advance in aviation. The organization is comprised of the FAA and industry and creates all the avionics design standards. Understanding the standards would take some of

the black out of the boxes. Just like the FARs are the foundation upon which pilots operate, the RTCA standards are the underpinnings of black box design. To learn about the minimum performance standards for AHARS, you can check out DO-334, but it'll cost you \$150 and require fluency in engineer-speak, which isn't realistic for most of us.

They found that surprise is often caused by indirect mode changes, multiple functions for the same button, and poor feedback on what the automation is doing. An example of an indirect mode change is an HSI that changes from GPS to LOC data automatically. This is also an example of poor feedback because the change occurs without any warning. When flying with the autopilot, this can lead to some real surprises as the autopilot tries to adjust to the new input and error signals. Autopilots are also a source of problems from one button performing multiple functions, where that one button

might cycle through multiple modes with successive pushes. These are just a couple of examples of areas that cause automation surprise. Identifying, experiencing, and training for them will prevent some unpleasant automation curveballs.

It is impossible to identify all of the dark corners in automation, partially because these areas are defined by the pilot's current mental model. Pilots need a game plan for when automation doesn't behave. Instead of trying to figure out why — and it is easy to get sucked in to that mindset — give the automation a “*time out*” and physically take control of your airplane. Remember: *aviate, navigate, communicate, then automate*, (...or something like that).

RISK COMPENSATION

Let's do a little thought experiment. How would you drive without wearing a seatbelt? It probably seems stupid, dangerous and risky. Hopefully, you would likely drive more cautiously to offset some of the increased risk. While this experiment involves taking away a safety device, the opposite is also true. When safety devices are added, people take more risks, thus offsetting some of the safety gains. Human factor geeks call this risk compensation. These same geeks realize that safety is always balanced against productivity. In our case, productivity is utility. Tech improvements result in increased utility. It is important to realize that these improvements can either result in greater use at the same level of safety or the original utility with an increased level of safety. TAA are sold as having greater utility than traditional airplanes. Questioning whether you would make a trip using an old six pack clarifies how you use technology.



A study by NASA found that GA pilots preferred TAA because the pilots *perceived* that the TAA would reduce the workload and improve situational awareness, which would lead to increased safety. The pitfalls of advanced avionics were acknowledged, but mostly as applying to “*the other guy*.” Our perceptions are wrong.

Like Pablo Escobar's girlfriend, TAA are sexy - and dangerous. The fatal crash rate of TAA is almost twice that of aircraft with steam gauges, but it doesn't have to be. Advanced avionics add complexity and require more time to maintain proficiency. Paying attention to inadvertent mode changes, multiple functions for a button, and areas of low feedback can

identify areas prone for automation surprise. Plan for automation misbehavior and have a strategy ready so you don't get sucked into the “What's going on here?” and forget to fly! Finally, a self-assessment can identify risk compensation. TAA are sexy mistresses, full of lies and mysteries that require proper precautions and understanding for a successful relationship.

SAFETY PROGRAMS: Should you desire a safety or educational program at your local airport, simply contact me directly at fredgibbs@npgcable.com, or call me at 410-206-3753. The Arizona Pilots Association provides the safety programs at no charge. We can also help you organize a program of your choice, and we can recommend programs that your pilot community might really like.

“

Aviate

Navigate

Communicate

then Automate

”

Fred



The “Next Gen” of Airman Certification Standards

By Howard Deevers

We started into the “Next Generation” of Air Traffic Control over 8 years ago, although the mandate for the ADS-B (out) is not required until after January 1, 2020.

Now, it looks like the FAA is making changes to **Airman Certification Standards (ACS)**. Up to now, we have trained to the Practical Test Standards (PTS). So, what is changing? This new ACS incorporates and supersedes the previous Practical Test Standards. This new Private Pilot – Airplane ACS is 100 pages long, including the pages marked “page intentionally blank.” I have never quite adjusted to that. Well, there is no way that we want to reprint 100 pages here, but I read all 100 pages, *including* those marked “intentionally blank.” So I am going to attempt to give you a summary of what I learned from this. Flight instructors, please pay attention; this may change the way we instruct new students.

ARIZONA PILOTS ASSOCIATION and other pilot organizations have for decades been giving Aviation Safety Seminars for pilots free of charge. Now, much of what these safety programs have been promoting are incorporated into the ACS. Now, Safety Management is expected to be part of the training, as well as the testing by Pilot Examiners. The four functional components are constructed around the following:

- Safety policy that describes aeronautical knowledge, flight proficiency, and risk management as integrated components of the airman certification system.
- Safety Risk Management processes through which internal and external stakeholders identify and evaluate regulatory changes, safety recommendations, or other factors that require modification of airman testing and training materials.
- Safety Assurance processes to ensure the prompt and appropriate incorporation of changes arising from new regulations and safety recommendations. And:
- Safety Promotion in the form of ongoing engagement with both external stakeholders (e.g. the aviation training industry) and the FAA policy divisions.



If any of that sounds familiar to you, but put into more simple language, it might be because you heard it at the GAARMS seminars put on by Fred Gibbs, or any of the other safety seminars presented by your ARIZONA PILOTS ASSOCIATION at various times through the year. The FAA acknowledges that the many safety training programs have contributed to the development of the ACS.

Here is something interesting that I learned by reading through those 100 pages: It is possible to take the Private Pilot test *and* the Instrument Pilot check ride at the same time. Of course, you are required to have passed the knowledge test for each rating already, and the Oral part of the check ride. Here is what it says about that: “A combined

checkride should be treated as one practical test, requiring only one application and resulting in only one temporary certificate, disapproval notice, or letter of discontinuance, as applicable. Failure of any task will result in a failure of the entire test and application. Therefore, even if the deficient maneuver was instrument related and the performance of all VFR tasks was determined to be satisfactory, the applicant will receive a notice of disapproval.”

After reading that, why would you want to attempt to combine any check rides? The odds are not in your favor. Buy lottery tickets! I know that there are geniuses and a lot of people a lot smarter than I am flying airplanes, but we are talking about the Private Pilot AND Instrument Rating all at one time. These would be people that are relatively new to aviation and not likely to have many hours of actual flight time in any case. Maybe the highly skilled genius category could do this, but I still think the odds are against passing in any case, but it is there.

Under each Task in the ACS, there is a Risk Management section. This is what we have been teaching for a long time, and now it is part of the Certification, or will be when the final rule is made public. Right now, it is draft form, but at least we know what it should look like in the final form soon.

I have not discussed these changes with any Designated Pilot Examiners (DPE) yet, but will do so soon. I expect that most of the Risk Management parts of the ACS will be oral. The examiner will throw out an example of something that could impact the safety of the planned flight, or if that flight could actually be completed. The student pilot will be required to give a reasonable answer to the problem.

Safety minded pilots are thinking about these things all the time. The safety minded pilots also come to the many seminars that are put on by the APA, FAASTeam, AOPA, and others all the time. It is the pilots that don't come to any of these programs that we read about in the paper, after an accident. How do we reach them? [The FAA and NTSB do check to see if a pilot involved in an incident or accident has ever attended a safety program, sadly most of the time the answer is no.](#)

It appears that the many safety programs the APA has presented will be incorporated into the Airman Testing (ACS). Maybe our efforts are paying off. We sure hope so. Is it possible to have zero accidents? Surely not without trying. Be ahead of the game. Come to the next safety seminar, and don't come alone; remember to bring your wingman!



Howard



Don't come to a safety program by yourself, and don't just bring your old buddy who always comes with you, bring someone new, and get your BFF to also bring someone new! We need you to help us expand our audience, to expand our reach, and to expand that ocean of faces.

Statistics show that the folks having accidents are the ones who don't participate in the WINGS or safety programs, so help us reach out to those folks and pull them in.

We never complain when a program runs out of chairs!!!

4TH Annual Round Valley Aviation Expo

April 30TH 7AM - 2PM
Springerville Municipal Airport

Free Flights

for children ages 6 - 17
(a parent must be present at the airport)



Hot Air Balloon Rides!



Pancake Breakfast

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Silent Auction
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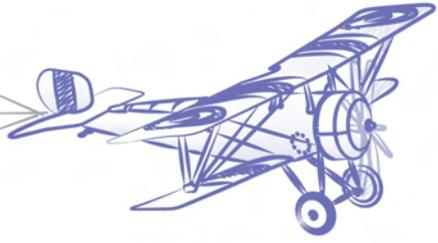


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SkyDive Arizona
Town of Springerville
Round Valley Aero Club
Round Valley Animal Rescue

Phoenix 99s
Ak-Chin Fly-In ~ Campout & Spot Landing Contest



Spot Landing Contest

Saturday - April 9, 2016

8:00 AM: Pilot Check-In & Briefing
Spot Landing Contest to Follow*

**Pre-registration requested ~ fee of \$40 per pilot*

Lunch, trophies and prizes to follow contest

Bring Chairs for viewing event
Raffle and items for sale

Breakfast

Breakfast items available Saturday morning, including breakfast burritos for purchase.

Lunch

Suggested Donation for Lunch
\$15.00 per person, \$10.00 for under 12.

Camp-Out at the Airport!

Dry camping at the airport April 8 - 10, 2016

Bring your own camping equipment/tent/RV/camper

Bring your own food and beverages

Friday and Saturday nights

Evening Entertainment



Sunday - April 10, 2016

Campers depart

★★★**Late Fly-in Arrivals**★★★

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Please RSVP

email - phx99s@gmail.com or call 602-441-0250

Your RSVP will help us know how much food to order

~ Thank You ~

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Driving Directions to the Terminal

For surface access to the Airport Terminal, from Maricopa-Casa Grande Hwy, turn north onto Russell Rd, then turn west onto Bud Rd. Drive to the end of Bud Road, Terminal parking will be on your right (north).

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02-05-2014



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FIFTH ANNUAL FLY DAY EVENT FOR SPECIAL NEEDS KIDS

Goodyear Municipal Airport

April 9, 2016

THE MAIN EVENT

All participating special needs children will experience the fun and excitement of flight in a general aviation aircraft. Kid Pilots who are capable may even be allowed to handle the controls.

MORE FUN FOR THE KIDS

SKY KIDS HAS ARRANGED FOR A FUN DAY ON THE GROUND TOO

- Face Painters
- Goodyear Police K9 Unit and "Big Bear Cat" SWAT Vehicle
- Clowns
- A fun BBQ lunch
- Some interesting aircraft displays
- A Goodyear Fire Engine
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And more fun in the making...

For more information visit <http://www.SkyKidsAZ.org>

or

Email: Info@SkyKidsAZ.org

Sky Kids, Inc. is an Arizona 501c(3) Public Charity
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APA Website

Please visit our website for the latest information.

www.azpilots.org A great resource for APA's work in the state, archived newsletters, current events, APA's continuous work with legislators, a calendar of activities, and more.

APA is a completely voluntary organization. It survives on membership dues and sponsor revenue. One of the highlights of the organization is the Website. Stefanie Spencer manages the complete Website on a continuous basis. Leave email for Stefanie:

Webmaster@AZPilots.org



Stefanie Spencer— Webmaster

Newsletter Contributors

Article Deadline

20th Editor reminds "The Team" to submit articles

25th Authors submit articles and advertisements

Contact the newsletter editor:

Newsletter_Editor@AZPilots.org

For anyone wanting to contribute to this newsletter please submit your writing in an email file along with photos and captions (separate files). The APA would like to publish information about what's happening in your area of Arizona. Subject matter could range from regulatory issues to new places to eat (or old places) to airport management to safety. Of course the APA would like to know about any political activities that could potentially compromise Arizona's pilots or its airports.



New pilots welcomed!



Writers welcomed!



APA Clothing

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Volunteer 501 (c) (3) Organization

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