EAA Chapter 32 News

The official publication of Experimental Aircraft Association Chapter 32 - St. Louis, MO (Jim Bower, Editor)

January, 2020

HAPPY NEW YEAR!!

A good time was had by all at the holiday party.

We'll see YOU at the ARC at 10:00 am on Saturday, January 18.

President's Corner

by Dave Doherty

President Dave was recently diagnosed with cancer and underwent extensive surgery back before Christmas. He wants everybody to know that he is on the mend and cancer-free.

He's actually pretty active, but his article-writing hand is temporarily out of commission. See ya next month!

Thanks!

Chapter 1402 and I would like to thank everyone from our surrounding EAA Chapters for their help in our Young Eagles event August 17th. We could not have done it without you. We flew 160 Young Eagles that day.

Thank you,
Blue Skies
Tim Dempsey
President EAA Chapter 1402
636.667.9242

“When the Rubber Meets the Road Or Take Care of Your Rubbers”

mr. bill

HAPPY NEW YEAR and may 2020 be a dry one! As I tried to finish my “airplane list of things to do” before the end of 2019 I was very thankful for the 72º F weather on Christmas Eve and Christmas Day. It kinda sorta made up for all the “Water Added” to our little Smartt Field Airport this past year. I so badly wanted to write on Dennis Wiss, the most excellent Smartt Airport Directors airport vehicle, the words:

“AIRPORT DIRECTOR AND MARINA OPERATOR”

with erasable marker. He did see the humor in it but as with all joking there may have been someone who did not think that was appropriate. I AM getting sensitive in my old age and with the airline class that I am now facilitating these days.

(As I pen this 01/10/2020 the St. Louis Area is under a “Flood Warning” because of all the rain. The hangar mate across from me shared at Christmas time that the water table level in this area is still one foot higher than last year at this time.)

Why are wheels important, well when your wheel bearing axle nut is a little tight and things get heated up, and maybe start a little fire…..

https://www.youtube.com/watch?v=h4Oi0BtvZps

The only situation I had with my Piper Tri-Pacer was that her wheels were under water from the floods last year. So that found me taking the wheels off the airframe, pulling and placing the wheel bearings in oil for a day to remove any grime, water, or dirt from them. After the bearing bath they were cleaned and repacked with grease and made ready for the installation.

The next thing was to replace the tires and tubes because, with water, it will get into places where it should not be. As I was fumbling through my old 1970s FLYING magazines I came across an advertisement for Goodyear tires and it had nine items on “HOW TO LOWER YOUR COSTS EVERY TIME YOU LOWER YOUR GEAR.” I laughed typing this because if you do NOT lower your (landing) gear you are going to have some very HIGH costs.

1) Check tire pressure regularly. Tire pressures should be checked with an accurate gauge on a regular basis-daily if you use the plane often. On heavy, high performance aircraft, pressures should be a part of every preflight check. At the airlines it was done every day.

Check only cool tires-at least 2 to 3 hours after a flight. Use a dial-type gauge. Inaccurate gauges are a major cause of improper inflation.

2) Use only recommended tire pressure. Improper inflation causes uneven tread wear and fewer landings-per-tire. Under inflation, which some pilots seem to prefer, may cause severe wear in the tire shoulders areas. It increases the chance of bruised sidewalls and shoulders. It may allow tube-type tires to slip on the rim and shear off valve stems. And it may shorten tire life by promoting excessive heat build-up.

3) Adjust pressures for climate changes. Climate changes-even a simple one like bringing an aircraft out of a warm hangar on a cold day can cause extreme changes in inflation for both tube-type and tubeless tires. Therefore, you must compensate for the loss or gain in pressure. As a general rule. A reduction of 5º F in ambient temperature will cause a 1% reduction in inflation pressure.

4) Compensate for inflation under loads. Pressures recommended by tire manufactures and most dealers are for unloaded tires. When they are installed on the aircraft, the pressure should be increased by approximately 4% to compensate for the reduced air volume under load.

5) Monitor newly mounted tube-type tires. Newly-mounted tube tires should be watched very closely during the first week of service. Air is frequently trapped between tire and tube during mounting. This air will seep out during usage, and the completely "seated" tire will be badly deflated.

6) Allow for the "stretch" in the new nylon tire. Never put nylon tires into immediate service. The initial 24 hour stretch of the new tire may result in a 5 to 10% pressure drop.

7) Keep pressure equal in dual-mounted tires. On a dual installation, unequal pressure can promote tire failure because one tire is forced to carry a load greater than its rating.

8) Always inspect tires after unusual takeoffs or landings. After any rejected takeoff or any short, "hot" landing-especially in high performance aircraft –the tires should be allowed to cool and then be inspected, and the recommended procedures followed. At the BIG jet place we release the brakes to reduce the heat from the brakes to the tires. The tires have fuse plugs that will release the tire air pressure if things get too high and hot.

9) See your Goodyear dealer for the answers to your tire questions. So time for some questions:

Q? Tires are rated for weight and _____.

A: Speed. The nose wheel tire on the DC-9-80 was rated for 195 knots. The main tires were rated for 225 knots.

Q? The tires of airplanes are filled with this inert gas?

A: Nitrogen. If you look at cars these days you will see that some have green valve stem caps on a car that has 100% nitrogen filled tires.

Q? Why is nitrogen used in those tires?

A: Up at altitude the water in the air from a normal air compressor has water and that water would freeze at altitude.

Q? Where should the valve stem be located on a tire?

A: There is a red dot on the tire. That indicates the overlap area of the rubber layers which is the strongest part of the tire.

Picture Credits: Lisa Miano

Young Eagles 2019 Recap and 2020 Schedule

Rick May

Hello to all and welcome to a new year. I am looking forward to 2020 with hopes of better weather and hopefully back to a little less water and a little more flying Young Eagles as I would think you all are.

2019 For those of you that did not make it to the Christmas Party in December or for those of you that did and want a hard copy of the past year I thought I would give the information to you again for review. Actually, even with a limited number of events in 2019 the total flight numbers still came out pretty good a real compliment to all of you for your dedication to the program. The information is self-explanatory and can be seen in the tables at the end of this article.

2020 First off, our scheduled Young Eagle events for this season will continue to be as in the past the 2nd Saturday of the month starting in April and continuing through October (weather permitting). Those dates will actually be: **April 11th May 9th June 13th** (International Young Eagles Day) **July 11th August 8th September 12th** and **October 10th**, if we need to make any changes to this schedule, we will let everyone know. For those of you that may not be aware, our EAA 32 website (www.eaa32.org) has a large section in it regarding our Young Eagles program as well as the various youth education (merit badge) programs we offer at the events. This is also the place where we make announcements as to any changes or cancellations to our events.

A couple other items (FYI) we really are hoping to put together a **"Flying Start"** meeting some time during this year hopefully early to mid-season. If you are not familiar with this program please check it out on the National EAA site.

A change I would like to make this year is to rather than using the adult waiver flight we have previously used I would like to try using the **"Eagles"** flight registration form for parents and adults. While this might not be the best form for all parent flights I want to move in that direction in most cases, if we need to use the regular adult wavier form we still can. Keep in mind typical parent flights are only available if back seats are not required to fly children at the event, and time and aircraft are available. (determined day of the event) I hope we can expand the "Eagles" flight program as well this year.

As many of you probably know, starting earlier in 2019 chapter #32 agreed to sponsor a Scout Explorer Post. Explorers is an extended program which originated out of the Boy Scouts of America. While it is now independent of the scouts it is an extended organization allowing young adults to continue learning and developing their interests in a specific area or potential career path. Aviation **Explorer Post #9032** is our sponsored post www.aepost9032.org . The post has about 20 young adults, boys & girls, ranging in age from about 15 to 20. We typically meet the 2nd & 4th Tuesdays of the month at the ARC at 6 pm. Several of us are post advisors and meet with the group. Aviation Explorer posts have been a part of EAA for several years and in fact serve as many volunteers each year at **AirVenture**. Post #9032 is planning on participating at AirVenture 2020. The Explorers, Eagle Flights, and the Flying Start program are all great aviation programs, which share one of the main objectives of EAA, that being exploring "Opportunities to Participate, Experience and Enjoy Aviation" I hope we can continue in that cause not only for Young Eagles but all ages.
So, there are some of my thoughts for 2020. I very much appreciate everyone's participation in our Young Eagle program, and as I have said often, "the program works because of all of you, your time and effort is what makes it the success it is for our chapter". I look forward to another great year of sharing our time together. If anyone has any comments, suggestions or new ideas please let me know. Feel free to contact me at my direct e-mail rmay5154@aol.com or give me a call at (314) 503-6042.

Here Is the Information on Our 2019 Success

The chart on the right shows the comparison of Young Eagles flights each year. The numbers in ( ) in the year column relate to the number of events we had during that year. An important number shows 185 Young Eagle flights in 2019 with only 3 events is not that far off the same column numbers for previous years for twice the numbers of events. Comparison between Y.E. flown verses Y.E. Flights explains what percentage of the kids got to sit in the right seat.

EVENT DATE	Y.E. FLOWN	Y.E. FLIGHTS	PLANES ON HAND	GROUND CREW
APRIL 13Th		Event Cancelled Due to Flooding		0
MAY 11Th		Event Cancelled Due to Flooding		0
JUNE 8Th		Event Cancelled Due to Flooding		0
JULY 13Th		Event Cancelled Due to Flooding		0
AUG. 10Th	50	50	13	+ 17 = 30
SEPT. 14Th	69	44	12	+ 15 = 27
OCT. 5h	66	35	9	+ 15 = 24
TOTALS	185	129	43	81 / 3 = 27

Next is additional information on Chapter #32's, 2019 Young Eagle program. A big debt of gratitude to all of you for making 2019 a great year especially considering our very restricted circumstances. Columns headed "YTD Flights" and "Lifetime Flights" was taken from the national Young Eagles data base in Oshkosh. The information was obtained about 12-01-19 so current numbers may be higher. FYI this information is available to every EAA member at the YE site on the pages that relate to the "World's Largest Log Book". Variances between "Flights at our Events" and "YTD Flights" occur when individual pilot take it upon themselves to fly kids on there own or perhaps participate in a different chapter sponsored event. If anyone has question about this please let me know for a supply of registration forms, YE log books and certificates. Since the beginning of the EAA Young Eagles program 27 years ago, EAA Chapter #32 has been credited with over 8,000 flights.

YEAR	Y.E. FLOWN	Y.E. FLIGHTS	FIRST TIME Y.E. FLIGHTS
2014 (5)	158	108	130
2015 (7)	250	193	185
2016 (7)	243	177	179
2017 (7)	294	194	208
2018 (6)	217	150	141
2019 (3)	185	129	????

Continued next page

Young Eagles 2019 Recap and 2020 Schedule

Continued

2019 Pilot Recognition

Pilot Name	Event Participation	YE Flown (at our events)	YE Flown (YTD as of 12-01-19)	Lifetime YE's Flown
Bob Murray	3 of 3 #32 events	21	40	62
Jeff Stephenson	3 of 3 #32 events	20	27	280
Jim Hann	3 of 3 #32 events	16	16	50
Don Jonas	3 of 3 #32 events	16	23	474
Joe Sargent	3 of 3 #32 events	12	13	383
Dave Doherty	3 of 3 #32 events	9	9	109
Randy Schroder	2 of 3 #32 events	11	14	25
Ron Burnett	2 of 3 #32 events	10	15	263
Art Zemon	2 of 3 #32 events	10	13	163
Bill Jagust	2 of 3 #32 events	7	15	150
Charles Miano	2 of 3 #32 events	7	7	21
David Allsop	1 of 3 #32 events	9	9	139
Jon Benne	1 of 3 #32 events	7	7	19
David Adams	1 of 3 #32 events	5	5	17
David Brickhaus	1 of 3 #32 events	5	5	60
Tom Crocco	1 of 3 #32 events	5	5	46
Libby Yunger	1 of 3 #32 events	5	5	17
David Zilz	1 of 3 #32 events	3	3	7
Gale Deroiser	1 of 3 #32 events	3	???	158

Our pilots would have a much more difficult job if it were not for all the additional ground volunteers that make our events go so smoothly. All of you are so efficient at what we have to do it makes the events a complete joy for all of us. I always look forward to spending time with all of you and having a great day at the airport, as long as Mother Nature cooperates, and even if the weather is questionable, I think we can always make the best of it. Thanks to all our ground crew for all they do. If you don't know what we are talking about come on out to an event this year and see what it is all about. See everyone at the meeting Saturday.

2019 Ground Crew Recognition

Participation in 3 of 3 Events	Participation in 2 of 3 Events	Participation 1 of 3 Events
Pam Hanson	Christopher Ward	Andrew Mallek
Laura Million	Victoria Ward	Bob Clarke
Lisa Miano	Bill Doherty	Gina Clarke
Jim Hall	Don Doherty	Kelley Bryant
Dave Deweese	Paul Smith	Tim Dempsey
Michelle Stephenson	Rich Emery	Debra Dempsey
Ron Davis	Kyle Hanson	
Kim Nack	Wesley Dunn	
Bill Wehmier		

News From Aviation Explorer Post 9032

Hello Chapter 32! For those of you who don't know me my name is Andrew Mallek. I'm a recent graduate of Iowa State University who joined the chapter last spring upon moving to St. Louis from Chicago to work as an engineer for Boeing. Yes, that means I'm a Blackhawks fan and I haven't made plans to convert. Shortly after becoming a member of EAA 32, I decided to help out with the Aviation Explorer post chartered through our chapter since the local Post in my hometown was highly beneficial to developing my interest in aviation. Joining me are several EAA 32 members who have generously given up their time to coordinate events/activities for the scouts in the post, many of which I'm incredibly excited about this coming year. The post itself is comprised of roughly 15-20 high school-aged students with a passion for aviation while still looking to pursue/explore a wide variety of careers. We currently meet twice per month, typically on the 2nd and 4th Tuesdays of the month at 6 PM in the ARC. If you have projects or ideas for activities to engage the youth please let me by contacting me at amallek@aepost9032.org.

After what I would consider a good start to the program last fall, we have some fantastic opportunities for the scouts this spring thanks to the help of Jim Hall and Libby Younger. In the month of December, Bob Murray will be kicking off the year with a walkthrough of his avionics project which will give the scouts some insight into how to fabricate custom panels for experimental aircraft and even an overview of how we make them work. Near the end of the month we will be having a speaker from the National Weather Service present on the topics of meteorology, weather predictions, and observations. While we are still working out the details there are hopes for a tour of the NWS offices as well in the future.

Now that we've made it into the new year it's time to start talking about Oshkosh 2020 (it's never too early)! For those of you wondering, we plan on attending the airshow this year as a post where we will spend the week at the Aviation Exploration Base camp which is located on the grounds of AirVenture next to warbird camping. Throughout the week, the scouts will be volunteering around the grounds working with flight line ops, homebuilt parking, P1 ropes, plane counting, flight line safety, and point. As a part of the Aviation Exploration Base, they will be camping with other posts from around the country (East coast to West) and learning the Oshkosh ways. For many this is the very first AirVenture experience as it was mine when I joined Aviation Explorers in high school. I'll have more information as we creep up on the month of July. We will need 1 or 2 registered advisors to attend the base camp with myself during the week so if this is something you're interested, please reach out.

Thanks to everyone for a warm welcome to the chapter and I look forward to seeing where this new year takes us!

Editor's Note:

Andrew is also helping Chapter 32 resolve some computer and internet-related issues. Please welcome him to the chapter when you see him.

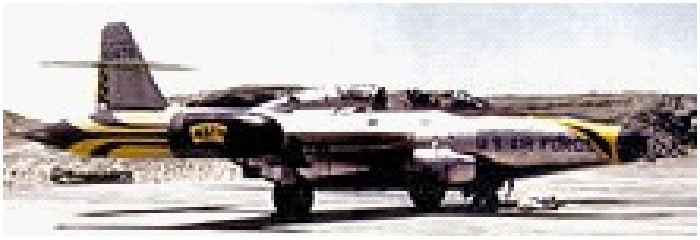
Jim Bower
EAA Chapter 32 Newsletter Editor

The Battle of Palmdale

from a Wikipedia article stolen from the interwebtubes

The **Battle of Palmdale** was the attempted shoot-down of a runaway drone by United States Air Force interceptors in the skies over Southern California in mid-August 1956. The drone was launched from Point Mugu Naval Air Station and soon went out of control. Interceptor aircraft took off from Oxnard Air Force Base and caught up with the drone, but were ultimately unable to bring it down, in spite of expending all of their rockets. After it ran out of fuel, the unmanned aircraft crashed in a sparsely populated tract of desert.[1]

During the incident over 1000 acres were scorched and a substantial amount of property was damaged or destroyed.



Northrop F-89D Scorpion of the 437th Fighter Intercept Squadron stationed at Oxnard AFB California 1956.

Background

In the mid-1950s, the United States Navy was involved in research and development on surface-to-air and air-to-air missiles for the protection of its ships and other assets. The missiles being tested at this time included the AIM-7 Sparrow and the Bendix AAM-N-10 Eagle. Unmanned drones were used to test the missiles' effectiveness. One type of drone was the Grumman F6F-5K Hellcat.

Grumman F6F-5K drone

At the same time, one of the air force's major concerns was how to protect the country from Soviet strategic bombers such as the Tupolev Tu-16 and the new Myasishchev M-4. In 1956, the air force's frontline cutting-edge technology interceptor was the heavily armed Northrop F-89D Scorpion. Thirty active duty United States Air Force and seven Air National Guard interceptor squadrons using the Scorpion existed in states from Alaska to New York.

Incident

On the morning of 16 August 1956, at NAS Point Mugu, an F6F-5K, painted high-visibility red, was prepared for its final mission by navy personnel. At 11:34 a.m. the drone lifted off the runway and was flown by controllers on a heading to the missile test area above the Pacific Ocean. After a short time the drone stopped responding to commands, and it became clear that the drone had become a runaway.

Controllers watched their target as it started a gentle left-hand climbing curve to the southeast, toward the city of Los Angeles. The navy had no aircraft available capable of dispatching the drone, so they called Oxnard Air Force Base 5 miles (8.0 km) to the north. The 437th Fighter-Interceptor Squadron immediately scrambled two F-89D Scorpions. The twin jet-interceptor crews were First Lt. Hans Einstein and his radar observer, First Lt. C. D. Murray, followed by First Lt. Richard Hurliman and First Lt. Walter Hale. They headed south in full afterburner and caught up with the drone at 30,000 feet (9,100 m), northeast of Los Angeles. The drone turned southwest, crossing over Los Angeles, then headed northwest. As the drone circled slowly over Santa Paula, the Scorpion pilots waited for it to fly over an unpopulated area so they could attack with their "Mighty Mouse" 2.75-inch folding-fin rockets.

The two crews discussed attack options. Their D-model Scorpions were equipped with the new Hughes E-6 fire-control system with AN/APG-40 radar and an attack-plotting computer, which gave them a choice of two attack options to fire the unguided rockets while in automatic mode: from behind in a "tail chase" situation or a firing pass from a 90° "beam" position. Since the drone was almost continuously turning, they chose the second mode of attack. Soon the drone turned northeast, passing over Fillmore, then Frazier Park, heading for the

F-89D firing Mighty Mouse Rockets

western section of the mostly uninhabited Antelope Valley. The attackers attempted to fire in automatic mode several times, but due to a design flaw in the fire-control system the rockets failed to launch.

Suddenly the drone turned back towards Los Angeles. Einstein and Hurliman were forced to switch from the faulty automatic mode to manual fire. The D-model Scorpions had been delivered with gun sights, but when the E-6 fire-control system was later added, the sights were removed. Now, with the radar-guided system inoperative and no gun sight, the attackers were forced to manually aim the unguided rockets. The F-89D was capable of firing all 104 of its rockets at once, all leaving their tubes in only 0.4 s. The rockets could also be set to "ripple fire" in two different patterns: two ripples (64 and 42 rockets) or three ripples (42, 32, and 30 rockets). A single hit was sufficient to bring down an aircraft.[3] Murray and Hale set their intervalometers to "ripple fire" in three salvos.[7]

While the drone flew over Castaic, the first crew lined up and fired 42 rockets, completely missing their target. The second interceptor moved into position and unleashed another salvo of 42, the rockets passing just beneath the bright red drone, a few glancing off the fuselage underside, but none detonating. Close to the town of Newhall the pair of jets made a second pass, launching a total of 64 rockets; again none found the mark. The two Scorpion crews adjusted their intervalometer settings and, as the wayward drone headed northeast toward Palmdale, each fired a last salvo of 30 at the target with no hits, dispensing their last rockets. In all, the Air Force element fired 208 rockets and were unable to shoot the Hellcat down.

As the Scorpion pilots headed home low on fuel, the drone advanced toward Palmdale, its engine sputtering from fuel starvation. The drone slowly descended in an easy spiral, approaching a desolate section of desert 8 miles (13 km) east from Palmdale Regional Airport. Just before crashing, the drone severed three Southern California Edison electric cables along an unpaved section of Avenue P. The drone's right wing dug into the sand, it then cartwheeled and disintegrated. In July 1997 archeologists found some pieces of the drone "identifiable by part numbers and inspection stamps".

Ground transmitter failure and aircraft receiver malfunction are two possible explanations for the drone going rogue.

Aftermath

The incident resulted in damage on the ground. The Mk. 4 rockets were fitted with point-detonating warheads that become armed only after being launched and, if the target is missed, disarm as their speed decreases. Only 15 were discovered undetonated.

The first set of rockets started brush fires 7 miles (11 km) northeast from Castaic which burned 150 acres (61 ha) above the old Ridge Route near Bouquet Canyon.

Some of the second set of rockets reached the ground near the city of Newhall. In Placerita Canyon, one rocket was seen bouncing along the ground and starting a series of fires near a park, while others set fire to oil sumps owned by the Indian Oil Co. The fires reached within 300 feet (91 m) of the Bermite Powder explosives plant. Other rockets started fires in the proximity of Soledad Canyon, near Mount Gleason, burning more than 350 acres (140 ha) of rough brush.

The final set of rockets were fired while the Scorpions faced Palmdale; many landed within the town. "As the drone passed over Palmdale's downtown, Mighty Mouse rockets fell like hail." Edna Carlson, who lived in the home on Third Street East, said that a chunk of shrapnel from one Air Force rocket burst through the front window of her home, ricocheted off the ceiling, went through a wall and came to rest in a kitchen cupboard." More rocket fragments completely penetrated a home and garage on 4th Street East. One rocket landed right in front of a vehicle being driven west on California State Route 138 near Tenth Street West, of which one tire was shredded and many holes were punched through the car's body. Two men in Placerita Canyon had been eating in their utility truck; right after they left it to sit under the shade of a tree, a rocket struck the truck, destroying it. Many fires were started near Santa Clarita, with three large ones and many smaller ones in and around Palmdale.

It took 500 firefighters two days to bring the brushfires under control. 1,000 acres (400 ha) were burned. There were no fatalities.

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Check out our fantastic Web Pages at

WWW.EAA32.ORG

Laura Million, Web Designer

While you're there, take time to join the Yahoo Groups to help you stay abreast of Chapter happenings!

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