

# YOUNG EAGLES RALLY SATURDAY APRIL 13TH



April 2019

Home of the  
"Panhandle Pelicans"

[Squawk 485](#)

# EAA 485



Monthly Meeting Ferguson 82J  
Saturday April 13th @ 1000  
[Details](#)

## President

John McKiernan

[rockyjs7jm@gmail.com](mailto:rockyjs7jm@gmail.com)

Cell - (850) 291-4134

Hello Everyone,

As many of you know we were selected to receive a \$10,000 Ray Aviation Scholarship from the EAA to award to a deserving local youth. Our hats are off to Ralph Moser our Scholarship Coordinator and his team: Craig Spoke, Bill Diaz along with Mark Rogers. Gentleman, thank you for a job Well Done.

**Young Eagles Rally SAT APRIL 13TH**  
**Briefing 0845 Flights 0930-1200**

We will be having our first Young Eagles Rally of 2019 on Saturday April 13th. We are still looking for pilots and especially Ground Volunteers to make this a successful event. This event will take the place of our normal meeting and there will be no lunch.

If you can help out contact [Chris Hornady](#) our YE coordinator and sign up.

Thanks

## Chapter Dues May 1st \$25

Yes it's the dreaded dues time again. Don't ask me why we have a May 1- April 30th Fiscal Year. It didn't happen on my watch. We still have people who forgot us from last year. Please bring your dues to the Young Eagles Rally or mail to: Checks payable to EAA 485

Mark Rogers  
22959 Carnoustie Dr.  
Foley, AL 36535

Thanks

- **March 9th Meeting called to order at 1000 Pledge**
- Introductions & Guests**
- Ralph Moser Ray Aviation Scholarship Fund Update**
- Young Eagles Rally April 13th**
- Joe Nolan Switchblade Presentation**
- Project Updates**
- Next Meeting April 13th**
- Adjourned**
- Lunch**



## RAY AVIATION SCHOLARSHIP UPDATE

[Ralph Moser](#), Chapter 485 Coordinator

And the winner is....**Nick Hanssen!** We conducted the interviews with candidates and their parents as planned March 23rd and 30th and met on the 31st to do the final pick. We used a point system to rate the candidates. All the interviewees presented themselves admirably and had strong support from parents or guardians. Competition was stiff; all interviewees would have been fine Ray Scholars. Bill Diaz, Craig Spoke and myself enjoyed the privilege of interviewing such sharp teenagers. If you want to learn more about Nick

# Pensacola FL



Hanssen, come to the May 11 th chapter meeting!

Due to weather, we did not get Nick his Young Eagle ride, so we plan to do that at the rally April 13th. After the flight, I will sit down with Nick to fill out the EAA scholarship application, and along with his parents we will have a chat with Christian Kidder about the planned flight training.

The application goes to EAA, then back to us for final review and approval, then back to EAA by April 30th. EAA notifies us when approved by May 10 th , and sends the first installment of money May 20th . The chapter is opening a dedicated account to receive and disburse the scholarship money. Nick finishes the high school year May 17th and plans to start flying lessons soon thereafter. We as a chapter will help mentor him along the way. More to follow on that.

We have invited Nick and his parents to the May 11 th chapter meeting, where we will formally announce him as the chapter Ray Scholar winner, and make him the newest chapter member! It should be a joyous event. Come one, come all!

### March 9th Meeting Highlights



Joe Nolan came over and did a great presentation on the Switchblade “flying car”. Joe did a great job and following the presentation a discussion with several questions followed. Some questions were unanswered and Joe within a couple of days provided us the answers which were dis-

seminated. Just recently I received an email from Martha Hall Bousfield thanking the chapter for having Joe present the Switchblade.

Thank You Joe for coming to visit and tell us about this leading edge flying machine.

For those of you who missed the presentation here is a link to the company website:

[Switchblade](#)

### Aviation News

#### Boeing 737 MAX

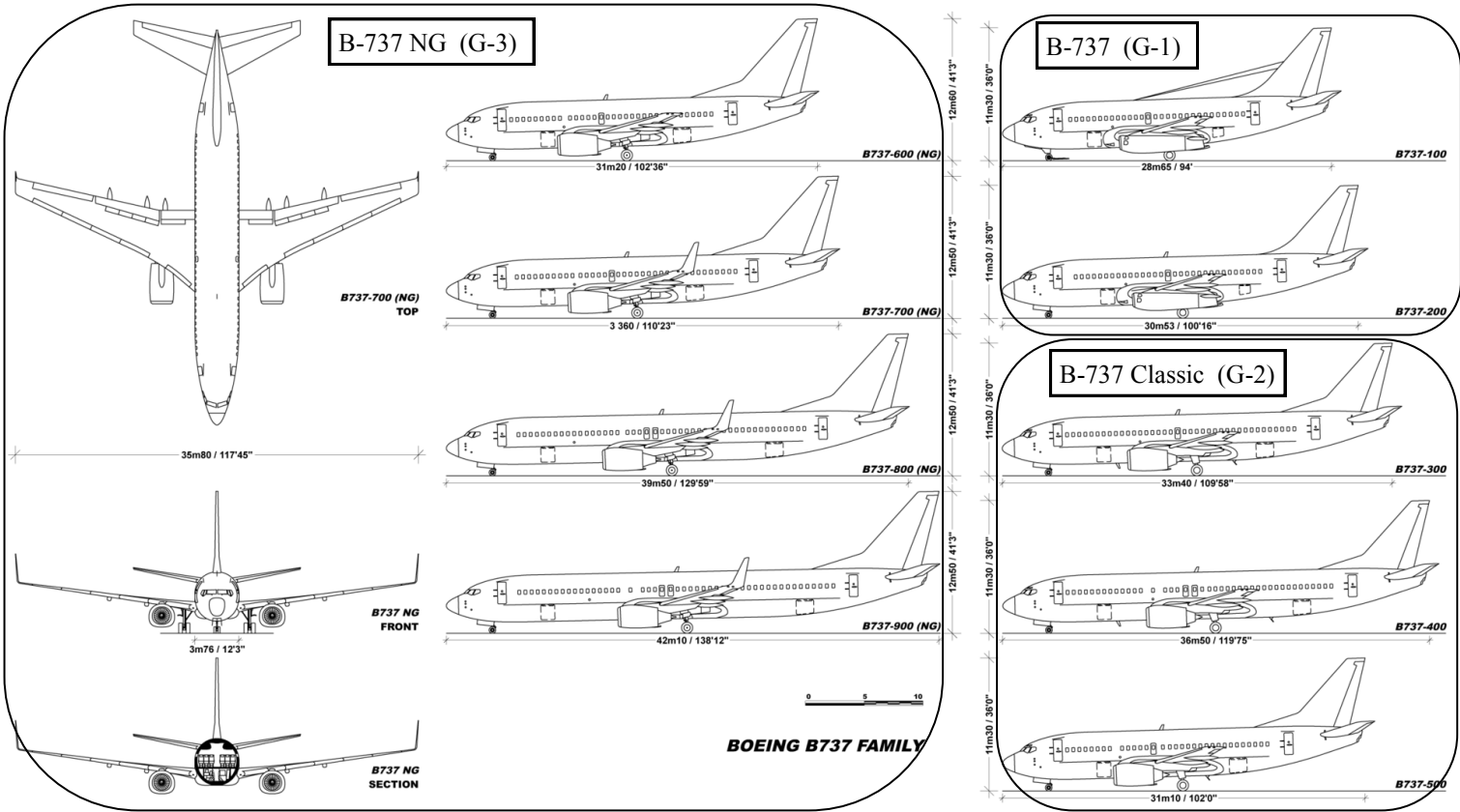
Over the past several weeks not a day has gone by without news articles regarding the second crash of a Boeing 737 max aircraft. The entire fleet of 346 aircraft is now grounded. Let’s take a look at this airplane and explain a little about the MCAS (Maneuvering Characteristics Augmentation System).

The Boeing 737 Max is the latest, 4th generation derivative of the line. The 737 has been in service since 1967 with over 10,000 Generation 1 -3 produced. The name of the game is efficiency in the airlines and market share. Form the initial 80 passenger 110,000 lb gross weight 737-100 thru the 737-900 NG with 177 passengers and 177,500 lb gross weight.

The 737-Max 6/7/8/9/10 can accommodate up to 188 (2 class) passengers with a gross weight of 194,700 lbs. Basically it’s a B-727 with 46 more passengers and very fuel efficient. The original 737 had 14,000 lb thrust JT8D engines while the MAX series engine produces up to 29,300 lbs.

Boeing produced the MAX series to compete with the Airbus 320 neo. Both are very sophisticated aircraft incorporating the latest technology. Also both aircraft required re-tuning flight controls due to engine size and common type rating requirements.

The 737 max uses a split winglet on the wings and re-engined the aircraft with a more powerful, efficient and quiet [CFM LEAP](#)



(Leading Edge Aviation Propulsion) motor. This necessitated moving the engine forward and up on the wing pylon, The nose strut was also extended an additional 9 inches for cowling clearance. For common type rating the cockpits are very similar to the existing 737 fleet.

The changes made to the engine location altered the flight characteristics and control feel. Normal takeoff rotation and climb attitudes were sensitive with initial testing displaying over-rotation. They needed to add a system that would automatically lower the nose using the aircraft electrical trim system when established angle of attacks were exceeded. The system known as MCAS Maneuvering Characteristics Augmentation System came into being. The system originally was designed for no more than .6 degrees of stabilizer correction but was later increased to 2.5 degrees of authority. It uses input from ONE of the stall warning sensors alternating between flights. The popularity of the 737 MAX series is amazing. Boeing has orders already for over

5,000 aircraft. There have been some cancelled orders for the aircraft and Boeing recently announced that it will slow down the line while it makes software





Boeing 737 MAX orders and deliveries

	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Orders	150	908	668	861	409	530	759	720	7	5,012
Deliveries	-	-	-	-	-	-	74	256	46	376

updates to the MCAS system. We're still in the dark over exactly what happened in these accidents but it appears there was a malfunction of the MCAS sensor system. The day before the Lion Air crash they had a malfunction of the system on the same airplane that crashed the next day. A pilot on the jump seat suggested turning the electric trim system off and using manual which shutdown the system. The flight continued to its destination. Unfortunately and unbelievably there was never a maintenance write up logged for the event.

Both accident aircraft impacted at a very high velocity of 500 + mph. It seems that the auto throttles were never disconnected or power was never manually reduced. Total flight time for the two accidents combined was 17 minutes.

**The Boeing 737 MAX MCAS Explained**

Sean Broderick, Guy Norris and Graham Warwick

The Maneuvering Characteristics Augmentation System (MCAS) is a flight control law managed by the flight control computer (FCC) and introduced on the 737 MAX to help it handle like a 737 Next Generation (NG), particularly at slow speeds and high angles of attack (AOA).



Credit: Boeing

**1 | Leap Engines and Pitch-up Moment**

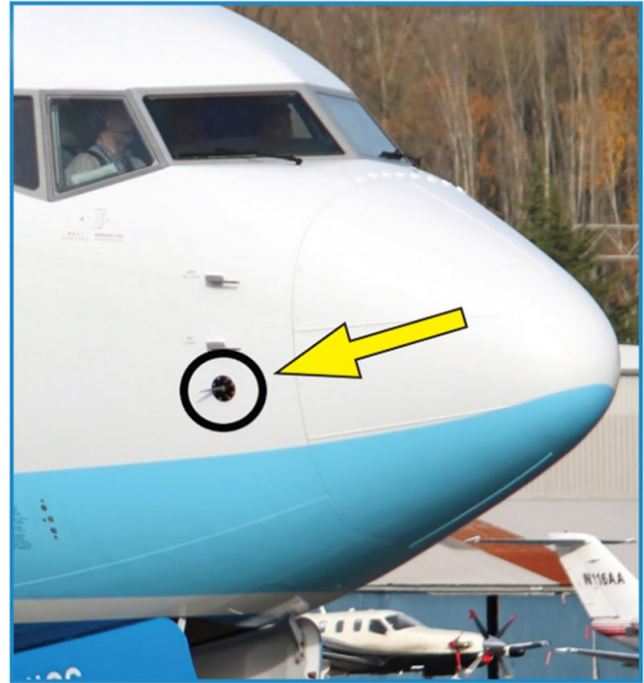
The MAX's larger CFM Leap 1 engines create more lift at high AOA and give the aircraft a greater pitch-up moment than the CFM56-7-equipped NG. The MCAS was added as a certification requirement to minimize the handling difference between the MAX and NG.



**2 | MCAS Activation**

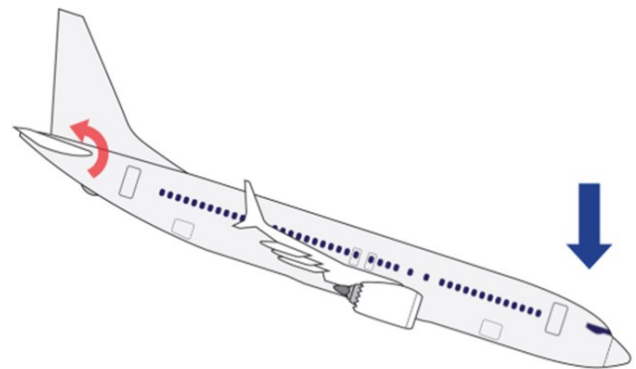
The system activates when the aircraft approaches threshold AOA, or stickshaker activation, for the aircraft's configuration and flight profile. The MAX flight-control law changes from speed trim to the MCAS because the MCAS reacts more quickly to AOA changes.

**3 | Angle of Attack Vanes**

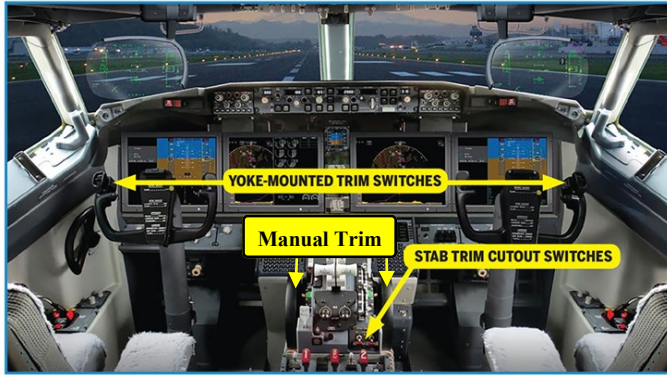


The MCAS's primary data sources are the MAX's two AOA sensing vanes, one on either side of the nose. Boeing designed the MCAS to receive input from only one of the sensors during each flight. The left and right sensors alternate between flights, feeding AOA data to the FCC and the MCAS.

**4 | Stabilizer Deflection**



When threshold AOA is reached, the MCAS commands 0.27 deg. of aircraft nose-down stabilizer deflection per second for 9.3 sec.—a total of 2.5 units of trim. When the FCC reads the AOA as back to below threshold, the MCAS is reset, and the aircraft's trim returns to the pre-MCAS configuration. Inaccurate AOA data will trigger the MCAS every 5 sec. until the data is corrected or the system is disabled.



Pilots can interrupt the MCAS in two ways: via the yoke-mounted electric trim switches, or using the STAB TRIM CUTOUT switches on the center console. The trim switches interrupt the MCAS for 5 sec. and establish a new stabilizer trim reference point. Toggling both Stab Trim cutout switches de-powers the MCAS and the speed-trim system. The system is **not active** when the autopilot is engaged.

### Update To Ethiopian Crash

Courtesy AvWeb

According to a preliminary accident report, the pilots of an Ethiopian Airlines Boeing 737 MAX that crashed on March 10 were unable to manually counter significant nose-down trim before losing control of the airplane in a dive that reached 500 knots. The report, released by the Ethiopian government Thursday, confirms that the MAX 8's MCAS subsystem, a stall-protection add-on, rolled in nearly maximum nose-down trim in response to a faulty angle-of-attack sensor.

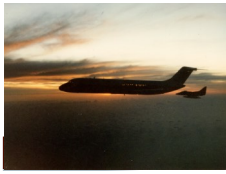
But the report, which draws no final conclusions, is silent on whether the crew simply didn't know how to use mechanical manual trim or if trim input was inhibited because the airplane was flying at such high speed. The pilots retained takeoff/climb power throughout the accident sequence. Ethiopian Airlines said that following the crash of a Lion Air MAX 8 last October in Indonesia, the crew was briefed on Boeing-provided information on how to disable MCAS. And although some mainstream news organizations have

reported that the Ethiopian pilots followed Boeing's checklist, the report suggests they departed from it in one key detail: After initially disabling electric trim to isolate MCAS, they reengaged it later, allowing the malfunctioning system to trim the airplane nearly full nose-down.

MCAS—Maneuvering Characteristic Augmentation System—was added to the MAX series because the engines are heavier and mounted farther forward than on previous 737 models. As a result, in flight test, the airplane demonstrated a pitch-up tendency at high angles of attack and/or high load factors. To counter this, MCAS automatically adds nose-down trim at high angles of attack when the airplane is hand flown with the flaps up. Boeing has described it as a stall-protection system, but it also increases perceived pitch force before stall angle of attack is reached. MCAS is fed by a single AoA sensor and in both crashes, the sensor furnished inaccurate information to the flight computer.

The Ethiopian report said that the left-side AoA indicated **74.5 degrees** less than a minute after takeoff, while the right side indicated 15.3 degrees. This activated the left-side stick shaker and MCAS eventually responded by rolling in nose-down trim. It also gave the crew airspeed and altitude disagree alerts between the left and right side displays.

Following Lion Air, Boeing's guidance for this situation—published in the Ethiopian preliminary report--called for several steps that combine its existing standard runaway trim with the MCAS's peculiarities. Specifically, the checklist calls for disengaging the autopilot and auto throttles and, if the runaway continues, setting electric trim to the cutout position, disabling electric trim. Boeing said it should remain off for the remainder of the flight. The checklist advises to trim manually with the mechanical wheel and to "anticipate trim requirements." Following Lion Air, Boeing also said that a significant out-of-trim condition caused by a runaway could *first* be



corrected with electric trim before the cutouts are used. Flight data appears to show that the Ethiopian crew didn't do this.

At 5:38:58, the captain, who was flying, called for the first officer to engage the autopilot, opposite of Boeing's guidance. At that point, the crew had a left side stick shaker, some of the fault warnings and a master caution light Boeing listed, including airspeed and altitude disagree. It's unclear if this had any bearing on the accident scenario, since MCAS is disabled when the autopilot is engaged. (The autopilot disengaged 33 seconds later.)

Shortly after the autopilot disengaged, the FDR showed that automatic nose-down trim activated for nine seconds, confirming that MCAS was reacting to and trying to resolve the erroneous AoA indication. The captain countered this with electric trim with his yoke thumb switch and later asked the first officer to "trim up with him." The aircraft began a series of pitch and altitude excursions, but the power was never reduced below 94% N1, an unusually high power setting. After struggling against the automatic pitch trim and excursions for several seconds, at 5:40:35—about two and half minutes after takeoff—the first officer called "stab trim cutout" twice. The captain concurred and the report indicates the cutouts were used. The 737's trim system is operated by an electric motor/jackscrew arrangement that trims by moving the entire horizontal stabilizer. In the event of a trim runaway, the cutout switches on the lower pedestal disable the electric motor. But the 737 still has manual mechanical trim wheels on either side of the pedestal that are accessible to both pilots.

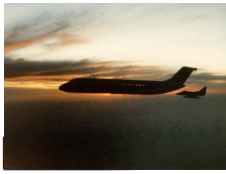
Six seconds later, the FDR showed that more automatic nose-down trim was commanded, indicating that MCAS was still sensing high AoA. However, the data showed the stabilizer didn't respond to this command, confirming that the cutout switches were engaged. MCAS can only move the stabilizer if electric trim is active. The report indicates that shortly after the cutouts were used, the trim gradually moved nose-down

from 2.3 to 2.1 units. It's unclear why this happened, since electric trim was disabled. At this point, according to the report, both pilots were exerting pitch-up force on the control columns, after the captain asked the FO to assist him. At 5:41:46—a little over four and a half minutes after takeoff—the captain asks the FO "if the trim is functional." The FO replied that it wasn't and asked the captain if he could trim manually. What's unclear is if the FO meant trim manually with his yoke-mounted electric trim switch or the 737's mechanical wheel. The training manual for the 737 MAX includes a warning that excessive air loads on the stabilizer could require the effort of both pilots to correct a mistrim condition. "In extreme cases, it may be necessary to aerodynamically relieve air loads to allow manual trimming. Accelerate or decelerate towards the in-trim speed while attempting to trim manually," the training guidance says.

The data indicates the stabilizer was never moved manually mechanically. However, 32 seconds before the crash, the FDR trace revealed two momentary manual electric trim inputs commanding nose-up from 2.1 to 2.3 units. This indicates that counter to Boeing's guidance, the crew reengaged electric trim, allowing MCAS to once again regain control of the stabilizer. In five seconds, it moved the trim nose down from 2.3 to 1.0 unit, a value that's nearly maximum nose-down in the 737, according to sources *AVweb* contacted for this story. The aircraft reached 40 degrees pitch down before impacting at 500 knots, according to the FO's data.

According to the report, power was never reduced from the takeoff/climb value. Ethiopian Airlines said that its pilots did follow the Boeing guidance and in a press statement, the airline said, "We are very proud of our pilots' compliances to follow the emergency procedures and high level of professional performances in such extremely difficult situations."

For its part, Boeing continues work on a new software package for the 737 MAX, but it's not known when it will be available. For the time



being, more than 370 MAX series 737s remain grounded throughout the world.

In a press statement, Boeing said, "The preliminary report contains flight data recorder information indicating the airplane had an erroneous angle-of-attack sensor input that activated the Maneuvering Characteristics Augmentation System (MCAS) function during the flight, as it had during the Lion Air 610 flight.

"To ensure unintended MCAS activation will not occur again, Boeing has developed and is planning to release a software update to MCAS and an associated comprehensive pilot training and supplementary education program for the 737 MAX. "As previously announced, the update adds additional layers of protection and will prevent erroneous data from causing MCAS activation. Flight crews will always have the ability to override MCAS and manually control the airplane..

### VMC Club

I've recently contacted the EAA to get information about starting our own chapter VMC Club. Here is what it is:

Non-instrument rated pilots who want to improve their proficiency now have an excellent new resource through EAA's VMC Club.

The VMC Club is modeled after the popular IMC Club concept which provides organized "hangar flying" focused on building proficiency in instrument flying. The VMC Club will do the same, but for pilots who are not instrument rated and fly primarily under visual flight rules and under VMC.

The VMC Club offers monthly meetings in which pilots can network and share knowledge and experience. The meetings use real-world scenarios to engage members, and allow a free exchange of information that improves awareness and skills. The intent is to create a community of pilots willing to share information, provide recognition, foster communications, promote safety, and build proficiency.

I'll have more information available shortly. This should be valuable to our members interested in proficiency and an excellent introduction to aviation for our non-pilots. John

# Thatcher

We've made some real progress with the Thatcher CX4. We got our hands messy Pro-Sealing the fuel tank rivets that fasten the attach angles. We made some doublers out of .032 to install inside the tank and instead of "pull rivets" we actually bucked these. We have yet to test the tank but a few more bungs need to be installed to accommodate the vent, gascolator and drain lines.



We're nearly ready to rivet the top skin making up the cover of the instrument panel and serving double duty as the rear fasten point for the fuel tank cover. We need to make certain that we won't impede access to any forward areas since there are also 4 side skins that need to go under the top skins.

We also had a surprise visit from Daniel Harrison who we don't see nearly enough of. It will be time to make our penetrations through the firewall for such things as throttle, mixture, electrical wires, fuel. Maybe a brake line and anything else we can think of.

April 2019



It's time to manufacture the motor mount and I've got just the guy to help in mind.

### Fiberglass 101 Revisited

Well Ron Lock's Cirrus SR22 wheelpant has been repaired after lots of procrastinating and head scratching. As some of you may remember the aircraft left wheel found a sink hole at Shields



Cirrus likes their parts and this particular item was \$1,800 not counting the inboard access panel. You've got to be kidding me!

I'm not the greatest fiberglass technician but slowly I reconstructed the wheel pant. There were large missing pieces and multiple cracks. I routed all the cracks with a Dremel bit to allow proper alignment. The picture above shows the inboard access panel after putting some of its pieces together and still requiring more work. The small holes were for attaching paint stirrers and lollipop sticks with clecos to hold the pieces in alignment while glassing. I also used balloons inside to do layups on. The wheelpant reminded me of Humpty Dumpty and with that came a remembrance of a Super Bowl Commercial a few years back. [Click Here](#). That's just the way my mind works sometimes.

After the layups I used epoxy with micro balloons to fill voids and all the drilled holes. The secret of doing a repair is to keep it light. While the layups were hardening it was possible to reposition and form them slightly. After finishing with filler I roughed up the entire wheelpant and used a rattle can white enamel paint for now. The wheelpant and gear legs have been reinstalled. They will be checked after each flight



and inspected for any cracks or stress points. Once that phase is complete they will be stripped

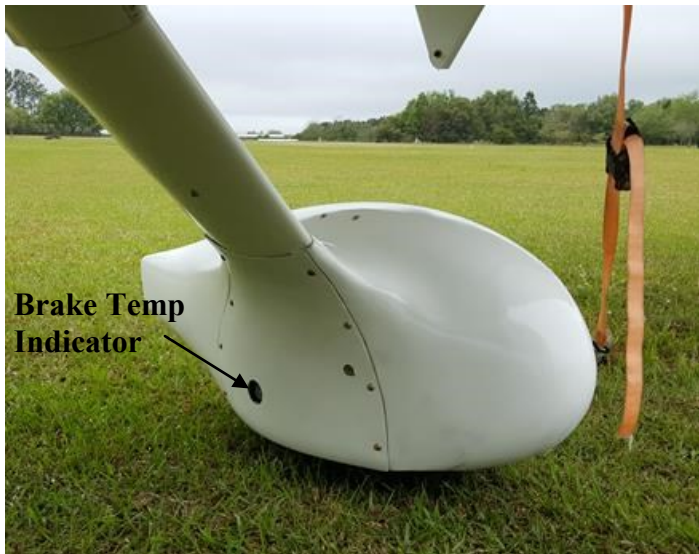
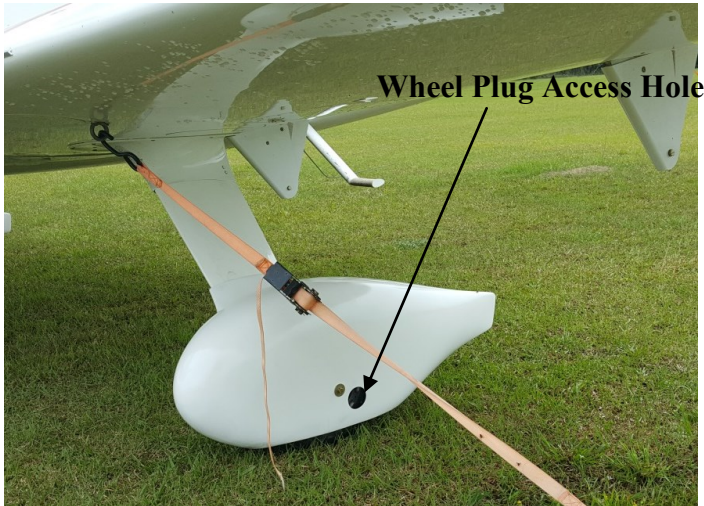
and painted using a high build primer and catalyzed paint.

### Olathe, Kansas We Have a Problem!

I finished up my wiring on my RV-7 avionics and plugged my Garmin GNS 480 in and fired it up. Nothing! I killed the Master Switch, checked fuses and pulled the radio. I turned the Master back on and had good juice at both Dsub connectors. Maybe I didn't get the radio seated correctly. Master OFF Radio in and verified. Master Switch ON ..... **NO JOY** smelled smoke. No lights on display nothing. Master OFF. Make a call to Garmin.

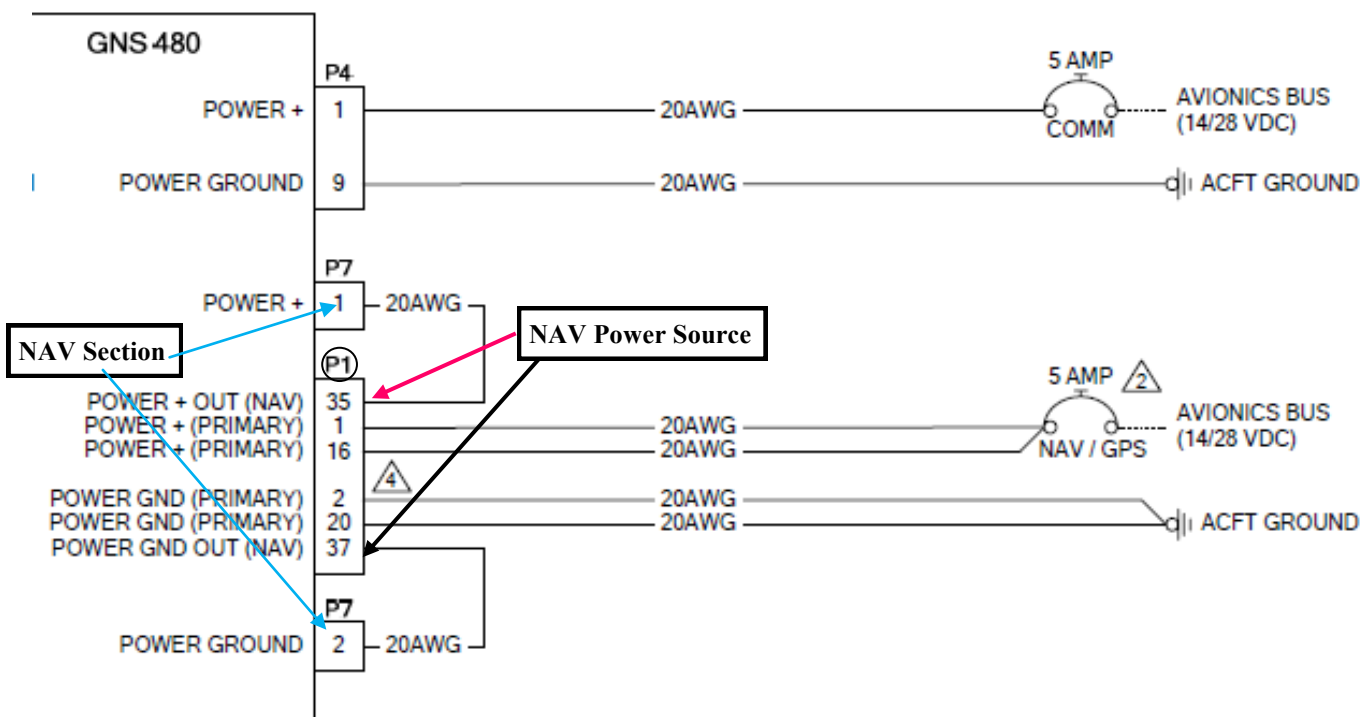
I explain what's going on and he says the unit needs to come back. There is a flat rate fee of \$1,200 plus tax, plus my shipping, GULP! So I bite the bullet and send the unit in. One thing Garmin has is a quick turnaround. Within 8 days it's in transit back. I'm a little tentative and re-check all my wiring. Yep it's all correct. Reinstall the unit and turn the Master Switch ON. Splash screen comes on with a blue background and white clouds... Nice! It's going through lots of test and the best part is no smell of smoke. A Warning pops up Not communicating with Encoder. OK my FD180 isn't installed yet. Another Warning Can't Communicate with COM, what does this mean. I try to change a frequency and nothing happens. I clear this and another Warning: Can't Communicate with NAV. Yikes.

I shut the unit down and install my Dynon legacy EFIS with built in digital encoder. The airplane is pushed outside and I flip the master on. Same errors but the GPS has locked on with 12 satellites. To the phone I go. The technician said it's the first time he heard of these warnings and that I should take some pictures which I do and send them as attachments on an email. Within 30 minutes I get an email with a new RMA and to ship the unit back. The original fix was a replaced NAV board and a repair to the COM. One tech says it sounds like they didn't get the cards seated correctly. It's coming back tomorrow and hopefully it is really fixed.





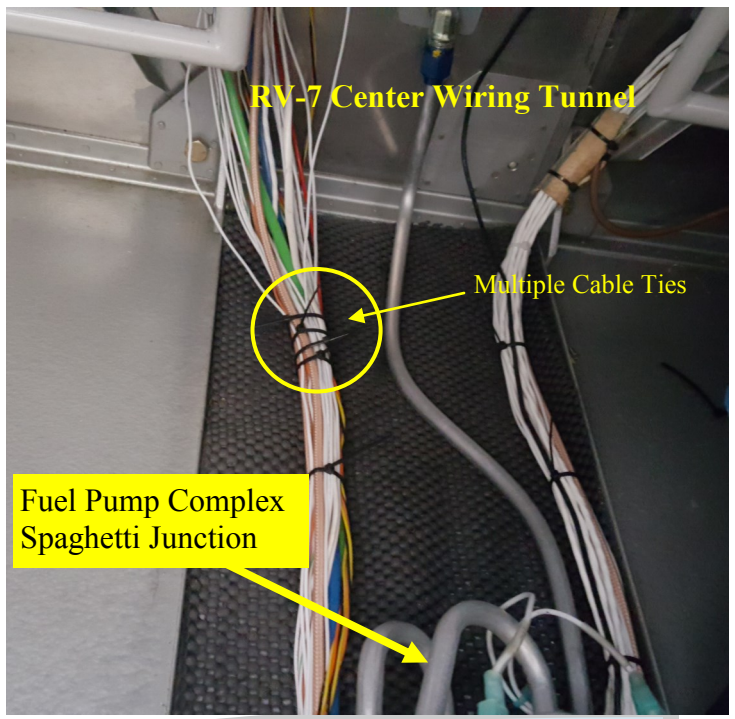
Well the Garmin is back and they couldn't duplicate the problem. I'm being told that there should be 3 circuit breakers./fuses and my installation manual only has two listed. I rechecked all the wiring and everything is correct. The problem they say, is either in the Com or Nav power. The Com has 12 vdc. The Nav is a different animal. It gets its power and from the main power. The dilemma is I can't check that power source with the radio installed. Here's the power diagram from the manual. It's pretty simple. The Saga continues. Stay Tuned.



**Quick Tips**

Working with wire bundles can be a trying experience especially when they aren't easy to get to which is most of time. Let's look at a dual Nav/Com low wing aircraft such as my RV-7. Due to it's construction most wires having anything to do aft of the instrument panel with the exception of a few run from firewall down the center flooring section under the high pressure fuel pump and on thru one of four areas for spar penetration.

Under the center flooring there is a pair of wire bundles located on each side of the tunnel. Recently during my upgrade I needed to relocate a small GPS antenna wire from one bundle to the other, determine an unlabeled wires function and run un a new VOR antenna from my left wingtip. This area is not very access friendly and getting there is often referred to as "diving the panel".



Disconnecting the rudder cables at the rudder allows the rudder pedals to be moved forward freeing up some needed space. Normally I can't get both hands to work on something especially trying to install cable ties. I estimate what I need



for cable ties and put them on in a more accessible area loosely. Then I push the group of ties up the bundle and tighten the lowest one. Then move the group up the bundle and repeat. This allows me to work with one hand. After I'm satisfied I re-check them all and cut the ends flush with my mini-diagonal cutters.

We don't want to strangle the wires and cables with excessive force. Some of these are 22 gage wires and the plastic ties can damage insulation or worse the actual wire.

There are also cable ties designed for firewall forward that are heat resistant. I try never to put a cable tie on the engine mount tube without first protecting the tube with a piece of hose. Any grit getting in a cable tie can damage the tube due to vibration and start to mar the surface.

You can get pretty creative with cable ties to stand off wires from the motor mount or other

wire bundles. You simply cut a small piece of vinyl tubing sized to allow the cable tie to go through to act as a spacer. This comes in handy for EGT, CHT spark plug wires etc. I check the spacer for brittleness and replace as necessary during inspections.

## RIP Lt Col Dick Cole

(Sep 7, 1915 - April 9, 2019)



Retired Air Force Lt. Col. Richard E. "Dick" Cole, the last living connection to a daring World War II bombing mission and a frequent visitor to Northwest Florida, died Tuesday in Texas at the age of 103. A memorial service is planned for Randolph Air Force Base in Texas with interment later at Arlington National Cemetery.

Cole was among the 80 Army Air Corps airmen who volunteered for the Doolittle Raiders, a team led by then-Lt. Col. James Doolittle to strike Japan after the Japanese laid waste to American naval power in an attack on Hawaii's Pearl Harbor on Dec. 7, 1941.

The story of the Doolittle Raiders is woven tightly into the fabric of this area. For a little more than two weeks in March 1942, they trained at what was then Eglin Field. Later, fly-



ing 16 B-25 bombers from the deck of the aircraft carrier U.S.S. Hornet on April 18, 1942, the Doolittle Raiders had targets in five Japanese cities. Each plane carried four 500-pound bombs, and had been stripped of extraneous equipment to accommodate additional fuel.

While the damage inflicted by the raid was slight, it was considered a success, showing Japan was not beyond the reach of American air power.

Cole was consistently humble about his role in the raid, which included serving as Doolittle's co-pilot.

"I don't think that the Raiders should be remembered any more than the millions of other people who took part in World War II," Cole said during a 2018 interview at the Air Force Armament Museum at Eglin Air Force Base. Seven of the Doolittle Raiders lost their lives during the mission, either as the result of crashes, or while parachuting from their aircraft, or at the hands of the Japanese.

Cole was among the airmen who had to bail out of the B-25s after the raid, while the aircraft were en route for planned landings in China. Asked in the 2018 interview about his sharpest memory of the raid, Cole had a quick response. "The thing I remember most is my parachute opening," he joked.

Cole's last visit to this area came last month, when he visited Hurlburt Field, headquarters of Air Force Special Operations Command, for a 75th anniversary commemoration of Operation Thursday. Another piece of World War II history in which Cole was involved, the 1944 operation saw American air pioneers working alongside British special operations soldiers to extract British soldiers from the forests of Burma. The operation marked the birth of Air Commandos as part of the U.S. military.

Cole became the last surviving Doolittle Raider in 2016, after Staff Sgt. David Thatcher, an engineer and gunner on the mission, died in Montana at the age of 94.

In 2013, the four remaining Doolittle Raid-

ers held their 71st — and final — public reunion in Fort Walton Beach. Cole joined Thatcher and Lt. Col. Edward Saylor for the reunion. The other then-remaining survivor, Lt. Col. Bob Hite, was ill and could not attend.

[Doolittle Raid Video](#)



The crew of the lead plane in the 1942 raid on the Japanese homeland. From left, Lt. Henry A. Potter, navigator; Lt. Col. James H. Doolittle, pilot; Staff Sgt. Fred A. Braemer, bombardier; Lt. Richard E. Cole, co-pilot; and Staff Sgt. Paul J. Leonard, flight engineer/gunner. All five were rescued after the raid. Credit U.S. Air Force

Richard E. Cole, who was Jimmy Doolittle's co-pilot in the lead plane of a storied mission in the history of American air power, the bombing raid on Japan in retaliation for its attack on Pearl Harbor months earlier, died on Tuesday in San Antonio. He was 103 and the last survivor of the 80 Doolittle raiders, who carried out America's first strikes against the Japanese homeland in World War II.

The Doolittle raid was a low-level daylight attack in April 1942 that resulted in only light damage to military and industrial targets. But it buoyed an American home front reeling from



unbroken reverses in the Pacific, beginning with the Pearl Harbor attack on Dec. 7, 1941, and it shattered the Japanese government's assurances to its people that they were invulnerable to an American air attack.

It also prompted Japan to launch a naval attack on the American base at Midway in the mid-Pacific in June 1942 out of the mistaken belief that the Doolittle bombers had departed from an aircraft carrier based there. The Americans, having broken the Japanese codes, knew the attack was coming and dealt the Japanese Navy a major defeat.

The commander of the American bombing raid, Lt. Col. James H. Doolittle, was awarded the Medal of Honor, becoming one of the nation's first heroes of World War II.

On the morning of April 18, 1942, 16 Army Air Corps B-25 bombers flew to Japan off the aircraft carrier Hornet from a point more than 650 miles offshore. Doolittle and Lieutenant Cole alternated in flying their bomber, armed with high-explosive and incendiary bombs.



"Everyone prayed but did so in an inward way," Mr. Cole recalled in an account for the Air Force information office in 1957. "If anyone was scared, it didn't show."

Then came a moment that perplexed Doolittle. As Mr. Cole remembered it: "The tune 'Wabash Cannonball' kept running through my mind. One time I was singing and stomping my foot with such gusto that the boss looked at me in a very questioning manner, like he thought I was going batty."

The five-man crew of the Doolittle plane spotted more than 80 Japanese aircraft while approaching its target area, the western section of Tokyo. But no fighters attacked them, and anti-aircraft fire made only a few holes in the bomber's tail. The lack of a formidable Japanese response evidently resulted from their belief that an American air attack was improbable, at the least. And the relatively few Doolittle bombers in the mission did not suggest to the Japanese that a large-scale strike was in progress, one that would require a furious response.

After dropping its bombs, the plane with Doolittle, Lieutenant Cole and their navigator, bombardier and engineer/gunner descended to treetop level to avoid flak. To the Japanese civilians on the ground in Tokyo, it seemed to be just another plane in the skies that day, when a scheduled civil defense drill was being conducted. "People on the ground waved to us," Mr. Cole remembered. "We could see the moat, the Imperial Palace and downtown Tokyo."

After carrying out the bombings, the 16 planes were supposed to fly on to China and land at Nationalist Chinese airstrips, since they could not return to the Hornet. Army bombers were not designed to take off from or land on aircraft carriers, and the Doolittle planes had barely cleared the approximately 500-foot deck of the Hornet in their departures.

The planes ran low on fuel after their bombing runs, and none made it to airstrips prepared for them by the Chinese. Fifteen crash-landed in Japanese-occupied territory or ditched off the Chinese coast, and one plane flew on to the Soviet Union.

Doolittle, Lieutenant Cole and the other three crewmen of their plane bailed out in rain



and fog soon after their bomber crossed the Chinese coast as darkness arrived. Lieutenant Cole landed in a pine tree atop a mountain and was unhurt except for a black eye. He made a hammock from his parachute and went to sleep. At dawn, he began walking, and late that day he made contact with Chinese guerrillas. He was soon reunited with Doolittle, who had come down in a rice paddy, and their three fellow crewmen.

The five joined up with other stranded airmen who had been rescued. The Chinese took them all on an arduous journey, much of it by riverboat, to an air strip, where they were picked up by a United States military transport plane and flown to Chungking, the headquarters for the Nationalist Chinese.

Three of the 80 Doolittle raiders were killed in crash landings or while parachuting. Eight others were captured by the Japanese. Three of them were executed, another died of disease and starvation in captivity, and four survived more than three years of solitary confinement and brutality.

The raid became even more the stuff of legend when it was dramatized, with the war still on, in a 1944 movie, “Thirty Seconds Over Tokyo,” based on a book of the same title by Ted W. Lawson, a pilot in the raid. Spencer Tracy played Doolittle. (Lieutenant Cole was not portrayed on the screen.)

After the Doolittle mission, Lieutenant Cole flew transport planes over the Himalayas in the China-Burma-India theater.

Richard Eugene Cole, who was known as Dick, was born on Sept. 7, 1915, in Dayton. He became enthralled with flying as a teenager when he watched Doolittle, a trophy-winning aviation pioneer, making test flights from an airfield there.

After attending Ohio University, he enlisted in the military in November 1940. He flew Army Air Corps planes seeking Japanese submarines off the West Coast before he was chosen to be among the volunteers for what was described as a dangerous mission, with many of the details to

come later.

Mr. Cole retired from the Air Force in 1967 as a lieutenant colonel with three Distinguished Flying Crosses. He settled in Comfort, Tex., about 45 miles northwest of San Antonio, and owned a citrus farm there. He was the subject of a 2015 book, “Dick Cole’s War: Doolittle Raider, Hump Pilot, Air Commando,” by Dennis R. Okerstrom.

The city of Tucson donated 80 silver goblets bearing the raiders’ names when it hosted their 1959 reunion, with the names of each airman engraved both right side up and upside down. At each gathering thereafter, the survivors turned down the goblets representing their fellow airmen who had died since the previous reunion — though their names, having been duplicated, remained right side up — and they toasted all the departed.

The raiders had planned to hold annual public reunions until only two remained, when they were to uncork a bottle of cognac — vintage 1896, the year of Doolittle’s birth — for a private final toast. In early in 2013, they announced that their last public reunion would be held that April at Fort Walton Beach, Fla., where they had trained, and that they would have a final, private reunion later in the year, no matter how many raiders were left.

Mr. Cole was joined by Edward J. Saylor and David J. Thatcher, who were engineers on the raid. The fourth surviving raider, Robert Hite, a co-pilot who had been captured by the Japanese, was unable to attend because of health issues. All were in their 90s.

Mr. Cole, who built the display case holding the goblets, which are on permanent display at the Air Force museum, then offered the final toast. “To the gentlemen we lost on the mission and to those who have passed away since,” he said. “Thank you very much and may they rest in peace.”

RIP



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## EAA and Local Chapter Sites

[EAA 485](#) [EAA 1265](#)  
[EAA HDQTRS](#) [EAA 108](#)  
[Lite Blue Angels EAA 105](#)

## Interesting Links

[Blue Angel 360](#) Way cool  
[Drone on USS Bush](#)  
[Build Your Own ADSB Receiver](#)  
[F-18 Low Level](#)

## Miscellaneous

[FAA Notams](#)  
[Thatcher Build Site](#)  
[Barnstormers](#)  
[Skyvector.com](#) Flight Planning, Charts  
[AirNav.com](#) Airport info, Fuel Prices

Barin OLF ASOS 251 970-2469

HWY 98

Blue Angel Parkway

Normally meetings will be held at [Ferguson Airport \(82J\)](#) (Uni **122.8**) on the **Second Saturday** of each month at 10:00 AM unless otherwise posted. Please check the if flying in for important info.

Go past the main airport entrance and take the next left. Go thru the gate and make a left on the gravel road. Make a right past the T hangar you'll see our building down on the left side. Anyone interested in general aviation and building or restoring aircraft are welcome.

For more info contact:

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Home Of The PANHANDLE PELICANS

EAA 485 Pensacola, FL

2019 82J Monthly Pancake Breakfast Sched Third Saturday 0930-1100

Apr 20th, May 18th, Jun 15th, Jul 20th, Aug 17th, Sep 21st, Oct 19th, Nov 16th, Dec 21st.

Next Chapter Meeting May 11th

We are looking into the possibility of a combined multi-chapter meeting in May. Bob Irwin of the Magnolia Springs chapter reached out to us about doing this. We had one about 10 years ago at Shields Field that was very successful. Of course we will be formally announcing Nick Hanssen as our Ray Aviation Scholarship award-ee. Our recommendation for the multi-chapter event is to have it at Ferguson airport on our normal second Saturday meeting. We have everything in place logistically and can accommodate about 50-60 people indoors if necessary. There is ample parking for both cars and aircraft.

Once plans are finalized we'll post the "Plan of the Day".



2019

Events Calendar

Young Eagles Rally

April 13th 0900 EAA 485 Clubhouse

Volunteers brief at 0845 Flying begins at 0930-1200

We need lots of ground volunteers to help out.

No Lunch

Calendar

Future Meeting Dates:

- May 11th
Jun 8th
Jul 13th

Fly Ins:

- Roy E Ray 5R7 May 5-6
Blue Angels Beach Show July 13th
Oshkosh KOSH July 22-28
Triple Tree Fly-in SC00 Sep 2-8
SERFI GZH Oct 19-20#
Blue Angels Homecoming Nov 8-9

# Dates not confirmed

## 2004 RV8A Total Time 400 hours airframe and engine since major overhaul \$85K

Lycoming IO-360 180 HP Sensenich fixed pitch prop

Well built and maintained aircraft. All SBs complied with including Aero Splat nose gear reinforcement and skid plate.

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Full EMS system (4 CHT & EGT, Fuel Flow, RPM, MAP, Oil Press, Oil Temp, Fuel Press, OAT)

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Stratus ESG ADSB-Out transponder Installed September 2017

Garmin 300XL GPS/Comm #2 (enroute and non-precision IFR certified)

Microair Comm #1

Garmin GMA 240 Audio Panel.

No Nav at present however tail VOR antenna and coax cable run to instrument panel

Great Instrument panel setup

2 1/4" backup Airspeed, Altimeter, Vertical Speed

Separate Lift Control pneumatic stall indicating system.

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Well documented maintenance record. Full Engine logbooks

This is a sweet flying aircraft at 8500' leaned it flies 150 kts TAS @ 8.2 gph

Contact: John McKiernan 850 291-4134 [rockyjs7jm@gmail.com](mailto:rockyjs7jm@gmail.com)

