



Missions for  
America  
*Semper vigilans!*  
*Semper volans!*

31 AUG-02 SEP-CAP National Convention  
09 SEP-CTWG Smallbore Rifle Clinic  
06-07 OCT-AOPA GON Fly-in  
21 OCT-CTWG Smallbore Rifle Clinic

### CADET MEETING

*20 June, 2017*

The standard meeting opening: drill, attendance, Pledge of Allegiance, Cadet Oath, and inspection was followed by a safety briefing given by C/CMSgt Eichelberg.

Lt Col Rocketto conducted Part One of the Mission Radio Operator Qualification Course.

### SENIOR MEETING

*20 June, 2017*

The Squadron conducted sessions for the TRCS SAREX and the Westerly Pancake Breakfast.

Maj Farley provided details about the information passed in last week's Wing Commander's Call

Lt Col Rocketto presented a report on the Commander's Cup Rocketry Contest

Maj Noniewicz briefed the aircrews on the mysteries of the G1000 electrical system.

### ACHIEVEMENTS

C/CMSgt Hannah Ramsey placed first in two categories in the Commander's Cup Rocketry Contest.

### ELKS SERVICE PROJECT

Five cadets, led by C/Maj Daniel Hollingsworth, presented and retired the colors at a ceremony held by the Groton Benevolent and Protective Order of Elks.

## **The Coastwatcher**

Official Publication of the Thames River  
Composite Squadron  
Connecticut Wing  
Civil Air Patrol  
300 Tower Rd., Groton, CT  
<http://ct075.org>

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Issue 11.23

20 June, 2017

### CALENDAR

*See the Squadron Calendar for Meeting Details*

24 JUN-TRCS SAREX

25JUN-Westerly Pancake Breakfast

27 JUN-ES Training

Cadet Aerospace or Emergency Serv.

25 JUN-WAA Pancake Breakfast

01 JUL-CTWG SAREX

04 JUL-No Meeting

11 JUL-TRCS Cmdr Call/Saff Meeting

18 JUL-TRCS Meeting-ES Training

23 JUL-FAA Aviation Career Ed. Academy

25 JUL-TRCS Meeting-ES Training

14-20 AUG-CTWG Encampment

19 AUG-National Aviation Day-GON

Cadets Hannah Ramsey, Benjamin Ramsey, Daniel Ramsey and Caleb Shafer.

SM Steven Heard and Lt Col Larry Bright provided transportation and support. SM Heard reported that our cadets “Acted in a very professional manner, and maintained a high level of military bearing both when actively engaged in handling the colors” and during their interactions with the Elks.

### CTWG COMMANDER'S CUP ROCKETRY CONTEST

Seven cadets and two senior members attended the 10th running of the Commander's Cup Rocketry Contest which was held at White's Farm in Durham on Saturday last.



*Wischmann Fuels Patriot*  
(Photo by Maj Bourque)

The winning team was the Stratford Eagles followed by the 143rd Composite Squadron out of Waterbury. Thames River placed third.



*Cadet Ben Ramsey*  
*Recovers the Hollingsworth Rocket.*  
(Photo by Maj Bourque)

The bright light for Thames River was the performance of C/CMSgt Hannah Ramsey who tied for first in Flight One (E2X Class) and placed first in Flight Two (Level One Class). C/CMSgt Ramsey received two book on aviation for her two awards winning rockets.



*Chief Ramsey Attaches Firing Circuit Wires*  
(Photo by Maj Bourque)

The judges were Capt Peter Jensen, USCGA and Mr. Stuart Sharack, CAP's First National Teacher of the Year Awardee.



*The then CTWG Commander Col Peter Jensen*  
*and Mr. Stuart Sharack at the 2006 CAP National*  
*Awards Ceremony.*

The TRCS contingent was led by Maj Bourque and C/CMSgt Ramsey. Cadets Shafer, Kirkpatrick, Wischmann, and Schantz launched rockets. C/Maj submitted one rocket which was launched by Cadet Ben Ramsey. Cadet Daniel Ramsey served as Squadron Supernumerary. Lt Col Stephen Rocketto, CTWG's Director of Aerospace Education planned and was in charge of the event.

## AEROSPACE HISTORY

### *The A-4 Alphabet*

#### *Part II-Foreign and Civilian Skyhawks*

The last edition of *The Coastwatcher* presented a brief biography of Edward Heinemann and discussed the various models of the Douglas A-4 Skyhawk which saw service in the United States military. This article will take a look at the many variants which were sold to foreign nations and employed by civilian corporations. Eleven nations have adopted various forms of the Skyhawk for their air forces or navies and at least two corporations maintain small fleets of A-4s and contact their services to the military.

The Royal Australian Navy purchased eight of the new “humpless” A-4Gs. They were equipped with Sidewinder heat seeking missiles for fleet defense and operated off of *HMAS Melbourne*.



*Three Skyhawks perched on the forecandle of the Melbourne*  
(Credit; Australian Ministry of Defence)



*Gear and hook down, dive brakes and speed brakes extended, an A-4G traps onboard Melbourne.* (Credit: Nick Thorne)

Later eight A-4F were acquired and upgraded to the “G” standard. The Aussies also purchased two TA-4G trainers, both of which were lost in accidents.

When the *Melbourne* was decommissioned, the Australians sold ten Skyhawks to the Royal New Zealand Air Force. After about five years, the Kiwis upgraded the aircraft and re-designated them A-4K. Five years later, they sold the remaining A-4s to Draken International, a company which supplies aircraft to the U.S. military for training exercises.



*Kiwi A-4K at Clark AFB* (credit: TSgt Craft, USAF)

The French, long time suppliers of weaponry to the Israelis, sought to curry favor with oil rich Arab nations. and refused to release Mirages which the Israelis had bought and paid for. The Israelis turned to the United States. Their first acquisition was 90 A-4Hs in which they replaced the two 20 mm Colts with two 30 mm DEFA cannons.



*An Israel A-4H at the Israeli Air Force Museum. Note the blast shield fins just above the wing root mounted cannon.*

The Israelis named the Skyhawk *Ayit* which could be translated as Eagle or Vulture depending upon to whom you are talking. If we were to submit the

problem to three Talmudic scholars we would probably get five opinions so let's leave the issue alone. If you persist in exploring this ornithological/etymological controversy, go to <http://www.balashon.com/2007/06/neshar-and-ayit.html> and form your own opinion.



*An A-4F. A "kill mark" representing the sinking of an Egyptian missile boat is visible just below and to the left of the identification number.*

As time passed the Israelis became the foreign power with the largest fleet of Skyhawks with almost 300 passing through their inventory. A-4Es were modified with braking parachutes, special electronics, more powerful engines and eventually the 30 mm cannon. These became the A-4H of which two dozen were trainers.



*An Israeli A-4H with a load of blue practice bombs.*

Later, a shipment of A-4E Skyhawks retired by the U.S. Navy found their way to Israel. The fuselage hump was added for future avionics upgrades and systems were installed so that the aircraft could launch the Shrike anti-radiation missile, the Walleye glide bomb, and the Sidewinder air-to-air missile. The "E" model also mounted an extended tailpipe. The tailpipe increased the explosion distance from the aircraft if struck by a heat-seeking missile, increasing

chances of survival.

Finally, ex-Marine Corps A-4Ms reached Israel and became the A-4N.

From 1968 until their retirement in 2015, the Skyhawks soldiered on, flying attack and training missions but losses were high, especially to the Egyptians who used Soviet supplied Gainful missiles and the ZSU anti-aircraft guns effectively during the Yom Kippur War. The trainers, TA-4 E, F, and J models were also used operationally.

*An Israeli TA-4J on approach to Hatzetim Air Base in the Negev Desert. Note the extended tail pipe*



One A-4, flown by Col Ezra Dotan, was flying a close air support mission when he tangled with two Syrian MiG-17s. He engaged them and shot down one with a salvo of unguided air-to-ground rockets and the other with the 30 mm cannons. This is the only instance of an Israeli A-4 scoring an air-to-air victory. During the Vietnam war, Lieutenant Commander Theodore R. Swartz had performed a similar feat, downing a North Vietnamese Air Force MiG-17 with an unguided Zuni rocket.

The A-4B was a popular model for remanufacture and foreign sales. The Argentine Air Force and the Argentine Navy adopted them under different designations. The Army called their version the A-4P.



*An Argentine Navy A-4Q Formation*

The Argentine Navy used the A-4Q. The Navy operates and aircraft carrier, *ARA Vienticinco de Mayo* during the early days of the Falkland War but after the Royal Navy submarine *HMS Conquerer* sank the Chilean cruiser *ARA General Belgrano*, she returned to port and eventually was scrapped.



*Vienticinco de Mayo and its Skyhawks*

As an aside, the *Belgrano* was once *USS Phoenix*, one of two Pearl Harbor surviving ships. The last of them, *USCGC Taney* is a museum piece in Baltimore.

The A-4Qs operated from land in concert with the Argentine Air Force A-4Ps. They staged daring attacks on the British escorts and sank *HMS Ardent*, *Antelope*, and *Coventry*. They also destroyed *RFA Sir Galahad*. Their flights from the mainland to the Falklands were hampered by inadequate navigation equipment. Faulty bomb fusing made many of their attacks ineffectual. Well placed bombs struck but failed to explode. They suffered high losses from navigational failures, anti-aircraft fire, and air intercepts.

After the war, Argentina continued to favor the Skyhawk and added the Fightinghawk, A-4AR and OA-4AR (trainers) to their inventory. The Fightinghawk is an A-4m with new engines, an overhauled airframe, electronic defensive equipment, flare dispensers, and an advanced navigation suite. A mix of 32 Fightinghawks were purchased.



*A-4AR Fightinghawk (Photo Credit: (Rob Schleiffert))*

More remanufactured A-4B went to Southeast Asia. The Republic of Singapore Air Force originally acquired 50 of them. These became the A-4SU Super Skyhawk after improved avionics were installed in a lengthened nose, General Electric engines replaced the Prattis, two hard points were added to the three original ones and British made 30 mm cannons were installed. They liked what they had and eventually owned about 150.



*A Singapore Skyhawk Lifting Off (photo credit: TSgt James E. Lotz, USAF)*



*The Black Knights, RSAF Demonstration Team (photo credit: Ministry of Defence-RSAF)*

Lockheed rebuilt the TA-4SU for Singapore installing a 28 inch fuselage plug and providing a raised cockpit for the instructor. Lockheed had previously constructed trainer versions of the U-2 and the SR-71 with similar arrangements for the instructor.



*The unique stepped cockpit of the TA-4SU*  
(Photo Credit: Jerry Gunner)

Kuwait joined Israel as a second Middle East operator. The Kuwaitis obtained 36 modified A-4Ms and TA-4Ms which became the A-4KU and the TA-4KU (KU for Kuwait). They had upgraded engines, drag parachutes, and advanced avionics installed in the “hump.” When Iraq invaded Kuwait, a few of the Skyhawks managed to get into action and as the country was overrun, the balance of the fleet fled to Saudi Arabia from where they continued to fight until Kuwait was liberated.



*Kuwaiti Air Force Line-up*  
(Photo credit: TSgt. David McLeod)

Kuwait Skyhawks ended up in Brazil's navy. The Brazilian aircraft became the AF-1 and AF-1A, B, and C and served aboard the aircraft carrier *São Paulo*.



*The Brazilian AF-1 Falcão onboard the São Paulo*

Another SEA nation, Malaysia, joined Singapore and procured refurbished A-4Cs and A-4Ls which were given the cumbersome designation A-4PTM for A-4s “peculiar to Malaysia.” Refurbished TA-4C/L served as their trainers.



*Malaysian Air Force A-4PTM*  
(photo credit: Mike Freer Touchdown Aviation)

In a little known deal, Israel sold 32 Skyhawks to Indonesia, the country with the largest Muslim majority in the world. Early in the 1980s, the Indonesian pilots were trained in Israel and then “sheep-dipped” after training by sending them for a short stay at Marine Corps Air Station Yuma in Arizona. There they took photographs and received documents indicating that they had been trained in the United States.



*Former Israeli Skyhawk Flying for a Moslem Nation.* (photo credit: garudamiliter)

Skyhawks have been “hawked” from nation to nation. Israel has supplied A-4s to Argentina and Indonesia. Kuwaiti sent their Hawks to Brazil and Australia sent theirs to New Zealand. New Zealand sold theirs to Draken International in Lakeland, Florida. Draken is a defense contractor which offers a range of services to the military: dissimilar air combat training, threat simulation, and air-to-air refueling support among others.



*One of the Draken TA-4Ks*  
(photo credit: SJP Neill)

Top Aces, a Canadian company based in Phoenix purchased ten A-4Ns and three TA-4Js and provide services similar to those provided by Draken. They may also operate the four former Israeli A-4Ns used as target tugs for the German Air Force.



*Top Ace TA-4N* (Photo Credit: Top Ace)



*Discovery Air is the parent company of Top Ace. This is a Skyhawk which they fly for the Germans.*  
(Photo Credit: Bkezard)

An A-4C (A4D-2) has bearing the registration N401FS and is now at the Pima Air and Space Museum in Tucson. The aircraft has been photographed at Mojave Air and Space Port in California and was flown by Flight Systems, Inc.



*The FS A-4C on display at the Pima A&S Museum*

One TA-4J flies for the not-for-profit Collings Foundation. The aircraft is based in Houston, Texas and The Foundation offers the public a “flight experience” in the Skyhawk. The academic course, loan of equipment, and a 40 minute flight is available for \$8,000.



*The Collings TA-4K flies formation with the Foundation's F-4 Phantom II. The Phantom flight costs \$12,500 or \$312.50/minute!*

(Photo Credit: Collings Foundation)

The FAA registry indicates that almost 50 Skyhawks carrying N numbers. About half seem to either be in the process of restoration or a source of spare parts.

The June 2017 issue of Flying Magazine has a story on the “ultimate warbird.” Two ex-navy pilots, Al Armstrong and Doug Matthews have collaborated to restore a TA-4J. The article discussed the aircraft and author Dave Hirschman describes the flight experience. The aircraft has a low time airframe and engine, glass cockpit, and was only flown to church on Sundays by an old and grey haired Navy captain. The aircraft is for sale for \$2.5 million.



*Up for Sale-TA-4J-The ultimate vehicle to take your girl to the junior prom.*

*(Photo Credit: Classic Fighters.org)*

Heinemann's Hot Rod is a paradigm of good aeronautical engineering design. It met or exceeded all of the requirements demanded by the Navy. Its simple structure allowed for a long series of modifications. Maintenance was relatively simple. And the frosting on the cake. It came in under time and under budget! The Skyhawk should serve as a model for the design of practical and utilitarian aircraft.

### **AVIATION CHRONOLOGY**

24 June, 1925 – A Coast Guard Vought OU-1 operating from Air Station Ten Pound Island, Gloucester, Massachusetts, becomes the first aircraft to assist in the capture of a rum-runner.



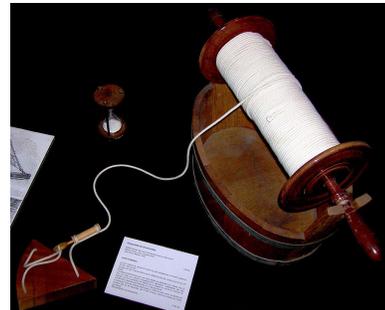
*The OU-1 was borrowed from the Navy, a shelter was purchased from the Army for \$1, and \$100 was allocated to build the air station at Ten Pound Island.*

25 June, 1923 - The first complete midair refueling using a pipeline is completed over San Diego. US Army Air Corps Lts Lowell Smith and John Richter fly a Boeing remanufactured, DeHavilland DH-4B and receive fuel from another DH-4B flown by Lt Frank Seifert.



*The Airco DH-4B re-manufactured by Boeing featured a Liberty engine and relocated fuel tank.*

26 June, 1946 – The U.S. Army Air Force and the Navy adopt “knot” and “nautical mile” as the standard aeronautical units for speed and distance.



*The chip log consists of a drogue, marked line on a reel, and a hour-glass like sand timer. The drogue is tossed overboard and the line pays out from the reel. The time and the number of knots payed out determines the ship's speed.*

27 June, 1950 – A USAF F-82 Twin Mustang racks up the first air-to-air kill of the Korean Police Action, shooting down a North Korean Air Force Yak-9.



*North American F-82E in night fighter black on display at Lackland AFB.*

28 June, 2012 – On 22 November, 1952, a USAF C-124A crashed into Mount Gannett in Alaska. The wreckage was buried in ice and snow. Sixty years later, on this date, the wreckage emerged from a retreating glacier.



*Douglas C-124A Globemaster II at Dover AFB Air Mobility Museum.*

29 June, 1900 – Antoine de Saint-Exupery, aviator and writer was born.



*Lost over the Mediterranean in 1944, his aircraft and remains were discovered in 2000.*



*St. Exupery's identification bracelet recovered from the sea bottom.*

Rivière, the station chief of a company pioneering night flight in Argentina, contemplates the loss of Fabien, caught in a storm on the Patagonian run.

*The goal perhaps means nothing, it is the thing done that delivers man for death.*

*Victory, defeat—the words were meaningless. Life lies beyond these symbols and life is forever bringing new symbols into being. One nation is weakened by a victory, another finds new forces in defeat. To-night's conveyed perhaps a lesson which would speed the coming of final victory. The work in progress was all that mattered*

*-Night Flight-*

*To be a man is to be responsible. It is to feel shame at the sight of what seems to be unmerited misery. It is to take pride in a victory won by one's comrades. It is to feel, when setting one's stone, that one is contributing to the building of the world.*

*-Wind, Sand, and Stars*

30 June, 1956 – United Airlines Flight 718, a Douglas DC-7 and TWA Flight 2, a Lockheed 1049 Super Constellation, both operating under visual flight rules collided over the Grand Canyon killing 128 people.



*Grand Canyon Collision (Painting by anybody)*

Four years later, a United Airlines Douglas DC-8 collided with a TWA 1049 Super Constellation over New York Harbor killing 84 people.