Missions for America
Semper vigilans!
Semper volans!

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CURRENT EVENT

MAAFS Equipped Herkys from the Silver State Head to the Golden State

The annual California wildfire season is in full swing and Los Angeles County is aflame. The pundits ascribe the disaster to state and local mismanagement of the reservoir system, nonfeasance maintaining fire fighting equipment, failure to use prudent forestry techniques and politically influenced leadership decisions. Really!

As of publication, over 400, 000 acres, 633 square miles have been burned in California. The is equivalent to 82% of New London County!

CAL Fire, a division of the California Department of Forestry and Fire Protection maintains 14 bases around the state and a fleet of 51 aircraft. Additionally, commercial aerial fire-fighters have been contracted. Aircraft sizes range from the DC-10 capable of delivering 10,000 gallons of water or fire-retardant to the Air Tractor AT-802 with a tank capacity of 800 gallons.

Reinforcements are on the way. U.S. Northern Command has activated the 152nd Airlift Wing, Nevada Air National Guard's 192nd Air Lift Squadron eight C-130s equipped with the Modular Aerial Fire Fighting Systems (MAFFS). The aircraft and their support personnel will travel from Nevada to the California Air National Guard base in Oxnard. They will be joined by three C-130s from Wyoming's 153rd Airlift Wing and the 731st Airlift Squadron in from Colorado.

Three other military units are trained to operate C-130 equipped MAAF systems: Colorado's 302nd Airlift Wing, Air Force Reserve and North Carolina's 145th Airlift Wing. The U.S. Forest Service owns the MAAFS, eight in total and supplies the retardant.

(Credit: SSgt Alex Koenig)

The MAAF is a self-contained, tanks, pumps and dispersal nozzles which can be loaded onto a C-130 and can drop 3,000 gallons of water or

PhosChek retardant on a fire. The discharge nozzle is placed in the left paratroop door and can drop the entire load in five seconds. Released from an altitude of about 150 feet, the retardant covers an area one-quarter of a mile long and 60 feet wide,

North Carolina Guardsmen moving MAFFS unit towards a C-130. *(Credit: USAF)*

Nevada Guardsmen Loading MAAFS in C-103

FEATURE ARTICLE

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

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.

The prefix letter 'F' which is used to designate an Air Force fighter aircraft as used in F-86, F-4, and F-22 did not always mean fighter. Once, Air Force fighters were designated by the letter 'P' for pursuit. After World War II, aircraft still in service 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.

As reconnaissance aircraft, they were usually designated with a prefix 'R' followed by it former mission so the formerly designated P-80, recce version F-14, was labeled as the RF-80. A bomber, the B-36 for example, became the RB-36. But consistency is not the strong suit in the "naming" card game. The U-2 and the SR-71 are two examples of dealing from the bottom of the deck. And let's not even try to figure out why the bomber, F-105 and the F-117 are so named since both were specifically designed for the bombing mission.

Part One ended with the F-7 (B-24 Liberator) so let's move on to a wild card, the British designed De Havilland Mosquito.

F-8
De Havilland DH.98 Mosquito

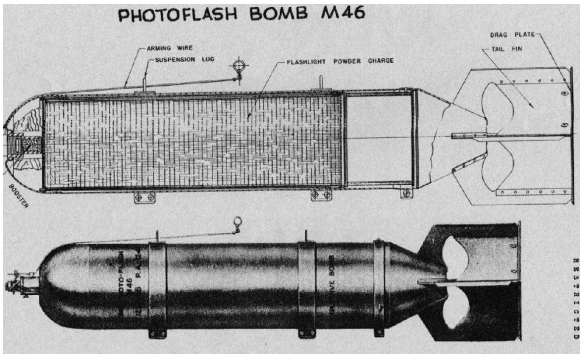
Sometimes called the "Wooden Wonder, she was a real son of a birch, constructed with plywood using yellow birch sourced from Canada and the United States.

The Mosquito was one of the most versatile aircraft ever built. It served as a bomber, fighter, maritime patroller, low level attack aircraft, cargo and personnel transport, pathfinder, night fighter and torpedo plane. But its ability to fly high, fast

and far and carry a varied package of cameras also made it a superb photo-reconnaissance aircraft.

(left to right) two F.24 14-inch lens vertical cameras, one F.24 14-inch lens oblique camera, two F.52 vertical cameras with 20-inch lenses
(Credit: Imperial War Museum)

Artificer loading flash bombs into a Mosquito
(Credit: Imperial War Museum)



Another way to illuminate the target was using the aerial strobe lights developed by Dr. Harold Edgerton at Massachusetts Institute of Technology.

Doc Edgerton supervises technicians working on a strobe light. *(Credit: MIT Museum)*

Records seem to indicate that the USAAF accepted about 40 Canadian built Mark VIII Mossies and 100 more on reverse lend-lease but lots of problems ensued as American pilots struggled with some of the idiosyncrasies of the aircraft.

A report culled from the Canadian Aviation Historical Society, Vol. 41, No. 3, Fall 2003, p.114 states the following:

> *"I think the Americans underestimated the Mosquito's tendency to swing and, being unfamiliar with the hand-operation and rudder coordination of the brake system to control the swing, they under-controlled. The aircraft would get away from them resulting in the many ground loops.*
>
> *The Mosquito, a tail-dragger with high wing-loading and a high single-engine safety speed, required a commanding set of hands and feet to fly it confidently and safely. It would be a daunting challenge for anyone accustomed to flying a tricycle-gear aircraft to just hop in a Mosquito and go.*

Elliot Roosevelt was involved in procuring PR aircraft and commanding photo-reconnaissance units. As the second son of President Franklin D. Roosevelt, he held considerable sway about

decisions about the PR community. One source says that he got into a head-banging dispute with Jimmy Doolittle over an assignment and the distribution of Mossies in the Eighth Air Force. But Doolittle's autobiography mentions Roosevelt twice and Doolittle's comments are praiseworthy.

On on the other hand, as previously mentioned, Elliot Roosevelt's war record has come under scrutiny and he was involved in some shady dealings with Howard Hughes about the procurement of the XF-11 but a congressional investigation found him blameless. What is it about the second sons of U.S. Presidents?

F-9
Boeing B-17 Flying Fortress

A curious foreshadowing of the development of the F-9 occurred on the 12th of May in 1938. Lt. Col Ira Eaker had a degree in journalism and was Chief of the Army Air Corps' Information Division. Eaker was one of Billy Mitchell's disciples and promoted the role of the AAC in serving as a first line of defense of the continental United States, a mission assigned to the Armies' Coast Artillery Corps. One of his subordinates, 2nd Lt. Harris Hull, a newspaper reporter on reserve duty suggested that the demonstrate the capabilities of the AAC to provide a long reach off-shore defense by intercepting the Italian luxury liner *SS Rex* inbound to New York.

The liner was one of the premier passengers ships of the era and had won the Blue Riband, emblematic of the fastest westbound passage on the North Atlantic run. Her schedule was well publicized and the Italian Line kept to it meticulously. The plan was to stage a grand publicity coup.

Three Y1B-17 aircraft were staged out of Mitchel Field on Long Island. Lt. Col, Robert Olds, father of legendary fighter pilot, Robin Olds, was mission commander. Curtis LeMay, future commander of the Strategic Air Command was the lead navigator. Major George Goddard, Chief of the Materiel Division's Photographic Section, was co-pilot in another aircraft and was equipped with a modified large plate Graflex camera.

Eaker left no void in his publicity plan. The third aircraft carried Hanson Baldwin, *New York Times* reporter and military analyst. Also attached to mission was a reporter from the *New York Herald Tribune* and an NBC radio crew which would give a live broadcast from the interception,

LeMay was arguable the best navigator in the Air Corps and although he knew the noon position of the Rex, the mission started in filthy meteorological conditions: overcast skies, rain, hail, turbulence and a strong headwind. Two and a half hours after take-off they crossed the cold front into clear air. LeMay calculated their position and established a heading which predicted an intercept in and hour and ten minutes.

The formation split apart and formed a line abreast search 15 miles apart. At 12:23, two minutes earlier than LeMay's predicted time, they broke out of a rain squall and spotted the *Rex,* 620 miles east of Sandy Hook, New York.The aircraft separated and two of them flew past the port side of the Rex.American passengers on board sang the The Star Spangled Banner and Goddard took the famous photo.

The fliers had made its point but there was blow-back from what they pulled off but that is a story for another time.

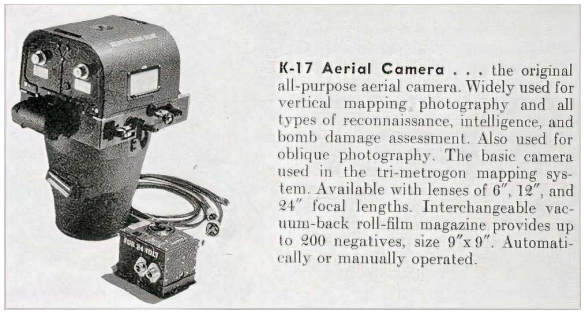
Boeing B-17E, B-17F and B-17G marks were converted to the F-9A, F-9B and F-9C

respectively. The total number is uncertain but probably no more than 100. The differences weres minor involving the number and arrangement of cameras.

Likely a B-17G with the chin turret replaced with a camera housing
(Credit: (San Diego A&SM)

F-10
North American B-25 Mitchell

A total of 45 B-25D Mitchells were converted to photo planes by removing all of the armament and armor. Three K-17 cameras were installed on the nose, one for vertical imagery and two for oblique photos.



The 91st Photographic Mapping Squadron was employed to take mapping photographs in the Caribbean and Central and South America during the early days of World War Two. Charts of these regions were rudimentary and best and needed for the ferry routes to Africa.

Hughes XF-11

Howard Hughes was never short of ideas for innovative aircraft.The USAAF ordered 100 of the proposed XF-11 in 1943 but as usual with Hughes, delays incurred and the first flight of a prototype did not occur until 1946. Hughes piloted the aircraft and his undisciplined testing resulted in a crash, utterly destroying the aircraft, nearly killing him and left him with medical problems for the rest of his life.

The aircraft used a pair of counter-rotating propellers on each engine. The rear propeller on the right hand engine reversed itself and longitudinal control problems led to the crash. A second prototype eliminated the counter-rotating design feature.

The second aircraft evaluated against the Republic XF-12 and found wanting. When the USAAF became the USAF in 1947, the XF-11 was re-designated as the XR-12 and eventually scrapped.

A Congressional investigation followed and Elliot Roosevelt and the Hughes firm were justly suspected of financial shenanigans but no culpability was proven.

Republic XF-12 Rainbow

In 1943, the USAAF required a dedicated long range photo plane for use in the Pacific Theatre.Republic proposed the XF-12 as a competitor to the Hughes XF-11. The need for speed resulted in a low drag streamlined design.

The tightly cowled engines uses sliding doors rather than cowl flaps and the engine and oil cooling vents were built into the leading edge of a high aspect wing. The complex engine, oil and exhaust system used ejected gases to provide thrust and boosted horsepower by an estimated eight percent.

The two halves of the streamlined windscreen rotated down into the nose and offered an unobstructed view through a second flat windscreen.

The Rainbow was not only equipped with a full suite of cameras housed in three compartments using the Fairchild K-17.The cameras were heated to prevent frosting of the lenses and the camera apertures opened inward to reduce drag. Photoflash bombs were carried for night photograph. A darkroom was included to develop the film in flight. Time is an important consideration when gathering operational intelligence so this was an excellent idea.

The Rainbow cruised at 400 mph, the fastest piston four engine aircraft ever. In 1948, it flew

from Muroc, California to Mitchel Field N.Y in 6 hr and 55 min filming the entire flight path on 390 10 inch plates which were printed in a continuous 325 ft. film strip!

Testing continued into 1952 but the age of the jet made the Rainbow obsolescent and the sole survivor of the two prototypes was expended as a target.

F-13
Boeing B-29A Superfortress

The F-13A was a B-29A. The aircraft was used to carry out long range photo intelligence missions over the Pacific in World War Two. In 1944, an F-13A conducted the first overflight over Tokyo since the 1942 Doolittle Raid.

Note the 30 photo-recon mission marks
(Credit: Hickory Aviation Museum)

A typical F-13A carried at least five cameras: three K-17Bs, Two K-22s and a K-18. As the RB-29J, the aircraft was used by the Strategic Air Command.

K-22 Camera
(Credit: National A&SM

The most famous F-13 was the *Kee Bird*. In 1947, It force landed in Greenland. The crew was rescued but the aircraft abandoned until 1994 when famed Daryl Greenamyer and a group of volunteers restored it and attempted to fly it out. Unfortunately, a fire was caused by a leaking auxiliary fuel tank as the aircraft prepared to take off. The crew abandoned the Kee Bird and the aircraft was destroyed in the fire.

Kee Bird, just before its fatal take-off roll.

F-14
Lockheed P-80 Shooting Star

The P-80 Shooting Star was the only turbine aircraft that bore the 'F' designation but later was renamed the FP-8A and then the RF-80A. There were probably less than 200 of them and they served in the aerial mapping of Korea and during the Cold War.

F-15 Reporter

Northrop P-61 Black Widow

The demand for the F-15 was precipitated by Howard Hughes' problems bringing his XF-11 to standards which would make it acceptable for production.and an unfavorable comparison with the XF-12. Moreover, the F-15 was found to perform better and has much better access to the cameras, an important feature since speed was paramount when delivering intelligence photography.

A number of P-61 Black Widow night fighters, Northrop Model N-20, were converted to photo planes. Only 36 were delivered for an order for 175 but they proved useful when the North Koreans invaded South Korea, provided most of the photographs needed to map the peninsula.

To convert the night fighter version, the four .50 caliber Brownings and the four 20mm Hispano cannons were removed and a new nose fitted leaving plenty of space for photo equipment. The wings, tail and engines were retained but the stepped cockpit arrangement was replaced with a streamlined fuselage topped by an extended bubble canopy with the pilot and the reconnaissance officer/navigator sitting in tandem.

Hard use took its toll and the jet age spelled the end for piston engine aircraft. Some Reporters were scrapped. A few found a home with NACA at the Ames Aeronautical Laboratory dropping scale models of experimental aircraft. Some were enlisted to study thunderstorms.

P-61C,, part of Project Thunderstorm. *(Credit: National Archives)*

One was registered in Mexico and used for survey work. When it return to the United States, it was fitted with a tank and became an aerial fire-fighter. But was lost in an aborted take-off.

F-15, XB-FUJ *(Credit: Courtesy of Lt Col Carl Stidsen)*

Epilogue

Many remember the exploits of the U-2 and SR-71

during the Cold War and Vietnam but few know about the low level photo-reconnaissance missions flow by the Air Force, Navy and Marines over Cuban Missile Crisis in 1962. The object was to gather intelligence photos about the installation of the Russian ballistic missiles and the air defense systems guarding them. The aircraft were the Vought RF-8 Crusader, the McDonnell RF-101 Voodoo and the Air Force Douglas RB-88A Destroyer.

A Marine RF-8G Crusader

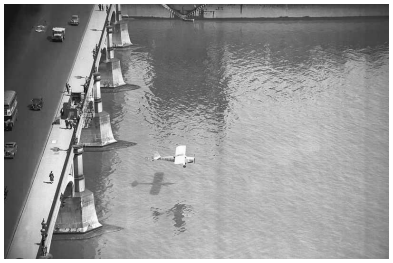
The camera types carried by the Voodoo.

The Air Force Douglas RB-66B Destroyer

15 JAN, 1950 – General Henry Harley "Hap" Arnold goes West. Arnold was the second pilot rated in the Air Force, Army Air Force commanding general during World War II and the only Air Force general to hold five star rank.

Maj Arnold, silent film star Bebe Daniels and a P-26 Peashooter.

16 JAN, 1979 – Squadron Commander Christopher Draper, goes West. An English flying ace of WWI. His penchant for flying under bridges earned him the nickname "the Mad Major. "



Draper passes under Westminster Bridge.


Daily Mirror

FORWARD WITH THE PEOPLE

'MAD MAJOR' FLIES UNDER 15 LONDON BRIDGES

"Daily Mirror" Reporter TENS of thousands of Londoners saw a tiny plane swoop down to the Thames at lunch-time yesterday and shoot under bridge after bridge in a dare-devil up-river flight.

Christie: 33rd witness today

New complete food for ... PETS DOG FOOD

Look for the brick red tin— 16 oz. and only 1/6d.!

PETS

17 JAN, 1886 – Birth of Glenn Luther Martin, founder of the the Glenn L. Martin Company, now Lockheed-Martin.

Martin promoted his new company delivering newspapers, a stack of which are visible on the starboard wing. (Credit: San Diego Air & Space Museum.)

18 JAN, 1888– Thomas Sopwith is born. The Sopwith Company produced 18,000 aircraft during WWI, notably the Sopwith Camel. During WWII, he was Chairman of Hawker which produced the Hurricane.

Sopwith was a noted yachtsman. In 1934 and 1937, he funded and helmed Endeavour I and Endeavor II in the America's Cup competition.

19 JAN, 1983 – Ham, aka No. 65, Chop Chop Chang and Ham the Astrochimp goes West. Ham was the first chimpanzee in the American space program launched into space and was born in the French Cameroons. His name was an acronym for **H**olloman **A**ero **M**edical Center.

Ham in a Can

Mercury-Redstone 2 launching.

Mission Patch?

The original flight plan called for an altitude of 115 miles and speeds ranging up to 4,400 mph. However, due to technical problems, the spacecraft carrying Ham reached an altitude of 157 miles and a speed of 5,857 mph and landed 422 miles downrange rather than the anticipated 290 miles… He experienced a total of 6.6 minutes of weightlessness during a 16.5-minute flight.

After recovery, Ham receives the traditional handshake from Cmdr. Ralph Bracket, skipper of the USS Donner and flight pay of an apple and half and orange.

Hamming it Up!

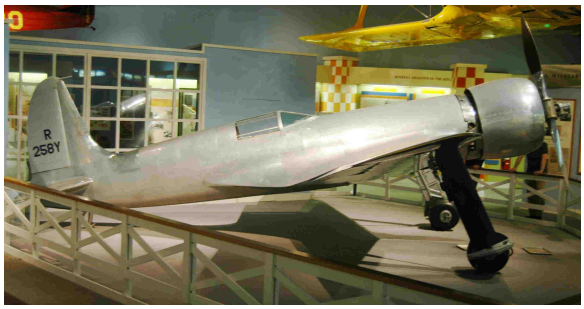
A medical examination revealed Ham was slightly fatigued and dehydrated but otherwise fine. Results from the tasks he performed showed his reaction times were only slightly slower than on Earth, suggesting that astronauts could perform activities effectively in space.

Unlike the rest of the space chimps, Ham was spared decades of biomedical research. He was transferred to The National Zoo in 1963 where he lived alone for 17 years, before finally being sent to the North Carolina Zoo where he could live with other chimps.

Ham went West 22 years after his historic flight, January 18, 1983, at the estimated age of 26. Ham's body was shipped west, and he is buried in the front lawn of the International Space Hall of Fame in Alamogordo, New Mexico.

Bananas left at Ham's resting spot do not last long in the New Mexico sun.

20 JAN, 1937-Howard Hughes, flying his H-1 racer, sets a new transcontinental speed record of 332 mph.



21 JAN, 1950 – First flight of the Tupolev Tu-75, a Soviet 4 engine military transport prototype based on the Tu-4 Bull.

The TU-4 was an almost perfect copy of the Boeing B-29. Four made emergency landings in Russia after bombing Japan. The Russians had a neutrality pact with Japan so the aircraft could be interned.

Stalin needed a long range bomber so he ordered Tupolev to copy the B-29 copied exactly and what Stalin wants, Stalin gets. Reverse engineering was a daunting task. First, conversion from the United States customary system to the metric system had to be made and over 100,000 drawings had to be drawn Some materials such as alloys and the correct gauge of aluminum had to be created. Remember, Comrade Stalin wanted an exact copy.

Some substitutions had to made and Soviet

bureaucracy did not make this an easy task. Engines, propellers, and the complex defensive turret system were real challenges and permission had to be obtained to deviate from the original aircraft being copied.

The Tu-75 was a follow-up but a combat transport aircraft, not a bomber.What the Soviets did was akin to what Boeing did by using design features of the B-29 to produce the Model 377 Stratocruiser and the C-97, using design components of the Bull to produce the Tu-75.

The design incorporated a rear loading ramp and internal winch to facilitate loading bulky cargos. It also included classic Soviet features such as a glazed bombardier nose and defensive cannons.

But the Tu-75 never achieved production. For economic reasons, the Air Force decided to adopt the already available Lisunov Li-2 and the Ilyushin Il-12 and modify some Tu-4s. Only one was built and used by the Ministry of Aircraft Production until it crashed.

THAMES RIVER COMPOSITE SQUADRON

14 January, 2025

Senior Meeting Canceled

Cadet Meeting

As is customary, the meeting opened with the raising of the colors followed by an indoor physical training exercise.

Cadet C/SMSgt Regan ran two team building activities

Maj Bourque described the CAP rocket program and what needs be done to earn the rocketry badge and Capts Thornell and Schmidt posed a number of questions based upon information contained in the cadet aerospace texts.

The meeting concluded with the lowering of the colors.

CAP AIRCRAFT PAINTINGS

Maj Ron Finger of the Minnesota Wing is CAP's national artist. His goal is to paint one example of each aircraft which has served in the CAP fleet. The aircraft pictured below all flew during World War II from one of CAP's Coastal Patrol Bases.