



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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### 13 YEARS AGO

*Thames River Takes First In 2007 Wing Aerospace Display Contest*



## THAMES RIVER COMPOSITE SQUADRON ACTIVITIES

### *Virtual Meetings*

#### *Senior #1*

The Seniors met by teleconference on Wednesday, April 1st. After some noise issues over the teleconferencing line, a switch to a different service improved audibility.

Col Ridley addressed current CAP issues and future missions. He explained what missions are allowed and what restrictions apply.

The members engaged in a round-robin talk about their current activities.

Maj Farley encouraged the officers to continue working on their qualifications and professional training.

#### *Senior #2*

A second senior meeting was held on Tuesday, April 7 using Zoom moderated by Lt Pineau.

Maj Farley reported that the Wing Commander, Col Ridley was discussing possible missions involving the submarine force.

Lt Pineau offered a safety briefing on using operational risk management during the current emergency.

Maj Bourque stated that some cadets have taken proctored close book tests and the examination papers have been forwarded to him

Lt Cantwell spoke about his survey of maintenance issues and plans for remedial action.

### *Cadet Meeting*

The Cadets meet by Zoom teleconferencing on Thursday, April 2nd.

Col Ridley joined in and answered questions about the upcoming schedule of regional and wing activities.

A safety briefing focused on health issues.

Lt Thornell led the cadets in a round-robin in which they took turns describing their activities during the stand-down.

### *Emergency Services*

Major Bourque continues to work with SM Docker teaching and practicing Ground Team 3 qualification exercises.

### *Aerospace*

Lt Col Rocketto has been in contact with National, Region, and Kentucky Wing developing on-line aerospace education activities.

Some cadets are doing a beta test of an activity designed to increase the ability of a student to use notes to glean important information from readings and use those notes for passing tests on the six *Aerospace Dimension* modules. Cadets Buchko and Motherway have followed directions and indicate that notes are helpful. Both passed the on-line Module 6 test.

The five senior members who have not earned the Yeager Award have been contacted and supplied with information about how to study and take the test. If they all earn the Yeager, TRCS will have 100% of its members wearing the ribbon.

A selection of several dozen *You Tube* videos which are directly related to the information contained in the *Aerospace Dimension* modules has been distributed.

### *Communications*

Lt Kopycienski and C/SMSGT Burton installed the new high frequency antenna this week. The high frequency range runs from 3-30 MHz and are suitable for beyond the line-of sight long distance communications.



*Cadet Burton uses a come-along to raise the HF antenna mast (Photo Credit: Lt Kopycienski)*

While checking out the system, Cadet Burton entered the National Traffic Net and received acknowledgements from Georgia, Minnesota, and Arizona. Bravo Zulu!

### *Burton contacting stations via the NTN*



### *Aviation Training*

Lt Adam Spreccace flew CAP Proficiency Flight #10, take-offs and landings on April 4th.

A round-robin report from attending members about their current activities was held.

## **CURRENT EVENTS**

### *Back to the Past*

#### *Dornier*

Dornier has maintained a design style for three-quarters of a century, a parasol wing flying boat hull with a twin engine push-pull propeller combo mounted on a pylon over the wing.

The first member of the family was the Do J Wal, arguably the first choice for exploration and long range flights in the 1920s.

*The Wal*



Between 1924 when the first Wal took flight until today, Dornier has used this configuration for around a half-dozen aircraft including the 12 engine Do X.

In 1984, the Dornier Seastar was an attempt to produce a modern amphibian in the classic Dornier style. Only two were produced



*Seastar at the Dornier Museum, Friedrichshafen*

The latest evolution is the Dornier Seawings CD.2 Seastar which made its first flight on March 28th. The aircraft is the upgraded version of the 1984 Seastar.

*The CD.2 on a test flight.*



Improvements include a glass cockpit, improved propellers and a stern thruster which should make water maneuvering simpler. Fuel is stored in the sponsons which lowers the center of gravity, enhancing stability. The sponsons, a Dornier invention, reduce drag on the water and provide a modicum of lift.

The company, Dornier Seawings, is run by Claude Dornier's son and has the financial backing of two state-owned Chinese companies who hold controlling interest.

## THE WEEK'S AEROSPACE ANNIVERSARIES

April 8, 1959 – Col. Mario de Bernardi Goes West



De Bernardi had a fabulous career as an aviator. He saw combat in The Great War and worked as a test pilot for a number of companies. In 1926, flying a Macchi M.39, he came in first in the Schneider Trophy Race.



In 1927, he set two world speed records becoming the first aviator to exceed 300 mph. In 1931 he found him in Cleveland competing in a 10 day aerobatics contest. He took first place besting such luminaries as Ernst Udet and Richard Atcherly.



*The Caproni Ca.123 flown by De Bernardo at Cleveland*

Mario flew the second ever jet propelled aircraft, the Campone-Camprini CC.2 and carried the first "jet airmail" from Milan to Guidonia Montecelio.



*De Bernardi flying the CC.2*

During the fifties he designed his own aircraft, the M.d.B. 02 Aeroscooter. And his daughter Fiorenza De Barnardi was the first female airline pilot and airline captain in Italy.



*De Bernardi in his Skyscooter*

One his last flight, De Bernardi was in Rome performing aerobatics in his Aeroscooter when he suffered a heart attack. He landed the aircraft safely and expired, a sublime death for a great aviator.

April 9, 1945 – Over 500 Royal Air Force bombers raid the dockyard at Kiel, Germany. They capsize the German “pocket battleship” Admiral Scheer with a direct hit and damage the cruisers Emden and Admiral Hipper.



April 10, 1940 – Sixteen Royal Navy Fleet Air Arm Blackburn Skua dive bombers sink the German light cruiser *Königsberg* at Bergen, Norway. It is the first time in history that dive bombers sink a major warship.



*Skua and Königsberg*



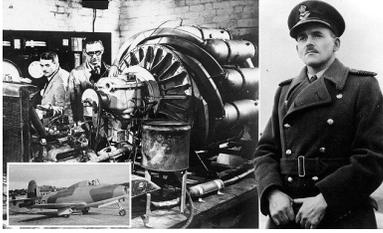
April 11, 1940 – First Battle of Narvik: *HMS Furious* launches Fairey Swordfish torpedo bombers in an attack against two German destroyers in Trondheimsfjord, Norway. The water is too shallow and no hits are made. Three aircraft are lost.



*Furious Launching Swordfish and Swordfish Launching Torpedo* (Credit: Imperial War Museum)



April 12, 1937 – Frank Whittle's starts ground-testing his first jet engine which is designed to power an aircraft.



April 13, 1940 – The Royal Air Force begins aerial mine laying in German coastal waters. Sowing sea mines was called “gardening” and the operations were given names of plants, trees, and vegetables. The primary aircraft used were Handley Page Hampdens, Bristol Beauforts and Vickers Wellingtons.



*Ground Crews Loading Handley Page Hampdens of No.408 Squadron with Mines (Credit Imperial War Museum)*

April 14, 1949 – First flight of the prototype Helio Courier, Helioplane #1. The aircraft was the brainchild of MIT Prof. Otto Koppen and Harvard Prof. Lynn Bollinger. Their goal was to produce an ultra-short take-off and landing airplane which could combine the advantages of a helicopter with those of a normal fixed wing aircraft, simplicity, speed, and range.



The proof-of-concept aircraft was a Piper PA-17 Vagabond re-built by Wiggins Airways of Boston.

By the time that they were done, little remained of the original Piper. An 86 HP Continental engine replaced the 65 HP model and drove a very large Aeromat propeller.

The propeller was large enough to blow air over the leading edge slats and slotted flaps fitted to the wings increasing lift. In slow speed flight, the ailerons dropped adding even more lift. Additionally, the fuselage and landing gear lengthened and the wings shortened. Lift was doubled and stall speed reduced by 30 percent.

### OUR FEATURED AIRCRAFT

*The Breguet 1001 Taon*  
by  
*C/SrA Stephen Buchko*

The sleek little Breguet 1001 *Taon* (Horsefly) was developed to meet a 1954 NATO specification for a lightweight strike fighter-bomber. *Taon* is an interesting name because it is not only the French name of horsefly but also is an anagram of NATO.



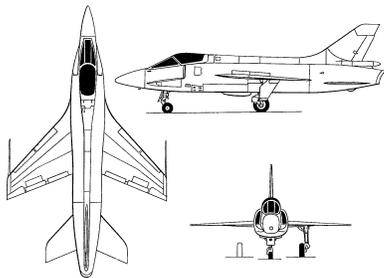
The Soviets and her Eastern Bloc Allies had large quantities of attack planes which could easily wreak havoc upon large, fixed airfields. To counter this threat a defense was needed. The specifications dictated that the fighter must have excellent speed and agility and be able to take off from and land on grass fields and roads.

The *Taon* was also supposed to carry any one of three armament suites (4x12.7mm machine guns, 2x20mm cannons, or 2x30mm cannons) plus various bombs and rockets. In addition, the *Taon* had to weigh about 8000 lb in its normal state. In July, 1955, the Breguet, Dassault, and Fiat designs

were accepted. The selection committee was chaired by Dr. Theodore von Von Kármán, a world class aerodynamicist.

In July 1955, NATO ordered three prototype *Taon* fighter-bombers. As production of the prototypes started, Breguet shipped a mock-up of the *Taon* to the Cornell Aeronautical Laboratory for testing in their high-speed wind tunnel. Analysis showed that application of the area rule would greatly increase *Taon's* subsonic, low altitude performance. This meant a redesign of the fuselage.

In February 1956, all the drawings, mock-ups, and prototypes were destroyed and the extensive re-design commenced! In accord with the area rule, the new fuselage was “pinched” at the wing roots, what is called a Coca Cola bottle shape. The result is to give the aircraft the same cross-sectional area which reduces drag. The plan view below clearly illustrates this feature.



In January of 1957, the company finally built the first prototype. By comparison, the Fiat G.91 had been flying for five months and the Dassault *Etendard VI* was on the brink of being rolled out. But by February, a NATO committee visiting the Breguet plant found a partially built prototype. Within seven months, the *Taon* flew, with Breguet test pilot Bernard Witt at the controls and on September 16, participated in the NATO evaluation trials. The *Taon* was compared to the Fiat G.91, Dassault *Etendard VI*, Aerfer “*Ariete*,” Northrup Grumman F-5 “*Tiger*,” and the Sud-Ouest “*Barouder*.”

In the end, NATO selected the G.91 and the *Taon* became a 2-off prototype which was never saw

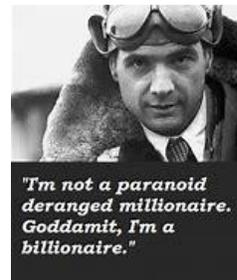
any service. But it did set an internationally recognized speed record for a 1,000 km closed course, 667.98 mph. One of the prototypes was scrapped and the other is stored in France's National Air and Space Museum.

## HOWARD HUGHES, AVIATOR

*A Photo Essay*

*Part I*

*1920-1939*



Howard Hughes went West on April 5th, 1976. In the world of the celebrity buffs who purchase the trashy scandal and gossip magazines which we find at the supermarket check-out station, Howard Hughes was an obscenely wealthy man who consorted with a string of Hollywood starlets and actresses, had a monkey on his back, a bizarre hygiene fetish and was played by Leonard DiCaprio.

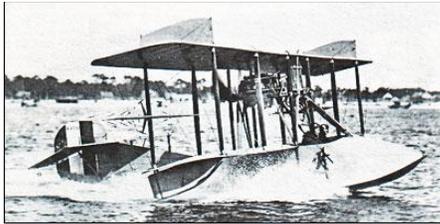
But he also had a spectacular career in aviation, from his first flight in a Curtiss hydroplane at the Yale-Harvard Races in New London to his death on an air ambulance flight.

In the course of his aviation career he smashed speed records, made aviation movies, owned airlines and aircraft manufacturing companies and was instrumental in the development of important aircraft. Let's take a cursory photo tour and learn about some of these achievements.

### **1920**

When Harvard defeated Yale on the Thames River in New London, the 15 year old Howard was given \$5 by his father and purchased a five minute flight on a Curtiss hydroplane. The aircraft was probably a Curtiss Model F. He had found his

greatest love.



1926



*Pancho Barnes and her Travel Air Type R  
Mystery Ship and Paul Mantz*

Howard started flying lessons in a Curtiss JN-4 Jenny with Jesse Bennett Alexander. Alexander was the aviation honcho when Hughes produced Hell's Angels and had a long career as an aviation entrepreneur.

The idea for making a movie about aviation germinated and he started planning to produce the epic, *Hell's Angels*. Filming started in the fall. The film was half-finished when the Jazz Singer premiered.



*R. Wark, Alexander, and Jean Harlow backed by a  
Fokker C-IVA and a Fairchild F-71. (Credit:  
Underwood)*

1927

Howard was issued Private Pilot Certificate #4223. Then he found out that Lindbergh had a lower number, 69. Hughes was extremely competitive and jealous of the public adulation garnered by Lindbergh.. Somehow, he managed to get his certificate number lowered to 80.

He purchased his first plane, a Waco 10 which he had modified under his exacting supervision at Douglas Aircraft's plant at Clover Field, California. But he also had a penchant to fly every kind of aircraft he could borrow. Pancho Barnes and Paul Mantz were two of the aviation luminaries whose aircraft he managed to fly.

1928

The Department of Commerce granted him a Transport Pilot Rating and by 1933, had added endorsement for multi-engine, land and sea.

The production of Hell's Angel's was underway. Hughes spent a million dollars to build an airport and purchase 87 aircraft. His compulsive micromanagement and obsessive attention to detail led to long delays and and enormous financial investment.



*The \$4,000,000 Howard Hughes Air Spectacle  
(Credit: Hitchcock mpn bluebook)*

During production, the stunt pilots refused to carry out a low altitude maneuver which Hughes wanted. Hughes hopped into a Thomas Morse Scout, lost control on take-off and crashed. His cheek was crushed: his first crash and first major injury.

The release of the first “sound motion picture, *The Jazz Singer*, changed the cinema industry. Hell's Angels was shot as a silent film but Hughes decided to redo it as a “talkie.” Another long delay and pecuniary outlay. 137 pilots were used and there were four accidental deaths.

### 1930

The film is released in a whirlwind of publicity and manages to turn a profit of three to four million dollars on a two million dollar investment. It received an Academy Award nomination for cinematography.



Hell's Angels also shocked the more prudish viewers with salty language and risqué sex which probably delighted Howard. In 1934, the industry implemented the Motion Picture Production Code which brought an end to such naughtiness but the rules gradually faded away and today, in the words of the Cole Porter song, “Anything goes!”

A new world to conquer, speed! Howard purchased a Boeing 100A, the civilian version of the Army P-12B/Navy F4B, the only two seat version built.



*Hughes and his Boeing 100 (Credit: Chas. E. Bulloch NASM)*

### 1931

The new Boeing is moved to Lockheed at Union Air Terminal in Burbank for modifications. The engine was cowled, the landing gear faired and the

450 HP Pratt Wasp souped up. As was his wont, Howard oversaw the work. When completed, Hughes took delight in flying over to March Field and outracing the Army P-12s based there.

He also acquired a Sikorsky S-38 for touring. A leather couch and other luxurious appointments furnished the passenger cabin. The S-38 was known as the “Explorer's Air Yacht” and was a favorite of Lindbergh for survey work. One was painted with zebra stripes and used by film makers Martin and Osa Johnson in Africa when filming wildlife.



*Hughes in the cockpit of the S-38*

### 1934

Hughes wins first place in the Sportsmen Pilot Free-for-All at the All-American Air Meet in Miami. The Boeing clocks an average speed of 187.7 mph and lapped some of the other competitors over the 20 mile course. As Maverick and Goose said in the film *Top Gun*, Howard also felt “a need for speed” and started thinking about building and flying the fastest aircraft in the world.



*Hughes First Air Speed Accomplishment*

As usual, Hughes immersed himself in the project, observing, commenting, and supervising each step of the design process. He employed very competent staff and the working models were tested in a wind tunnel.

## 1935

The Hughes Aircraft Company was formed to build the H-1 Racer, Howard's "steed for speed." What emerges from the factory is a radically streamlined flush riveted and filleted aircraft. The tail wheel was retractable and the oil coolers were fitted into the leading edges of the wing. The 700 HP Pratt 7 Whitney Twin Wasp would be boosted to near 1000 HP by using 100 octane gasoline.

During construction he trained by purchasing a one-off Beech A-17-F Staggerwing with a 690 HP engine. The aircraft had conventional gear and a propensity to ground loop. All-in-all, it was a good choice as a trainer.

Hughes flew the first flight of the H-1 on August 18th. He landed at Mines Field with the windscreen coated with oil. The landing gear had failed to extend so he activated the back-up system which did extend the gear but did not help his vision for landing.

*H-1 in the National Air and Space Museum*



On the 13th of September, he flew to Eddie Martin Field where the course had been laid out and the official timers waited. Hughes made four official passes over the course. But he went to the well once too often and attempted a final run. Intent on speed, he ignored fuel consumption and ran his main tank dry. So he bellied into a bean field, escaped unharmed and with little damage to the aircraft. His official speed, 352.38 mph broke land plane record by around 40 mph.



*Hughes and the H-1 in the Bean Field*

The next goal was to break the trans-continental speed record which was held by the inimitable Roscoe Turner, 10 hr 2 min 57 seconds. The H-1 did not have the range so he set his technicians to work building longer wings with extra fuel tanks.

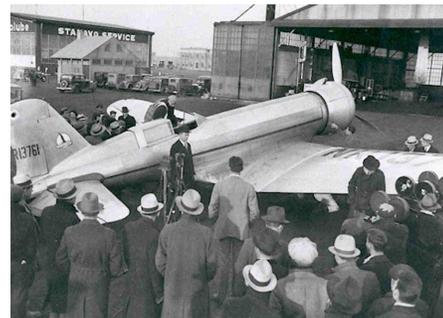
He filled in the time with some empirical research seeking to find out the optimum altitude to take advantage of the prevailing westerly winds and leased a Northrop Gamma from Jackie Cochran, replacing the 660 HP Pratt with an 850 HP Wright.



*Cochran was the first woman to break the sound barrier and during World War II directed the Women Air Force Service Pilots (Wasps)*

## 1936

On January 13th, the weather conditions were favorable for the cross-county dash and Hughes departed Burbank's Union Air Terminal east bound. A little less than nine and a half hours later he landed in Newark beating the old record by a half hour and setting a transcontinental speed record of 259.1 mph.



In a White House ceremony, Franklin D. Roosevelt presented Hughes with the Harmon International Trophy and recognized as the outstanding aviator of the year. Today, North America, tomorrow the World!

He purchased the sole Douglas DC-1 from

Transcontinental and Western Airlines and started preparations for a circumnavigation of the earth.



Beset by numerous technical complications and bureaucratic obstructions, he turned back to the modified H-1 and repeated the Burbank to Newark run, lowering the record by two hours, clocking an average speed of 327.1 mph. This was the last time he flew the revolutionary Racer.

**1937**

Having given up on the DC-1, Hughes bought a Sikorsky S-43 for his planned world flight. But the speed and range proved unsatisfactory so as with many of his airplanes, it was stored in a hangar but it would be returned to service in 1943 to support one of Howard's most famous projects.



He then purchased a Lockheed Model 14 Super Electra. The aircraft was a direct descendant of the Model 10, one of whose designers was Lloyd Stearman, with important contributions from a University of Michigan graduate student, Kelly Johnson. Once again, Hughes and his technicians worked over the aircraft, installing the best available autopilot and navigation equipment.

**1938**

On January 10th, Hughes departed Brooklyn's Floyd Bennet Field with a carefully selected crew: co-pilot Harry Connor, navigator Lt. Tom Thurlow, flight engineer Richard Stoddart and mechanic Ed Lund. The flight required six legs: Paris, Moscow, Omsk, Yakutsk, Fairbanks, Minneapolis and a return to Floyd Bennet on July 14th after flying 14,672 miles in 3 days, 19 hours, 17 minutes besting Wiley Post's 1933 record by nearly four days.



*The Greeting a Floyd Bennet Field*

Hughes is often regarded by the general public a rich, conceited, thrill seeking playboy but his interests in promoting aviation ran deep. After landing, he made the following statement which is a true reflection of his interest in aviation.

*There is one thing about this flight that I would like everyone to know. It was in no way a stunt. It was the carrying out of a careful plan...If any credit is due anyone, it is the men who designed and perfected, to its remarkable state of efficiency, the modern American flying machine and equipment...All we did was operate this equipment and the plane according to the instruction book....*

**1939**

Hughes enters the airline business. He started purchasing shares of stock in Transcontinental and Western Airlines, later better known as TWA. He also bought one of the only ten Boeing 307 Stratoliners produced, the first pressurized airliner and as was his custom modified it.



*Boeing 307B*

*The Flying Penthouse*

His fascination with commercial aviation ran deep. Seven years earlier, he had hired on as a co-pilot with American Airlines under the alias, Charles Howard. The charade did not last long but it was the start of his “airline” obsession.

As was his custom, he spent a year overseeing modifications including bigger engines. The chance for another world flight was cancelled as the clouds of the upcoming war darkened the European skies. The aircraft, named *The Flying Penthouse* went into storage. Years later, it ended up as a houseboat named *The Cosmic Muffin*!



The National Aeronautics Association named him as Aviator of the Year and he garnered the Octave Chanute Prize and the Colliers Trophy.

Howard's position as major stockholder of TWA brought him into contact with company president Jack Frye. Together they envisioned a revolutionary airliner, pressurized, fast, long ranged and capable of carrying a profitable load of passengers.

They contacted Lockheed who had been working on a four engine airliner, the L-044 Excalibur which would be the seed of what would blossom into the graceful L-049 Constellation. Lockheed put together an all-star team of designers; men like Kelly Johnson, Hal Hibbard, and Willis Hawkins whose skills led to a line of aircraft which included the P-80 Shooting Star, the C-130 Hercules, and

the F-104 Starfighter. Juggling his many other interests did not put a damper on Howard's constant flow of suggested changes to the evolving design.



*Publicity Poster for TWA and the Connie*

Germany invaded Poland kicking off World War II in Europe. Howard will engage in a number of war-time projects and these and his later life will be explored as Part II in the next edition.

## **FROM THE READERS**

“Six degrees of separation” is the idea that all people are a maximum of six social connections away from each other. (Today it is six feet!) It turns out that The Editor is two degrees of separation away from one of the crew members who fell into the hands of poet Bret Hart's “heathen Chinees.”

Mike Walz, one of Lt Col Rocketto's former rifle shooters from the 1970s is now living in Billings, Montana. He joined the Army, served in Korea and then with the Old Guard at Arlington. Afterwards he used he G.I. Bill to pay for college, became a science teacher and an officer in the National Guard.

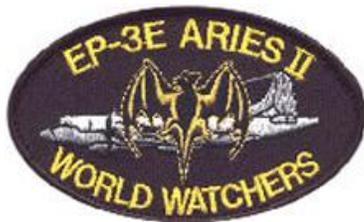
It turns out that one of his former students was one of the crew members of the EP-3E which was featured in the Hainan Island Incident in last week's *Coastwatcher*.

His name is Jason Hanser and Walz has good things to say about him as a student at Skyview High School. Hanser went to Montana State University and then joined the Navy. He was serving as a Cryptologic Technician 2nd Class Jason aboard the Aires II that was involved in the collision and forced landing.

So now, dear readers, you are all three hand shakes away from one of the crew members aboard Osborn's ill-fated flight. However, due to advisories regarding social contacts, you will have to wait for an indeterminate time to be enter into that chain of hand shakes. Meanwhile, stay six feet away.

*A Short History of Fleet Reconnaissance Squadron VQ-1*

The Navy bases its sole aerial reconnaissance and signal intelligence squadron, VQ-1. At NAS Whidbey Island in northwest Washington. Their nickname is the "World Watchers" and they can be found anywhere in the world but historically and today, their "beat" is the Pacific rim, primarily Communist China and North Korea.



The squadron traces it roots to World War II when the flew electronic surveillance missions out of the Philippines. The aircraft was the Consolidated PBY-5A. It received squadron recognition in 1953, Airborne Early Warning Squadron One, and were equipped with the Martin P4M-1Q Mercators. Two years later they became VQ-1 and were re-equipped with jets, Douglas EA-3 Skywarriors which could operate off aircraft carriers

During the war in Indochina, they were based in Japan and the squadron flew land based missions in the Lockheed WV-2Q Super Constellation and EC-121M Warning Star.

A Warning Star was shot down by a North Korean MiG-21 and all 31 members of the crew perished. That same year, the EP-3 entered the squadron inventory and the older aircraft were retired.

*Details of the exterior and interior of the EP-3*

There were eight cryptologic technicians aboard. Their jobs involves the operation of the electronic recorders, direction finding equipment, data analysis terminals and computers. They collect code and voice communications and the signals emitted by radar. The radar signals can then be analyzed for such properties as their pulse width, pulse repetition rate, and frequency, all of which lead to an understanding of the radar's capabilities.

