Missions for America
Semper vigilans!
Semper volans!

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CURRENT EVENT

The planet Jupiter, largest planet in the solar system, is a bright object in the sky at about an elevation of 45º towards the southeast. Is is in the constellation of Taurus.

Use a pair of 7X binoculars or a small telescope and you can see Jupiter's four major moons: Io, Europa, Ganymede, and Callisto and track their orbital movements. If you cannot see all four, one of them may be behind the planet.

FEATURE ARTICLE

'F" Did Not Always Mean "Fighter"
Part One

The prefix letter 'F' which is used to designate an Air Force fighter aircraft as used in F-86, F-4, and F-22 not always mean fighter. Before 1962, Air Force fighters were designated by the letter 'P' for pursuit. The first was the Curtiss P-1 Hawk and the last was the Northrop XP-79 "Flying Ram." Aircraft still in service after 1962 using the 'P' prefix such as the P-51 Mustang and the P-80 Shooting Star became the F-51 and the F-80 respectively.

Up to 1962, the letter 'F' stood for an aircraft dedicated to the photographic mission. Fifteen aircraft received the 'F' prefix between 1932 and 1947. Most of them were converted from existing models but two, the Hughes XF-11 and the Republic F-12 Rainbow were specifically designed for the photo-reconnaissance mission.

Sherman Fairchild, A Pioneer in the Art of Aerial Photography

Sherman Fairchild had a deep-seated interest in photography, inventing the first synchronized camera shutter and flash while a freshman at Harvard. And he had the money to pursue this interest, being IBM's largest individual shareholder which he inherited from his father. An entrepreneur, he founded around 70 companies including Fairchild Semiconductor which is considered to be one of the companies which launched Silicon Valley.

During World War I, aerial reconnaissance was

arguably the prime mission of aviation and he made his first attempts to improve aerial cameras. In 1920, he founded the Fairchild Aerial Camera Corporation and this company and its successors became leaders in the field up to mapping the moon from lunar orbit.

The Utility of Aerial Photography

Arthur Wellesley, First Duke of Wellington once said:

> *All the business of war, indeed all the business of life, is to endeavour to find out what you don't know from what you do: that is what is called "guessing what's on the other side of the hill.*

This was not a novel idea. In the Old Testament, to partially quote book, chapter and verse one finds in Numbers 13: 1-20

> *Then the Lord spoke to Moses saying, "Send out for yourself men so that they may spy out the land of Canaan, which I am going to give to the sons of Israel; you shall send a man from each of their fathers' tribes...Go up there into the Negev; then go up into the hill country. See what the land is like, and whether the people who live in it are strong or weak, whether they are few or many. How is the land in which they live, is it good or bad? And how are the cities in which they live, are they like open camps or with fortifications? How is the land, is it fat or lean? Are there trees in it or not? Make an effort then to get some of the fruit of the land....*

In *The Art of War*, Sun Tsu opined that:

> *A major military operation is a severe drain on the nation, and may be kept up for years in the struggle for one day's victory. So to fail to know the conditions of opponents because of reluctance to give rewards for intelligence is extremely inhumane, uncharacteristic of a true military leader, uncharacteristic of an assistant of the government, uncharacteristic of a victorious chief. So what enables an intelligent government and a wise military leadership to overcome others and achieve extraordinary accomplishments is foreknowledge.*

Until the dawn of the age of aviation, cavalry was one of the primary source of information about an enemies, position, movements and order of battle. But in the 18th century, balloons found a place as a source of intelligence. And in World War One, the the military, both that of the Central Powers and Entente found that the most important role of the airplane was as airborne cavalry. At first, a single pilot observed the enemy trenches and perhaps made sketches. Within a short time, an observer was added, often a trained artillery man or engineer which allowed the pilot to concentrate on flying the aircraft. Cameras followed and provided more quantitative information ground based photo interpreters.

Photo mission assignments were manifold. The enemy positions and troop concentrations were most important at first but skilled analysis of aerial photographs revealed details of equipment and infrastructure. Target selection and bomb damage assessment followed. And given the lack of knowledge about terrain, aerial mapping missions were a boon to improvement of charts and maps.

Fairchild F-1

The Model 71 was a development of the FC-1/FC-2W2 series which was produced from 1928 to 1930. It was a utility aircraft which became a popular bush plane in Canada. The U.S. Army Air Corps acquired one of them and designated it XC-8 then YF-1 later XF-1 for use as a reconnaissance and aerial survey platform. The plane was outfitted with a camera bay for vertical photographs and low cut aft windows to allow oblique photography.

YF-1

A second order for eight more Model 71s seven seaters later referred to as C-8s.

C-8 with Wright Field insignia. *(Credit: Pete Bowers)*

These were followed by six more Model 71s, the F-1A and later C-8A. And the U.S. Navy order one more, the XR2Q-1 changed to XJQ-1 and finally RQ-2

Beech F-2 Expeditor

The F-2 was a modified Beech Model 18 from the First Photo Squadron. If was equipped with two Pratt & Whitney R-985 Wasp Jr. producing 450 HP each and fitted with superchargers so it could cruise at 20,000 to 25,000 fleet using two mapping cameras set to take vertical images.

Its most important mission was mapping out the route of the 1,500 mile Alaska-Canada (AlCan) highway in 1940-41. The highway would be used to support military bases in Alaska and provide a string of airfields primarily used to lend-lease aircraft bound for the Soviet Union.

The lettering under the midship orange section says: "BY ORDER OF THE CHIEF OF THE AIR CORPS THIS AIRPLANE WILL BE USED FOR PHOTOGRAPHIC PURPOSES ONLY"

The F-2 was followed by the improved F-2A and the F-2B. and Navy versions JRB-1 and JRB-3.

Douglas F-3 and F-3A Havoc

The Havoc was a product of the fertile mind of Ed Heineman, the dean of attack aircraft designers. The bomber, Douglas Model DB7 and later the A-20 was a versatile aircraft and even served as a radar equipped night fighter, the P-70!

A-20J and A-20K models were converted by removing all of the bombing equipment and guns. The sectioned bomb bay held cameras aft and photoflash bombs forward.

Removal of the forward firing guns in the nose provided more space for cameras.The aircraft was manned by a pilot, navigator and observer and saw service in Europe, primarily on night missions.

During the war, Dr. Harold Edgerton of Massachusetts Institute of Technology and inventor of the electronic strobe light was called upon to develop a strobe to use in aircraft. The result was the General Electric Mazda FT-17 flash lamp which could illuminate a target with 10,000 lumens with a 1/1000 sec exposure. A Havoc took night-time imagery of the D-Day invasion beaches on June 5th, the day before the assault.

The Lockheed Lightnings
F-4 and F-5

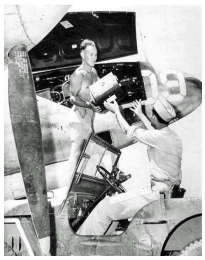
Most reconnaissance aircraft were unarmed. Their mission was to return safely with the precious photographs. So the ability to fly high, fast and far were premium performance characteristics, all

possessed by the Lightning which was the workhorse of U.S. photo intelligence aircraft in World War Two.

Note the cameral ports in the nose.
(Credit: National Archives)

A Lightning with the classic "robin's egg blue" paint scheme which reduces its visibility.

(Credit: David Copley, Yanks Air Museum)



Technicians Working with Cameras

Pilot, Poet, Philosopher and Patriot, Antoine de Saint-Exupéry, lost over the Mediterranean on July 31st, 1944

Twelve percent of the 10,000 Lightnings manufactured were reconnaissance versions! Around 100 were F-4s and the rest, the F-5A to F-5 G were variants of the P-38G, J, F and L models distinguished by different power plants, improved propellers and superchargers, radio equipment, a different camera packages.

The North American Mustang F-6

The F-6 was a P-51 Mustang converted to perform a tactical reconnaissance mission. In contrast to the high level photographic missions used to provide targeting and bomb damage assessment information for the bomber forces, tactical reconnaissance was low level work by armed aircraft to gather intelligence on the disposition and order of battle of enemy forces in close proximity to the battle lines. Some 15,000 Mustangs were produced of of these 500 were converted to conduct tactical reconnaissance, about 3% of the total. Compare this with the 12% for the Lightning.

F-6D displaying two camera ports, one on the white bar and one below it.

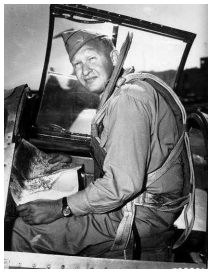
The aircraft were roughly comparable in performance but the Lighting could carry much more and more versatile camera equipment in the former gun bay in the nose than the single oblique and single vertical camera mounted aft of the pilot in the Mustang. In addition, the Lightning had the safety of two air cooled Allison engines compared to the Mustang's single liquid cooled Packard built Rolls-Royce Merlins which was vulnerable if the glycol system was damaged.

However, the Mustang retained the six wing mounted .50 caliber Browning machine guns and flew armed reconnaissance. On the 11th of January, 1945, Maj. William Shomo and his wingman were flying an armed tactical reconnaissance mission

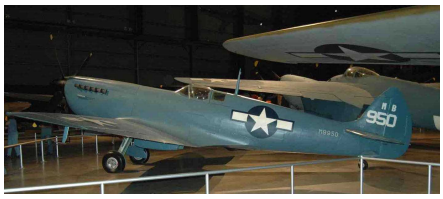
near Luzon, Philippine Islands when he encountered a flight of 11 Kawasaki Ki-62s and one Nakajima Ki-44 escorting a Mitsubishi G4M Betty bomber. In the ensuing melee, Shomo shot down seven of the Japanese aircraft and was awarded the Medal of Honor.

Shomo's F-6, Snooks the 5th *(Credit: Pacific Wrecks)*

Karl Polifka flew missions in both World War Two and Korea. He was considered the "Dean" of the photo-reconnaissance community. Although in his mid-thirties in Korean and off flight duty, he continued to fly missions as "Lt. Jones." In 1951, his Mustang was hit when he bailed out, his parachute snagged on the tail and he was killed.

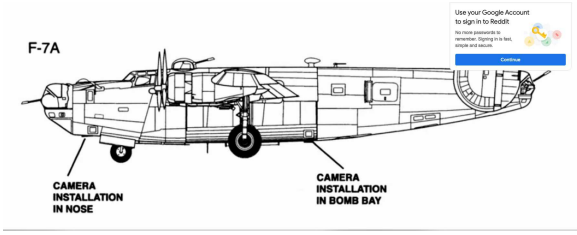


Without the range of the Mustang, the Spitfire could fly high and fast and was employed by the USAAF for reconnaissance duties.This Supermarine Spitfire Mk XI is displayed in the Museum of the USAF.



The Consolidated Liberator F-7

The B-24, Consolidated Model 32, was a long range heavy bomber. Its photo variants, the F-7, F-7A and F-7B were employed as photographic ships in the Pacific Theatre because of its long range and ability to carry a multitude of mapping cameras which could be mounted in the nose and the sealed aft f bomb bay. The forward bomb bay carried additional fuel. Heating was provided for the cameras and film magazines.



An airman cleans the camera port.

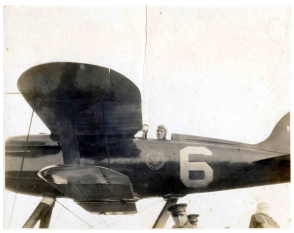
AEROSPACE HISTORY AND CHRONOLOGY

January 8, 1987 – Christian Frank Schilt, Medal of Honor winner, a Marine aviator who saw service in WWI, the Occupations of Haiti and Nicaragua, World War II, and Korea goes West. He enlisted in 1917 and served with in the Azores with an

anti-submarine unit. After the war he completed flight training and was commissioned.

Lt. Gen Schilt (Credit: USMC)

In 1926, Schilt won second place flying a Curtiss Racer R3C-2 in the Schneider International Seaplane Race at Hampton Roads, Virginia.



Schilt and the R3C-2 (Credit: Nat'l. A&SM)

Schilt was awarded the Medal of Honor when for three days, he supported Marines who had been ambushed and surrounded by Sandinista forces in Qualali, Nicaragua. His citation reads that he

"... volunteered under almost impossible conditions to evacuate the wounded by air and transport a relief commanding officer to assume charge of a very serious situation. 1st Lt Schilt bravely undertook this dangerous and important task and, by taking off a total of 10 times in the rough, rolling street of a partially burning village, under hostile infantry fire on each occasion, succeeded in accomplishing his mission, thereby actually saving 3 lives and bringing supplies and aid to others in desperate need."

Schilt and a Vought O2U Corsair in which he flew the the Medal of Honor mission.

Lt. Christian Frank Schilt receiving Medal of Honor from President Coolidge.
Photographer: Unknown. Location: White House, Washington, D.C. Date: June 9, 1928.
NARA Ref#: 80-G-460270

During World War II, Schilt commanded the Marine Corps air units in the Guadalcanal Campaign, Peleliu, and Okinawa. During the Korean War, he commanded the First Marine Air Wing retiring as a General in 1957.

January 9, 1952 – Antonie Strassmann, German aviatrix and actress, goes West.

Strassman was a moderately successful actress in her native Germany. In 1928, she received her pilot certificate and convinced the Foreign Office that she should organize and manage a tour of the United States to promote German aircraft. The 1930 tour invested her with the cachet of aviation expert and she became an effective proponent of aviation.

Strassmann at the Staaken Airfield near Spandau

In May of 1932 Strassmann became the first woman to cross the Atlantic west to east aboard an aircraft, flying as a passenger on the Dornier D0-X from New York to Berlin. In the fall, she returned to the New World aboard the Graf Zeppelin accompanied by a disassembled Klemm KL-25 touring plane in the cargo hold. After the Graf landed in Pernambuco, Brazil, Strassmann flew the Klemm on a marketing tour as far south as Argentina.

Strassmann and the KL-25

That same year, attracted by opportunities in the United States and sensing the rise of the Nazis in Germany, she emigrated and became a U.S. citizen in 1937. Her family's Jewish ancestry placed them in immediate danger and she assisted them in getting out of Germany.

In America, Strassmann studied business administration and continued to represent German aircraft companies in their contractual relationships with American companies. World War II ended that phase of her life. During the war, she settled in New York and worked for the American Red Cross, taught blueprint reading, and ran a sales office for Zenith Radio.

January 10, 1967 – Laura Houghtaling Ingalls goes West. Antonie Strassmann was a German national who saw the promise of the United States and became a citizen. Laura H. Ingalls was an American who promoting Nazism and was active agent for Nazi propaganda.

Whereas the Strassmann family had a history of flight from oppression, Poland then Germany, Ingalls traced her American family back to 1661 and were social doyens in New York society, heirs to the Houghtaling tea fortune. She was related to Laura Ingalls Wilder, the author of *Little House on the Prairie*. Like Strassmann, before learning to fly she had an early career in the arts: concert pianist, ballet dancer, and actress.

Ingalls aviation record was impressive. She soloed in 1928 at Roosevelt Field on Long Island and by 1930 held a Transport License. In that same year, she broke her previous records for loops executing 980 in 3 hr 40 min in a deHavilland Gypsy Moth. She followed that up with a world record for barrel rolls, 214 flown over Lambert Field in St. Louis. In 1934, Ingalls received the Harmon Trophy for a 17,000 mile solo flight around South America in which she visited 23 nations and became the first woman to fly across the Andes.

Ingalls and her Lockheed Air Express in which soloed South American.

In 1939, she violated Civil Air Regulations by flying over the White House and dropping leaflets addressed to Congress urging non-intervention in a European war. She pleaded ignorance of the law but her flight privileges were temporarily suspended.

As the shadows of Fascist warmongering darkened Europe, she went further, serving as a paid agent of Ulrich von Gienanth, a Nazi intelligence operative undercover as Second Secretary of the German Embassy. After Hitler invaded Poland she expected a Nazi victory in Europe and stated "Some day I will shout my triumph to a great leader and a great people... Heil Hitler!"

After the United States entered the war, she was charged with failing to register as a paid agent of a foreign power and spent 20 months in a federal prison. During that time, she preached Naziism and attempted to organize white prisoners against blacks, was beaten up for those efforts and had to be transferred to another prison.

Prison did nothing to moderate her political views about what she termed the "lousy democracy" of the United States. While still on probation, she rendered the following opinion of D-Day, the Normandy landings.

"This whole invasion is a power lust, blood drunk orgy in a war which is unholy and for which the U.S. will be called to terrible accounting... They [the Nazis] fight the common enemy. They fight for independence of Europe—independence from the Jews. Bravo!

In 1944, she was arrested at the Mexican border with a suitcase of seditious materials. In 1950, her application for a pardon was rejected

January 11, 1962 – A Boeing 707-320B designated VC-137C became Air Force One.

January 12, 1970 – Blanche Stuart Scott, the "Flying Tomboy," possibly the first American woman aviator, goes West.

In 1910, Scott made her name as the first woman to drive an automobile across the United States, east to west and the second woman to accomplish the cross-country trip. She started from New York on May 16th and arrived in San Francisco on July 23rd!

She then started flying. Her flight instructor was Glenn Curtiss. Curtiss had fitted a throttle limiter on the training aircraft to provide enough speed for taxi practice but not flight. Sometimes between September 2nd and the 12th, the date is uncertain, the limiter failed or a gust of wind allowed her to gain enough speed to reach 40 feet in altitude and then manage to gently land. The Early Birds of Aviation designated her the first American woman to solo however the Aeronautical Society of America awarded the honor to Bessica Medlar Raiche who flew on September 12th, a better documented and more importantly, an intentional flight.

Within a month, she became a member of the Curtiss Exhibition Team and on October 24th, at the controls of a Curtiss Hudson Flyer became the first woman to fly at a public event in America, the Fort Wayne, Indiana air meet. Known for her aerobatic displays, she also became the first American woman to fly cross-country, a 25 mile flight from Mineola, New York.

Her specially designed flying outfit consisted was brown satin and leather. Her petticoats were held in place with leggings. Leather gloves and a brown satin helmet rounded off her attire.

In 1912, Glenn Martin employed her as an exhibition pilot and test pilot, another first for an aviatrix. Her move to the west coast was forced by a rule of the Aero Club of New York which demanded that she have Aero Club license to perform. Glenn Curtiss, who held License #1 said that it was not worth the paper it was printed on and Scott never received one. The Aero Club license was not required in California.

Scott not only flew exhibitions in California but also appeared in two movies, *The Aviator and the Autoist Race for a Bride* and *An Aviators Success.,* paralleling the careers of the previously mentioned Strassman and Ingalls.

The next year, she joined Chicago's Ward

Aviation Company flying exhibitions in the mid-west. A crash on Memorial Day led her to abandon exhibition flying. She opined that the spectators were more interested in crashes than flying skill.

Afterwards, Scott worked in the entertainment industry as a Hollywood script writer and produced and performer of radio shows.

Scott became the first woman passenger in a jet plane when in 1948 she flew with Chuck Yeager in a P-80C jet and worked as a consultant for the USAF Museum.

A member of The Early Birds, pilots who soloed before 1916, and an inductee into the National Women's Hall of Fame, Scott maintained an interest in promoting aviation until her death.

January 13, 2009 – The "Angel of the Outback," Nancy Bird Walton goes West." Walton was the youngest woman to earn a commercial pilot certificate in the British Empire.

Nancy Bird and a deHavilland Leopard Moth

She started her flying career as a student of long-distance aviator Charles Kingsford Smith and bought her first plane, a deHavilland Gipsy Moth. After obtaining her certificate, she and Peggy Kelman, a fellow pilot barnstormed the back country, bringing aviation experiences to people who had never seen an airplane before and offering rides for 10 shillings a head.

In 1935, she and her Gipsy Moth were engaged in an air ambulance service providing medical assistance in the New South Wales outback. She also won an Adelaide to Brisbane air race. During World War II, she served as Commandant of the Women's Auxiliary Australian Air Force.

"Nancy-Bird," as here husband Charles Walton called her, continued an engagement in aviation and charitable work which led to investment as an Officer of the British Empire. She formed the Australian Women Pilot's Association to foster female participation in aeronautics. She said her greatest honor was when Qantas dedicated their first Airbus 380 in her name. Western Sydney Airport has also been named in her honor.

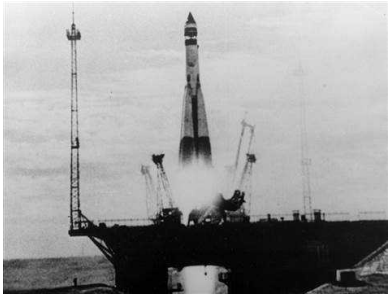
In 1997, twelve years before she went West, the Australian National Trust a "national living treasure." She was accorded a state funeral and the Qantas 380, *Nancy-Bird Walton* performed a fly-over.

January 14, 1966 – Sergei Pavlovich Korolev, the Wehner von Braun of the Soviet space program goes West.

Korolov originally trained as a carpenter and inspired by an air show which he attended, Designed a glider. In stages, he transferred his interests and skills from woodcraft to aircraft design and in the mid '20s, was designing and flying gliders. While working on the design of the Tupolev DB-3, he started to consider how aircraft performance might be enhanced and became involved in rocket research. By this time, his superb management abilities emerged and he received greater responsibilities in the Soviet rocket program.

But his career advancement was not to be. Korolov was denounced and became a victim of the Stalinist era purges. Escaping execution, he spent six years in in the Gulag slave camps where he suffered injury and disease in the abominable conditions of the labor camps. Some relief was achieved when his sentence was reduced and he was transferred to what was euphemistically termed an "experimental design bureau," a penal institution where the intellectual prowess of the prisoners was exploited for the glories of Soviet science. He and his fellow inmates made contributions to the Soviet aeronautics program and in 1944, Korolov was released and in the following year, commissioned a colonel in the Red Army!

After the Soviets achieved victory in the " Great Patriotic War," Korolov worked with thousands of conscripted German rocket scientists, engineers, and technicians to develop the a Soviet missile program. The United States followed the same path, bringing hundreds of Germans to the United States as part of "Project Paperclip." In 1959, the Soviets deployed the first of the intercontinental missiles, the R-7 and the missile race was on. International prestige was at stake and Korolov modified the R-7 as a satellite launcher. On October 4, 1957, Sputnik 1 became the first artificial satellite of the earth. This led some wag to state that the only explanation as to why the Soviets beat us into space was because "their German scientists were better than ours."



An RS-7 variant launches Sputnik 1 (Credit: Nolvosti)

The United States was embarrassed, nay, humiliated, and on May 25, 1961, the newly elected President John F. Kennedy addressed a joint session of Congress and said:

> *"...I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the earth. No single space project in this period will be more impressive to mankind, or more important for the long-range exploration of space; and none will be so difficult or expensive to accomplish."*

Korolov and von Braun set to work and the lunar space program evolved in both nations. The movie "The Right Stuff" portrays the spirit of the times. Korolev appears in a film clip shown on television in one scene and there are references to the "Chief Designer," the title which the Soviet's used to conceal his real identity.

Korolov and Yuri Gagarin
(Credit: Russian Center for Science and Culture)

Korolov continued to direct Soviet achievements in space exploration until ill health, partially the result of his incarceration in the prison camps led to his death. It was only after his death that the "Chief Designer" was recognized as Sergei Pavlovich Korolev and he received the equivalent of a state funeral, his ashes placed in the Kremlin wall necropolis.

January 15, 1916 – The first plane to be launched from a submarine (U-12) is a Friedrichshafen FF.29, German lightweight two-seat floatplane.

Friedrich von Arnauld de la Perière, an officer in the Imperial German Naval Air Service and the brother of the most successful submarine commander in history, Lothar von Arnauld de la Perière, suggested that a bomber's effectiveness could be improved if launched from the deck of a submarine. Previously, he had modified a Friedrichshafen FF-29 seaplanes to carry bombs, flew it across the English Channel and dropped them on London's suburbs, the first aerial attack on England.

Lothar perceived that the combat range of the aircraft could be increased if launched from a submarine. He enlisted the services of Kapitänleutnant Walther Forstmann, skipper of the U-12 which was at Zeebrugge, Belgium where his squadron was also located.

They loaded the aircraft on the foredeck of the U-12 but heavy swells outside the harbor threatened to damage the aircraft so Forstmann flooded the forward tanks and the FF.29 floated off the submarine and successfully took off. It made it to England, flew along the coast, and then returned to Zeebrugge. But the idea was stillborn. No further attempts were made to continue the experiment.

The 24 foot long aircraft perched on the 20 foot beam of the U-12.

All three officers mentioned above fought in World War II. After sinking 194 ships in WWI, Lothar was recalled in WWII and was a vice admiral when he was killed in a plane crash. Friedrich became a lieutenant general in the Luftwaffe. Forstman held several commands and retired as a captain.

THAMES RIVER COMPOSITE SQUADRON

Change of Command
Submitted by Capt Jennifer Thornell

The cadets met at the trailers for AE trivia:Who invented the Zeppelin? Who designed and flew the Spruce Goose? What spacecraft carried a recorded human message? What modern day toy was used in ancient China to communicate?

Then C/CMSgt Larson, in his new role as AE NCO, gave a presentation on the recent drone sightings in the NJ area. This was followed by Major Bourque's Aerospace lesson on satellites and C/TSgt Garrett Scroggins briefing on electrical safety.

C/TSgt James Robertson was recognized for earning an amateur radio license.

A Change of Command ceremony was held. Capt Adam Sprecace was master of ceremonies and Col Ashley LaPlante, CTWG commander, guest of honor

C/1Lt Thelma Grogan bore the flag. Lt. Pineau was relieved, and Capt. Deignan-Schmidt was installed as our new Squadron Commander.

First Squadron Ice Patrol Flight

Maj Farley and Captain Otrin drove to Meriden to pick up a Cessna 172 and flew an Ice Patrol East mission on the last day of the year. Minimal ice was observed during the 1.3 hour mission,