May 2023 Newsletter

New Mexico Pilots Association

NMPA operates exclusively for charitable, educational, and scientific purposes for promoting general aviation, aviation safety and education, and pilot camaraderie; preserving airfields and airspace; and to engage in any activities permissible for nonprofit corporations, organized under the laws of the state of New Mexico.

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by Lanny Tonning

Living the dream in N 60 BF….

Fly In Fun Is Beginning

Weather finally took a break from the chaotic winter-into-spring wind and snow squall fest just in time for a fine day at Truth or Consequences. TorC, as it is known in NM, was named such when a radio show put out a national call for a town to rename itself after the Truth or Consequences quiz program. Hence Ralph Edwards Day in TorC in honor of the quiz show host.

The TorC airport is north of the town and west of I-25 and Elephant Butte Lake. Great fun to see local kids and their families checking out the State Police helicopter and planes on the ramp as a Yak made a few passes with smoke on…

Upcoming Events

NMPA Members can login and post any aviation events on the Events calendar.
Or send announcements to nmpa@nmpilots.org and we'll post for you!

May 21
The EAA Chapter 691 has invited NMPA members to a flyout to Navajo Lake on May 21.
For planning purposes, please let John George (jsg.lanm@gmail.com) know if you plan to attend, and to participate in the Marina/Lake activities.

June 16-18
Tucumcari (KTCC) Rawhide Days Fly-In
June 16-18, 2023 PLAN TO GO! Get rollin', rollin', rollin' on down to Tucumcari for a great weekend in town. Great food! Pilot activities planned along with this public event. Organized locally.

July 24
EAA AirVenture 2023
Join NMPA at the World's Greatest Aviation Celebration in Oshkosh, WI. NMPA presents annually at this international event, promoting New Mexico flying adventures. Watch for updates!

August 19
Mystic Bluffs Fly In (NM56)
REGISTER NOW! for a Colossal Breakfast Plate and camping weekend! If camping Friday or Saturday night, please contact Perry Null.

Be sure to check the NMPA Website (www.nmpilots.org) for updates to any and all events.
Click on links for more information.

Here is your NMPA

John Lorenz, President

John Lorenz is a 6000 hour CFII, MEII, glider, and sand-lot acrobatic pilot. He has given over 2000 hours of tailwheel instruction. During the day he is a consulting geologist.

Courtesy Cars, Flying Opportunities, and Statistics

As I write, the wind is howling and a stampede of tumbleweeds is racing across the yard. Welcome to springtime in New Mexico.

BC Work Parties: Ron Keller held a couple small work parties at the Sacaton and Me Own airstrips last month (thanks to Randy Roth and Jim Gosney for painting the segmented circle at Sacaton!) Keep the runways up with regular maintenance, and much of the time during "work" party weekends can be spent enjoying camping in some spectacular settings. Not like the initial big pushes to rehabilitate these airstrips, of which New Mexico now boasts eight.

The New Mexico back country work is co-sponsored and co-funded by the US Forest Service, the Recreational Aviation Foundation, and the NM Pilot's Association. There are official written agreements, but basically Ron wears a couple hats and all parties benefit. The work-party volunteers don't care which organization gets credit as long as the result is a scenic aviation destination.

NMAN: The New Mexico Airstrip Network has accomplished much of what it set out to do five or six years ago, when the stated goal was to expand the number of airstrips available for pilots around the state. The initial push was for back country strips, but the mission has grown to embrace more civilized airfields. The organization itself consists of 12 members including such disparate entities as the Aviation Division of the NM DOT, BLM, EAA, AOPA, USFS, and the NM Council of Outfitters and Guides. Check it out at https://www.nmpilots.org/NMAN.

A ramp full of airplanes with the great orange BE-18 wind indicator in the background at KTCS

KTCS Fly-In: The Truth or Consequences EAA chapter hosted a very successful fly-in last month, congratulations guys. Young Eagles rides, hamburgers, and a flight line of varied airplanes including Experimentals, a Yak and a State Police helicopter… what's not to like? The remains of an FSS station still haunt the KTCS field. Until maybe 25-30 years ago you landed and dropped in to get your weather in person from the friendly on-site specialist. There were six or seven such stations at airports scattered strategically around the state. They started to disappear even before the internet came on strong to replace their functionality, falling victim to centralization, cut budgets, and decreasing demand.

Upcoming Flight Opportunities: The NMPA quarterly board meeting will be held for a couple hours starting at 9 AM May 13th in Las Vegas at the FBO. We imposed on board member Rod Billingsley to provide coffee and donuts at the meeting, and transportation into town for lunch afterwards. As always, NMPA members are welcome to attend and participate. Come join us, check out the ruts of the old Santa Fe trail which are visible from the air south and east of the KLVS airport, and maybe visit historic Fort Union 15 nm to the northwest.

Also, the US Pilots Association, nominally our parent organization, is sponsoring a fly-in to Branson, Missouri, May 18-21. Check it out at https://www.facebook.com/USPilotsAssociation.

Later this spring the city of Tucumcari will hold a Fly-In in conjunction with Rawhide Days (June 16-18). This is a new one, sponsored by the local museum, and hopefully it will put aviation back on the map for what has been an aviation-averse town government.

Also, Ramah will be hosting their amazing breakfast fly-in at Mystic Bluffs August 19th. Be there!

Courtesy Cars: One of the big limitations on flying is the difficulty of getting around on the ground at your destination. Uber and Lyft have helped (there's even supposed to be an Uber driver in Cuba if you want to fly to the new airstrip there and catch lunch at Bruno's), but a courtesy car is always welcome. Some airports see such cars as liabilities, but Belen has apparently figured it out, and using a new model involving a small fee, provides a courtesy car to pilots. Thank you John Thompson, Airport Director!

Lies, Damn Lies, and Statistics: Years ago, the US hockey team played and beat the Soviet team. As reported in the Soviet journals, so the story goes, the Soviets "came in second", while the US team finished "next to last". An apocryphal story, but with a ring of truth. Politicians and leaders no longer bother with such subtlety: the fighting in Ukraine isn't a "war," unless maybe you ask the troops who are doing the fighting and dying.

Roughing it a Sacaton: coffee with fixings, hamburger condiments, and evening refreshments

The ghost of the Flight Service Station, with some of the old weather equipment, at KTCS. Wish I could remember the name of the friendly weather specialist who worked there.

Advocacy

by Joyce Woods

Advocacy Committee Member

Joyce Woods was introduced to flying by her husband Art, who grew up around aviation. She got her license in 1994 and is multi-engine and instrument rated. Besides continued service to NMPA, she flies Young Eagles and actively volunteers with the EAA, 99s, NM Airstrip Network, and was named 2016 SW Region FAASTeam Rep of the Year.

Pilot Fun at T or C Spring FLY-IN

Hats off to the relatively new EAA Chapter 1615 at KTCS for what they accomplished, hosting a low key, fun aviator's event. In addition to gaining city support (not a minor undertaking, considering recent unfriendliness), about 30 aircraft flew in from Albuquerque, Edgewood, Las Cruces, Los Lunas, Santa Fe, and Silver City to make for a good show.

Eight EAA volunteer Young Eagle pilots represented 3 of the 8 EAA chapters statewide, providing 50 young people their first flight experience in a small plane. The kids were so excited and especially grateful for the special opportunity. Thanks to Rose Longmire for managing the onsite Young Eagles process!

I had one flight of 3 kids who were beside themselves, repeatedly expressing disbelief that they actually were going flying. After a quick lesson in how an airplane flies and that they had just learned some physics, one of my young passengers suggested to her siblings that they all should write a report on their experience for school. I'd sure love to see that!!! We all had great fun with their aviation enthusiasm.

TorC Fly-In, Continued

This event benefited not only the families that came out, but also raised visibility for pilots statewide of this unique airport and access to all the area has to offer. An NMPA display highlighted our safety, advocacy, and backcountry activities Many locals were unaware of the backcountry flying paradise out their back door (the Gila).

Thanks to the great weather, great burgers, calm winds, and wonderful community of aviation enthusiasts, great memories were created at an airport that really needs our support.


Early members of Los Lunas Chapter 530 stroll the line


State Police

Stay tuned – there will be a Veterans Day car show on KTCS airport grounds, November 11! A good time to visit again!


Family fun!


Calm at the surface


Smoke On!

Backcountry Beat

by Ron Keller

Ron Keller flies a C-182 and has been involved in aviation for the better part of his life. Ron retired from FAA Technical Operations in 2011 and has stayed busy ever since, including working for the New Mexico Aviation Division, and currently serves on the NMPA Board of Directors and as Co-Chair of the NMPA Backcountry Committee. Ron is a Recreational Aviation Foundation Liaison and serves on the New Mexico Airstrip Network Steering Committee.

Quality People…

As I write this month's article, I take note that it is National Volunteer Week. I am continually impressed with the quality and willingness of our volunteers in NMPA. Thank You all!

Just recently we completed a work party at Sacaton Landing Strip to paint the segmented circle and toss some more rocks off the runway. On the Thursday prior, I towed the NMPA trailer down and set up camp near the windsock. As promised, Friday morning saw the arrival of Randy Roth and Jim Gosney in Randy's Jeep. It was too windy to fly in, but they made it nonetheless. Right away they got busy painting and arranging the large rocks that make up the circle. I was brushing all the dirt away so the paint would stick and fetching new cans of paint. Before long, the segmented circle had paint on the traffic arms and on eight segments. After lunch, we tossed some larger rocks from the runway that I had stirred up with the drag, and many small ones too. Then Randy and Jim headed back to Silver with the intent to fly up Saturday morning.

Sure enough, Randy and Jim flew in on a beautiful Saturday morning, and a little while later, John Lorenz also flew in. We all got busy tossing even more rocks and hand digging additional water drainage cuts with the shovel I brought. With the work all done, Randy and Jim flew home. John and I decided to hike on the Rain Creek Trail.

Backcountry Beat, continued

It was narrow and quite a challenge, but very scenic. I went about 1.5 miles to the crossing at Rain Creek while John enjoyed the view from nearby. The creek was running about 15 feet wide and flowing strong. I relished the sound and smell of the rushing water for a few minutes before heading back to join John for the return hike to camp.

After dinner was grilled on the big Blackstone, John and I decided to rest our somewhat weary bones and we followed the sun to bed for the evening. Sunday morning arrived way too early in spite of a long night's sleep, and it was time to brew some java. After eggs and sausage for breakfast, it was time to pack up and head for home. As a result of having quality volunteers, another NMPA work party was accomplished.

Speaking of quality volunteers, our friend Arlan has really been busy with his professional life. Not long ago, I was happy to hear he would be flying a regional jet for the airlines. Well, it seems he has topped that. He is flying freight all around the world for Kalitta Air on a 747. I, for one, am really proud (and a little jealous) of our young backcountry volunteer. I know he will be joining us soon enough at a backcountry airstrip in his 185. Quality People.

Until next month,
Fly Safe and Often!
Ron

Safety Briefings are available on the NMPA website for all the Gila USFS Airstrips. Note that some require prior permission – just a phone call.

Another great resource, is www.Airfield.Guide, thanks to the Recreational Aviation Foundation (RAF)

Safety and Education

by Bob Waters

Bob is a private pilot with IFR and tailwheel endorsements. He is also an A&P mechanic. He owns a 1962 Piper Comanche-250.

FAA's Dynamic Regulatory System

When is the last time you've gone to the FAA website to search for something? I can remember having a tough time finding specific Advisory Circulars, ADs, or regulations. It's gotten a lot easier with the introduction of their new Dynamic Regulatory System (DRS) [drs.faa.gov/browse]. This is not new information but a consolidation of information in one place that is pretty easy to search.

Major categories include: ADs, Regulations, Advisory Circulars, FAA Orders, Design and Production Approvals, Aircraft Safety Alerts, etc.

Want to know the details of your Type Certificate Data Sheet (TCDS) for your aircraft? Go to the Design and Production Approvals link on the left side of the screen and fill out the given "filters". For searching my Piper Comanche, I chose "Small Airplane" under the Product Subtype filter and "PA-24-250" under the Model filter. Voila! TCDS 1A15 shows up as a PDF that lists all the specifications and limitations associated with that plane. This is where you find the engine(s), starter(s), vacuum pump(s), fuel pump(s), etc. specified for your model.

If you don't find the model of starter (for example) on your plane, maybe it was installed with an STC. To check that, search STC link on the left side (under the Design and Production Approvals link) and put in appropriate filters.

Want to know what ADs are associated with your plane, engine, propeller, appliance? Go to the ADs link on the left and fill out the appropriate filers. Again, for my plane, I filtered "Aircraft" product type, "Piper Aircraft Inc" Make and "PA-24-250' Model. Once again, voila, 33 ADs pop up. Each one has an associated PDF.

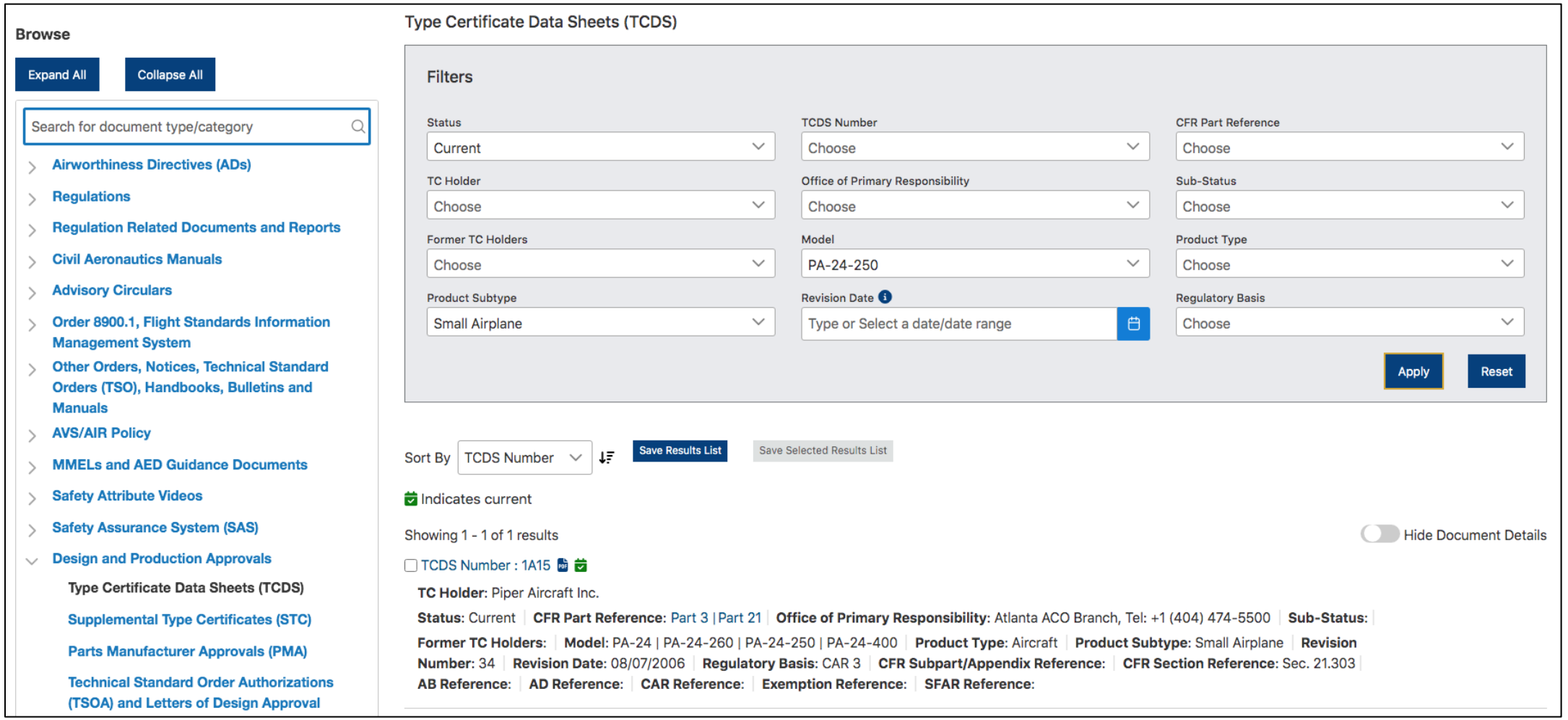
Want to find an Advisory Circular? Click on that link on the left. There are 750 of them listed. Pick the filters that help you narrow the search and your results will be there.

There is a whole lot more regulatory information in that website. So if the winds blowing too hard (or you really need to search something), take a look. This website appears to be something that the FAA is doing quite well.

And when you're done…

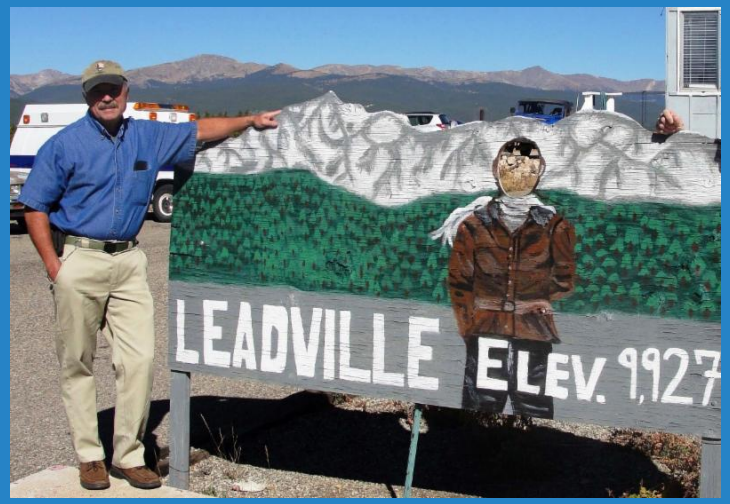
Go fly, have fun and fly safely!

Example of search for TCDS for Piper Comanche 250.



Mountain Flying

by Cliff Chetwin



Cliff is a retired National Park Service pilot and a Master/Gold Seal CFI with over 40 years experience flying in the Rockies, Sierras, and Alaska, He currently lives in Kremmling, Colorado and owns a Superhawk.

Avoiding Smokey's Air Force

As we should all recognize, New Mexico is part of a fire dependant ecosystem. In other words, without fire we wouldn't have the enchanting landscape that we enjoy today. Fire season, somewhat delayed this year, is once again upon us bringing with it increased, and very specialized aerial activity in the airspace that we all share. The '22 monsoon was much wetter than we've seen in several years and this winter also brought significant moisture to most of the state, especially to the high country. This means there will be a noticeable increase in the available fine fuels this year, a key component in fire starts and in little fires becoming big ones. We can reasonably expect 2023 will bring New Mexico around 1,500 ignitions and certainly at least our ten-year average of around 300,000 acres burned. Given our drought influenced recent history the potential to greatly exceed the acreage average is pretty strong despite the current high moisture levels.

The majority of these ignitions will be quickly suppressed by local fire departments using engines and firefighters. On average these represent about 98% of all fires and they have no effect on us aviators. The remaining 2%, think last year's Hermits Peak/Calf Canyon Fire up north and the Black Fire down south, are the ones that dominate the news and usually involve considerable aviation activity.

Lead plane followed by a Very Large Airtanker (VLAT)

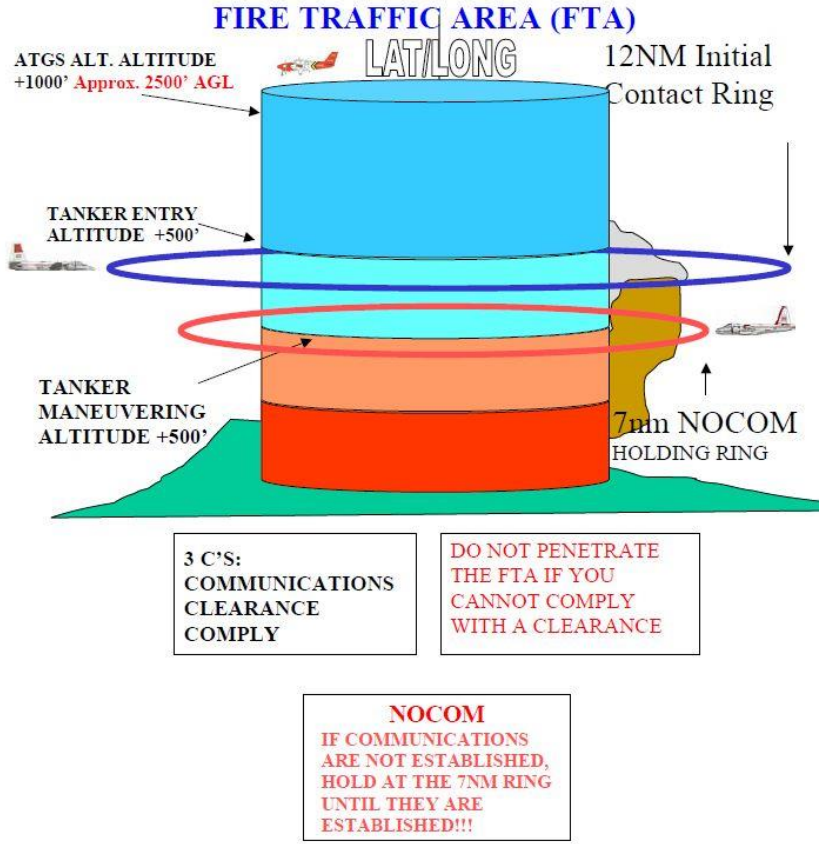
Most people mistakenly believe that aircraft are an efficient and relatively safe tool for putting fires out. There is also the media created falsehood, readily believed by the public and furthered by vote seeking politicians, that a fire of any size is not being aggressively suppressed unless fire aircraft are being used. If this were the case only a few aircraft would be needed and we would not have large "campaign" fires lasting weeks or months. This misperception forces fire managers to deploy aircraft as an expensive strategic tool even when it's a poor tactical choice. In reality, aircraft are rarely capable of putting a fire out, and then only if the fire is small, on favorable terrain, with favorable weather and fuel conditions. In most situations they are only capable of slowing a fire until ground resources can be deployed. Remote locations with limited ground access, lack of available ground resources, steep mountain terrain, and hazardous burning conditions often hamper timely deployment of ground resources. Wise fire managers only ask for aircraft as a holding tactic until conditions become more favorable for intervention by adequate ground resources.

Regardless of the underlying reason, if a fire escapes what is called the initial attack phase (think small fire phase) and enters what is called extended attack (think large fire phase) we general aviation pilots should expect to be sharing the airspace with quite a few of Smokey's friends.

As surprising as it seems to some pilots the wildfire aviators worry much more about general aviation activity near their operations than we in general aviation seem to worry about sharing airspace with the firefighting air tankers, helicopters, and lead planes. Experience has shown the wildfire folks that mixing a variety of mission focused aircraft with non-participating general aviation aircraft in a relatively small amount of airspace often leads to bad outcomes to one or both parties. As a result, the controlling fire agency almost always requests a Temporary Flight Restriction from the FAA in order to help minimize conflicts over the immediate fire area. You should recall this is granted under 14CFR 91.137(a)(2). In the mountains where terrain or local weather often funnels all of us into rather narrow corridors these TFRs can be downright limiting to our GA operations, leading to TFR "busts" and diminished safety for the fire folks and GA community alike. But when all parties comply with the TFR, safety is significantly enhanced for all users of the airspace. It an also be very expensive for us taxpayers since the normal response for the fire folks is to ground their aircraft until the TFR bust is resolved. This can easily run into the tens of thousands of dollars for every bust whether inadvertent or deliberate. The answer for us GA folks is improved route planning to stay well away from the fire(s) The fire folks don't have a similar choice since they have to fly to where the fire is. We in GA also need to avoid the strong moth-to-the-flame temptation to sightsee or having a bad moment of TFR anti-authority orneriness.

OK, so we'll comply with the TFR and avoid the fire area by a few miles, hopefully reducing the potential for conflict between GA and fire aircraft. Have you ever wondered how the fire folks manage to avoid (most of the time) conflicts among their own aircraft around the fire area? Imagine mixing relatively slow flying single engine air tankers (SEAT), much faster DC-10 Very Large Air Tankers (VLAT), Aero Commander lead planes, helicopters ranging from Bell 206B-3s to CH-46 Sea Knights and Sikorsky S-64 Skycranes, and increasingly, various UAVs all in the same confined airspace at roughly the same time. On a large fire there could easily be as many as 10-15 aircraft entering, over, or departing the fire at the same time. This much aluminum (fabric and composite aircraft have little role in today's wildfire aviation) can certainly challenge the "little airplane, big sky" concept of midair avoidance.

The fire aviation community has devised a concept called the Fire Traffic Area (FTA), shown in the picture on right. If you study the FTA for a moment you'll see its really not much different from the Class B airspace that we are all familiar with. There is an airborne aerial supervisor, called either the Air Tactical Group Supervisor (ATGS), or in some cases the Aerial Supervision Module (ASM) overseeing and choreographing the entire operation, just as ATC does for the rest of us in controlled airspace.



Inbound fire aircraft must first contact the aerial supervisor and gain permission to enter the TFR, if one exists, and if it extends beyond the FTA environment. Then, further contact is required at the 12NM ring and permission obtained to enter the FTA, even if a TFR is in place and permission to enter the TFR has already been obtained. If the aircraft can be safely accommodated within the airspace it is given a clearance to enter the FTA and conduct its assigned mission. If the FTA is too busy, or communication has not been established the aircraft must enter a holding pattern, commonly at a 7NM ring (one of the reasons why some of us still practice holds) and at their previously assigned altitude; a speed restriction of 170KIAS is also in place. Once a clearance is received from the aerial supervisor the aircraft can proceed into the FTA, a 5NM cylinder, and complete its assigned mission. In very large fires these dimensions could be expanded or, in some cases multiple FTAs established over different parts of the fire if needed to ensure adequate coordination and flight safety. In order to safely separate aircraft an FTA will have hard altitudes for each type of aircraft and for each type of mission. Further, in order to reduce the potential for a midair collision each type of aircraft has a specified direction of orbit for its type while operating within the FTA. Upon completion of the mission the aircraft will be given an vector and altitude for safely exiting the FTA and returning to its base or next assignment. A clearance is not required to exit a TFR if one exists. Once clear of the FTA the aircraft leaves the control of the ATGS/ASM and reverts back to control of the Agency Dispatch or ATC as appropriate.

It's important for us GA pilots to recognize that even if fire aircraft are not on scene there will automatically be an FTA (non-regulatory) anyway but not necessarily a TFR (regulatory). If there is a TFR, the FTA's vertical dimension will be within the TFR. The FTA's 5NM horizontal cylinder will always be within the TFR but the 7NM hold ring and the 12NM contact ring may or may not be included in the TFR. Thus, even if we've identified a TFR exists and made plans to avoid it there is still potential for an unpleasant encounter with fire aircraft in near proximity to the fire TFR. We all know see and avoid is everyone's responsibility but by knowing how the FTA works and how it is structured it becomes far easier for us to know where to focus our attention and improve safety margins. Couple this with monitoring the agency contact frequency in the TFR NOTAM and you can easily develop the detailed situational awareness necessary to safely fly when wildfire operations are also occurring in the same area. Use both of these points to safely avoid aerial firefighting operations.

More detailed information about the FTA is located in *NWCG Standards for Aerial Supervision, PMS 505.* This can be found on the National Wildfire Coordinating Group (NWCG) website at https://www.nwcg.gov/publications/505.

Until next month, stay away from wildfires, enjoy the mountains, and fly safely.

Obscure and Scenic New Mexico

by Jeff Gilkey

Jeff Gilkey has been flying his Aerotrike Cobra (ELSA, weight shift control) since 2004. He has logged over 2200 hours on cross country adventures into nearly every corner of New Mexico, with many extending into Colorado, Arizona, Utah and Texas. For more information, visit his YouTube Channel at https://www.youtube.com/user/jefftrike

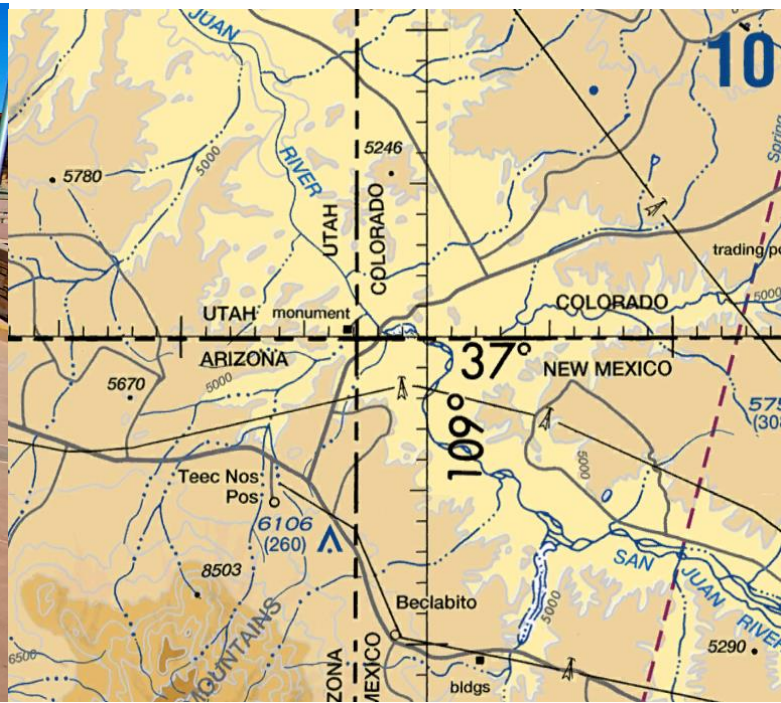
Four Corners

In the upper northwest corner of New Mexico is Four Corners Monument Navajo Tribal Park. The monument marks the only spot in the US shared by four states.

When I was preparing this column, I took a look at the map and was initially confused. The east/west boundary line appears to be along the 37° latitude line (37th parallel). But the north/south boundary line looks to be offset by about 3 minutes of longitude from the 109th meridian. There is no way the Four Corners Monument could be off by more than 3 miles. Thanks to Wikipedia and other internet sources, I was able to figure out what was going on.

When Congress created the Colorado Territory in 1861, it established the western boundary to be the 32nd meridian west of Washington. The Washington Meridian was located at the Old Naval Observatory. While close to 77° West of Greenwich, it is actually at 77° 3' 5.194" W.

In 1863, Congress split the former New Mexico Territory along the 32nd meridian west of Washington, creating the Territories of Arizona and New Mexico and the Four Corners quadripoint. The survey markers would have to wait until after the Civil War.

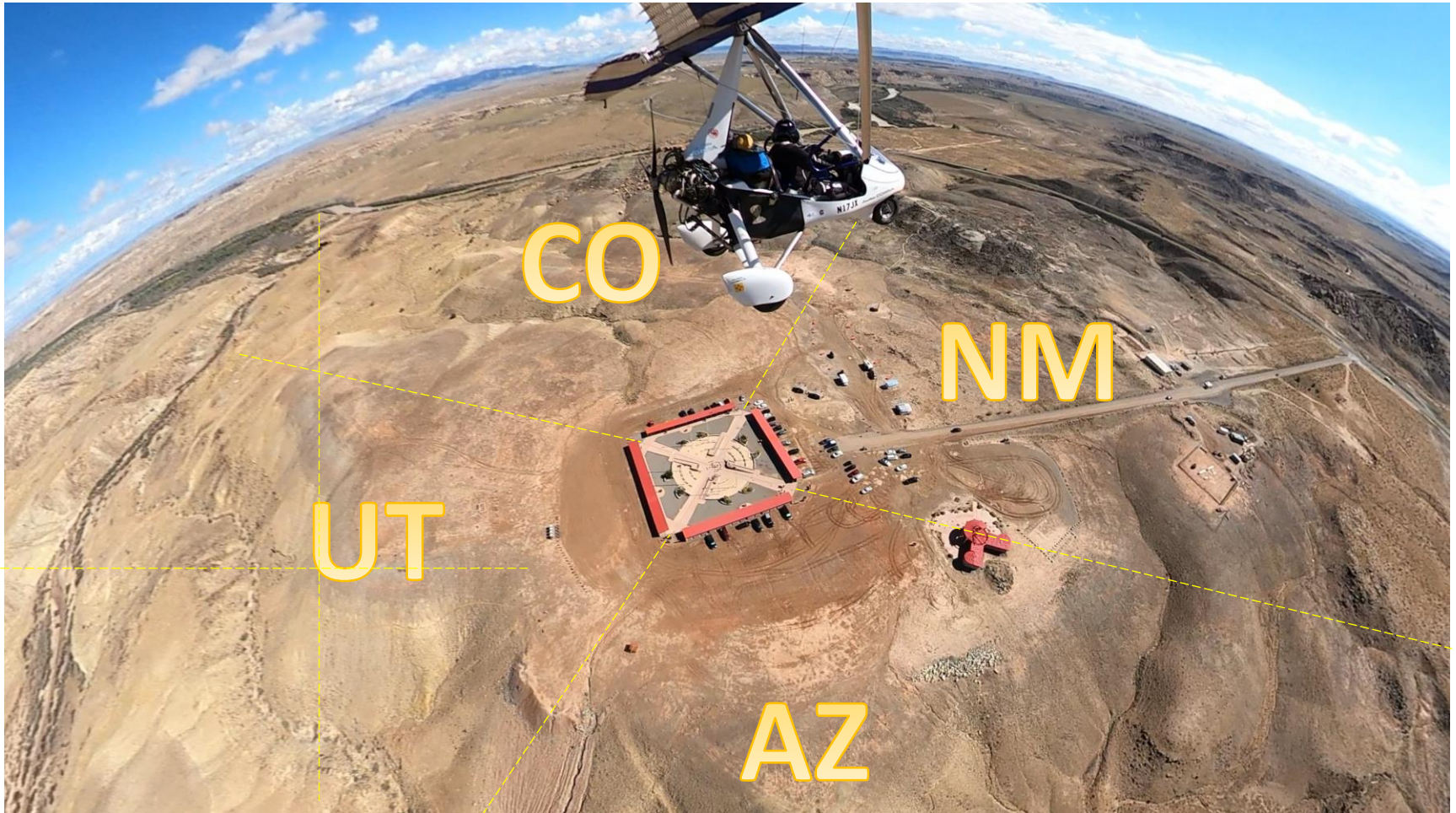


37th Parallel, 32th Meridian west of Washington

In 1868, the Ehud Darling survey team set markers along the 37th parallel to mark the northern boundary of New Mexico from 107° W to 103° W. This line became know as the “Darling Line”. If you want to see a survey error, follow the 37th parallel east on any map to the area northeast of Dulce, NM (107° 53’ W). There is a noticeable bump where the boundary line shifts about half a mile to the south. In 1919, New Mexico sued Colorado to correct this survey error and shift the boundary back to the 37th parallel. However the Supreme Court ruled in 1925 that the boundary markers placed in the initial survey (including any errors) were the actual borders. Legal documents reference to the original physical markers, instead of abstract lines of latitude and longitude.

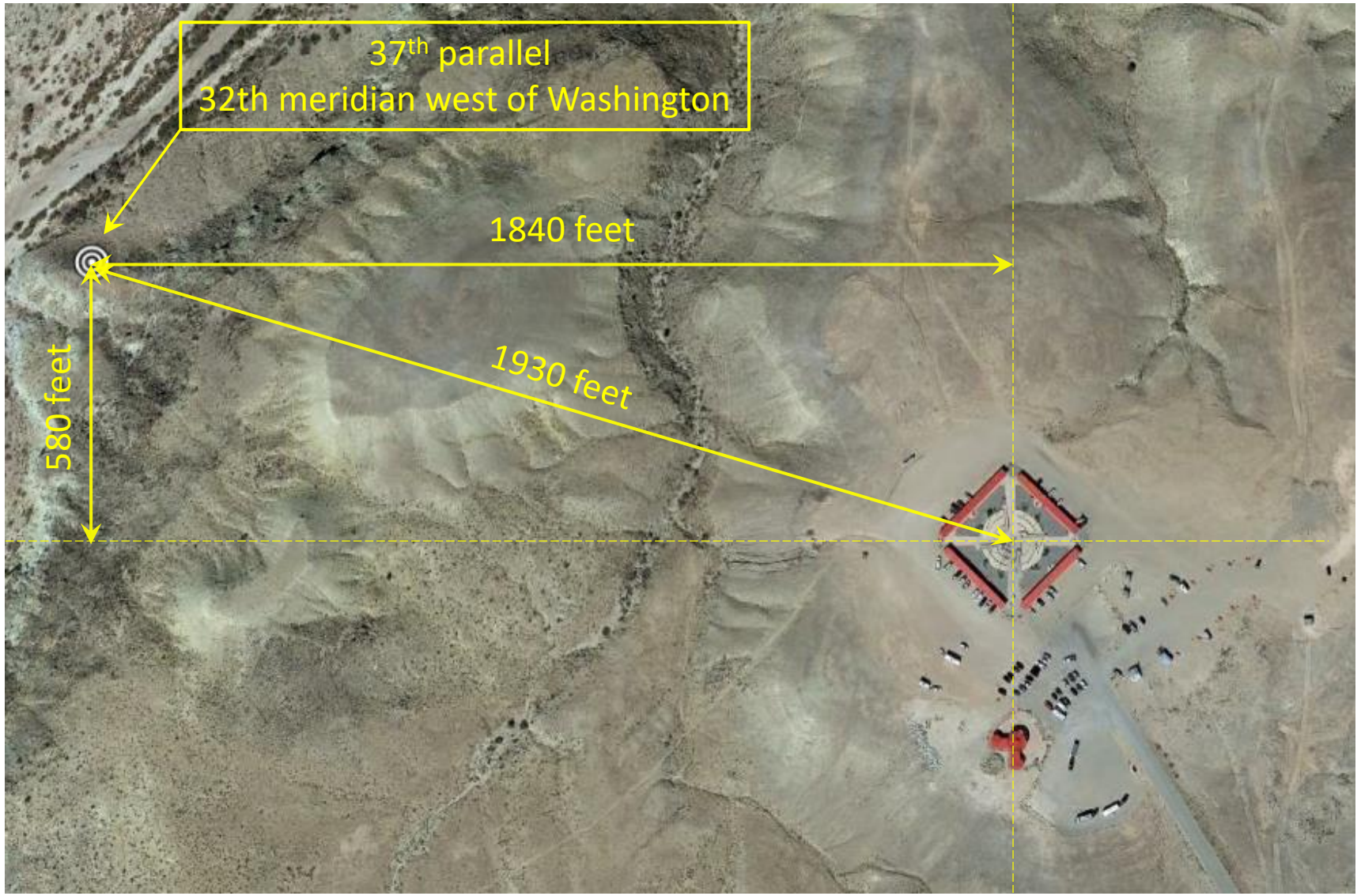
In 1875, the Chandler Robbins survey team set markers along the 32nd meridian west of Washington marking the boundary between the Arizona and New Mexico territory. Near the 37th parallel, they crossed Darling line and erected a sandstone shaft. This marker established the “quadripoint” of Arizona, New Mexico, Colorado and Utah. Subsequent markers were erected on the same spot, with the current version being a granite disk with a small bronze disk at the center.

Quadripoint



Surveying Error

I did a check with Google Earth and found that these 19th century survey teams did a pretty good job, missing the point specified by Congress, i.e. 37th parallel and 32th meridian west of Washington, by about 1930 ft. Considering they were using celestial navigation and sextant readings on the sun and stars plus a chronometer, that's not bad at all.



If you find yourself in the area, either in the air or on the ground, be sure to check out the Four Corners Monument. Where else can you fly across 4 states in less than a minute or stand on all 4 states at the same time.

Tech Corner

by Will Fox

Sticky Valves

I had just taken off and the end of the runway was going under my nose, when the engine suddenly started vibrating like crazy and lost power. I didn't know for sure in the moment what had happened but I tried shoving the mixture in to see if it made any difference. It didn't, so I let the nose drop and turned back towards the runway. I was pretty much in automatic mode at that point. The ground rush in the turn would have been startling if I had never seen it before, but I had practiced this maneuver a number of times so I expected it. I could tell I didn't have a lot of altitude to spare but I had enough, so when I rolled out of the 270 degrees of turn over the runway I was still 50' AGL. I landed and turned off the runway onto the ramp at midfield. As I taxied over to a tiedown, the engine cleaned up and started running normally again. I ran the engine up and did a magneto and mixture check and everything checked out. The engine instruments all looked fine. I hate to admit this, but I thought about taking off again and climbing up over the airport and then flying back to home base which was only 15 minutes away. It sure would be easier to troubleshoot and work on the plane in my hangar with all my tools… At that point however, with great resistance and enormous effort, my rational brain took over my rat brain and told me that wasn't the smartest idea I ever had. As I sat there in the plane and wondered what could have happened to the engine, I remembered Liard River. I was a brand new pilot on the trip of a lifetime when, in the middle of nowhere the airplane engine started misbehaving…

The exhaust valve on this Lycoming is stuck open.

My buddy Charlie and I were in Anchorage, Alaska waiting for the weather to clear so we could fly our C-150 thru Lake Clark Pass and get on with our trip to Dillingham. We were wandering around the ramp looking at planes when we met an old mechanic working on one of them. He asked us if we had flown in with the C-150 and where we were from. We told him we were from Los Alamos, New Mexico, and he asked us how we got so lost:-). We had a great conversation with him and at one point he asked us if our C-150 had been experiencing any "Morning Sickness". I had just gotten my pilot license and Charlie was half way through his training so we were both pretty knew to aviation and had no idea what he was talking about. We admitted our ignorance, and he explained to us that Morning Sickness was a symptom of a sticky valve. He told us it was caused by the extra lead content in 100LL avgas that by then had replaced the old 80/87 avgas. The extra lead created a buildup that would stick to the inside of the valve guide causing an interference fit

between the valve and the guide. It was called Morning Sickness because the valve would stick when you first started the engine in the morning after the engine had cooled down overnight. The valve usually stuck open and caused the engine to run rough until it warmed up little bit and the clearance opened up enough for the valve springs to be able to close the valve. Then it would run fine. He asked if that had ever happened to us. Turns out that we had noticed the engine would run rough sometimes after a cold start, but we figured it was because we primed it a little too much. Probably Morning Sickness he said, and the problem is that there would come a day when there was so much lead in the valve guide that it would stay stuck open. When that happens he said, "You need to know how to do the "Rope Trick".

We thought he was pulling our leg so we started looking around for the other jokers that were going to start laughing at the two numbnuts from New Mexico. We didn't see anybody else and he kept talking, so we looked at each other, shrugged our shoulders and kept listening. The Rope Trick, he explained, was a way to get the valve unstuck should it stick open and needed a little push to free it up. First you have to find the cylinder with the stuck valve. You do that by running the engine and then feeling each cylinder until you find the one that is cold because it isn't firing. Then you take the top spark plug out, and turn the prop until the piston is at bottom dead center. Next you poke several feet of rope into the cylinder until it won't hold any more. Then you turn the prop to compress the rope against the stuck-open valve and when you get enough force on it, the valve will snap shut with a bang. After that you pull the rope out, put the spark plug back in and start the engine, and it will run fine. For a while. Then he gave us a serious stare and said it wouldn't work forever so we should ream the valve guides for a more permanent fix, sooner rather than later. We could tell now that he was dead serious. He went on to tell us how we could ream the exhaust valve guide without pulling the cylinder as long as we had a a few tools, a reamer, and some dental floss. I quietly wondered if they called that the Floss Trick☺ Then he pulled some nylon rope out of his tool bag, gave it to us, and said it might get us out of a tough spot sometime. He wished us luck and got back to fixing the plane he was working on. The next day it started to clear up and the the clouds lifted up over Lake Clark Pass just enough to let us get through and go on to Dillingham.

Well, guess what happened? A couple of weeks later we were headed home, when we landed one evening at a remote strip along the Liard River in Canada. It was a beautiful place but the mosquitos were terrible. We smeared ourselves with DEET but that didn't stop the little buggers from flying into our mouths and ears and anyplace else they could. We stood in the smoke of the campfire to eat dinner and then called it a night and headed for the tent to go to sleep. You could hear the buzzing through the tent walls. No sleeping under the stars that night. The next morning we got up and the mosquitos were just as bad. We skipped breakfast and packed up quick as we could, jumped in the plane, and after killing a couple hundred mosquitos that followed us in, cranked the engine up. You guessed it, Morning Sickness!!

An airstrip on the Liard River in Canada. We stuck a valve in the Continetal O-200 on our Cessna 150 on a visit to Alaska. I remember two things about this airstrip. The mosquitos and using the Rope Trick to unstick the valve☺

The engine was running rough as a cob, and even though we warmed it up good and ran it up to full power (only 3 cylinders firing) it wouldn't smooth out. We tried shutting it down and starting it again but nothing worked. After 20 minutes we gave up and shut her down. We looked at each other and flipped to see who would go out, pull the cowl, and try the Rope Trick. I lost. I remember two things about Liard River, mosquito bites and the Rope Trick worked.

A few days later we were in Wyoming on a dreary rainy morning and started the engine up and once again it had Morning Sickness. We warmed it up and ran it up to full power and then back to idle a few times and the valve came unstuck and it ran fine. We breathed a sigh of relief because we didn't want to have to do the Rope Trick again or ream the valves, plus we had major gethomeitis. As we taxied out to the runup area the valve stuck again. That had never happened before while the engine was running so that got our attention big time. Time to ream the exhaust valves! A mechanic on the field let us borrow some tools, a reamer, and his hanger and showed us how to fish the valve in and out of the valve guide and the spark plug hole using dental floss and safety wire so we could ream the valves without pulling the cylinders just like the Alaska mechanic had said. That little ole Continental O-200 ran like a charm after that and got us home safe and sound. In fact, we flew for a few hundred hours after that with no problems before we sold it so we could buy another airplane.

That was it! I knew I must have stuck a valve on the takeoff at the Espanola airport. It had to be. Now that I thought about it, the warning signs had been there all along and I had been too stupid to see them. Every once in a while over the last couple of years, the Lycoming IO-360 on the Pegazair would idle rough for a few seconds on startup, particularly in colder weather. In fact, one time my buddy Doug, commented that it might be Morning Sickness. Then just a few weeks ago, on a long, low power, cruise descent on a cold day, I felt a brief shudder go through the airframe and then go away as soon as I added a bit of power. Most likely a valve trying to stick. My engine had been talking to me and I had not been listening. I borrowed my buddy John's hangar and started checking the exhaust valves with a borescope. I definitely saw some lead buildup. I pulled the valve covers and before long I found the culprit. The #2 exhaust valve was so tight in the guide that I couldn't budge it by hand. I ended up having to drive it out of the guide using a brass drift punch. As it turned out I needed to ream all of the exhaust valve guides because they all had lead built up in them, but #2 was the only one where the deposit had created an interference fit. The Rope and Floss Tricks once again came to my rescue, and before long my Lycoming was running good as new.

What did I learn from this experience? It will do you well to listen to your airplane and the old mechanics that work on them.

You can see the black deposits removed from my IO-360 on the reamers to the right. The McFarlane reamer has a pilot section on the front end that is the same diameter as the valve so you can get the reamer started straight. The rest of the reamer is sized for the valve guide. In the upper picture you can see deposits from the #2 exhaust valve guide on both sections of the reamer. The red stuff is grease to catch the deposits as you ream the valve guide.

In the lower picture you can see deposits from the #3 exhaust valve guide, but only on the aft section of the reamer because there was still a slight amount of clearance between the valve and the guide.

Will Fox is a flight instructor and homebuilder. He also serves as a Technical Counselor and Flight Advisor for the EAA. In his spare time he enjoys working on and flying his two homebuilt aircraft, a Pegazair P-180 and a Questair Venture. He is also fascinated with solar power and electric vehicles, so his next airplane will be electric. Please feel free to contact him at tailspinfox@gmail.com if you have questions or comments.

As the CFI sees it

by John Lorenz

John Lorenz is a 6000 hour CFII, MEII, glider, and sand-lot acrobatic pilot. He has given over 2000 hours of tailwheel instruction. During the day he is a consulting geologist.

Training for War in Light Sport Aircraft

Just flying an airplane can be scary, what with weather uncertainties, considerations of fuel exhaustion, possible emergencies, crosswind landings etc., so I stand in awe of those who, in addition, flew while somebody was trying to kill them.

I just finished a story in the most recent *Flight Journal* about the pilot who mounted six bazookas on the wing struts of his L-4 Piper Cub and took on German tanks during WWII. The article is in part an ad for Jim Busha's about-to-be-published book *Bazooka Charlie: The unbelievable story of Major Charles Carpenter and Rosie the Rocketer*, but that does not detract from the story or the crazy courage of the *Rocketer*'s pilot.

The focus of the article is about combat in an L-4. The combat was "unofficial" since the authorities apparently would "neither approve nor disapprove" the installation of the bazookas, and the pilot had to do his own testing to make sure the installation did not set fire to his tail feathers. But my interest was piqued by the description of

The restored *Rosie the Rocketer*, complete with six mounted bazookas, will be at Oshkosh this year.

the training that was given to the pilots who were to fly these aircraft. Once they had their basic flying skills, pilots went to a training program at Fort Sill in Oklahoma that was 5-7 weeks long, titled "The Tactical Employment of Organic Air Observation in Field Artillery Units." Several items of interest:

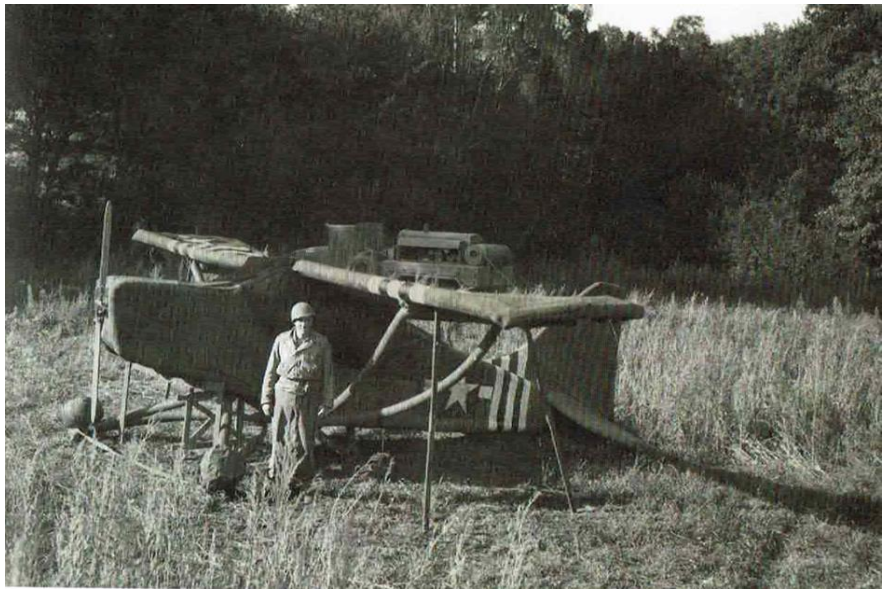
Weight: The U.S. Army had six L-designated aircraft during WWII, the most common of which, the L-2 Taylorcraft, the L-3 Aeronca, and the L-4 Piper, had gross weights of only 1200 lb or so, and only 65-horsepower engines with wooden propellers pull them around the sky. The useful load of an L-4 is about 340 lb, and the radios they carried weighed 60 lb. Thus, just to enter the training program the regs said a pilot had to weigh less than 170 lb. Of course the official gross-weight limitation is merely a suggestion once in the field, and Carpenter, the *Rocketer*'s pilot (a high-school teacher in civilian life) noted laconically that the airplane was "not as maneuverable" when carrying two people.

Maneuvers: Training included short and soft field takeoffs and landings, no surprise, but also incorporated "flight at the limits of the envelope" such as rapid descents, evasive maneuvers, and live-fire exercises. Add *those* into your training syllabus.

Missions: The pilots were trained for missions including resupply, evacuation of wounded soldiers, messaging, scouting ahead of an advancing army, and artillery spotting. They also served as chauffeurs for generals, often to let a general observe the progress of ground units during training. There is no mention of that mission during actual combat, so I suspect the army was loathe to risk their generals in such flights in the real theaters of operations.

Other: Pilots also learned how to camouflage their airplanes on the ground during training, something I rarely do, and later they had to teach themselves how to select suitable landing sites for actual operations. One skill they were taught, or maybe learned on the job, was an ability to recognize fields that were not only big enough to land in but also that were not mined.

The actual *Rosie the Rocketer* L-4 has apparently been restored and will be at the EAA AirVenture this year (see https://warbirdsnews.com/warbirds-news/wwii-l-4-rosie-the-rocketer-going-to-eaa-airventure-oshkosh-2023.html). If you go, take time to appreciate the airplane at several levels: the airplane and the bazooka installation, the conditions it flew under, and the citizen soldiers who flew them.



An inflatable dummy airplane meant to fool German reconnaissance into thinking forces were present where they weren't. The idea was to camouflage it, but not too well: it wouldn't serve its purpose if wasn't, in fact, detected. From *The Ghost Army* by Beyer and Sayles

CFI Resource List: A Member Benefit for Students and CFI's

NMPA Certificated Flight Instructor Resource List *updated 3-28-2020*

NMPA members who are CFI's and who would like to be listed here, or who need to modify their information, please contact John Lorenz at johnlorenz@geoflight.net

Instructor: *Suzanne Azar*
Contact: email suzanneschmeckazar@gmail.com
Primary areas of instruction: *Private, Commercial, Instrument, Multi-engine Instrument*
Airports you instruct at or will travel to: *El Paso, TX, Santa Teresa, NM, and Las Cruces, NM*
Do you have access to an airplane for instruction and if so what kind: *Cessna 172 and Cessna 182*
General summary of experience: *I have been a pilot since 1980 and a flight instructor since 1984. Among my many students I taught both of my daughters to fly. I have flown numerous air races through the US, Bahamas, Hawaii, and Canada. I hold a commercial pilot's license and am rated in single engine, multi-engine, glider, and seaplane, with an instrument rating. I fly a Lancair IVP a pressurized, retractable, high-performance composite experimental as my personal aircraft, and instruct in Piper and Cessna singles. As a Multi-engine Instructor, I have flown many aircraft from the 1956 Apache to a 690B Rockwell Commander turboprop. I also hold licenses as basic and advanced Ground Instructor and have earned the FAA's "Gold Seal" flight instructor license.*

Instructor: *Mike Dellas*
Contacts: (505) 699-7297, captdellas@aol.com
Located at *Santa Fe (KSAF)*
General summary of experience: *Currently flying for AAL, experience in Aeronca Champ to a Twin Beech D18/Douglas DC-3 and aerobatic planes such as Citabria and Decathlon, owned and operated a Luscombe, C-180, and C-310 including instruction over 45 year flying career.*

Instructor: *Scott Burnett*.
Contact: email ssburnettnm@gmail.com
Single and multi-engine CFI teaching in the student's aircraft. Specializes in tailwheel and Maule check-outs, private instruction, and ferry flights. Located at Mid Valley (E98

Instructor: *Peter D Murphy*, contacts peterdenismurphy@gmail.com, 505-946-7777. CFII MEII LSP. Flight Design CT

Instructor*: Diane de Souza* - Taos - contact info is dyeingtoweave@gmail.com

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