



Missions
for America

*Semper
vigilans!*

*Semper
volans!*

Publication of the Thames River Composite
Squadron
Connecticut Wing
Civil Air Patrol

<http://ct075.org>

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Issue 13.18

14 May, 2019

SQUADRON CALENDAR

17-19 MAY-USAF Evaluation of CTWG
21 MAY-TRCS Meeting
25 MAY-Saturday Rocket Building
26 MAY-Ledyard Memorial Day Parade
28 MAY-TRCS Meeting
15 JUN-Commander's Cup Rocket Contest
22 JUN-CTWG Annual Conference
04 JUL-Groton 4th of July Parade
10-17 AUG-CTWG Encampment



*In the case of an airplane, speed is determined by
the outcome of the conflict between thrust of the
power and drag of the plane. So it also is with
humans.*

-Jacqueline Cochran-

RHYS THORNELL EARNS THE MITCHELL AWARD

Cadet Rhys Thornell completed all eight steps to
qualify for the General Billy Mitchell Award and
was promoted to Cadet Second Lieutenant.



*C/2d Lt Thornell flanked by his grandfather, Neil
Thorp, Mother 2nd Lt Thornell and Maj Al
Almeida.*

Col Rob Simmons, USA, ret'd and First Selectman
of Stonington read a proclamation praising Cadet
Thornell's many achievements and declaring
May14, 2019 as Rhys Thornell Day in Stonington.
State Representative Kate Rotella could not attend
due to legislative duties but sent a citation from the

State Legislator which Squadron Commander Farley read. a citation which from the Connecticut General Assembly.



First Selectman Simmons lauds C/2d Lt Thornell for his swift advancement withing CAP.

C/2d Lt Rhys Thornell enrolled in the Thames River Composite Squadron in July of 2017 and in three weeks advanced to C/Amn, qualifying to attend the CTWG Summer Encampment. Further advancement has been marked by achieving promotions in the minimum time allowable.

He has qualified as a Mission Radio Operator and Urban Direction Finder and is working towards his Ground Team and Mission Staff Assistant ratings.

Rhys is an 8th grade honor student at Mystic Middle School and extremely active in the school and community music program.

He has played the trumpet in the MMS Jazz Band since 6th grade and has been Lead Trumpet since the 7th grade. Last year he auditioned for and was accepted into the Thames Valley Youth Symphony Orchestra at Connecticut College, one of only two trumpet players. Aside from performance, he composes music. Current projects include a school “fight song” and background music for videos.

C/2d Lt Thornell's goal is to earn the Spatz Award, CAP's highest cadet honor and then attend the US Air Force Academy or the US Military Academy.

CADET MEETING

14 May, 2019

Six cadets were promoted. Three attained “enlisted

rank.” C/Amn Reuben Minter started on the long trail to diamonds. Cadet Rachel Alexander received C/A1C stripes and Cadet Michael Jeznach is now a cadet senior airman. Three other cadets were awarded “non-com” insignia. Benjamin Kelly is now C/SSgt Kelly. Cadet Elizabeth Burton received her C/TSgt stripes. And Jack Race is now Chief Jack Race, a C/CMSgt.

From top to bottom is order of ascending ranks: C/Amn Minter, C/A1C Alexander, C/SrA Jeznach, C/SSgt Kelly C/TSgt Burton, and Chief Race.



SENIOR MEETING

14 May, 2019

Seniors worked on individual projects and then adjourned to the cadet trailer for the promotions and Mitchell ceremony.

ROCKET BUILDING ON SATURDAY

The air of the cadet trailer was busy, bright, and redolent of airplane glue and paint as six cadets worked on the various phases of construction to qualify for CAP's Rocketry Badge.

C/A1C Rachel L. Alexander, C/TSgt Elizabeth Grace Burton, C/SrA Michael Robert Jeznach, C/Amn Reuben R. Minter, C/2dLt Rhys J. Thornell, and C/SrA Luis Felipe Trinidad each worked independently on different requirements.



-Stomp Rocket Launches-

Cadet Thornell uses muscle power to convert gravitational potential energy to thrust. The less massive Cadet Minter sends his rocket aloft.

(Photo Credit: Lt Kopycienski)

Senior members Maj Roy E. Bourque, and 1st Lt Michael D. Kopycienski provided guidance.

2d Lt Jennifer L Thornell and Lt Col Stephen M. Rocketto worked with Mr. Minter, Cadet Reuben Minter's father, explaining the requirements for joining and working within the CAP corporate structure.

CURRENT EVENTS

Research has indicated that one of the more frightening experiences when flying in an airliner is the loud sound made when a passenger flushes

the john! Children cringe in terror and many adults find the experience terrifying.

Engineers and physicists at Brigham Young University (BYU) have spent two years searching for a way to reduce the sound level and now announce that they have reduced the sound of a flush to half its former level.

The source of the problem may be traced back to that classic aeronautical engineering stumbling block, weight reduction.

Water weighs eight pounds/gallon and the standard flush of the common household ultra low flush toilet uses 1.6 gallons or 12.8 pounds of water. Suppose our aircraft is a Boeing 757 carrying 210 passengers. An average weight/passenger with baggage might run around 210 pounds.



A Boeing 757-200 Privy

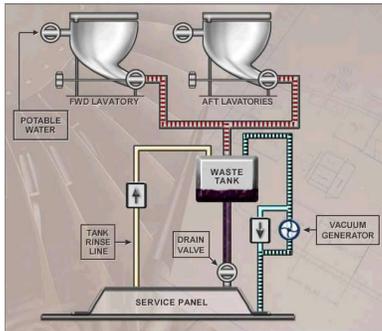
Let us suppose it is a non-stop long distance flight of say 2000 miles. This would account for about 6.5 hours of cabin time if we factor in boarding, taxiing, and flight time. We know that this time without draining ones' sumps might strain the bladder. Observation after landing indicates this is true, noting the rush of passengers for the airport heads. No doubt these are the meek, children and adults who, terrified of the noise of a flush, shun the inflight facilities.

But if 1/2 of the passengers use the "comfort station" in flight, then it would require 105 flushes or 840 pounds of water. This is the weight of four revenue paying passengers. On our typical flight, this is worth about \$1200 in revenue to the airline.

The technological breakthrough occurred in the

AEROSPACE HISTORY AND CHRONOLOGY

1970s when James Kemper invented his eponymous vacuum system. The system eliminates water and uses a small amount of "Skykem," a blue liquid which deodorizes and disinfects. However, the flush is noisy since the partial vacuum used moves the waste-liquid mixture at around 300 mph. Disturbances in the flow such as direction changes generate loud aeroacoustic noises. Now that aircraft are quieter, the noise is even more disturbing to those outside the water closet. Sleeping passengers complained of being awakened.



A schematic of a typical vacuum operated aircraft head.

The fix to the noise problem is an elegant piece of engineering, simple and cheap. All that need be done is straighten some piping and remove a 90 degree elbow. During the retrofit, the bowl and valve system is unchanged. A flush now consumes .55 gallons of liquid and the bean-counters at the airline smile with delight, sharpen their quills and try to figure out how to reduce the pitch of the seats to squeeze in one more row of paying passengers.

But *The Coastwatcher* sees an unintended consequence. Everything has a price. The meek and children will now start using the inflight facilities and the wait line for a stool needed to deposit a stool will increase. But someone has to think of the children and graduate student Michael Rose, lead author on BYU's most recent vacuum-assisted tech program writes in *Proceedings of Meetings on Acoustics* that "The toilet is much quieter and now kids won't think they're going to get sucked out."

May 15, 1941 – First flight of the Gloster E.28/39. The aircraft was designed to test the Power Jets W.1 turbojet engine which developed 1,000 lb of thrust.



Before and After: The aircraft is now on exhibit at the British Science Museum, Kensington.



The E.28/39 was the third jet aircraft to fly. First honors went to Germany's Heinkel He 138 in 1938. Italy's Caproni Campini N.1 took place position in 1940.

May 16, 1929 – William Wellman, a World War I combat pilot, adopted a story by John Monk Saunders, a World War I flight instructor, and produced the movie *Wings*. Richard Arlen, one of the protagonists served with the Royal Canadian Flying Corps in World War I, part owner of a flying service and in World War II, spent time assisting the Air Force as a civilian safety consultant.



Producer Lucien Hubbard, Director William Wellman, Author John Monk Saunders

Wings is a traditional story about two rivals who fall in love with the same girl but form a strong bond between them that ends in a surprising tragic end. The film was shot at Kelly Field, Texas and involved 300 pilots. The climactic battle scene was a staging of the battle of the St. Mahiel Salient.



In 1929, Wings won the first Academy Award for Best Picture, the only silent film to do so. The leading actors in the film were Clara Bow (The It Girl), Charles (“Buddy”) Rogers, Richard Arlen, and a bit player named Gary Cooper.

Good Day for Sikorsky

May 17, 1911– After some short straight line hops, Igor Sikorsky makes what he calls the first flight, a four minute circle of the field, in his S-5. After some demonstrations for the Russian military, Sikorsky makes his first money in aviation flying exhibition flights.



As was his custom, Sikorsky is impeccably dressed and outfitted with the latest style in flying helmet.

1942 – A Sikorsky XR-4 departs Bridgeport on a delivery flight to USAAF evaluators at Wright Field in Ohio. Aboard are test pilots Les Morris and Igor Sikorsky.



XR-4 arriving at Wright Field. (Credits: Sikorsky Archives)

The first true cross-country flight by a helicopter covered the 761 miles in stages totaling 16 hours, 10 minutes flying time over two days.

*As Maj Carol Whelen of the 103rd in East Granby reminds us: “Yes, girls really do fly planes.”
May 18th is a good day for the aviatrixes.*

1905 – Birth of Ruth Blaney Alexander, first U.S. woman glider instructor and holder of numerous speed and altitude records



(Credit: San Diego Air and Space Museum)

1952 – Birth of Jeana Yeager, co-pilot of the Rutan Voyager which made the first non-stop, non-refueled flight around the world.



1953– Jackie Cochran borrows a Canadair Sabre 3 from the Royal Canadian Air Force and becomes the first woman to break the sound barrier.



Cochran with the first man to break the sound barrier.

1966 – Sheila Scott departs Heathrow on the first of her three solo round-the-world flights. She will fly her Piper Comanche, *Mythe Too*, 31,000 miles and return on June 20, logging 189 flying hours in 34 days.



1971 – Birth of Desiree Tyler Horton, whose handle is Chopper Chick. Los Angeles on-camera airborne reporter, U. S. Forestry Service and California Department of Forestry and Fire Protection pilot and sometimes model of Harley-Davidson.



So much for the lady pilots of the 20th-21st century. Return with us to those thrilling days 18th century France when the ladies of the French haute mond were wafted aloft in a paper-lined silk bag filled with hot air.

May 19, 1784 – A trio of aristocratic ladies, the Marchioness de Montalembert, Contess de Podenas, and Mademoiselle de Ligarde become airborne in a tethered Montgolfier hot air balloon. Arguably, this is the first flight by women.



May 20, 1946 – A USAAF Beech C-45F Expeditor on a navigation training flight hits the 58th floor of the Band of Manhattan Trust Building, 40 Wall St., New York, New York. The five aboard the aircraft were killed but no one else was injured. The building is now known as Trump Tower.



A C-45F and 40 Wall Street



This was the second time an aircraft had accidentally struck a Manhattan building. The first was the B-25 crash into the Empire State Building the previous year.

The last time an aircraft hit a Manhattan building was in 2006 when Yankee pitcher Tory Lidle's Cirrus SR20 hit the 50 story Belaire Apartments on the Upper East Side.

May 21, 1918 - Rittmeister Manfred Albrecht Freiherr von Richthofen, "The Red Baron," goes West. The circumstances of his death are still in doubt. An aerial kill was awarded to Canadian pilot Arthur "Roy" Brown but there is strong evidence that he was killed by ground fire.



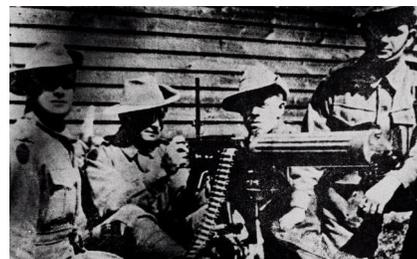
Manfred and his brother Lothar, another German Ace.



Capt Roy Brown, Naval Air Service and his Sopwith Camel.

The Naval Air Service was merged into the Royal Air Force and in 1919 Brown resigned and moved back to Canada. He worked as an accountant and in 1928, started a small airline, and dabbled in aviation journalism. When WWII started he attempted to join the RCAF but was rejected, probably due to the injuries incurred in WWI crashes.

The most likely candidates on the ground are Sgt Cedric Popkin, 24th Machine Gun Company of the First Australian Imperial Force and two other Australians, Gunners Robert Buie and W. J. Evans. Most authorities credit Popkin with the shoot-down.



Sgt. Popkin is second from left manning the Vickers gun.

The single bullet which killed von Richthofen was a .303 bullet and used by the British Lee-Enfield Rifle and the Vickers and Lewis machine guns. The arguments about who fired the killing shot revolves around eye-witness reports about Richthofen's maneuvers, the position of Brown's aircraft, the location of the gunners on the ground and the autopsy of Richthofen. For details go to:

<http://www.diggerhistory.info/pages-air-support/ww1/richthofen.htm>