



Missions for America

Semper vigilans!

Semper volans!

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Civil Air Patrol

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SENIOR MEETING

01 September, 2020

Maj Farley reviewed the current status of our SUI preparations. All outstanding material is due by Saturday, September 5th.

A short session was held discussing details about the fruit sale fund raiser. Plans are to start the event on Monday September 7th. An e-mail will be sent to every member with dates of when to pick up a sales kit.

The Squadron goals were reviewed and our progress is satisfactory.

Officers were reminded about the expiration of emergency services qualifications and urged to renew them in a timely manner.

CADET MEETING

02 September, 2020

Submitted by

S/SMSGt Noah Bosse, Cadet PAO

Maj. Bourque explained how to use the squadron phone tree in case of an emergency services call-up.

Col. Rocketto briefed the cadets on our fruit sale fundraiser and explained how to pick up the order forms.

Cadets broke out into small groups to discuss the challenges they are facing as they return to school.

Col. Rocketto taught a lesson on pressure differences and condensation and why winglets predominate on swept wing airliners. A video illustrating condensation and the generation of vortices during high lift conditions.

**REPORT ON WEEKLY OPERATIONS AND
ACHIEVEMENTS, MISSIONS,
PROMOTIONS, ACTIVITIES**

*Storm Damage Assessment
28 August, 2020*

Lts Adam Spreccace and Jason Otrin photographed areas from Branford and north to determine storm damage from a suspected tornado.

LISP

Long Island Sound Patrol flights were cancelled on Saturday, the 29th due to inclement weather.

Two flights were flown on Sunday, the 30th. Maj Neilson and Lt Pineau did three circuits on the early afternoon patrol

Lts Spreccace, Pineau and Richards completed two circuits in the late afternoon. They were asked by the USCG to report to a given point and keep watch over a boat until the Coast Guard arrived. When they got to the Lat/Long coordinates, no boat was observed and they were released by the Coast Guard.

**AEROSPACE CHRONOLOGY FOR THE
WEEK**

Sept. 2, 1988 – First flight of the Boeing 717, originally designed and marketed by McDonnell Douglas as the MD-95, a distant ancestor of the 1960's Douglas DC-9.



For purposes of comparison here are two of the 717 predecessors.

*Aero Mexico
Douglas DC-9-32*



Delta McDonnell-Douglas MD-88

Boeing acquired McDonnell Douglas and decided to rebrand the aircraft. Traditionally, all Boeing passenger jets receive a name using the style 7X7. The first of these was the 707. The original designation for the C-135 Stratolifter and the KC-135 Stratotanker was 717 but the number was abandoned in favor of the military choices. Over time, Boeing produced the 727, 737, 747, 757, 767, and the anomalous 720. Boeing's rebranding filled in the sequence.

The 720 was a shortened 707 designed for medium range. It would have been marketed as a version of the 707, the 707-020 but William Patterson, president of United Airlines had a commitment to purchase DC-8s. He wanted the new Boeing but did not want the impression that he was continuing to buy 707s so he requested a name change and the 720 entered the pool of Boeing numbers.

Sept. 3, 1989 – Varig Flight 254, a Boeing 737-241, ran out of fuel and crashed in the Brazilian jungle killing 13 of the 54 people on board. The crash was attributed to pilot negligence and was a chain of mistakes which commenced with misreading a flight plan.



(Credit: Clint Groves)

The captain entered the course on the horizontal situation indicator (HSI) as 270 degrees. But while

he had been off flying duty for two weeks, Varig had changed the notation on their flight plans. The Captain read 0270 as a westward course but it should have been 027.0 degrees, basically north north east. For some reason Varig had adopted the decimal notation but did not print the decimal point, a questionable decision since flying a heading to a tenth of a degree was not possible. The captain should have also noted that the course entered was not consistent with the planned flight.

The first officer entered the cockpit after completing the walk-around inspections and instead of reading the flight plan as a cross check, glanced at the captain's HSI and also entered the erroneous course.

The flight over the Amazon rain forest had very few easily identifiable checkpoints. In those days charts, even USAF Operational Navigation Charts has large sections marked "river course variable," relief data unreliable" and "village position uncertain!" There is also some evidence, not necessarily reliable, that the pilots were listening to the World Cup Match between Chile and Brazil.

As they thought they were approaching Belem, their destination, they had difficulty raising the tower and asked another aircraft to relay their request. The weak VHF signal was another clue that something was wrong. Belem had no radar and could not locate Flight 254 but they gave clearance to descend. The sun was setting and haze made visibility difficult but the flight crew could not identify any recognizable landmarks.

Recognizing that a problem existed, they tried to follow a river which they believed was the Amazon. Belem is located at the mouth of the Amazon and all they had to do was follow it the river but turned out to be the Xingu and ran at an approximately 90 degree angle to the Amazon. Another failure in situational awareness and the mistake of confirmation bias.

The flight was a local and had already made five stop-overs during the last six hours. The crew was undoubtedly tired. They tuned in an automatic direction finder stations but two stations shared the

same frequency. The one they wished to track was off the air and the aircrew failed to recognize that the three letter morse code identifier was that of the other station. This was another failure to follow procedure and another confirmation bias trap. The final link in the causal chain had been fashioned and they elected to chance a crash landing.

A decision was made to exhaust most of the fuel to avoid fire and land at just above stalling speed. They were handicapped by the loss of most of their instruments and did not have enough hydraulic power left to fully lower the flaps. Nonetheless, most of the passengers survived and were rescued two days later.

After the accident, the International Federation of Air Line Pilots tested 21 pilots of major airlines to read the Varig flight plan. Fifteen made the same mistake. Varig changed its policies and installed Omega navigation systems to reduce the reliance on short range VHF Omnidirectional Radio Ranges and non-directional beacons. The pilots were sentenced to four years in prison later reduced to community service.

One is reminded of Richard the Third's cry, "A horse, a horse, my kingdom for a horse" in Shakespeare's eponymous play. But the accident chain is better described by Ben Franklin in *The Way to Wealth*.

*For want of a nail the shoe was lost,
for want of a shoe the horse was lost;
and for want of a horse the rider was lost;
being overtaken and slain by the enemy,
all for want of care about a horse-shoe nail.*

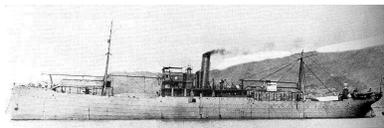
Sept. 4-5, 1936 – Beryl Markham makes the first east-to-west solo crossing of the Atlantic by a woman flying a Percival Vega Gull named *The Messenger*. Twenty hours after departure from Abington, the fuel tank vents iced up and caused a forced landing at Beleine Cove, Cape Breton, Nova Scotia.



Markham and The Messenger

Markham learned to fly in Kenya under the tutelage of Tom Campbell Black whose story deserves a full article. Both Markham and Black hobnobbed with of Kenya's Happy Valley Set. an aristocratic clique of high living sybarites whose antics are not fit for the pages of *The Coastwatcher*.

Sept. 5, 1914– The Imperial Japanese Navy carries out its first air combat mission. A Farman MF.11 seaplane launched from the seaplane carrier *IJN Wakamiya* bombed German fortifications at Tsingtao, China and reconnoitered Kiachow Bay.



The IJN Wakamiya and a Farman MF.11.



Sept. 6, 1965 – The first air to air missile kill by a Mach 2 aircraft is registered when Flt. Lt. Afatab Alam Khan, Pakistani Air Force launches an AIM-9 Sidewinder from his Lockheed F-104 and shoots down an Indian Dassault Mystère IV.



Pakistani Starfighter



Indian Air Force Mystere IV

Sept. 7, 1931 – Lowell Bayles flies the Gee Bee Model Z racer, *City of Springfield*, to victory in the National Air Races at Cleveland. He clocked 236.24 mph over the ten lap, ten miles per lap, pylon race.



Bayles and the Model Z



The aircraft was a Robert L. Hall design produced by the Granville Brothers in Springfield, Massachusetts. Hall finished 4th in the race flying a Gee Bee Model Y. Jimmy Doolittle flying a Laird Super Solution had to drop out on lap seven when a piston failed.

Hall went on to Stinson where he designed the Reliant and then to Grumman Aircraft where he held the posts of Chief Engineer and Chief Test Pilot and was instrumental in the designs and first flights of the piston powered Avenger, Wildcat, Hellcat, Tigercat and Bearcat. As Corporate Vice President, Hall supervised the designs of the Panther, Cougar, Jaguar and Tiger as well as the Gulfstream I



Hall in the cockpit of the first Bearcat

were eating into the fuselage fatigue life with those JATO takeoffs and so halted them in order to extend airframe life. I think they may have been running low on bottles and trained folks to use them. The last one was in 2009.

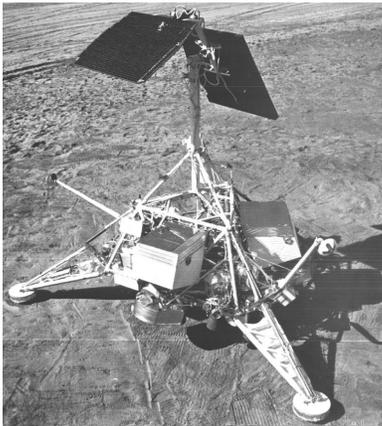


Sept. 8, 1967 – NASA launches the lunar lander Surveyor 5. It will land three days later in the Sea of Tranquility and transmits 19,049 images back to earth. Less than two years later, Apollo 11 will land 15 miles southeast and Neil Armstrong will take his "one small step."

THE ORIGINAL FAT ALBERT

An History

The original Fat Albert which is now on display at the Museum of Naval Aviation, Pensacola, Florida, has an interesting history.



It was constructed as a C-130G and taken on charge by the Navy in 1964 as Bureau Number (BuNo) 151891. The history of USN/USMC bureau number assignments is an article in itself but essentially, the bureau number is assigned when an aircraft is ordered. But not every number is borne by an actual aircraft. For example, if a contract is cancelled, those assigned to the cancelled order become place-holders.

The launch vehicle was a Convair Atlas-Centaur two stage rocket, a direct ancestor of the rocket which recently put the *Perseverance* Rover onto the Red Planet.

In that same year, 1964, the aircraft known as 151891 was assigned to Fleet Tactical Support Squadron 21 (VR-21) at Naval Air Station Barbers Point Hawaii and carried tail code RZ. A tail code identifies the squadron to which the aircraft is assigned.

BLUE ANGELS ASSISTED TAKE-OFF COMMENT

Larry Trick writes the following:

One of my employees (and a former CAP cadet) was a lead systems engineer in the the Navy C-130 program office. He told me they



891 marked RZ in Hawaii

Around 1966, 151891 was transferred to Fleet Reconnaissance Squadron 3 (VQ-3) Naval Air Station, Agana, Guam. It was converted into an EC-130G and in 1967, returned to Barbers Point to serve with Airborne Early Warning Squadron 1 (VW-1) and assigned tail code TE.



891 carrying TE tail number at Barbers Point

VQ-4, another Fleet Reconnaissance Squadron accepted 151891 in 1968 at Tinker Air Force Base, Oklahoma and she was designated as TC-181 and operated as such until 1976 when she was based at Naval Air Test Center, Patuxent River.

No 151891 was modified as a testbed for TACAMO equipment and became an EC-130Q carrying ASW on its tail. TACAMO is an acronym for "Take Charge and Move Out. TACAMO is the military system which enables the National Command Authority to maintain contact with the nuclear triad of strategic bombers, land-based missiles and ballistic missile submarines.



*891 as an EC-130Q. Note the guide for the TACAMO antenna protruding from the aft end.
(Credit: Martin Pole)*

In the case of the Navy's TACAMO program for ballistic missile submarines, very low frequencies on the order of 3-30 kHz are used. Their advantages include very long range and the ability to penetrate salt water. The major disadvantage is that they require very long transmission antennae, on the order of miles. A TACAMO aircraft may trail an antenna five miles long and can relay messages to a submerged submarine although at a very low data rate.



891 trailing two wire antennae. The drogue on one is visible just aft of the tail. The second is difficult to see but it is trailing out from a small guide on the belly, just to the left of the national insignia.

Finally, in 1990, BuNo 151891 was converted back to a TC-130G and sent to Pensacola where it attained its last identity as the original Fat Albert



Fat Albert in its Glory Days.

She was retired in 2002 and now rests on display at the entrance to the visitors' bleachers on the Pensacola NAS flight line.

