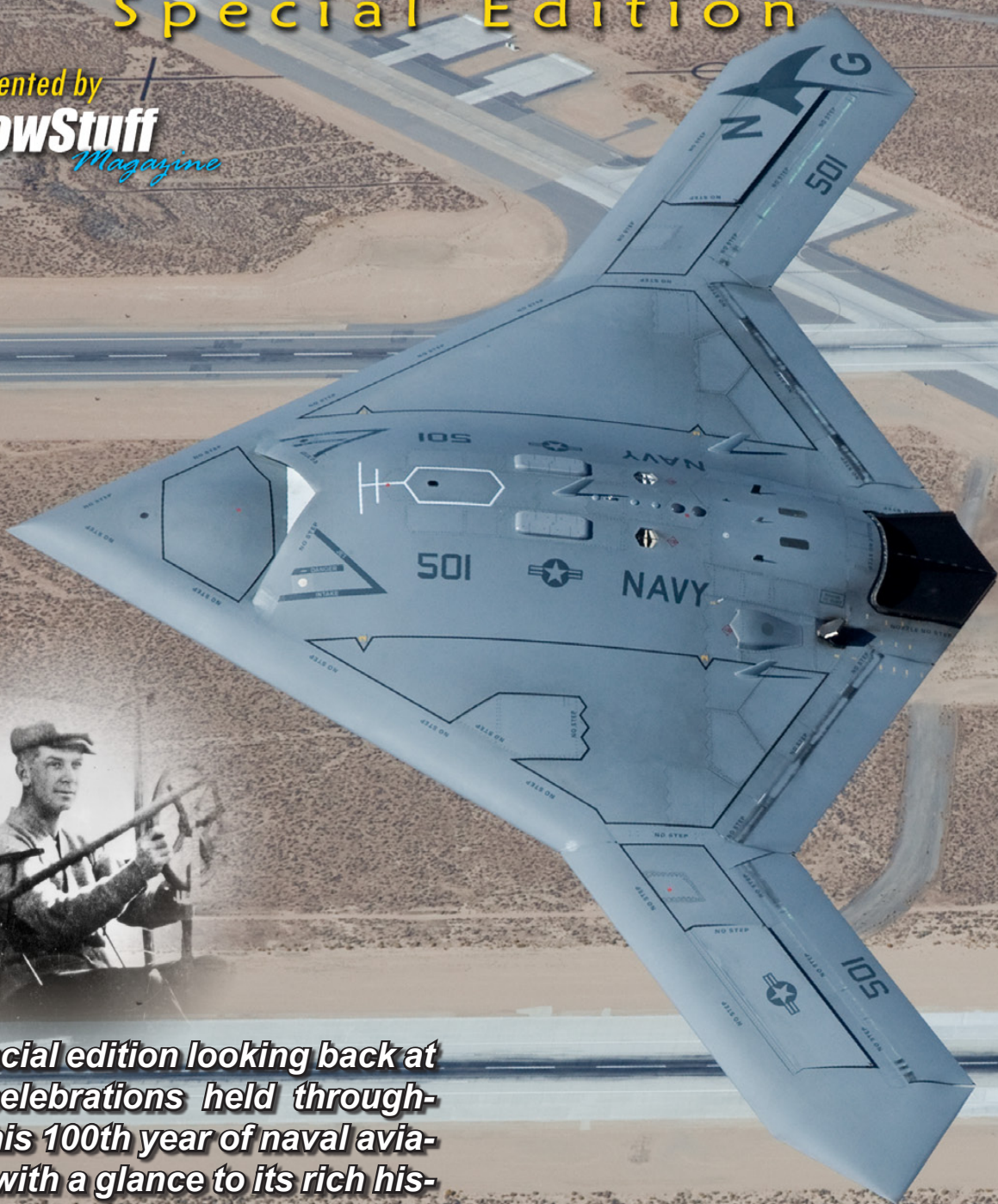


CENTENNIAL OF NAVAL AVIATION

Special Edition

Presented by
AirshowStuff
Magazine



A special edition looking back at the celebrations held throughout this 100th year of naval aviation, with a glance to its rich history and high-tech future

December 2011

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AirshowStuff Magazine

Cover Photo

A Northrop Grumman X-47B UCAS flies over Edwards AFB, CA during a test flight. The X-47B is being tested by the US Navy to pave the way for future UAV programs. Photo courtesy Northrop Grumman. For more, see page 54. Inset: Lt. Theodore G. Ellyson, USN, seated in a Curtiss pusher airplane, circa 1911. Photo courtesy of the Naval Historical Center.

See yourself here!

If you are an airshow enthusiast, we want your help! Everything you see in this magazine is created and submitted by people like you. All it takes is a simple e-mail each month with photos or articles you would like to submit. We may even be able to help you get a media pass if you cover a show for us! If you would like to join our team, please drop us an e-mail at RS@AirshowStuff.com We'd love to have you!

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Thanks to those who contributed to this issue!

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CELEBRATING NAVAL AVIATORS



Article by Alan Radecki

In many cases, flying a military aircraft is a very personal – sometimes even lonely – affair. There’s usually no one close by, and if a camera is present during an air-to-air shoot, it’s the other airplane that’s the subject,

and the pilot is usually a barely discernable face, if he is visible at all. So, for this CONA edition of “Vintage Wings”, we’d like to take a moment and remember not just the planes, but the men who flew them.

With cameras so ubiquitous in our 21st Century world,

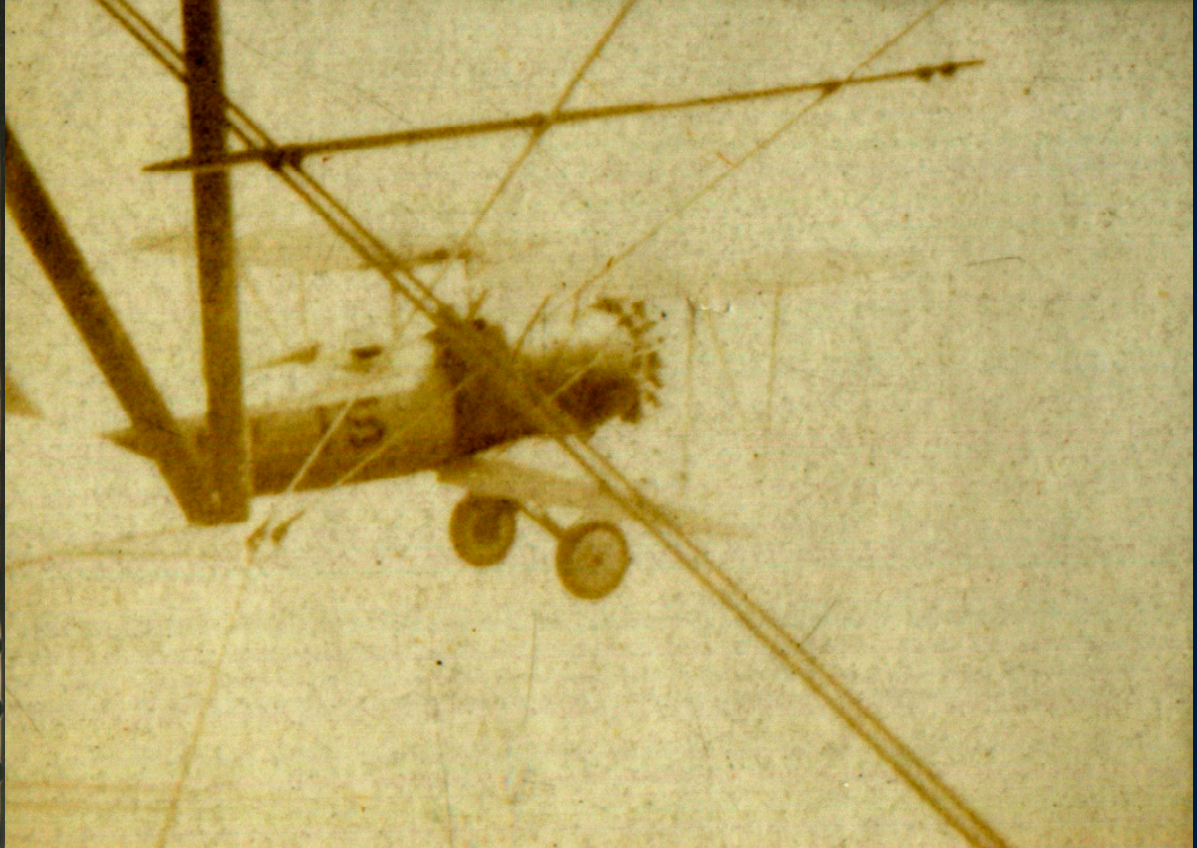
it’s become normal behavior to take pictures of one’s self doing ordinary things. This is nothing new, though, as the photos featured in this issue attest. These photos are the result of a naval aviator taking a camera along on a mission flown in a formation of Chance Vought O2U Corsairs,

and recording candid moments of the crewman and wingman. Though they are hardly professional-grade images, they give us a glimpse into the very private world that exists at altitude. And although these photos are undated, they were likely taken sometime in the 1930s.

The O2U was the first aircraft designed around the new Pratt & Whitney Wasp engine, and the first Corsair was delivered in 1926, just fifteen years after the start of US naval aviation. The type proved to be an immediate success, with over 560 built. Four world altitude and speed records were set by US Navy pilots, and foreign governments quickly began ordering them as well, including Argentina, Brazil, Peru, Mexico, the UK, Germany, Japan and Thailand.

During the fighting in Nicaragua in 1928, Marine Corps pilot Lt. Frank Schilt’s actions resulted in him receiving the Medal of Honor. Ironically, the later F-4U Corsair so overshadowed the biplane version, that few people remember it. When Vought came up with the A-7 attack aircraft in 1965, it received the name Corsair II, although by all rights it should have been the “third”.

One of the two photos being featured is actually a strip proof sheet, and is a bit unique in that the horizontal-format images are actually perpendicular to the film. While the proof strip is small, several of the images were clear enough to be included, including the crew shooting themselves.



Naval Aviation History: Beginnings to Present Day

Article by Chad Grosvenor



Photo by Alan Radecki - Courtesy of Northrop Grumman Corp.

Aviation in the United States Navy officially started when Eugene Ely made the first flight off the deck of the then-named USS Pennsylvania (ACR-4) on January 18, 1911 in San Francisco Bay. However, in November of 1910, Ely took off from the USS Birmingham (CL-2) on the other side of America in Hampton Roads, Virginia. Upon take off, the Curtis Pusher briefly skimmed the water and kicked up enough spray to damage the propeller. Ely, who didn't swim, realized that a quick landing was necessary and touched down on the nearby Willoughby Spit after approximately five minutes in the air. That flight in 1911 was the first time an airplane took off and landed on a ship. The very next day, Lieutenant Theodore G. Ellyson began the flight training that made him the first aviator in the US Navy: Naval Aviation in the United States had begun.

After several demonstrations of a couple different aircraft, the US Navy decided to order their first aircraft, which would later be dubbed the A-1 Triad, on May 8, 1911. This date has been officially proclaimed "The Birthday of Naval Aviation". Lieutenant Ellyson flew the A-1 from Lake Keuka in New York to Hammondsport, New York on the first night flight ever flown by a naval aviator. He landed successfully on the water on his

second attempt without the aid of lights. On July 6, 1911, the first naval aviation base was established on Greensbury Point in Annapolis, Maryland, but it wasn't occupied by naval aviators until September of that year.

May 22, 1912 is recognized today as the birthday of Marine Corps aviation. On that date, 1st Lieutenant Alfred A. Cunningham became the first Marine Corps officer assigned to flight instruction and was later designated as Naval Aviator No. 5. He reported to the Superintendent of the Naval Academy for "duty in connection with aviation" and was then ordered to the Burgess Company in Marblehead, Massachusetts, for flight instruction.

After trial and error, the first successful launch of an aircraft from a ship using a catapult was accomplished on November 12, 1912 at the Washington Navy Yard. This extraordinary feat that opened up many doors for naval aviation was piloted by Lieutenant Ellyson in the A-3. He also tested the Navy's first flying boat, the C-1, in Hammondsport, New York, on November 30, 1912. Another significant naval aviation accomplishment, which occurred in 1912, was the construction of the United States Navy Aerodynamical Laboratory at the Washington Navy Yard. This wind tun-

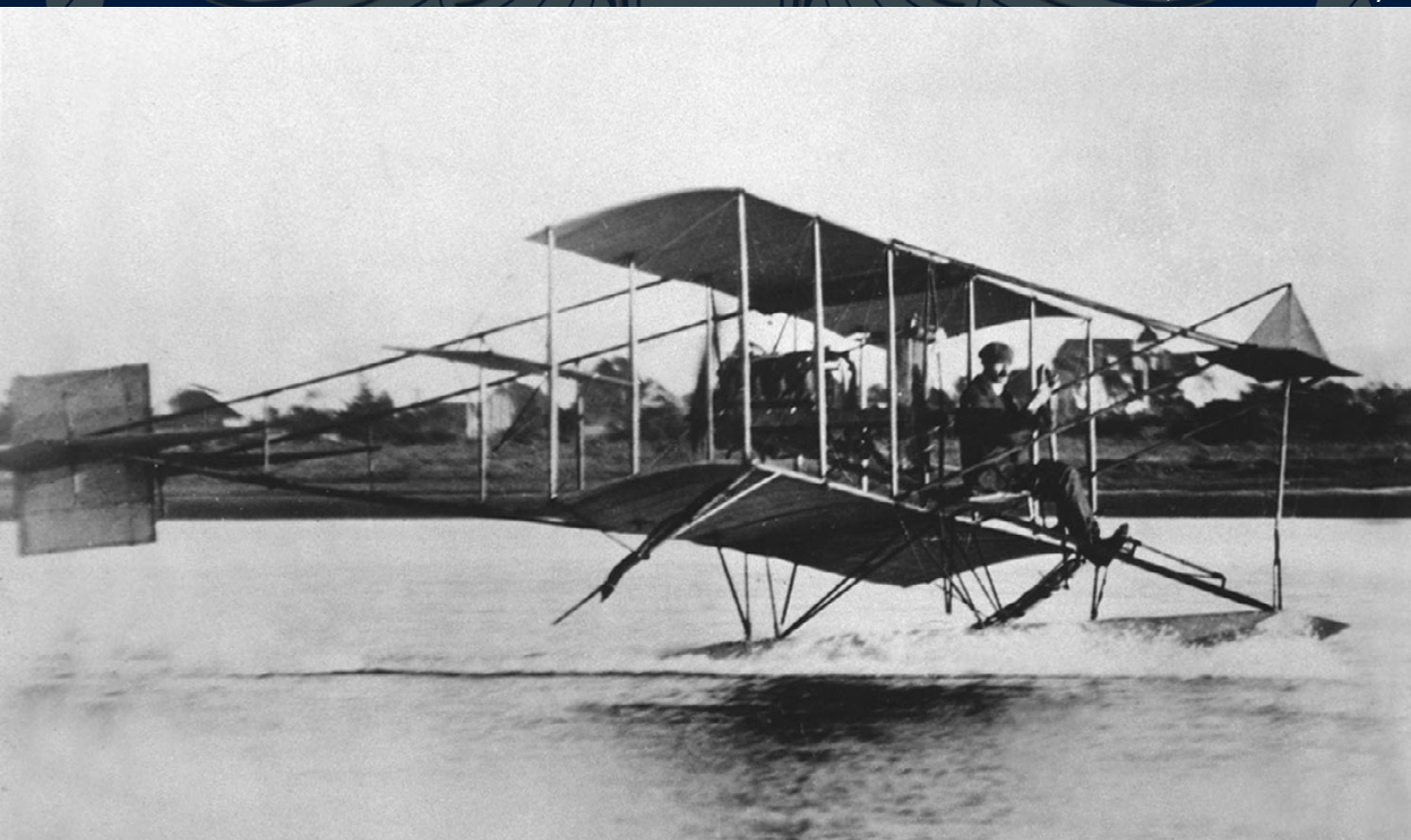
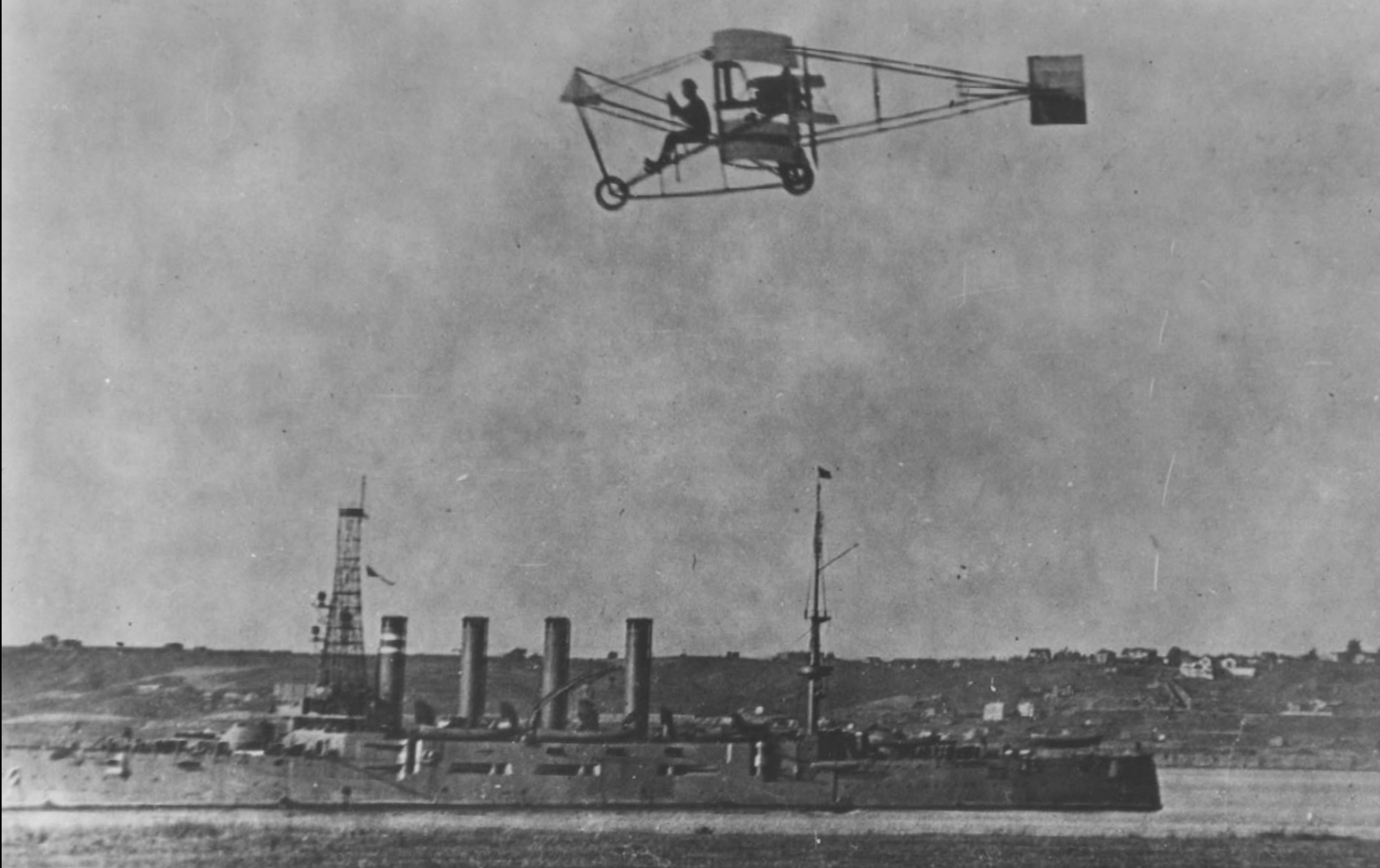
nel was constructed under the direction of Naval Constructor D. W. Taylor with the purpose of providing a means for finding the engineering basis for the design of naval aircraft. It was the first modern wind tunnel to be built in the United States, and was the largest and most powerful in the world for many years afterwards, remaining operational until after the end of World War II.

On October 7, 1913, the Secretary of the Navy selected a board of officers, with Captain Washington I. Chambers as the chairman, to outline "a comprehensive plan for the organization of a Naval Aeronautic Service". After 12 days of deliberation, their report stressed the need for expansion and the incorporation of aviation with the fleet. This was

the first comprehensive program for an orderly development of Naval Aviation. Possibly one of the most important recommendations of this board was for the establishment of an aviation station at Pensacola, Florida, for flight and ground training as well as for the study of advanced aeronautic engineering. This proposal was approved and in January of 1914, the first US Naval Air Station was established on the site of a deserted navy yard near Pensacola. Simultaneously, the aviation camp in Annapolis was broken up and all of the aviation personnel and equipment were transported to Pensacola on the USS Mississippi, which was then turned over to naval aviation in order for aviation to keep in touch with ships. Lieutenant Commander Mustin

was assigned to aviation and became the first commanding officer of what is now known today as Naval Air Station Pensacola.

April of 1914 marked the first employment of naval aviation in active service. Not even 24 hours after receiving orders to deploy to Mexican waters, an aviation detachment of three pilots, 12 enlisted men and three aircraft, under the command of Lieutenant John H. Towers, set sail from Pensacola to join Atlantic Fleet forces operating off Tampico in the Mexican crisis. They were on board the USS Birmingham, the same vessel Eugene Ely took off from nearly four years prior. The very next day, a second detachment from Pensacola, consisting of one pilot, three student pilots, and two aircraft, commanded by



Lieutenant Patrick N. L. Bellinger, set sail for Mexican waters to assist in military operations at Veracruz, Mexico, on board the USS Mississippi.

A little less than a year later on April 16, 1915, the AB-2 flying boat was successfully catapulted from a barge by Lieutenant Patrick N. L. Bellinger at Pensacola, Florida. The catapult used was designed in 1913 by Lieutenant Holden C. Richardson, CC, USN, and constructed at the Washington Navy Yard. The success of this and following launches led to installation of the catapult aboard a ship.

On March 30, 1916, the Secretary of the Treasury let the Secretary of the Navy know that Coast Guard officers Second Lieu-

tenant Charles E. Sugden and Third Lieutenant Elmer F. Stone had been sent to NAS Pensacola for flight training, in accordance with an agreement among the two departments. In July of that same year, the AB-3 flying boat, flown by Lieutenant Godfrey Chevalier, was catapulted from the USS North Carolina in Pensacola Bay, Florida. The launch marked the completion of the calibration of the first catapult intended for shipboard use, and the USS North Carolina became the first vessel of the United States Navy equipped to carry and operate aircraft.

Discussion for the first aircraft production contract started with a telegram to aircraft manufacturer Glenn H. Curtiss, asking him to "call at the Bureau [Construc-

tion and Repair] Monday with a proposition to supply at the earliest date practicable thirty school hydro aeroplanes." Particular features included: two seats, loading of around four pounds per square foot, and power loading of about twenty pounds per horsepower. The telegram ended with, "Speed, climb, and details of construction to be proposed by you. Rate of delivery is important and must be guaranteed." This telegram resulted in a contract for thirty N-9s, which were delivered between November 1916 and February 1917. This airplane turned out to be the Navy's most popular training aircraft during World War I.

On April 6, 1917, the United States declared war against Germany and entered WWI.

World War I



Two Curtiss F6C-2 Hawks from Fighter Squadron Two (VF-2) positioned outside their NAS North Island hangars, circa 1926.

In the years before World War I, naval aviation focused on the progression of aeronautical design and conducted a series of studies to determine the feasibility of aircraft on ships. The war interrupted that research and shifted the focus to expanding the aircraft inventory, increasing in the number of trained pilots and ground crew, and conducting anti-submarine warfare. When war was declared on Germany, naval aviation consisted of just 48 officers and 239 enlisted men with some aviation knowledge, 54 training airplanes, 1 airship, 3 balloons, and 1 air station, NAS Pensacola.

On May 17, 1917, the Chief

of Naval Operations asked for the purchase of 50 aircraft machine guns coordinated to fire through propellers and 50 for all-around fire. June 5, 1917 marked the departure of first US military unit sent to France in World War I. Known as the First Aeronautic Detachment, they arrived in Pauillac, France aboard the USS Jupiter (AC 3). The detachment, which consisted of 7 officers and 122 enlisted men, was commanded by Lieutenant Kenneth Whiting. Offloading of the unit was finished by the tenth of June.

An act of Congress approved the President to take control of North Island in San Diego, CA on July 27, 1917. North Island was

to be used by the Army and Navy to create permanent aviation stations and schools. Lieutenant Earl W. Spencer arrived at North Island on November 8, 1917 under instructions to institute and command a station with the intention of training pilots and mechanics, in addition to conducting coastal patrols. This marked the beginning of the present NAS North Island. On August 8, the Secretary of the Navy approved a plan to build one training and three coastal patrol stations in France, the first of many dealing with an overseas base construction program. At the close of the war, US naval air units were operating from 27 locations in France, Eng-

land, Ireland, and Italy. Two days later, ground was broken for the Naval Aircraft Factory at the Philadelphia Navy Yard in Pennsylvania. Just 67 days later, the first power driven machine was started there.

The initial flight test of the Liberty engine occurred on October 21. The 12-cylinder engine was flown successfully for the first time in a Curtiss HS-1 flying boat in Buffalo, NY. This flight, in addition to other triumphant exhibitions, led to the acceptance of both the engine and the aircraft as standard service types.

On the 19th of March, 1918 Ensign Stephan Potter shot down a German seaplane that attacked a formation of US Navy flying boats. Today, he is officially credited as being first American Naval pilot to shoot down an enemy seaplane. The Naval Aircraft Factory completed their first order of fifty H-16 flying boats on July 7, 1918.

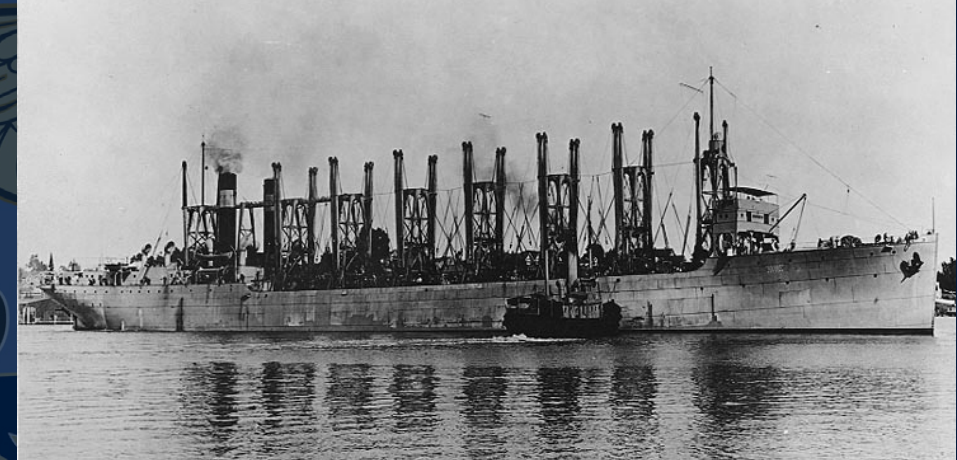
The hostilities of World War I ended with the armistice signed on November 11, 1918. In the 19 month period that the US participated in WWI, naval aviation exploded from 201 to 37,409 total personnel. Air stations had popped up on both sides of the Atlantic, including several new air stations erected around the US.

On March 13, 1919, the Chief of Naval Operations started an introduction program for postwar development of naval aircraft. The particular kinds of airplanes desired were fighters, torpedo carriers and bombers for fleet use. Single-engine, twin-engine,

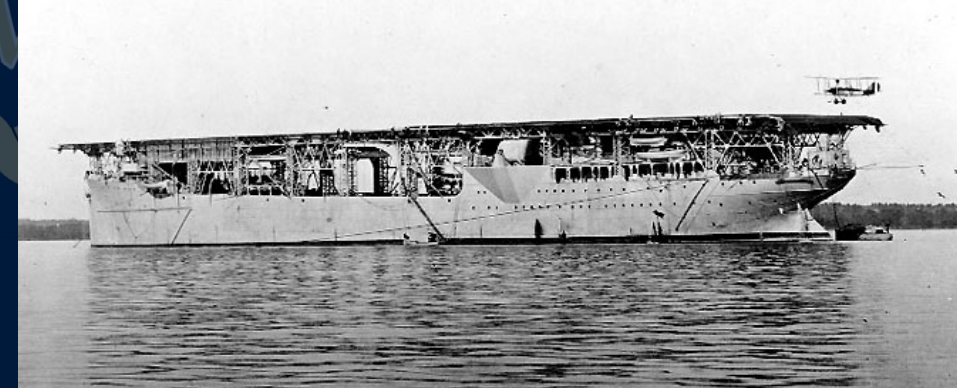


An Aeromarine 40 flying boat at Naval Air Station Anacostia, District of Columbia, circa 1919-1920.

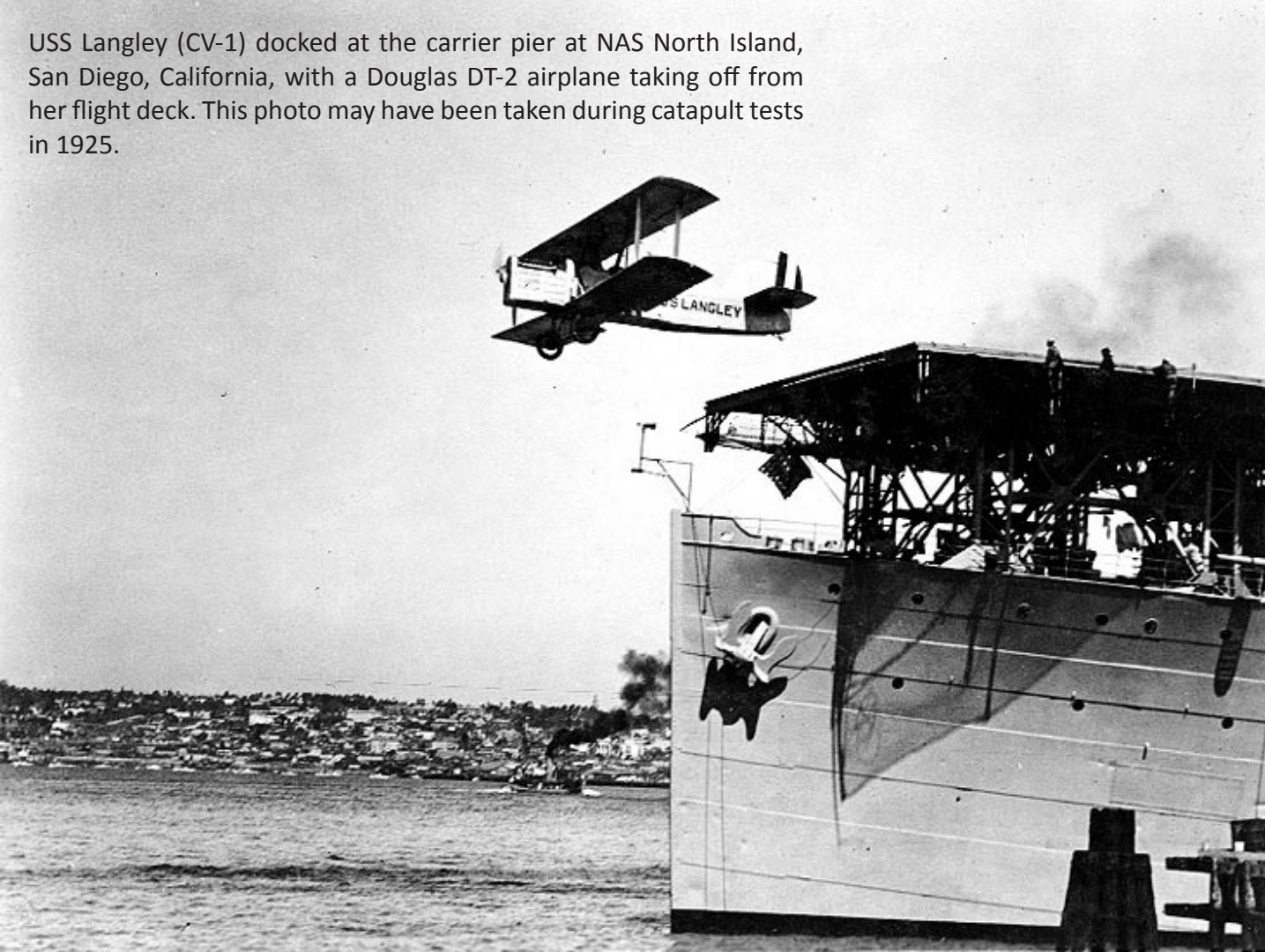
The USS Jupiter off the Mare Island Navy Yard, California, 16 October 1913.



The USS Langley at anchor, with an Aeromarine 39-B airplane landing on her flight deck, circa 1922.

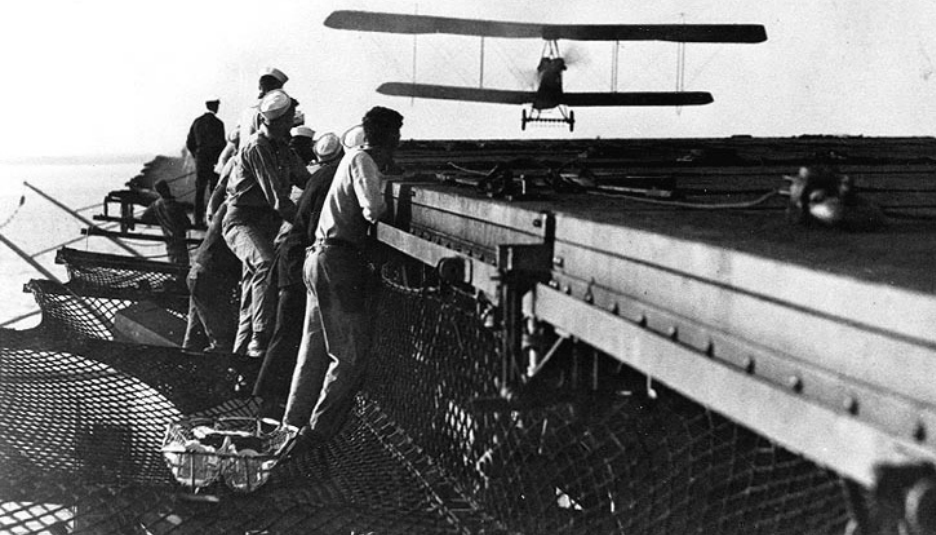


USS Langley (CV-1) docked at the carrier pier at NAS North Island, San Diego, California, with a Douglas DT-2 airplane taking off from her flight deck. This photo may have been taken during catapult tests in 1925.



NAS North Island, San Diego, CA. View taken about 1926, showing Curtiss TS-2 floatplanes from VF-1 flying above the USS Langley.

An Aeromarine 39-B airplane approaches the flight deck of the USS Langley (CV-1) during landing practice, 19 October 1922.



and long distance patrol and bomber planes were wanted for station use as well as a mixture of land and seaplanes for the Marine Corps to use.

That May 8th, only one of three NC flying boats (NC-1, NC-3, and NC-4) from Seaplane Division One attempting the first transatlantic flight completed the journey, finally arriving in Lisbon, Portugal on May 27th. Due to thick fog, the other two NCs lost their bearings and had to land at sea to establish their position. However, both aircraft suffered damage upon landing and were unable to

take off. Both crews managed to survive after the NC-3 drifted to the Azores and the crew of the NC-1 was taken aboard a Greek steamer. Lieutenant Commander Albert C. Read commended the NC-4 and his five-man crew for that historic flight.

The Secretary of the Navy approved launching platforms to be constructed on top of two main turrets on each of the eight battleships on July 1st. Less than a year later, the USS Jupiter was converted into the Navy's first aircraft carrier and renamed the USS

Langley.

The 1920s is referred to as a decade of significant growth in naval aviation, and several of the ideas from the twenties are still being used by the Navy today, such as aircraft carriers and aircraft with folding wings. Naval aircraft also set numerous records in the twenties. In 1920, radial air-cooled engines were developed and purchased, Navy vessels including aircraft acquired a new standard identification, such as F for fighter aircraft, and aerial bombs were tested.

On January 20, 1921 a turntable catapult design by the Naval Aircraft Factory was approved for fabrication by the Bureau of Construction and Repair, and completed its first test launch on October 26th of that same year. The catapult was powered by compressed air rather than the steam that modern carriers use.

Today, an aircraft carrier would be crippled without arresting cables. The first development of an arresting gear system was started on August 10, 1921, when Lieutenant Alfred Pride taxied

an Aeromarine onto the dummy platform at Hampton Roads, and engaged arresting wires. This test led to the development of arresting cables for the USS Langley.

On February 7, 1922, a 50 hour test run was completed of the Lawrence J-1, a 200 horsepower radial air-cooled engine, foreshadowing the future success

approved by Congress and they soon joined the Langley to give the Navy three carriers.

While Eugene Ely first demonstrated the ability to take off and land on a ship in 1912, it wasn't until over 10 years later on October 17, 1922 that someone took off from an actual carrier. Lieutenant Virgil C. Griffin took

after the first take off from a carrier, the first catapult launch took place when Commander Kenneth Whiting was catapulted into the air while piloting a PT seaplane.

1923 was a year of further tests and record breaking; nearly 25 world records were set. Tests conducted included aircraft handling, carrier operations, radio

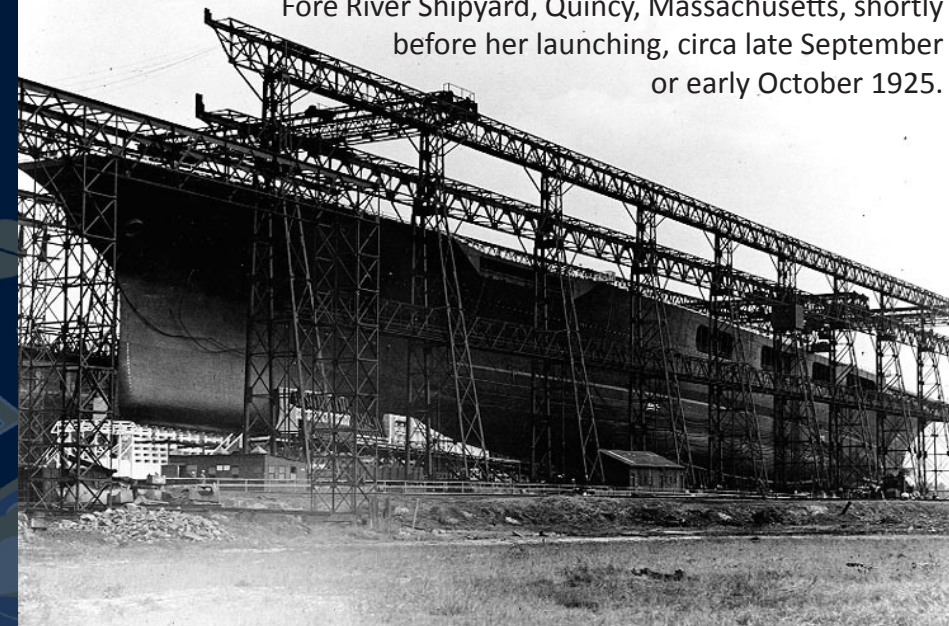
to launch a Martin MO-1 observation plane off of the battleship USS Mississippi. This achievement led to gunpowder catapults being commonly used on battleships and cruisers.

1925 saw the first squadron trained to operate from an aircraft carrier as well as the first night landings on a carrier. On January 22, squadron VF-2 began to practice carrier landings on the Langley off of San Diego, CA. Even though the Langley was held to only being used for scouting purposes, it was enough for Commander in Chief, Admiral Robert E. Coontz to urge the Lexington and Saratoga be finished as soon as possible. The Admiral also suggested improvements should be made to the catapults and arresting gears in addition to making more long-lasting and reliable aircraft. April 8th marked the first landing on a carrier at night; however, an accidental landing occurred on February 5th when Lieutenant Harold J. Brow stalled while working on night approaches. 1926 brought about more tests proving that aircraft could be operated from submarines and exercises to improve dive bombing tactics.

On January 1st of 1927, a separate department devoted to flight testing was created at NAS Anacostia in Washington DC. A little over three months later, on March 9, the Navy bought their first passenger transport, the Ford Motor Company JR-1 Trimotor, after an exhibition at NAS Anacostia.

On July 17th, a flight of five

USS Lexington (CV-2) on the building ways at the Fore River Shipyard, Quincy, Massachusetts, shortly before her launching, circa late September or early October 1925.



Aeromarine 40 flying boat wrecked in the Gulf of Bacabano, Cuba, 25 May 1923. This aircraft hit something on the water or broke a hole in its hull by hitting a wave, leaving the plane's wings and hull unfit for further use. It was subsequently stricken from the list of Navy aircraft



DHs led by USMC Major Ross E. Rowell conducted an organized strafing and dive bombing attack against enemy forces that surrounded a garrison of Marines in Ocotal, Nicaragua. Even though diving attacks happened in World War I and Marine Corps pilots

used the exact same technique in Haiti in 1919, this attack is referred to as the earliest occurrence of an organized dive bombing attack in combat. The USS Saratoga and the USS Lexington were commissioned on November 16th and December 14th respectively.

Three pilots from the "Flying Chiefs" of Fighter Squadron Two (VF-2) stand next to their Curtiss F6C-2s at NAS North Island, circa 1926.



of radial engines in naval aviation. The previously mentioned USS Langley, which was converted from the USS Jupiter collier, was commissioned on March 20th. Nearly three and a half months later, conversion of the unfinished battle cruisers Lexington and Saratoga to aircraft carriers was

off from the USS Langley, which was anchored in the York River at the time, in a Vought VE-7SF. Nine days later Lieutenant Commander Godfrey Chevalier made the first landing aboard a carrier when he landed an Aeromarine on the deck of the Langley off of Cape Henry. A month and one day

controlled airplanes, and stowing a seaplane in a submarine and launching it. Another important event of 1923 happened on August 13, when Naval Reserve units were established at Fort Hamilton, NY and Squantum, MA. A little under a month later, a catapult powered by gunpowder was used

Interwar and Early WWII



USS Akron (ZRS-4) flying over the southern end of Manhattan Island, New York City, circa 1931-1933.

chased by the Navy and given the designation XF5B-1. The very next day, the Naval Aircraft Factory was authorized to start developing an effective retractable landing gear. On March 21st, the aforementioned Martin XT5M-1 passed strength and performance requirements in diving tests. In January of 1931, the Navy ordered their first rotary winged aircraft, the XOP-1 Autogiro from Pitcairn Aircraft Inc. On February 25th, a new pilot training syllabus was established which added an Advanced Seaplane course. A propeller development program was initiated on March 2nd. The program led to the adoption of variable pitch props. Hamilton Standard Propeller Company won a contract for two such propellers to be used on fighting planes. On April 2nd, a contract for the XFF-1 was awarded to Grumman. The two-seat fighter was to be the first naval aircraft to have a retractable landing gear. Just one week later, the Glenn L. Martin Company was given a contract for twelve BM-1 dive bombers. In September, Rear Admiral Moffett requested that the test and evaluation of variable-pitch propellers be sped up after it was noted to improve takeoff performance and to slightly increase the top speed of the aircraft. About two weeks later, the XOP-1 Autogiro, piloted by Lieutenant Alfred M. Pride performed takeoffs and landings on the USS Langley. On November 2nd, Marine Scouting Squadrons VS-14M and VS-15M embarked on the Saratoga and Lexington re-

spectively. These squadrons were based on carriers until late 1934, and they were the first of the Marine air units assigned to carriers. In December, the USS Langley operated off of the New England coast for nine days to test the cold weather operating capabilities of carrier deck gear and aircraft, as well as the efficiency of protective flight gear.

On March 24th of 1932, in response to reports from excited spectators who had observed the performance of the Mk XV Norden bombsight in trials against the USS Pittsburgh (Armored Cruiser No. 4) which had occurred the previous October, the Army Air Corps asked for the Navy to give them 25 of the Mk XV sights. This happened to be the Army's



Aircraft on the flight deck of the USS Saratoga (CV-3), preparing for launching, circa 1929-30. Planes in the foreground are F3B-1 fighters. In the background are fifteen T4M-1 torpedo planes of Torpedo Squadron Two (VT-2B).

The year of 1928 brought about more world records and milestones for the aircraft carriers USS Saratoga and USS Lexington, which were both commissioned in late 1927. For example, the first takeoff and landing on each ship occurred in early January of 1928. With all of the records being set by the aircraft and pilots, the sailors didn't want to feel left out; the Lexington set a speed record of its own by traveling from the coast of California to Hawaii in just over 72 and a half hours. Dive bombing was changed on June 30th, when the Martin Company was given

a contract for the development of the XT5M-1 "diving bomber," which became known as the BM-1. The Naval Aircraft Factory made a similar model, known as the XT2N-1. Both aircraft were the very first dive bombers made to deliver a 1,000-pound bomb. On July 25th, the USS Langley's bow and stern catapults were authorized to be removed since neither had been operated in three years. Night flying requirements were developed for all naval aviators operating heavier-than-air aircraft in 1929. That same year saw both the Saratoga and Lex-

ington appear in their first fleet exercises. Rear Admiral William A. Moffett was selected for yet another tour as Chief of the Bureau of Aeronautics, making it his third straight. Additional world records were broken and more races were won. The first flight over the South Pole occurred in frigid late November. This historic flight was commanded and navigated by Commander Richard E. Byrd. On February 14th, 1930, the first monoplane designed to operate from a carrier was delivered to NAS Anacostia in Washington DC for testing. It was later pur-

first commitment to the Navy-developed sight that would soon become vital to high altitude precision bombing in World War II. Research of the physiological effects of high acceleration and deceleration faced during dive bombing and other violent maneuvers was started on July 28th. The innovative research pointed to the necessity for anti-blackout equipment, which eventually led to G-suits. It wasn't until October of 1933 that development of anti-blackout gear was started. This original gear was nothing like the G-suits today; it was a simply special abdominal belt. On April 4th, 1933, the airship Akron (ZRS-4) crashed during severe weather off of the coast of Barnegat Light, N.J. There were 73 fatalities; amongst them were Rear Admiral William



Boeing F3B-1, BuNo. 7728 attached to a Utility Squadron Unit at San Diego, CA. on 25 June 1934.

A. Moffett and Commander Frank C. McCord, the Commanding Officer of the Akron. Under the terms of the National Industrial Recovery Act, President Roosevelt gave the Navy \$238 million for the production of new vessels, which included two more aircraft carriers. In no more than two months, contracts were granted for carriers number 5 and 6 which eventually were commissioned as the



Grumman F3F-3 Fighters from Fighting Squadron Five (VF-5), USS Yorktown (CV-5) in a three-plane formation over the Southern California coast, circa 1939-40.

USS Yorktown and USS Enterprise. On June 30th, 1934, Douglas was awarded a contract for the XTBD-1 torpedo bomber, a prototype of the TBD Devastator design which would stay in operational use until June of 1942. In November, another contract was issued, but this time to Northrop for the XBT-1, which doubled as a two-seat scout plane and 1,000 pound dive bomber. The airplane was the first

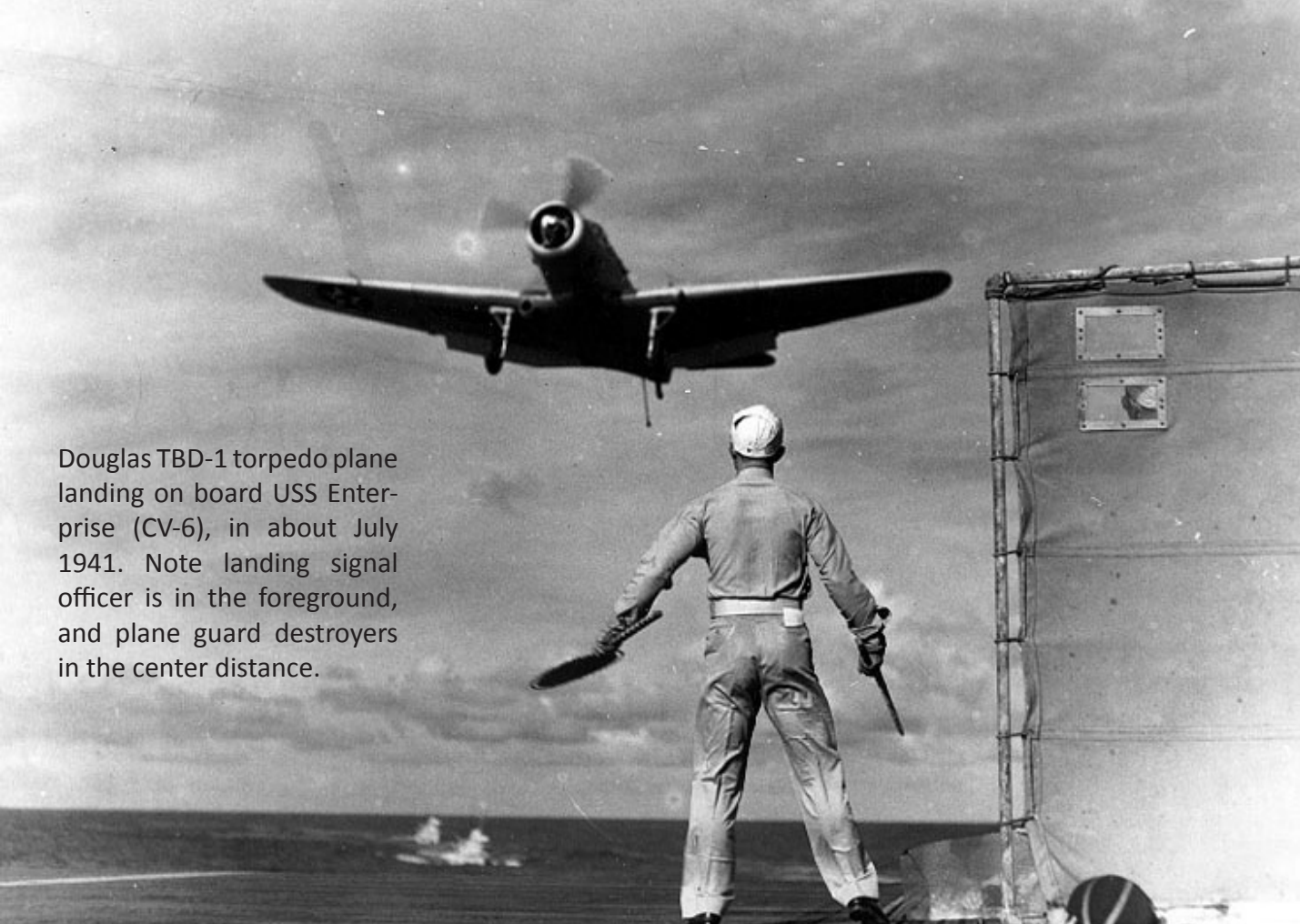
in the sequence of prototypes that led to the SBD Dauntless series of dive bombers that were introduced to the fleet in 1938 and used during World War II. After a strong gust of wind that caused a structural failure, the airship Macon (ZRS-5) crashed off of the coast of Point Sur, CA on February 12th, 1935, killing two people. One month later, the Navy gave the Pitcairn Autogiro Company a contract to take the wings off of the XOP-1, thus making it the XOP-2 which then became the Navy's first heavier-than-air aircraft lacking fixed wings. On November 15th, recommendations from a fighter design competition were approved, launching development of the Grumman XF4F-1 biplane and the Brewster XF2A-1 monoplane. Even though



USS Yorktown (CV-5) at Naval Air Station North Island, San Diego, California, in June 1940, embarking aircraft and vehicles prior to sailing for Hawaii. Aircraft types on her flight deck include TBD-1, BT-1, SBC-3, F3F-2, F3F-3, SB2U, JRF, J2F and JRS-1. Some of these planes were on board for transportation, while others were members of the ship's air group. Three Torpedo Squadron Five (VT-5) TBDs at the after end of the flight deck are painted in experimental camouflage schemes tested during Fleet Problem XXI.



Brewster F2A-3 "Buffalo" fighter in flight on 2 August 1942. Pilot is Lieutenant Commander Joseph C. Clifton, USN.



Douglas TBD-1 torpedo plane landing on board USS Enterprise (CV-6), in about July 1941. Note landing signal officer is in the foreground, and plane guard destroyers in the center distance.



Curtiss SOC-1 scout-observation aircraft (Bureau # 9979) in flight, 2 July 1939.

the project involved many subsequent adjustments, it provided prototypes of the Navy's first-line fighters that were used when the US entered World War II. On July 10th, 1936, a program to improve both prototypes was approved with the most important modifications being the conversion of the XF4F-1 from a biplane to a monoplane and the installation of bigger engines in both, which assured speeds of up to 300 mph. The XF4F-1 eventually led to the F4F Wildcat, one of the most important fighters of the US Navy throughout World War II. It was around this time that squadron designations and carrier and air-

craft markings were changed to eliminate some of the confusion caused by the previous designations and markings.

In September of 1939, President Roosevelt announced the presence of a limited national emergency and directed measures for reinforcing national defenses within the restrictions of peacetime agreements. On October 1st, in order to attain a quick expansion of pilot training, the training syllabus was modified to set up a program of concentrated education which cut the length of the instruction period in half, from one year to just six months.

On October 5th, 1940, the

Secretary of the Navy placed all divisions and aviation squadrons of the Organized Reserve on short notice for call to active duty and gave the right to call Fleet Reservists as needed. On the 24th, the Bureau of Navigation stated plans for mobilizing the aviation squadrons, which called for one third to be ordered to active duty by November 7th and all to be mobilized by the beginning of 1941. The Bureau of Aeronautics requested that all fleet aircraft be painted in a shade of gray on December 30th, 1940. Planes based on ships were to be painted light gray all over and patrol aircraft were to be coated in light gray

with the exception of surfaces seen from above, which were to be made a bluish gray. On May 21st, 1941, the Bureau of Aeronautics asked the Engineering Experiment Station in Annapolis, MD to commence the development of a liquid-fueled takeoff aid unit to use on patrol aircraft. This was the US Navy's entry into the field that is known today as jet assisted takeoff (JATO), and one of the first development programs directed towards using jet engines for thrust. Blue Angel fans may be familiar with jet assisted takeoffs from several years ago when it was regularly performed by Fat Albert. Unfortunately, due

to the limited supply still in existence, JATOs for Fat Albert have become a thing of the past.

On May 27th, 1941, President Roosevelt declared that the US was faced with an unlimited national emergency, calling for its military, naval, air, and civilian defenses to be put on the basis of readiness to fend off any and all actions or threats of aggression focused near any part of the Western Hemisphere. June 30th marked the first development of turboprop engines. Patrol Wing 7 became the first operational unit in the US Navy that had aircraft equipped with radar on July 18th.

December 7th, 1941 is a date

which needs no introduction. On that fateful morning, carrier aircraft from Japan launched a demoralizing assault on vessels at Pearl Harbor, HI and on the military and air installations nearby. However, the three aircraft carriers of the Pacific Fleet weren't there. Having just completed renovation, the Saratoga was anchored in San Diego, CA. The Lexington was at sea approximately 425 miles to the southeast of Midway. The Enterprise was at sea as well, roughly 200 miles west of Pearl Harbor and returning from Wake Island. Scouting Squadron 6 took off from the Enterprise early in the morning to land at Ewa Air-

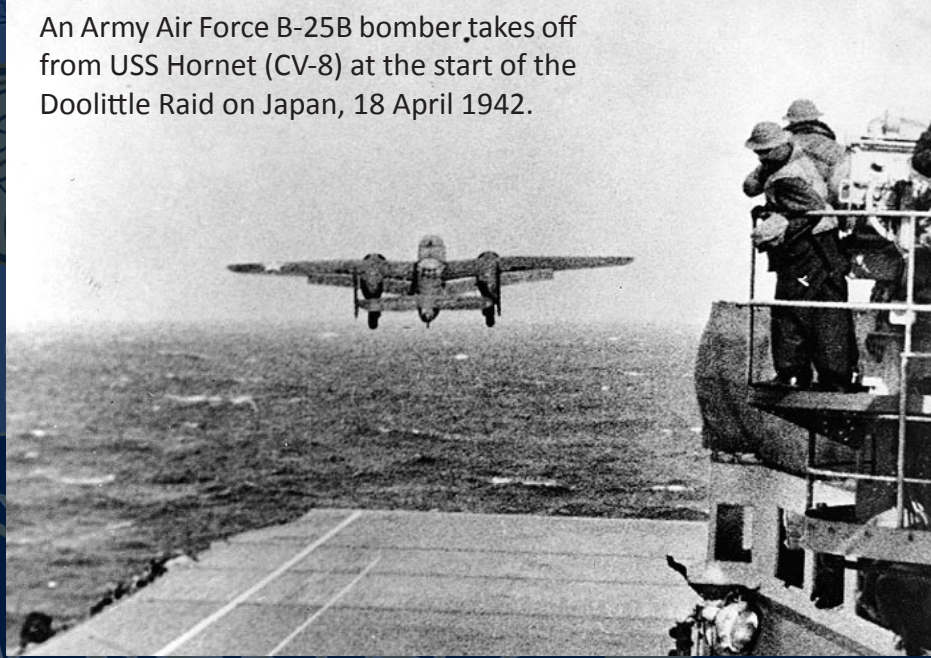
field in Hawaii, but they got there in the middle of the attack and engaged Japanese aircraft. The fact that no carriers were in port was an incredible stroke of luck for the US.

Three days later, the Japanese submarine I-70 was attacked and sunk in the waters north of the Hawaiian Islands by aircraft from the Enterprise. This was the first Japanese vessel sunk by aircraft from the United States in World War II. Due to the growing need for pilots, the training program was expanded from 9,600 aviators each year, eventually more doubling to 20,000 a year. In January of 1942, even more expansion came for Naval Aviation when the President approved an increase of aircraft to 27,500. In that same month, the Saratoga was struck by a submarine torpedo when it was operating at sea 500 miles to the southwest of Oahu, HI, and was required to withdraw for repairs. On February 27th, the Langley was sunk by an enemy air attack 74 miles from its destination while transporting 32 AAF P-40s to Tjilatjap, Java. It had been the first carrier for the US Navy; however, it had been transformed into a seaplane tender before it was sunk.

U-656 was the first German submarine sunk by the US forces in World War II. On March 1st, 1942, Ensign William Tepuni of the US Navy Reserves was flying a Lockheed Hudson of VP-82 based in Argentia when he attacked and sank U-656 to the southwest of Newfoundland. Nine days later,



The Torpedo Squadron Six commanding officer's TBD-1 aircraft, from USS Enterprise (CV-6), in flight with a formation of nine other TBD-1s in the background.



An Army Air Force B-25B bomber takes off from USS Hornet (CV-8) at the start of the Doolittle Raid on Japan, 18 April 1942.

a carrier airstrike was launched from the USS Lexington and Yorktown in the Gulf of Papua. The pilots had to fly their aircraft over the 15,000 foot tall Owen Stanley Mountains on the tip of New Guinea to hit the Japanese ships that were engaged in landing troops and supplies at Lae and Salamaua.

In the attack, one converted light cruiser, a large minesweeper, and a cargo ship were sunk and several other vessels were damaged. On April 18th, from a position 668 miles from Tokyo in the middle of the ocean, the carrier USS Hornet launched sixteen B-25 Mitchells from the 17th AAF Air



Grumman XF4F-3 prototype (Bureau #0383) photographed during flight testing, 21 July 1939.



USS Lexington (CV-2) burning and sinking after her crew abandoned ship during the Battle of Coral Sea, 8 May 1942.

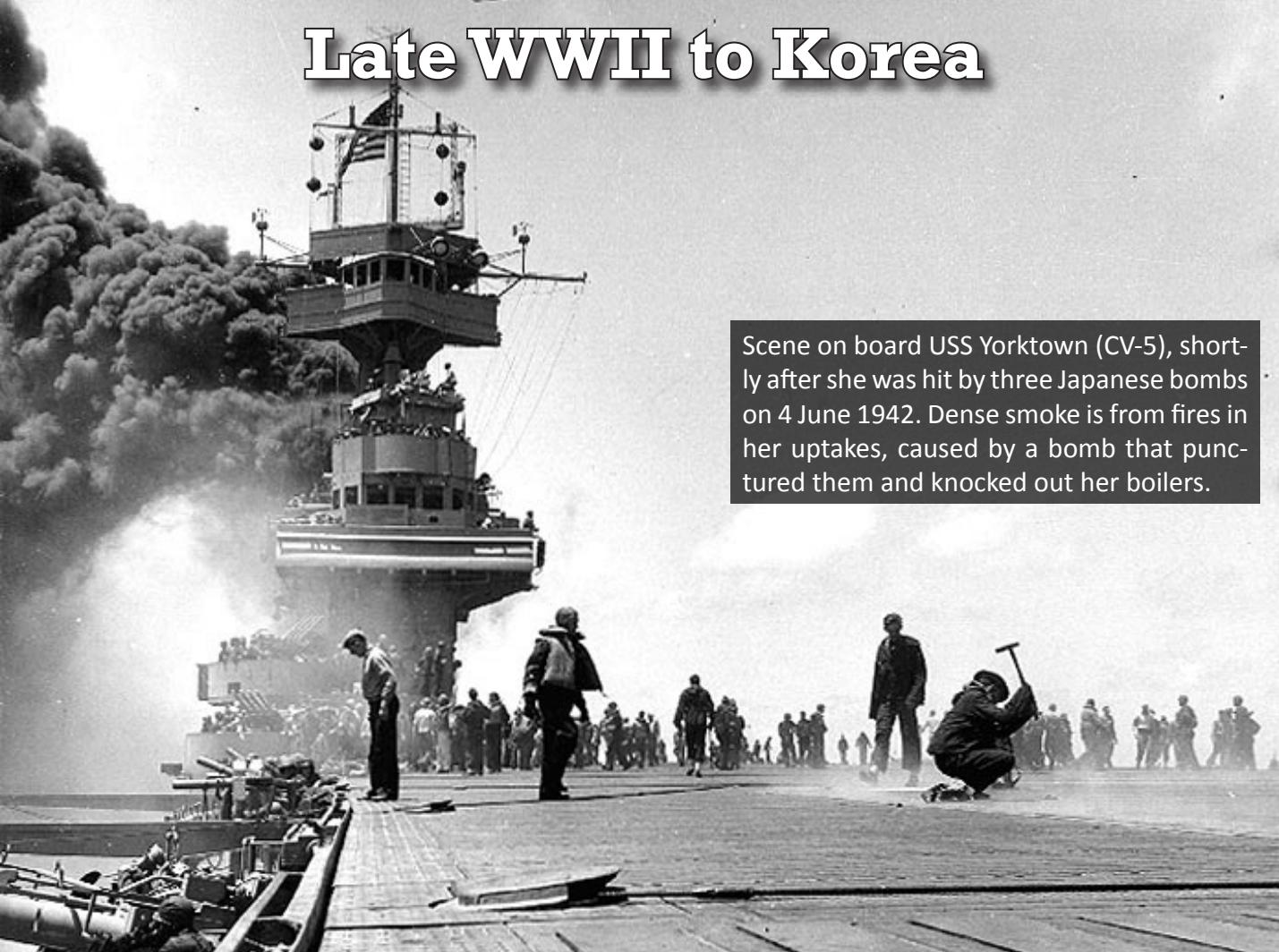
Group led by Lieutenant Colonel Jimmy H. Doolittle. The famous Doolittle Raid was the very first attack on the Japanese homeland and a massive boost to morale in the US. From May 4th through the 8th, the Battle of Coral Sea took place. It was the first time in history that a naval engagement was

fought without interaction from the opposing ships, instead being conducted by the aircraft of each side. United States carrier forces prevented the Japanese from landing at Port Moresby in Papua, New Guinea, by turning back the covering carrier force. On the 4th, Task Force 17 bombed Japa-

nese transport boats focused on landing troops in Tulagi Harbor, damaging many and sinking one destroyer. They joined other Allied naval units, along with Task Force 11 and the carrier Lexington, south of the Louisiades on May 5th. After positioning an attack group in the likely track of the enemy transports, they moved to the north to search for the enemy covering force. Carrier aircraft found and sank the light carrier Shoho, which was covering a convoy on the 7th of May, while planes from Japan hit the separately operating attack group and sank one destroyer as well as one fleet tanker. The next day, the Japanese covering force was found and attacked from the air, which damaged the Shokaku, a Japanese aircraft carrier. At almost the same time, enemy carrier aircraft attacked Task Force 17, recording hits that damaged the Yorktown and ignited uncontrollable fires on the Lexington, resulting in the abandonment and sinking of the ship on May 8th. Even though the score was in favor of the Japanese, they retired from action and their possession of Port Moresby by sea was abandoned at last.

The practicability of jet-assisted takeoff was finally demonstrated on May 26th in a successful flight test of a Brewster F2A-3 using five British anti-aircraft solid propellant rocket motors to aid in takeoff. It cut the distance needed takeoff in nearly half. In a little more than a week the Battle of Midway would take place.

Late WWII to Korea



Scene on board USS Yorktown (CV-5), shortly after she was hit by three Japanese bombs on 4 June 1942. Dense smoke is from fires in her uptakes, caused by a bomb that punctured them and knocked out her boilers.

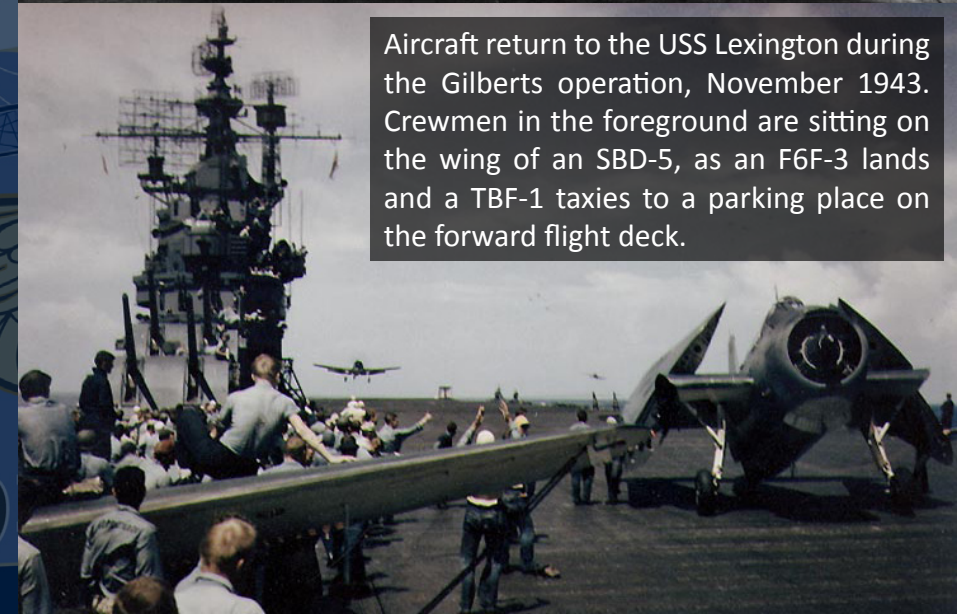
and the USS Yorktown, which sank on June 6th and 7th respectively. This significant victory marked the end of Japan's successful offensive and effectively turned the tide of the Pacific War.

Three days after an inspection of Igor Sikorsky's VS-300 helicopter took place on June 26th, Lcdr. Frank A. Erickson of the Coast Guard suggested that helicopters be acquired for antisubmarine convoy duty and for saving lives. On July 7th, the Army and Navy made an agreement that the Army would give a particular quantity of B-24 Liberators, B-25 Mitchells, and B-34 Venturas to the Navy to meet their need for long range land-based aircraft. In the next few months, more flying wings and groups were created and on November 2nd, 1942, NAS Patuxent River was established in Maryland to function as a place to test aircraft and equipment. Two weeks later, the very first night fighter squadron in naval aviation was established at MCAS Cherry Point in North Carolina. VMF(N)-531 was under the command of Lt. Col. Frank H. Schwable and, following primary instruction with SNJs and SB2A-4s, they were given twin-engined PV-1 aircraft that were outfitted with a British Mark IV type radar. The first night fighter squadron in the Navy, VF(N)-75, came nearly 5 months later at Quonset Point, RI.

Development of the very first jet aircraft in the US Navy was started on January 7th, 1943, when a Letter of Intent was issued to the McDonnell Aircraft Corporation for manufacturing, advancement, and tooling for two VF planes. Soon after, two Westinghouse 19-B turbojet engines were specified and they designated the airplane as XFD-1. It grew to be the prototype for the FH-1 Phantom fighter jet, not to be confused with the F-4 Phantom II. Keep in mind that this is just a little over 30 years after the US Navy obtained their first airplane and we're already dipping into the age of jet aircraft.



An F6F-3 "Hellcat" of Fighting Squadron Sixteen (VF-16) gets the take-off flag from Lieutenant John M. Clark during operations in the Gilberts and Marshalls, 23 November 1943. VF-16 pilots shot down seventeen Japanese aircraft on that day.



Aircraft return to the USS Lexington during the Gilberts operation, November 1943. Crewmen in the foreground are sitting on the wing of an SBD-5, as an F6F-3 lands and a TBF-1 taxis to a parking place on the forward flight deck.

February 11th marked the first time that a Vought F4U Corsair flew in a combat mission when twelve aircraft from VMF-124 based on Guadalcanal escorted a PB2Y Coronado to Vella Lavella to get pilots that had been shot down. However, that flight was monotonous and its first combat action took place only two days after that when aviators from that same squadron came across some confrontation when they were escorting PB4Ys of VP-51 on

so badly that the crew abandoned ship. Later in the afternoon, the US hit and sank the fourth and final Japanese carrier in the battle, the Hiryu. With air superiority lost, Japan retired from the attack of Midway-based aircraft on June 5th and proceeded to withdraw from carrier airspace on the next day. When all was said and done, Japan lost a total of two heavy and two light carriers, one heavy cruiser, 258 aircraft, and a majority of their best carrier pilots. The United States left behind 40 land-based and 92 carrier aircraft in addition to the destroyer Hammann

The Battle of Midway was a powerful push by the Japanese in the Central Pacific to occupy Midway Island. It was led by a mobile force of four carriers with aid from heavy units of the First Fleet and was covered by a diversionary carrier attack on Dutch Harbor in the Aleutians. The raid was met by a significantly outnumbered US carrier force comprised of Task Force 17 with the USS Yorktown, Task Force 16 with the USS Hornet and USS Enterprise, and by units from the Navy, Marine Corps, and Army that were stationed on Midway.

On June 3rd, 1942, aircraft from Midway found and attacked

vessels of the Japanese Occupation Force that were located about 600 miles to the west, and proceeded to go after the mobile force the next day as they sent their planes against defensive installations on Midway. Focusing on the destruction of Midway air forces and getting sidetracked by their bombing attacks made the Japanese carriers unprepared for an air attack against them. Around 10:30 am, dive bombers hit and sank the Japanese carriers Akagi, Kaga, and Soryu. Japan launched a counter attack at noon, followed by another two hours later which damaged the USS Yorktown

so badly that the crew abandoned ship. Later in the afternoon, the US hit and sank the fourth and final Japanese carrier in the battle, the Hiryu. With air superiority lost, Japan retired from the attack of Midway-based aircraft on June 5th and proceeded to withdraw from carrier airspace on the next day. When all was said and done, Japan lost a total of two heavy and two light carriers, one heavy cruiser, 258 aircraft, and a majority of their best carrier pilots. The United States left behind 40 land-based and 92 carrier aircraft in addition to the destroyer Hammann

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a daytime strike against enemy shipping in the Kahili area of Bougainville.

The first time a jet was flown by a pilot of the United States Navy occurred on April 21st when Capt. Frederick M. Trapnell flew a Bell XP-59A Airacomet jet in Muroc, California. Next month on the 22nd of May, Grumman Avengers from VC-9, which were based on the USS Bogue, sunk the U-569,

a German submarine that went down in the middle of the northern Atlantic Ocean. This marked the first time a vessel was sunk by an escort carrier on hunter-killer watch in World War II.

August 30th was a day of firsts for a couple pieces of the Navy's newest hardware. It marked the first attacks launched by Essex and Independence class carriers, as well as the first time the

Grumman F6F Hellcat was used in combat. Task Force 15 sent out nine strike groups in a full day aerial assault on Japan's installations located on Marcus Island. The Navy accepted their very first helicopter after the Sikorsky YR-4B (HNS-1) completed an hour long assessment flight in Bridgeport, Connecticut. It was piloted by United States Coast Guard Lt. Frank A. Erickson.

On October 31st, Lt. Hugh D. O'Neil from VF(N)-75, destroyed a Mitsubishi G4M Betty in a nighttime strike off the island of Vella Lavella. This was the first time a kill was recorded by a night fighter that was equipped with radar in the Pacific Fleet. Maj. Thomas E. Hicks and TSgt. Gleason of the VMF(N)-531 supplied guidance from the ground. It was a team effort by the first night fighter squadrons of both the Navy and Marines.

Three heavy and two light aircraft carriers arranged in two carrier task forces assaulted Japan's naval shipping at Rabaul sinking one destroyer and wounding several ships in the process. This was the first time Curtiss SB2C Helldivers saw combat action. The first attack conducted with rockets that fired ahead occurred on January 11th, 1944 against a U-boat from Germany. The mission was carried out by two TBF-1C Avengers of VC-58 from the USS Block Island.

On February 23rd, following a successful night of fighting off a sequence of air attacks from the adversary, two carrier groups

of Task Force 58 hit targets on Saipan, Tinian, Rota, and Guam. These airstrikes had two objectives: (1) diminishing the enemy's airpower in the Marianas, and (2) collecting photographic intelligence for the imminent invasion. Hard work from both the aviators and the antiaircraft gunners accounted for the 67 enemy planes that were shot down from the skies and the 101 that were destroyed on the ground—a total of 168 aircraft. The very next day was the first time an underwater enemy submarine was found utilizing magnetic airborne detection (MAD) gear. It was discovered by Catalinas from VP-63, who then hit the U-761 with retro-rockets and sank it with the help of two ships and planes from two additional squadrons. MAD gear is still used today on several aircraft in the Navy's inventory to detect submerged submarines.

A powerful Fifth Fleet force that was centered around Task Force 58, with eleven aircraft carriers, sent a cycle of airstrikes to Palau, Yap, Ulithi, and Woleai, as well as shipping in that vicinity in a mission intended to get rid of the resistance to the landings at Hollandia and to collect photographic intelligence for upcoming battles. The airstrike of the Palau Harbor by Torpedo Squadrons 2, 8, and 16, was the first mission of its kind by carrier planes as well as the very first significant daytime bombing mission in the Pacific war. On April 1st, when all was said and done, 157 enemy aircraft and 28 ships totaling 108,000

SB2C-1 "Helldiver" bombers return to the USS Yorktown after a raid in early July 1944. Photographed by Photographer's Mate First Class O.L. Smith, USNR.

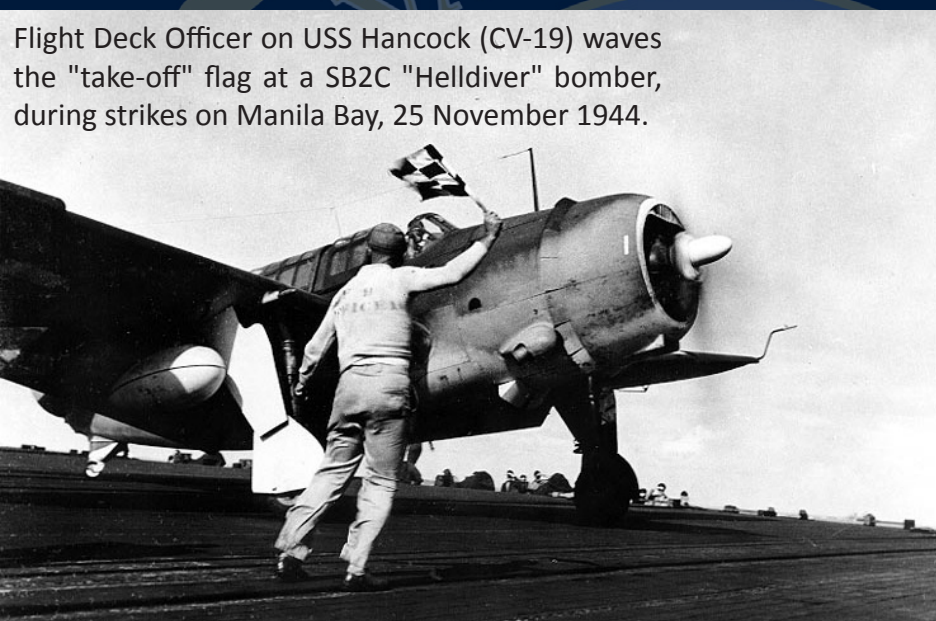


tons had sunk over the course of two days.

The USS Block Island was torpedoed and sunk by a German U-boat on May 29th while on hunter-killer patrol near the Azores. It was the only US aircraft carrier that was sunk in the Atlantic. From June 11th to August 10th, the occupation of the Marianas took place and by August 10th, 110,000 tons of enemy shipping fell to the ocean floor and 1,223 adversary aircraft were destroyed thanks to the US Navy's carrier aircraft and their pilots. On July 14th, PB4Y Liberators from Bombing Squadron 109 conducted the first attack on Iwo Jima with land-based aircraft. The occupa-

tion of Palau and Morotai lasted the month of September. While not as many enemy aircraft were destroyed as there were in the Marianas, which lasted about the same length of time, 67 war and merchant vessels were sunk, adding up to 224,000 tons. However, carrier aircraft still did their job and destroyed 893 enemy planes.

Iwo Jima was secured on March 16, 1945, but not before a month of airstrikes and fighting on the ground. Just two days later, the Okinawa Campaign started and went on for a little over three months. Over those three months, the US Navy received the most intense punishment in its history as a result of Japan's human-direct-



Flight deck crews prepare to load a Mark XIII torpedo on a TBM aircraft, during strikes in the Luzon-Formosa area, 13 October 1944.



ed missiles, otherwise known as Kamikazes. While no carriers were lost, a total of twelve were hit. Carrier air support was on a much greater and more widespread scale than any other amphibious campaign in the past. Over 40,000 combat sorties were flown by carrier aircraft and they wiped out 2,516 adversary planes and blew

enemy positions away with over 17 million pounds of bombs and 50,000 rockets. Land-based Marine Corps squadrons hit an additional 506 Japanese aircraft and used 3.6 million pounds of bombs and 15,865 rockets while providing close air support.

On April 23rd, PB4Ys from VPB-109 released two Bat glide

bombs on adversary shipping in Balikpapan Harbor, Borneo. This was the first time the only automatic homing bomb to be used in World War II was employed in combat. While piloting an HNS-1 helicopter, Coast Guard Lt. August Kleisch rescued eleven stranded Canadian airmen in northern Labrador approximately 125 miles away from Goose Bay on May 2nd. This marked the first rescue mission that utilized a helicopter. President Truman announced the war was over in Europe on May 8th, which is also known as V-E Day.

Carrier operations against Japan took place from July 10th to August 15th. Over the course of that month, heavy airstrikes on airfields, war and commercial transport, along with naval and other military bases occurred. This was the last carrier action of World War II, and carrier-based planes destroyed 1,223 enemy aircraft with more than a thousand of those being on the ground. 23 war and 48 shipping vessels accounting for 285,000 tons were also damaged by carrier aircraft and sent to the ocean floor.

The official surrender of the Japanese occurred on September 2nd, also called V-J Day, aboard the USS Missouri in Tokyo Bay. World War II was over.

The McDonnell Aircraft Corporation's XHJD-1 was the earliest helicopter with two engines and it completed a hovering flight on March 25th, 1946. On April 3rd, the Douglas Aircraft Company was given a contract for the planning



Curtiss SB2C-3 "Helldiver" aircraft bank over the USS Hornet before landing, following strikes on Japanese shipping in the China Sea, circa mid-January 1945.



F6F "Hellcat" fighters prepare to take off from USS Ticonderoga for strikes against targets in Manila Bay. The two leading planes are F6F-5N night fighters, with wing-mounted radar.



USS Ticonderoga (CV-14) afire after she was hit by a "Kamikaze" attack off Formosa, 21 January 1945.

and building of the XF3D-1 night fighter which developed into the Douglas F3D Skynight.

Three weeks later on April 24th, the CNO Adm. Chester Nimitz ordered that a flight exhibition team be created to increase Navy morale, display their airpower, and to keep the public interested about aviation in the Navy. They would become known as the Blue Angels and thrill audiences all over the US and overseas as they still do today.

Even more contracts were issued in June, keeping North American Aviation Inc. and Chance Vought occupied. Those contracts

produced the North American AJ Savage, which would later be known as the A-2 Savage, and the Vought F7U Cutlass.

On June 26th, the Aeronautical Board collectively decided that the knot and the nautical mile should be used by both the AAF and the Navy as their standard units of speed and distance measurement. Lt. Cmdr. James Davidson made several landings and takeoffs in his XFD-1 Phantom aboard the USS Franklin D. Roosevelt on July 21st. This was the first time a jet aircraft had ever landed on an aircraft carrier. The USS Roosevelt would see

many more jets landing and taking off from her flight deck in her 32 years of service in the US Navy.

On October 1st, the Naval Air Missile Test Center in Pt. Mugu, CA was set up to perform tests and assessment of guided missiles and their components. The United States Navy's first live test of an ejection seat occurred on October 30th when Lt. jg. Adolph J. Furtek ejected from his JD-1 while flying at approximately 250 knots 6,000 feet above Lakehurst, NJ. Ejection seats would go on to save many pilots, as they still do today. A Grumman F8F Bearcat flown by Lt. Cmdr. Merl W. Dav-

enport took off in just 115 feet from a standstill and ascended to 10,000 feet in only 94 seconds. The Bearcat would go on to hold this record for 10 years until it was broken by a fighter jet, however it still couldn't match the Bearcat's short takeoff distance. February 12th, 1947 was the very first time a guided missile was shot from a submarine when a Loon guided missile was fired from the USS Cusk off of the coast of Pt. Mugu.

The US Army and Navy took on a customary system of giving guided missiles popular names on April 30th. This was the birth of surface-to-air missiles being called SAMs as well as other des-

ignations that are still used today. On June 4th, with the likelihood of operating jets from an aircraft carrier on the horizon, the Chief of Naval Operations authorized new carrier features to be included in an enhancement plan called "Project 27A". In this program, Essex Class carriers underwent changes such as installation of two H-8 catapults, reinforcement of the flight deck, and an increase in elevator capacity. Blast deflectors, a larger fuel capacity, and jet fuel mixers were also added in preparation for jet operations.

Cmdr. Turner F. Caldwell flew his Douglas Skystreak D-558-1 at 640.663 mph over a three km

course in Muroc, CA on August 20th, breaking the worlds speed record. Five days later, Marine Corps Maj. Marion E. Carl flew the same aircraft and beat Cmdr. Caldwell's record by 10 miles per hour on the same course. On December 1st, HMX-1 was established in Virginia at MCAS Quantico. Their assignment was much different than it is today; their duty was creating different methods and plans for the variety of uses helicopters had during amphibious operations. Currently, they're well known for their role of providing transportation for VIPs, such as the President of the United States.

Navy Photo

On March 4th, 1948, a Test Pilot Training Division was started to teach skilled aviators in aeronautical engineering and methods of flight testing at the Naval Air Test Center in Patuxent River, Maryland. It would go on to become the US Naval Test Pilot School ten years later. Two months later on May 5th, VF-17A became the first jet squadron in the Navy to be carrier qualified. They had 16 FH-1 Phantoms and every squadron pilot along with the Commander of the Air Group completed at least eight takeoffs and landings to become qualified. Over a year later on August 9th, 1949, Lt. Jack L. Fruin from VF-171

ejected from his F2H-1 Banshee when the cockpit became iced over and instruments failed, leaving him helpless near Walterboro, SC. While no aviator wanted to be "that guy", Lt. Fruin was the first US pilot to eject from his aircraft due to an in-flight emergency.

Carrier aircraft saw combat in Korea for their first time on July 3rd, 1950. Throughout the Korean War, naval aircraft executed airstrikes on everything from airfields to factories and provided close air support for amphibious landings as well as other occasions when they were needed. This would be the first combat trials for a few of the Navy's newer

aircraft, such as the Grumman F9F Panther and Douglas AD Skyraider. Both aircraft would go on to be quite successful in the war. In the first attack over Pyongyang on July 3rd, a pair of Yak-9s were shot down by F9F Panthers from VF-51 piloted by Lt jg. Leonard H. Plog and Esn. Elton W. Brown Jr. This was the first aerial kill for the Navy in the war as well as the first time an enemy aircraft was shot down by a Navy jet.

In early November, enemy hostility increased and the fast carrier forces were called back into action. Two days afterward, the force was assigned a primary mission of stopping Chinese Com-

USS Oriskany (CV-34) with a North American AJ-1 "Savage" attack plane on her flight deck.



USS Essex underway during her first Korean War deployment, circa August 1951-March 1952. Two F2H-2 "Banshees" of Fighter Squadron 172 are flying by in the foreground, preparing to land.





Two Grumman F9F-2 "Panther" fighters dump fuel as they fly past the carrier, during Korean War operations circa May 1951.



Grumman F9F-2 "Panther" jet fighter on the deck edge elevator of USS Franklin D. Roosevelt (CVB-42), circa 1950.

munist support from Manchuria by taking out the international bridges that crossed the Yalu River. The first airstrikes on the Yalu River bridges at Sinuiju were contested by adversary MiG-15s. This was the first time Navy jets had ever come across jets in aerial combat and Lcdr. William T. Amen gunned one down from his F9F

Panther on November 9th, becoming the first naval aviator to ever shoot a jet aircraft out of the skies. Twenty days later, the situation became so bad that President Truman declared a national emergency in mid-December.

On April 2nd, a pair of F9F-2B Panthers from VF-191 were both equipped with a quartet of 250 and a pair of 100 pound

all-purpose bombs. After being launched from the USS Princeton, they performed an airstrike on a train bridge around Songjin, North Korea, marking the first time a Navy fighter jet operated as a bomber. Eight Skyraiders and twelve Corsairs took off from the USS Princeton on May 1st and executed an aerial assault on the Hwachon Dam in the one and only time aerial torpedoes were employed during the war. The flood gate damage caused water from the reservoir to be released into the Pukhan River and made it more difficult for Communist forces to cross. The United Nations military representatives arrived in Kaesong, Korea, on July 10th for armistice deliberations with Communist leaders, followed by several difficult months where talks were alternately suspended and reopened at the same time as fighting continued.

August 7th was an eventful day as three different milestones occurred in three different states. In St. Louis, MO, the McDonnell XF3H-1 Demon finished its first flight. A Viking research rocket reached a height of 135.3 miles after being shot off from the White Sands Proving Grounds in New Mexico. Last, but not least, Bill Bridgeman flew a D-558-2 Skyrocket at a speed of 1,238 mph above Muroc, CA setting an unofficial world record. Eight days later, Bridgeman, flying the Skyrocket, attained an altitude of 79,494 feet; the highest height ever reached by a human at the time.

Even more carrier modifications came along on February 1st, 1952 including stronger arresting cables and catapults to name a couple. On April 28th, the Navy proclaimed that they would adopt the steam catapult for US aircraft carriers after three months of tests.

Starting on June 23rd, and over the course of two days, the USAF, USN and USMC teamed up and practically destroyed the electric power potential of North Korea with airstrikes on major military objectives that were avoided during nearly two years of war. Even though this assault only lasted two days, it involved more than 1,200 sorties and turned out to be the biggest single air effort since World War II ended. It was the first to utilize aircraft from all of the US services fighting in Korea.

On September 3rd, the Naval Ordnance Test Station, now NAWS China Lake in Inyokern, CA, shot the earliest completely configured Sidewinder air-to-air missile, thus starting a widespread phase of developmental testing. It would go on to become the AIM-9 Sidewinder and is still widely used today.

Test operations of an angled carrier deck commenced on January 12th, 1953 and throughout the next four days, six aircraft models completed takeoffs, landings, and touch and goes during the day and night in various wind conditions on the angled deck of the USS Antietam. The Navy obviously liked what they saw and decided to incorporate it in upcoming



ing upgrades as well as all future carriers to date.

From June 7th to the 19th, the main effort of carrier aircraft was directed on a continuous basis against the Communist vanguard and supporting locations to oppose the enemy's evident attempt to gain ground before a potential peace agreement was reached.

On July 11th, Marine Corps Maj. John F. Bolt, a former member of the infamous VMF-214 Black Sheep, became the first naval pilot to achieve five victories in jet air-to-air combat when he shot down his fifth and sixth MiG-

15s while flying an F-86 Sabre with the 39th Fighter Interceptor Squadron in Korea. Maj. Bolt was the one and only pilot not in the USAF to become an ace in the Sabre and he was the single naval aviator who achieved the status of ace in two different wars.

Task Force 77 aviators took part in 600 total sorties on July 25th, their record for one day of Korean War operations. Two days later the war was over after United Nations and Communist representatives signed an armistice in Panmunjom.

Post Korea to Vietnam



USS Forrestal (CVA-59) catapults an FJ-3 "Fury" jet fighter from a midships catapult, during shakedown operations, 12 March 1956. Another FJ-3, of Fighter Squadron 21 (VF-21) and a F2H-3 "Banshee" are being readied for launching from the bow catapults.



Douglas F4D-1 Skyraider fighter landing on board USS Bon Homme Richard (CVA-31), 30 August 1957.

heavier-than-air crash in the history of naval aviation at the time. On May 2nd, the Navy announced the launch of the Aviation Officer Candidate Program for college graduates ages 19 through 26. VX-3 started to test the mirror landing system on August 22nd. Cdr. Robert Dose made the very first landing with the new instrument when he flew his FJ-3 Fury onto the deck of the USS Bennington. Lcdr. Harding MacKnight landed his F9F-8 Cougar on the Bennington two days afterwards, marking the first night landing with the latest landing device. After completing a series of trials, the squadron gave a positive report which ultimately led to the mirror landing system being used on aircraft carriers and



A Lockheed T2V-1 "SeaStar" makes its first carrier landing, during carrier suitability tests on board USS Antietam off the US East Coast, circa 7 October 1957.

at certain air stations. It would later be announced that all Naval Air Stations would have the mirror landing system to enhance air traffic control and to decrease landing crashes. On September 12th, the Navy proclaimed that every fighter aircraft in production would be fitted with the necessary equipment for in-flight refueling, setting a precedent that remains to this day. In 1956, a couple new aircraft entered the fleet, including the

Following the war in Korea, testing went on as if nothing happened and even more records were broken. In August of 1953, shipboard missiles were tested and the altitude record was raised to 83,235 feet. In September, a modification plan for Midway class carriers went into effect, implementing basic changes such as the angled deck the addition of a steam catapult in the deck area. Also in September, a Sidewinder air-to-air missile shot down an F6F drone in testing at the Naval Ordnance Test Station in Inyokern,

CA. In October, the world speed record was raised to 752.943 mph over a three km course in an F4D Skyraider in its normal combat configuration. On December 3rd, the Steam Catapult Facility in Philadelphia, PA, was founded by the Assistant Secretary of the Navy for Air, James H. Smith, with the launching of F9F and AD aircraft. On July 26th, a pair of Skyraiders from Air Group 5 came across a couple of LA-7s while looking for survivors of a Cathay Pacific airliner shot down three days earlier off Hainan Island. The LA-7s attacked,

but the Skyraider pilots returned fire and shot both aircraft down. A little over a month later, a P2V Neptune from VP-19 was on a regular reconnaissance mission over international waters when a pair MiGs attacked and forced it to ditch off the coast of Siberia. Nine crew members got (or bailed?) out and were rescued, but unfortunately one went down with the aircraft. A Navy R6D crashed and erupted into flames around 0203 on Pali Kea Peak in Hawaii, killing all 66 passengers and crew members aboard, making it the worst

F3H Demon and A3D Skywarrior. On July 31st, an A3D flew for 3,200 miles from Honolulu, HI to Albuquerque, NM without refueling, exhibiting the capabilities of the Navy's newest carrier jet attack aircraft. The flight lasted 5 hours and 40 minutes with a speed averaging 570 miles per hour. Cmdr. Robert Windsor, Jr. took home the Thompson Trophy when he flew faster than any other human being at the time, setting a new speed record of 1,015.428 miles per hour in his F8U-1. The aircraft was equipped with a full armament of 20mm cannon and dummy ammunition, making it the first operationally outfitted jet to fly faster than 1,000 mph. Between November 9th and 11th, a Sikorsky HR2S helicopter flown

by Marine Corps Maj. Roy L. Anderson set three new records in Windsor Locks, CT.

TF-1Qs, which would be the first of many naval aircraft outfitted for electronic jamming, entered service on January 18th, 1957. Only two years after the maiden flight of the experimental model, the first F8U-1 Crusader was supplied to VF-32 on March 25th. Another first delivery took place on May 27th when the Naval Air Advanced Training Command in Corpus Christi, TX acquired their first T2V-1 Sea Star.

Marine Corps Maj. John Glenn Jr. shattered the sound barrier, as well as the transcontinental speed record, on a July 16th flight from Los Alamitos, CA to Floyd Bennett Field, NY in his F8U-1P.

The journey, which was the very first upper atmosphere supersonic flight from the West to East Coast, lasted 3 hours 22 minutes 50.05 seconds with a speed averaging 723.517 miles per hour. On February 4th, 1958, the keel of the USS Enterprise, the world's first nuclear-powered aircraft carrier, was laid at Newport News, VA. It is still in service today and is scheduled to be decommissioned in 2013. VX-4 began operational testing of the air-to-air Sparrow III when they shot the first missile on February 14th. The next month they started trials with the Bullpup missile. On April 18th, Lcdr. George Watkins reached an altitude of 76,939 feet in an F11F-1F Super Tiger over Edwards AFB in California, setting the world

altitude record. Maj. Edward N. LeFavre broke five time to climb records in an F4D-1 Skyray at NAMTC Point Mugu, CA on May 22nd and 23rd. On May 27th, an F4H all-weather interceptor flew for the first time with McDonnell's Chief Test Pilot R. C. Little in the cockpit. This aircraft would later be known as the F-4 Phantom II, which many regard as the best aircraft in not only naval, but all of aviation history. It would go on to crush several world records.

On August 25th, 1959, during tests aboard the USS Independence, Lcdr. Ed Decker was launched off the deck in a Skywarrior with a gross weight of 84,000 pounds. It was the heaviest plane to take off from an aircraft carrier. The T-2J Buckeye was first used in

basic training on November 2nd at NAS Pensacola, FL. More recent models of Buckeyes were just recently retired in 2008, when they were permanently replaced by the T-45 Goshawk. On July 1st, 1960, VRC-40, the first Carrier On-board Delivery (COD) squadron, was established at NAS Norfolk, VA.

The exceptional performance of the F4H-1 Phantom II did not go unnoticed. It reached 1216.78 mph on a 500 km triangular course and beat the 100 km world record by over 200 miles per hour when it flew an average speed of 1,390.21 mph on the closed circuit course. On November 22nd, 1961, the Phantom II flew at a staggering 1606.3 mph over Edwards AFB, CA.

US Navy Cdr. Alan Sheppard Jr. became the first American to enter space on May 5th, 1961. He would be the first of many military aviators to go into outer space. On November 25th, the USS Enterprise was commissioned, making it the US Navy's first nuclear-powered aircraft carrier. Every carrier since then has been powered by a nuclear reactor as well. The USS Coral became the first aircraft carrier to have the Pilot Landing Aid Television system installed for operational purposes on December 14th. It was intended to video tape every landing for teaching use and accident analysis.

An HSS-2 Sea King became the first helicopter to fly over 200 mph in an official test on February 5th, 1962. On September 18th, a

A Grumman S2F-2 "Tracker" anti-submarine aircraft landing aboard USS Leyte (CVS-32) during an anti-submarine exercise circa 1958.



USS Saratoga (CVA-60) at sea on 17 February 1958, as four Douglas AD4-1 "Skyhawk" aircraft from Attack Squadron 34 (VA-34) fly past in formation.



mutual Army-Navy-Air Force regulation was put into place, establishing a consistent system of military aircraft designations. It is still in use today. In 1963, on November 8th, 21st and 22nd, Lt. James Flatley III and his crew made 21 full-stop landings and takeoffs in a C-130F Hercules aboard the USS

operations and it was not pursued for the role. While the Vietnam War started in 1955, the Navy's aviation involvement didn't really pick up until the mid-1960s. On August 2nd, 1964, motor torpedo boats from North Vietnam attacked the USS Maddox, a destroyer that was

from the USS Constellation and Ticonderoga in an aerial assault on motor torpedo boats and their support buildings at five locations along the coast of North Vietnam. These attacks were made on command from President Lyndon B. Johnson to take aggressive action towards protecting the United

Two Douglas AD-5W aircraft of squadron VAW-12 fly over USS Forrestal (CVA-59) while she was operating with the Sixth Fleet in the Mediterranean Sea, 25 April 1960.



Formation portrait of the Atlantic Fleet anti-submarine group's ships and aircraft, taken during exercises in 1959. Ships include the group flagship, USS Valley Forge, two submarines, and seven destroyers. Aircraft overhead include two four-plane formations of S2F "Trackers" and three HSS-1 "Seabat" helicopters, plus one P2V "Neptune".



USS Midway (CVA-41) preparing to launch a pair of F-8 "Crusader" fighters during carrier qualifications, circa 1963.



Forrestal. After these tests, the Navy discovered that the Hercules could carry 25,000 pounds of cargo and personnel 2,500 miles and land on a carrier deck. However, the C-130 was believed to be too risky for use in regular COD

on a mission to patrol international waters in the Gulf of Tonkin. The boats were damaged and scared off by ship's gunfire and by airstrikes delivered by aircraft from the USS Ticonderoga. Three days later, planes were launched

States' right to operate in international waters. Over the course of 64 attack sorties, naval aircraft either sank or critically wounded 25 vessels and wiped out a significant portion of their fuel stores and storage facilities.



The Catapult Officer signals "launch" and an A-4 Skyhawk starts down the flight deck of the USS Coral Sea during operations in the South China Sea, 24 March 1965.

Even the midst of the war, records were still being set in naval aviation. On March 6th, Cmdr. James Williford flew his Sikorsky SH-3A from the USS Hornet in North Island, CA to the USS Franklin D. Roosevelt which was just off the coast of Mayport, FL. The flight lasted 15 hours and 51 minutes and exceeded the current record at the time by over 700 miles. Twenty days later, air units from the Seventh Fleet started to participate in Operation Rolling Thunder by executing airstrikes on island and coastal radar stations around Vinh Son. The next month, Seventh Fleet aviators entered the fight in South Vietnam with an airstrike on Viet Cong locations around the Black Virgin

Mountain. It went so well that the Seventh Fleet was given all of the upcoming missions in the country. This went on from May 20, 1965 to August 4, 1966, when land-based air power was adequately established to carry out a large amount of the airstrikes in that region.

On June 17th, Cmdr. Louis Page and Lt. Jack Batson intercepted four MiG-17s and shot down one a piece in their F-4B Phantoms. This marked the first two US victories over MiGs in Vietnam. The USS Enterprise which carried the biggest air wing (CVW-9) got in on the battle off of Vietnam with strikes on Viet Cong facilities around Bien Hoa on December 2nd.

The USS Intrepid linked up with the Seventh Fleet carriers off the coast of Vietnam to support war operations on May 15, 1966. CVW-10, the air wing assigned to the Intrepid, flew 97 combat sorties on Viet Cong troop positions and storage areas near Saigon just on the first day. On June 16th, Skyhawks and Crusaders from the USS Hancock attacked petroleum facilities about 24 miles to the west of Thanh Hoa. This was the first time since 1964 that carrier aircraft executed an airstrike on fuel storage facilities and it marked the start of what became a methodical attempt to wipe out the entire storage system in North Vietnam. A trio of North Vietnam torpedo boats attacked the USS

Coontz and Rogers on July 1st while carrying out search and rescue missions around 40 miles off the coast. Planes from the USS Constellation and Hancock made quick work of the aggressors, sinking all three. Following the skirmish, the Coontz pulled 19 survivors out of the water.

Aerial mining was first used in Vietnam on February 26, 1967, when seven A-6A Intruders from the VA-35 Black Panthers deposited minefields at the confluence of the Song Ca and Song Giang rivers. It was meant to stop coastal barges from transporting materials into the areas. Two months lat-

er, Seventh Fleet aircraft executed their first airstrikes on MiG bases in North Vietnam when they attacked Kep Airfield 37 miles to the northeast of Hanoi. The primary attack was carried out by A-6s and A-4s from the USS Kitty Hawk with a follow up attack by more A-6s on the same night.

On July 29, 1967, an inferno broke out on the USS Forrestal's flight deck as aircraft were being prepped for launch. The blaze swallowed the fantail and spread below the decks, detonating some of the bombs and ammo. A valiant effort finally brought the fires under control; however when all

was said and done, ship and aircraft damage was severe and the final tally was 132 dead, two missing and presumed dead, and 62 wounded. Less than a month later, the Aircraft Carrier Safety Review Panel had its first meeting to review the causes of carrier fires and to reduce their occurrences and damage, as well as improving the firefighting equipment and methods used.

President Lyndon B. Johnson proclaimed on March 31, 1968 that, as a sign of American motivation to allow the start of peace talks with the North Vietnamese, airstrikes north of the 20th paral-



Marine UH-34 Helicopters lift off from USS Princeton (LPH-5) to land troops in the Republic of Vietnam during Operation "Jackstay", 26 March 1966.

lel would be stopped on the next day.

The USS Nimitz's keel was laid on June 22nd in Newport News, Virginia. Nearly seven years later, on May 3, 1975, it was commissioned and still remains in active service. On July 1, 1968, the Naval Air Reserve was split into wings and squadrons to assure a quicker and more efficient transition to combat status in the event of mobilization. In reply to orders from President Johnson, all North Vietnam bombing stopped at 2100

in Saigon. An MK-32 Zuni rocket on the USS Enterprise was detonated on January 14, 1969 after exhaust from an aircraft starting unit caused it to become overheated, starting yet another carrier inferno. Twenty seven people lost their lives that day along with 344 wounded and 15 aircraft that would never fly again. The ship was repaired by early March. On February 3rd, the Naval Air Systems Command awarded Grumman a contract to develop the F-14A and make six experimental

planes. It was planned to be a high performance replacement for the Phantom II and to carry the Phoenix missile.

On April 14th, an unarmed EC-121 was shot down by aircraft from North Korea while on a regular recon patrol sortie over the Sea of Japan. The whole crew of 31 was lost in the accident and future flights of that nature over international waters were protected by Task Force 71. A big advance in preventing carrier fires happened on May 26th when the

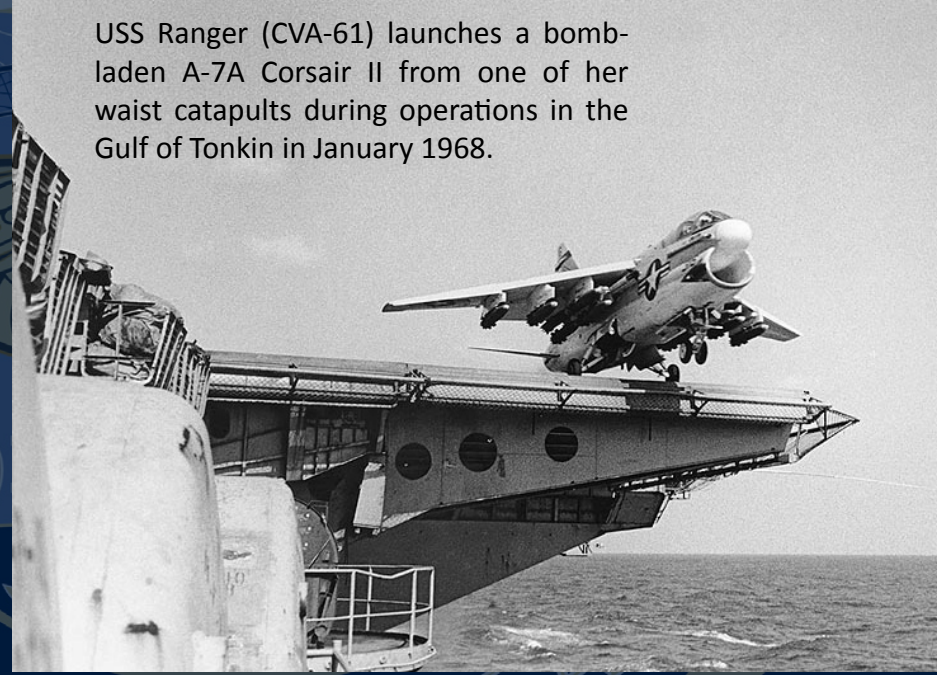
USS Franklin D. Roosevelt finished undergoing an 11-month renovation where a spray system on the edge of the flight deck was installed. The system used a new firefighting chemical that was compatible with seawater. The very first Vought A-7E Corsair II to be given to an operational squadron was delivered on July 14th to VA-122 which was the West Coast training squadron for the Corsair II. It featured several new qualities such as a heads up display and a projected map display. On August 1st, Lockheed was awarded a contract to develop the S-3A which was meant to be a carrier based antisubmarine warfare aircraft intended for all weather use and outfitted with the most up to date detection and data processing equipment.

A MiG-21 was shot down by an F-4 from VF-142 on March 28, 1970, marking the first time a North Vietnamese MiG was downed since the bombing was stopped. The Phantom II was accompanying a defenseless recon aircraft around Thanh Hoa, North Vietnam. On November 21st and 22nd planes from the United States executed defensive response airstrikes on North Vietnamese missile and anti-aircraft sites to the south of the 19th parallel. Aircraft in the attack were from the USS Hancock, Ranger, and Oriskany.

The first flight of the F-14A Tomcat occurred on December 21st at Grumman's plant on Long Island, New York. On January 6, 1971, the first AV-8 Harrier



A Vought F-8C "Crusader" jet fighter in flight over USS Shangri-La (CVA-38) in December 1968.



USS Ranger (CVA-61) launches a bomb-laden A-7A Corsair II from one of her waist catapults during operations in the Gulf of Tonkin in January 1968.



Crew members fight a series of fires and explosions on the USS Forrestal's flight deck in the Gulf of Tonkin on 29 July 1967. The conflagration took place as heavily-armed and fueled aircraft were being prepared for combat missions over North Vietnam.

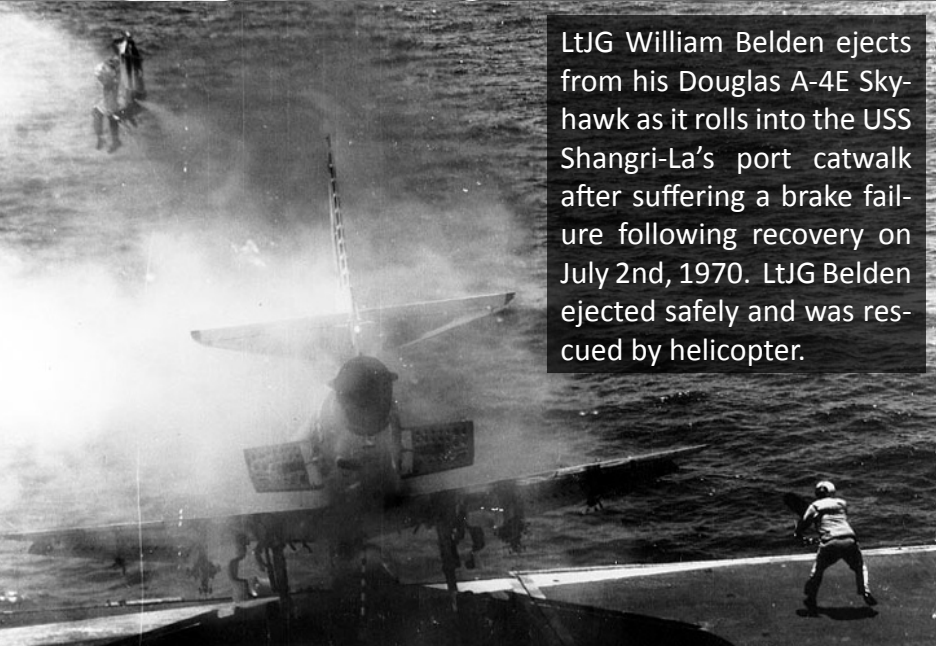
was accepted by Marine Corps MajGen. Homer Hill. It was the first vertical takeoff and landing (VTOL) aircraft to be accepted and utilized in combat by the United States and is still used today by the Marines. Later that month, the EA-6B Prowler went into service at NAS Whidbey Island in Washington with VAQ-129. Even though Prowlers are still being

used today, they're slowly being phased out and replaced by the EA-18G Growler.

Meanwhile on the other side of the country, throughout the month of January, aircraft from the USS Hancock, Ranger and Kitty Hawk flew a sum of 3,214 sorties with all but 86 involving delivering ordnance in Laos. These missions went on at roughly this



A North American RA-5C Vigilante reconnaissance aircraft lands on board USS Saratoga (CVA-60) circa 1969.



LtJG William Belden ejects from his Douglas A-4E Skyhawk as it rolls into the USS Shangri-La's port catwalk after suffering a brake failure following recovery on July 2nd, 1970. LtJG Belden ejected safely and was rescued by helicopter.

fighting came only four days later when a total of eight MiGs were downed on what was the first day of Operation Linebacker I.

On May 18th, the aerial war in 'Nam was changed when the Uong Bi electric power plant near Haiphong was hit. This was the start of airstrikes on a group of targets that were previously left alone consisting of power plants, shipyards and cement factories. In May, nearly 9,000 total attack sorties were flown by the Navy and Marines in North and South Vietnam. The numbers decreased in June with only 2,021 missions in South Vietnam and 3,844 in North Vietnam. At the end of August almost 5,000 sorties were flown against North Vietnam. The next month, that number decreased to 3,934 with a little over 1,700 missions flown in South Vietnam.

October 8th marked the first Tomcat delivery when VF-124 received their first F-14. VF-124 was

chosen to be the F-14 training squadron for all Tomcat squadrons of the Pacific and Atlantic Fleet.

All aerial missions into North Vietnam above the 20th parallel came to a stop ending Linebacker I on October 23rd. This was intended to aid in the progression of peace talks back in Paris. Between May and October, a sum of 23,652 sorties were flown by the Navy which aided in halting supplies from entering North Vietnam, thus restricting the operations of their invading army.

Operation Linebacker II began on December 18th because discussions in Paris weren't getting anywhere. The operation only lasted eleven days before the North Vietnamese decided they wanted to come back to negotiations. Linebacker II was practically identical to Linebacker I, but on a more intense scale. Bombing north of the 20th parallel resumed and around 500 missions were flown with bad weather limiting the number of airstrikes.

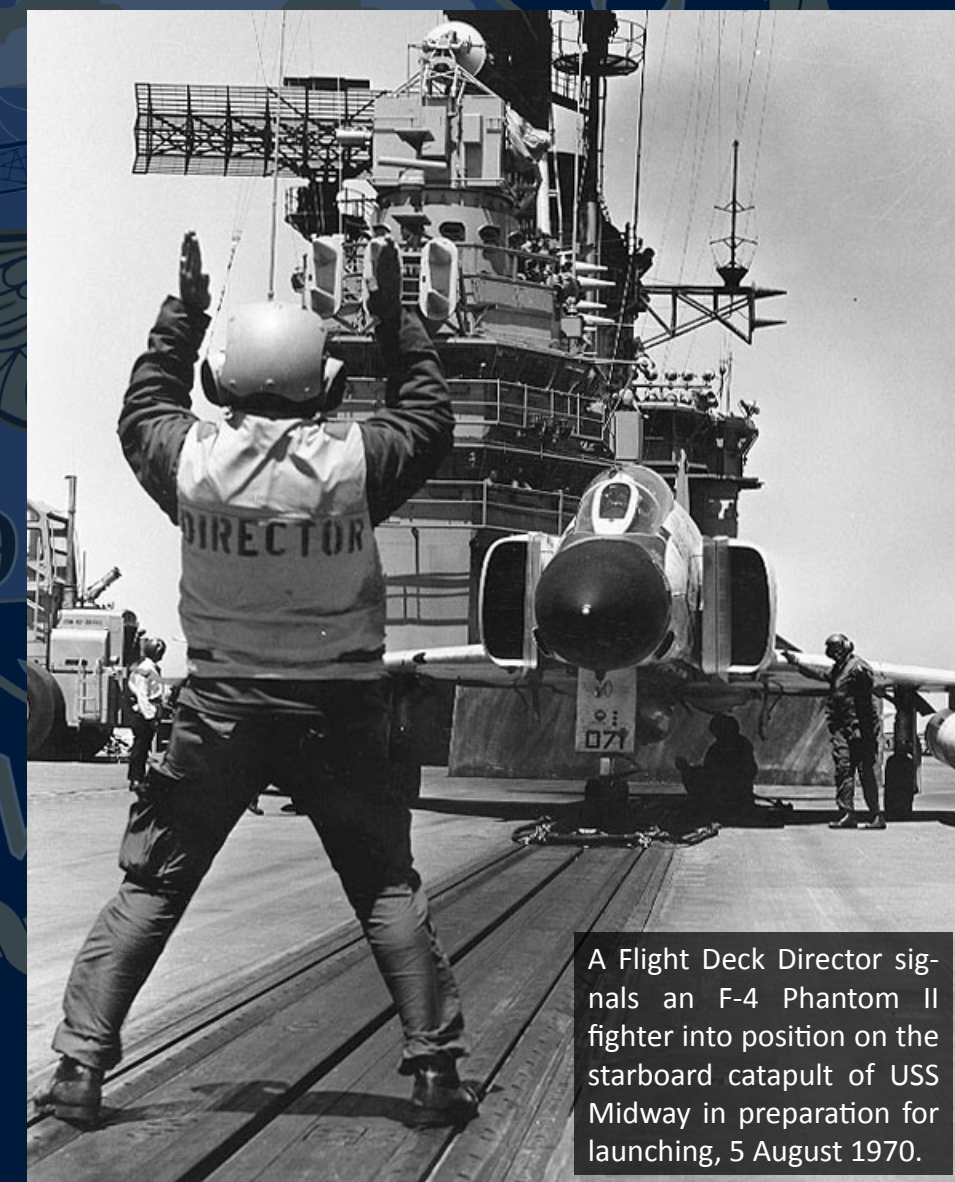
The last adversary "kill" of the Vietnam War came on January 12, 1973 when the 57th MiG was downed by the Navy and Marines. About two weeks later all combat missions into North and South Vietnam were stopped. From the start of the Navy and Marines' involvement with Vietnam to that date, nearly 1,000 total aircraft were lost including helicopters. The United States' focus then switched to bordering countries such as Laos and Cambodia where airstrikes continued. On August

15th, after more than six months of intense aerial warfare, participation in Cambodia ended.

The F-14 Tomcat made its first landings and takeoffs from the USS Enterprise on March 18, 1974 and the first deployment of the Tomcat came only six months later. In the first three months of 1975, the AIM-54 Phoenix missile, F-14 Tomcat, and S-3A Viking were approved for service use.

On April 29th, Navy and Marine helicopters participated in

Operation Frequent Wind, an effort to evacuate 900 Americans from South Vietnam's capital which was under heavy attack from invading forces from North Vietnam. Cover was provided by carrier aircraft while choppers landed on rooftops and at Tan Son Nhut Air Base to evacuate the American citizens. All but a handful were evacuated. The very next day the Vietnam War was officially over after 19 years and 180 days of fighting.



A Flight Deck Director signals an F-4 Phantom II fighter into position on the starboard catapult of USS Midway in preparation for launching, 5 August 1970.

The Modern Era



While en route from the USS John F. Kennedy (CV-67) to targets in Iraq and Kuwait during Operation Desert Storm, five A-7E Corsair aircraft from VA-72 and an A-6E Intruder aircraft from VA-75 rendezvous with a KC-135E Stratotanker aircraft for in-flight refueling.

Naval Aviation ended its seventh decade with the USS Dwight D. Eisenhower and Ranger deployed in the Indian Ocean. America had no sooner ended its long military involvement in Vietnam than it faced a rising crisis in the Middle East, a crisis that reached hostilities late in 1979, when Iranian thugs captured the United States Embassy in their capital city of Tehran.

During the 1970s, US citizens became more and more aware of the country's critical reliance of oil from foreign sources. For this time, an acute consciousness of America's location as a two-ocean nation reemphasized the depen-

dence upon the US Navy to keep sea lanes open and commerce moving unimpeded.

In 1979, naval aviation aided in the rescue of thousands of Indochinese who took to the rough seas in frail boats to flee the increasing oppression in their homeland.

Throughout the 1970s, naval aviation made constant progress in research and development. Early in the 1970s, the Navy introduced the F-14 Tomcat and the Marine Corps accepted the AV-8 V/STOL Harrier. Towards the end of the decade, the new F/A-18 Hornet was going through flight testing. The threat of submarines

was tackled by adding the light airborne multipurpose system (LAMPS) to the fleet. It combined shipboard electronics with the SH-2D helicopter and as the decade neared its end, the latest edition of the LAMPS was being tested in a new Navy airframe, the SH-60B Seahawk. Also at decade's end, the Navy's newest heavy-lift helicopter, the CH-53E, was ready to be accepted by the Marine Corps. Airframes weren't the only things that saw advancement. The fields of electronics, missiles, and crew systems also were improved. Two nuclear supercarriers were commissioned and a third was launched in the 1970s. All three of

them, the USS Nimitz, Dwight D. Eisenhower, and Carl Vinson, are still used by the Navy today.

The eighth decade of naval aviation saw the continuation of the Iranian hostage crisis. As had been the case since the beginning of the Cold War, carriers were on station in response to the crisis. The later part of the 1970s had seen a rise in the number of carrier deployments to the Indian Ocean and that trend continued in the 1980s. This was unquestionably the outcome of the escalating problems in the Middle East, eastern Africa and the Asian subcontinent.

In the 1980s, naval aviation saw a rebirth in its power and potential. There was an increase in its building programs and new technology research. Many of the aircraft used today were introduced in the 1980s such as the F/A-18 Hornet, SH-60B LAMPS MK III Seahawk and its many variants, MH-53E, AV-8B Harrier II, and V-22 Osprey. Missile progression was in stride with that of aircraft, and several types debuted such as the HARM, Skipper, Hellfire and the Tomahawk cruise missile. More nuclear-powered carriers were commissioned and more were approved for production.

The eighth decade was a special one for naval aviation because it celebrated its 75th anniversary in 1986. Throughout the year, many of the milestones of naval aviation were celebrated, along with the individuals who contributed to its growth. Naval aviation's continued participation in

worldwide events was stressed and the need to maintain its readiness and capabilities was reaffirmed. Fast forward 25 years and we're doing the same thing!

Naval aviation's involvement in international events began with Iran and the continuing hostage crisis from 1979 to 1981. Libyan operations in 1981, 1986 and 1989 demonstrated naval aviation's air-to-air and strike capabilities. In 1983, a carrier and amphibious task force took part in Operation Urgent Fury and the re-establishment of democracy in the Caribbean island of Grenada. Operations in and around Lebanon kept naval aviators occupied during the mid-1980s. Responding to hijacking and terrorism in the Mediterranean basin was also an ongoing requirement for most of the 1980s. The other hot spot for naval aviation was the Persian Gulf and the Iran-Iraq war. As the decade ended, a new crisis appeared when Iraq invaded Kuwait

and the UN imposed an economic blockade on Iraq to force its withdrawal.

The activities of naval aviation weren't limited to combat. In 1982, the US Navy began working closely with Customs and the Coast Guard to control the entry of drugs into the country. E-2C Hawkeyes became permanent participants in aiding in the detection of drug smugglers. Other activities included continued participation in the manned space program and support in natural disasters, both at home and abroad.

The first half of the 1990s has been characterized by changes in the world order, controlling localized fighting and a revamped naval strategy. As 1991 began, the January 15th deadline for the UN-ordered withdrawal of Iraqi troops from Kuwait neared and US carriers advanced to their positions near the Persian Gulf. On January 16th, Tomahawk cruise



As seen from one of the aircraft, four Fighter Squadron 41 (VF-41) F-14A Tomcat aircraft head into Iraq in support of a strike during Operation Desert Storm.



An SH-3H Sea King helicopter from HS-9 takes off from the USS Theodore Roosevelt (CVN-71) during Operation Provide Comfort. The aircraft in the background are a VA-36 A-6E Intruder, left, a VAQ-141 EA-6B Prowler, center, and a VS-24 S-3B Viking.

missiles were launched at pre-programmed targets by nine US Navy ships in the Mediterranean, Persian Gulf and Red Sea, just in time to be shown on the evening news. Later that same evening, President George H.W. Bush addressed the nation and proclaimed that the liberation of Kuwait had started and an enormous fleet of Navy, Air Force and Allied aircraft struck targets in Iraq.

The Gulf War was the first war that the public could see in real time. Television viewers worldwide saw firsthand the awesome military strength of the United States as it liberated Kuwait. The Gulf War was short and on February 27th, President Bush stated that Kuwait had been liberated. However, UN economic sanctions against Iraq stayed in effect and

naval aviation assets were actively involved in patrolling Iraq during the remainder of the first half of the decade.

In October 1994, after Iraqi troops again massed on the Kuwaiti border, President Clinton dispatched the USS George Washington to the Red Sea to protect Kuwait from possible invasion. Iraq withdrew from the Kuwaiti border and recognized the sovereignty of Kuwait, but UN economic sanctions on Iraq remained in place. In 1995, the USS Constellation, Theodore Roosevelt and Independence patrolled Iraq's "no-fly zone" during Operation Southern Watch.

The Soviet Union had cooperated with the United States during the Gulf War, the first US-Soviet coordinated effort since World

War II. Soviet openness and reorganization were bringing about changes and unrest in the Soviet Union. In August 1991, an attempted coup triggered the dissolution of the Soviet Union into its component republics. On Christmas in 1991, Mikhail Gorbachev formally resigned as president of a Soviet Union that no longer existed.

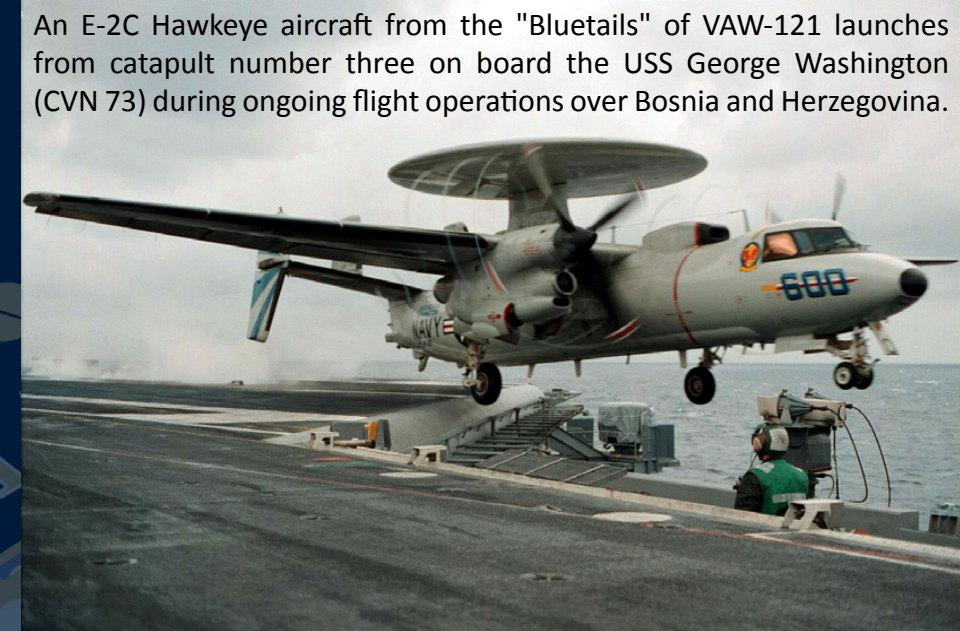
The collapse of the Soviet Union left the United States as the world's only superpower. The new world order presented regional threats instead of global. In response, the Navy developed a new strategy promulgated in the white paper entitled "...From the Sea." The paper emphasized littoral warfare—along the coastlines—and the capability to maneuver from the sea.

The new global situation called for the downsizing of the Navy's personnel and material. With the Soviet Union no longer a threat, the Clinton administration supported a smaller defense budget. For naval aviation it was the largest draw-down since post World War II. Many aviation squadrons and naval shore facilities were disestablished, reorganized or consolidated.

The break-up of the composite state of Yugoslavia into its constituent republics presented the first major challenge to the Navy's "...From the Sea" strategy. In a referendum in the spring of 1992, a majority of those in the Republic of Bosnia-Herzegovina voted for independence from the remains of Yugoslavia. The Bosnian Serbs reacted by proclaiming that the Republic of Bosnia-Herzegovina was a constituted part of Yugoslavia, now only consisting of Serbia and Montenegro. Fighting broke out between the Serbs, Croats, and Slavic Muslims in Bosnia-Herzegovina and the republic was divided along ethnic lines.

Along the coastline of Bosnia-Herzegovina, aircraft carriers kept watch over the situation from the Adriatic Sea and provided support for Operation Provide Promise—the United Nations relief effort—and Operation Deny Flight, which monitored the air space over Bosnia-Herzegovina to prevent the warring parties from using it in warfare.

On her last deployment, the USS Saratoga supplied support for Operations Deny Flight and Pro-



An F/A-18 Hornet from VFA-94 conducts a mission over the Persian Gulf in support of the United Nations No-Fly zone over Southern Iraq, Operation Southern Watch.

vide Promise. Saratoga then returned to Mayport, FL, where she was decommissioned in August 1994.

The USS Dwight D. Eisenhower and America continued their support of Operation Deny Flight from the Adriatic Sea. On August 30, 1995, aircraft from the Theodore Roosevelt carried out the initial early morning strikes

that began Operation Deliberate Force, action against Serb military targets in Bosnia.

The Dayton Accords, signed in Paris in December 1995, by the Bosnian Federation and the Bosnian Serbs, brought hope for peace in Bosnia-Herzegovina. Operation Joint Endeavor enforced the military aspects of this peace by providing a stable environment

A U.S. Marine Corps MV-22 Osprey tilt-rotor aircraft from VMM-162, 24th Marine Expeditionary Unit (MEU), launches from assault ship USS Nassau (LHA-4), at sea off the coast of Haiti, to conduct an aerial reconnaissance of population centers and infrastructures in northern Haiti Jan. 24, 2010. This is the first time Ospreys, the newest aircraft to join the Marine Corps' aviation arsenal, are being used in a humanitarian aid or disaster relief mission.



in which the civil aspects could proceed. Operation Deny Flight, begun in 1993, then came to an end. President Bill Clinton called up reserves to participate in Operation Joint Endeavor.

The first half of the 1990s marked a first for women in the Navy. In April 1993, Secretary of Defense Les Aspin dropped most of the restrictions that prohibited women from engaging in aerial and naval combat. Later in the year, Congress supported the secretary's decision to allow women in combat by repealing the Combat Exclusion Law. In October 1994, the USS Dwight D. Eisen-

hower became the first aircraft carrier to deploy with women permanently assigned on board.

In the last couple decades, Naval Aviation continued to adjust to changing world events, the development of new technology and new strategies in order to serve the United States of America in peace and war.

Most recently, naval aviation has returned to the Persian Gulf region in support of the 2003 US-led invasion of Iraq, a mission which has been gradually phased out. At the same time, aircraft like the V-22 Osprey and F-35 Lightning II are just making their way

into the fleet after many years of testing and development. This modernization is long overdue, as many aircraft used by the Navy and Marine Corps are wearing out after years of hard use. This, combined with the ever rising cost of new aircraft and severe budget cuts, will leave the armed forces with a 'fighter gap', or shortage of necessary assets, for the foreseeable future. How this challenge will be met remains unclear, but just as the first naval aviators overcame the challenge of landing an aircraft on a ship, their successors will surely overcome this. Here's to another 100 years!



An F/A-18C Hornet aircraft assigned to the "Sidewinders" of VFA-86 launches from the flight deck of the USS Enterprise (CVN-65) on June 13, 2006, which is deployed to the Persian Gulf in support of the war on terror.

The Future of Naval Aviation: X-47B UCAS

Article by John Nyren
Photos Courtesy Northrop Grumman



Northrop Grumman's cutting-edge X-47B Unmanned Combat Air System (UCAS) is perhaps the most amazing aerospace development in the skies today. By many accounts, this pilotless aerial vehicle is well on its way to proving the technologies that will allow for future UCLASS (Unmanned Carrier-Launched Airborne Strike and Surveillance) vehicle operations

by the United States Navy. Block One testing successfully concluded on Nov. 18 with only sixteen total flights, less than one-third of the original sorties planned for proving the aircraft's handling characteristics at various weights, speeds, and altitudes. This platform will not be operational with the United States Navy, but it is a crucial step in the development of

a highly survivable carrier-capable, multi-mission UAV.

In 2005, the US Department of Defense's QDR (Quadrennial Defense Review) highlighted the need for an unmanned, longer-range, carrier-based aircraft that is capable of receiving fuel while airborne. These requirements stem from the ever-growing need for increased reach (distance from

ship to operations area) as well as greater persistence, or the ability of an aircraft to remain over a specified location for a lengthier period of time. The Navy's long-term objective with regards to the QDR outline is to have UCLASS vehicles operational by 2018.

A contract was awarded to Northrop Grumman in August 2007 that would result in the con-

struction and testing of two X-47B UCAS demonstrators, further advancing this futuristic defense program. By 2014, it is anticipated that the X-47B Unmanned Combat Air System will have paved the way for the development of a prototype vehicle that will be capable of both strike and ISR (Intelligence/Surveillance/Reconnaissance) missions.

The X-47B UCAS is a cranked-kite design, tailless aircraft that has a wingspan of 62.1 feet and length overall of 38.2 feet. Reversing these dimensions would result in a footprint twenty percent smaller than that of the F/A-18's. The vehicle has a gross takeoff weight capability exceeding 44,000 pounds and can carry 4,500 pounds of payload distributed between



two internal bays with further weight allowances for additional electronics and equipment. This high-subsonic speed vehicle can fly above 40,000 ft, allowing for an operating radius of over 1,500 nautical miles.

A single Pratt and Whitney F-100-220U engine provides thrust for the demonstrator. This powerplant's familiar core has roots that can be traced back to 1967 and is currently used on both the F-15 Eagle and F-16 Fighting Falcon fighter aircraft. The 220U is a non-afterburning variant of the original F-100 design.

Aside from folding wings and a tail hook, which are essential for operations aboard ship, what really sets the X-47B apart from other UAVs (Unmanned Aerial Vehicles) is the autonomous control of the aircraft. Basically, a mission is pre-programmed into the demonstrator's computers and is

executed without the use of remote control by pilots. There are, however, provisions for human interaction while the vehicle is in flight, as instructions can be sent by the mouse-clicks of a mission operator. Sequencing for carrier recovery is one such example of external influence on the otherwise autonomous vehicle. The aircraft carrier's LSO (Landing Signal Officer) still has the ability to wave-off a potentially unsafe approach. Like some existing UAVs, ground crews will be able to perform limited operations by using a control device for the necessary repositioning on deck.

Now that the first phase of testing at Edwards Air Force Base, California is complete, Northrop Grumman is in the process of trucking the first demonstrator to the Patuxent River Naval Air Station in Maryland, where it should arrive by late December.

AV-1 is expected to begin shore-based catapult launch testing as well as cable-arrested landings at this Chesapeake Bay facility by the summer of 2012. Last July, a specially equipped F-18 successfully demonstrated a single string version of the system that will be used to eventually bring the X-47B aboard ship. During the course of these tests, thirty-six approaches were flown to the USS Dwight D. Eisenhower. These included several full-stop traps in addition to touch and gos. The approaches were conducted without any pilot control inputs, proving the autonomous carrier landing system ready for the X-47B UCAS to utilize. Actual trials aboard ship should begin in 2013.

Recently, AV-2 joined the development program at Edwards AFB, having first flown on Nov. 22. This additional air vehicle is designed to accommodate in-flight

refueling hardware that will prove the vehicle's ability to autonomously perform such operations by both the Air Force's boom method and the Navy's probe and drogue system. Once carrier demonstrations are complete, AV-2 will receive modifications that will permit the receiving of fuel from tanker aircraft while airborne. Initial probe and drogue transfer tests will utilize a modified Boeing 707 aircraft operated by Alexandria, Virginia based Omega Aerial Refueling Services. This proving of autonomous airborne refueling capability is expected to conclude in 2014.

Northrop Grumman has certainly done a fantastic job with the UCAS-D program to date and we look forward to watching the upcoming milestones that will lead to a Navy aircraft carrier operational UAV by 2018.





The Centennial Logo

Article and Photo
by Kevin Helm



CONA Kick-Off Celebration

Article by Kevin Helm
Photos by Alan Radecki - Courtesy of Northrop Grumman Corp.



On February 11 and 12, 2011 the “Birthplace of Naval Aviation” - Naval Air Station North Island (NASNI), San Diego, CA hosted the weekend-long Centennial of Naval Aviation (CONA) Kick-Off Celebration. Events included a classic film festival featuring naval aviation, a 5K beach run, a golf tournament, a VIP reception at the

San Diego Air and Space Museum, a gala dinner on the flight deck of the USS Midway museum, a one day public Open House with over 70 static displays, public Navy ship tours at NASNI, and a two hour “Parade of Flight” aerial review over the San Diego Bay featuring 187 aircraft.

This celebration served as the

initiation to a year-long national celebration of the aviation centennials of the US Navy (1911), US Marine Corps (1912) and US Coast Guard (1916). The CONA will be “a yearlong celebration of 100 years of Naval Aviation, covering the scope of all naval aviation activities, including aircraft, people, ships and significant events”.

The official Centennial of Naval Aviation patch is approved for wear this year on the right shoulder of all standard flight suits. This emblem was designed by LT Ian Espich, the Maintenance and Material Control Officer for Helicopter Sea Combat Sq (HSC) 21 and was chosen from a field of 38 entries.

The gold braid surrounding the logo represents the 236 years of seafaring tradition of the United States Sea Services. The founding of the Continental Navy occurred on October 13, 1775, the formation of the Continental Marines a month later at Tun Tavern on November 10, 1775, and the

founding of what would become the Coast Guard on August 4, 1790. The gold color was chosen as it one of the Navy and Marine’s two colors.

The blue outer circumference denotes the Navy’s other primary color, blue. This particular shade is the same as that carried on WWII Navy and Marine Corps aircraft. A variation of the patch shows this outer circumference replaced by scarlet to represent the Marine Corps.

The light blue inner circle - horizon and water represent sea and sky, the two mediums treasured by maritime aviators. The wake in the water is a retrospective look

at where Naval Aviation has been. The golden wings represent the human aspect of Naval Aviation - the men and women who have all worked hard to earn their wings and who wear those wings with the great pride. The Naval Aviation pilot wings were selected because they were the original naval aviation wings.

The A-1 Triad and F-35 Lightning II represent the first and most recent aircraft purchased by the Sea Services. The clouds in the sky symbolize that not everything in Naval Aviation is easy. What we do is hard and often times dangerous, and this represents those shared hardships.



Historical NAS North Island

Article by Christopher Roberts

Photos Courtesy US Navy/Naval Historical Center

Pensacola Florida is known to all as the “Cradle of Naval Aviation”, but the United States Navy didn’t begin there. In fact the USN began its flying almost 2,000 miles away on the opposite side of the country. The year was 1911 and while just over seven years prior the Wright Brothers had made their first flight at Kitty Hawk, the military was only beginning to see the use in airplanes. However, the Navy had received an offer from Glenn Curtis and his newly created flying school located near San Diego, California. The year before Curtis had created the first flight

school in America, and to build his school’s reputation and his new aircraft, he offered to train a soldier how to fly - free of charge. The Navy would take Mr. Curtis up on his offer thus cementing North Island as the “Birthplace of Naval Aviation.”

The Navy ordered a young 25 year old Lieutenant named Theodore “Spuds” Ellyson out to San Diego where the Glenn Curtis flying school was located. Curtis was a staunch supporter of the airplane and he believed that it could play a valuable role in the military, particularly the Navy.

This was one of Curtis’s driving forces in making the free offer to the Navy. Ellyson showed up at the flying school on North Island to learn how to fly. Ellyson started right away on learning the intricacies of flight and how to handle an aircraft. On January 28, 1911 Ellyson was at the controls of a Curtiss “Grass Cutter” (so named because it was never intended to leave the ground) airplane. The plane was not supposed to take off and was only intended to demonstrate a high speed taxi to Ellyson. However the throttle block on the controls fell off and before he knew it

Lt. Theodore Ellyson was the first Naval Aviator (although the official distinction as Naval Aviator 1 would come two years later). That same moment Ellyson also became the first Naval Aviator to crash an airplane. Ellyson was not expecting the plane to take flight and the subsequent landing damaged the left wing. Luckily Ellyson walked away unharmed.

Lt. Ellyson continued to work side by side with Glenn Curtis and continued to help him prove the usefulness of airplanes to the Navy. On February 17, 1911 Ellyson helped Curtis taxi his Seaplane out to the USS Pennsylvania which was moored in San Diego bay. The Pennsylvania hoisted the plane onto its deck, and then hoisted it off, showing the practicality of sea planes on ships. With many other demonstrations Curtis with the help of Lt. Ellyson had convinced the Navy that the airplane could be used in the Navy. On May 8, 1911 Captain Chambers prepared requisitions for two Curtiss biplanes. The A-1 Triads purchased on this day were the first aircraft the Navy bought. It is this day that the Navy’s considers the birthdate of Naval Aviation.

The Navy officially moved into North Island in 1917 with the Army. NAS San Diego (and Rockwell field for the Army) saw amazing growth with the onset of WWI. NAS San Diego continued its pre-war tradition of training pilots and had new classes starting every two weeks during the war. By war’s end the base had trained over 200 aviators. In the

Top: Fighting Wing, US Fleet approaching reviewing stand at NAS North Island on January 28, 1930

Bottom: LT Theodore G. Ellyson, USN, seated in a Curtiss pusher airplane, circa 1911



early days the base continued to set firsts. Jimmy Doolittle’s record 22 hour transcontinental flight ended at NAS San Diego. Charles Lindbergh departed Rockwell Field for New York in route to his famous Trans-Atlantic flight. Even the first Navy Aircraft carrier, the USS Langley, called San Diego its home for 12 years. Another

interesting first was the forefathers of today’s “Blue Angels”, the three-plane “Sea Hawks” from VF-6B. The “Felix the Cat” squadron, were thrilling audiences with flight demonstrations as early as 1928.

The Army relinquished control of Rockwell Field in 1935, clearing the way for massive naval growth



NAS North Island on December 27, 1928

on the island. This coupled with the onset of WWII saw the base and the surrounding city increase to amazing size. NAS San Diego was one of the largest Navy establishments in the world during the war, and it was the headquarters for the Pacific fleet. The base was a vital link in the supply line that helped those American sailors fighting in the Pacific. At the height of the war the base was logging an average of 1,400 to 1,800 takeoffs per day for a wartime total of 1,203,032 takeoffs and 1,196,837 landings. An average of 1,200 aircraft were stationed at any time and an amazing 2,538 were present on VJ-Day



The seaplane ramp at NAS North Island circa 1966. VP-48 and VP-50 P5M Marlins are visible on the ramp with one anchored in the bay in the distance



North Island and San Diego bay seen from the air in 1936



NAS San Diego, North Island, CA. View taken by a plane from the 2nd Marine Aircraft Group showing USS Yorktown (CV-5) embarking her Air Group, which is taxiing through the streets of NAS S.D. to the pier where the ship is moored, on March 29, 1940

(for comparison the Navy currently has 3,700 in its entire inventory). A staggering total of 30,269 aircraft were ferried to and from the station and 13,891 loaded on ships. An estimated 350,000 men received training on the station, which included 16,000 enlisted air gunners and 4,000 pilots. After the war when many bases shut down, NAS San Diego maintained its strong naval foothold in San Diego Bay. In 1955 the base was officially renamed NAS North Island, which it is still called today. In order to settle a dispute with NAS Pensacola, North Island was official dubbed "The Birthplace

of Naval Aviation" in 1963 by the House Armed Services Committee. During the cold war the base specialized in submarine warfare and helicopter training. To this day the base still has 23 aviation squadrons and 80 different tenant commands. As the birthplace of naval aviation, NAS North Island was the best choice for the Navy to kick off the year long Centennial celebration. During the CONA festivals held at NAS North Island on February 12, 2011 an old, strange looking aircraft with a wooden pontoon crept into San Diego bay. It was a flying replica of the Navy's

first aircraft they purchased. Most who saw it wouldn't even think it was capable of flying. But as the fabric and wood covered airplane skipped over the waves in the bay it finally became airborne. Located just a few hundred yards from this spot was the Navy's newest aircraft, the F/A-18 Super Hornet. It is an amazing contrast to see how far the Navy has come in 100 short years. The crowd was thoroughly impressed with the massive flyover of 35 planes later in the day as the Navy paid tribute to the exact spot, where over a hundred years ago, it got its wings.

A-1 Triad Replica

Article by Chad Grosvenor

Photos by Alan Radecki - Courtesy of Northrop Grumman Corp.

When you look at the first US Navy aircraft and then look at the aircraft currently being used by the Navy, you can't help but to think about how far naval aviation in the United States has progressed in the last 100 years. Aviation pioneer Glenn Curtiss played a major role in the development of the US Navy's initial aviation program. He designed the first aircraft to ever take off from and land on the deck of a ship and spent much of his time and effort in seaplanes. Glenn's first designs for seaplanes were destined to become the most widely-produced aircraft in the United States before World War I. Curtiss named his aircraft the Triad, later designated the A-1, because it was able to operate from the land, sea, and in the air.

On January 26, 1911, Glenn Curtiss first introduced the Triad to Navy observers when he piloted the maiden flight from North Island in California. He took off from and landed on the beaches of Coronado and in the waters of San Diego Bay. Fast forward 100 years to February 12, 2011, and a replica A-1 Triad took flight in the exact same waters of San Diego Bay with over 100,000 people looking on. This A-1 Triad replica is owned by the San Diego Air and Space Museum, but was built by Henry Hank Wheeler with the help of 44 part time and 3 full time volunteers. This project, which took three years and cost \$20,000, was donated to the museum in 1984. It will be put back on display in the museum in about a month.



US Navy Photo



USS John C. Stennis

Article and Photos by Kevin Helm

The Nimitz class aircraft carrier USS John C Stennis (CVN-74), Tarawa class amphibious assault ship USS Peleliu (LHA-5), and Arleigh Burke class guided-missile destroyer USS Pinckney (DDG-91) were open for public tours Feb 12, 2011 as part of the Centennial of Naval Aviation (CONA) Kickoff Celebration.

During the afternoon Parade of Flight, the super-carrier also hosted over 600 distinguished visitors on the flight deck as the official viewing area for the aerial review. Among those in attendance were the Secretary of the Navy (SECNAV), Ray Maybus, Comman-

dant of the Marine Corps, General James Amos, Commandant of the Coast Guard, Admiral Robert Papp, Jr., Commander of Naval Air Forces, Vice Admiral Al Myers, and NASA Administrator, Charles Bolden (Major General, USMC Retired).

The Stennis is home-berthed in Bremerton, WA, but was off the Southern California coast undergoing workup exercises prior to deploying later this year. Less than 24 hours after arriving in San Diego, members of the media were given the tour that the general public would receive the following day.

The first stop aboard was the ceremonial quarter deck in hangar bay two. Here sat the ceremonial ship's wheel which was inherited from the now sunk carrier USS America (CV-66). The Stennis received America's wheel, ship's silver and the call sign "Courage". The Stennis also inherited its two anchors from the decommissioned USS Forestal (CV-59). On the hanger wall above was a tribute to Sen John C Stennis and the ship's christening bar.

Occupying a large area of hangar bay two was a VAW-112 "Golden Hawks" E-2C Hawkeye (BuNo 165825) and two HSC-8





“Eightballers” MH-60S Seahawks, one of which had the rotors and tail folded for stowage. Looking forward into hanger bay one, a half dozen more stowed Seahawks could be seen.

Stepping onto the starboard aircraft elevator two, the public ascended to the flight deck to the sound of warning klaxons. Positioned on catapults one and two were a VFA-14 “Tophatters” F-18F (BuNo 166427) and a VAQ-133 “Wizards” EA-6B (BuNo 163048). Also on the flight deck were two more Seahawks; a MH-60R from HSM-71 “Raptors” (BuNo 166567) and another MH-60S from HSC-8.

Visitors walking around the flight deck could experience a variety of sights. The 4.5 acre flight deck was riddled with aircraft tie-down locations and was covered in a rough low solar heat absorbing non-skid surface. There were a multitude of visible hatches, blast deflectors and elevators that aircraft must traverse around if they

are opened or over if they are closed. The steam catapult shuttles sat quietly still like sleeping dragons and seemingly lonesome without an aircraft launch bar in their jaws ready to be hurled into the air. Also still was the angled flight deck that usually sees approaching aircraft bearing down toward the yellow and white centerline. There towering 150 ft over the flight deck was the island, made stately by the numerical “74” surrounded by 123 large lights. Finally, across the San Diego harbor could be seen one of ancestors of the modern aircraft

carrier, the USS Midway (CV-41) museum.

Too soon it was time once again to board the elevator and to depart the flight deck just as aircraft do. Klaxons blared back down to the hanger deck. After a short walk across the tie-down riddled hanger deck, it was a matter of stepping through a couple of watertight doors, past the ship’s seal surrounded by the blue and gold speckled floor and off the 100,000 ton armored floating city. Sincerest thanks to the crew of the USS John C Stennis for allowing us aboard.



NAS North Island Open House

Article by Kevin Helm

When the 50th and 75th anniversaries of naval aviation occurred, the "Birthplace of Naval Aviation" - Naval Air Station North Island (NASNI) hosted open houses and aerial reviews. The tradition continued on Feb 12, 2011 when NASNI hosted an Open House and served as the prime viewing area for a Parade of Flight commemorating the Centennial

of Naval Aviation.

The day before the Open House was Media Day. Over 200 credentialed media were present, with an estimated 25% of those being foreign photographers and writers. Flight deck handlers from the amphibious assault ship USS Bonhomme Richard (LHD 6) spotted arriving aircraft throughout the day while the media jostled

and darted around the active tarmac to capture the happenings. (The Bonhomme Richard Sailors were assisting with the open house set up as a means to maintain their proficiency while their ship is in dry dock) To an aviation photographer discovering what the next aircraft would be and where it would be spotted held the same kind of excitement

of opening presents on Christmas morning.

Since airshows are not held at NASNI, the public reaction to a public event was an unknown quantity. Prior estimates of 50,000 attendees were surpassed when approximately 70,000 people came to the Open House! Coronado Island is primarily connected to San Diego by

the Coronado Bridge which has a maximum capacity of three lanes in either direction. Despite the NASNI base gates opening at 8am and the crowd inspection and entry points opening at 9am, there were lines of cars outside the gates at 6:30am. By 9am the traffic was backed up over the bridge and one mile into downtown San Diego on the I-5 freeway. With the

bridge still gridlocked as aircraft paraded overhead, the California Highway Patrol officially declared the NASNI parking lot and base full at 1:30 PM began routing traffic away from the island.

For those who made it through the hours of waiting in the car and crowd entry lines, the approximately 70 static displays representing 100 years of naval aviation





Christopher Roberts



Kevin Helm
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Christopher Roberts

were possibly a once in a lifetime gathering. Most aircraft were not surrounded by barriers which allowed the public to come up close and personal with the displays. The ramp remained open until after sunset allowing plenty of time to see every aircraft at leisure.

There was a great deal of color present on the ramp. Nineteen aircraft painted in retro schemes as part of the Heritage Paint project were present from all over the United States. Additionally, five more aircraft were present that were part of lower level legacy paint efforts and three resident Seahawks that had been colorfully painted by Shayne "Flygirl-painter" Meder were on display.

There were some very rare and historic military and civilian aircraft on the ramp. The San Diego Air and Space Museum's flying A-1 Triad replica was on display before and after taking to the water on the bay. Frank Schelling's 1918 JN-4H Jenny (NC3223) has won multiple awards and is one of only two flyable Hissopowered types in the world. The USMC brought an MV-22 Osprey (BuNo 167917) of VMM-166, and the USN brought both an EP-3E Ares II (BuNo 156514) SIGINT reconnaissance aircraft of VQ-1 and a E-6B Mercury (BuNo 164406) "TACAMO" "survivable airborne communication system" of VQ-4. The future of naval aviation was represented by Northrop Grumman who brought mockups of the Navy RQ-4 Global Hawk, the MQ-8B Fire Scout and the X-47B UCAS-D.



Kevin Helm



Kevin Helm



Kevin Helm



NAVY HS-10

NAVY 162339



Kevin Helm



Kevin Helm

Christopher Roberts



The Chino Planes of Fame displayed the oldest airworthy Corsair, a Vought F4U-1A (BuNo 17799, NX83782). This aircraft was assigned to fighter-bomber squadron VBF-14 (Jan 1944 to Feb 1945), VBF-98 (Feb to April 1945), and carrier air support unit (CASU) 33 (April to June 1945) all in the Pacific Theatre during World War Two. The museum states that from the sketchy records available, it appears that

the aircraft actually saw combat service in the Pacific with VBF-14 and/or VBF-98. A notable historic aircraft present was a 1941 Naval Aircraft Factory N3N-3 Canary trainer (N44839) serial number 2952 owned by Stewart Wells. After delivery in June 1941, the aircraft served with Training Squadron 11 at NAS Corpus Christi, TX until May 1943 providing flight training to future naval aviators. On April

26, 1943 instructor Lt. Hammer flew the aircraft's 20th flight that month, a routine half-hour training flight with a young 18 year old pilot in training, the trainee's 26th flight of the month and the 101st flight of his ten month long training program. Six weeks later the 18 year old trainee became a USN Ensign and, at the time, the youngest naval aviator. That pilot is now the namesake of CVN-77, George H. W. Bush, 41st President of the United States. (The aircraft's flight logs also indicate a preceding flight on March 22, 1943 with instructor Lt. Knudson, Bush's 22nd of the month. However, Bush's personal flight log only lists only 21 flights for March 1943.)

The USMC also had a historic aircraft on static display in F/A-18C (BuNo 163508) currently assigned to VMFAT-101 "Sharpshooters" at MCAS Miramar. During Operation Desert Storm in 1991 this aircraft was assigned to VFA-81 "Sunliners" as part of CWG-17 on the USS Saratoga (CV-60) sailing in the Red Sea. On Jan 17, 1991 LCDR Mark "MRT" Fox shot down a supersonic Iraqi MiG-21, scoring the Navy's first air to air kill of the war in the process. The MiG was approaching head on when Fox launched an AIM-9M. After losing sight of the missile, he quickly launched an AIM-7. Forty seconds later the AIM-9M scored the kill, and a few seconds later the aircraft was hit again by the AIM-7. Fox subsequently continued his mission, successfully dropping bombs on an airfield in western Iraq.

Kevin Helm



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Parade of Flight

Article by Kevin Helm



Kevin Helm

The highlight of the CONA Kick-off was undoubtedly the two hour long Parade of Flight aerial review. A total of 189 aircraft flew is what was described by Navy officials as the "largest military flyover since World War II". Crowd estimates were as high as 150,000, including the 70,000 people that attended the NASNI Open House and the tens of thousands that watched the aerial review from other areas of Coronado Island and the bay-side waterfront parks and hotels of San Diego.

Due to the close proximity of a major international airport, the FAA mandated very strict guidelines for the event. In order to avoid impacting normal flight operations at Lindbergh Field less than two miles east, civilian and military pilots had to follow the San Diego Bay out to sea. This entailed an approach from the south over the Coronado Bay Bridge followed by a left hand arc that circled around the NASNI crowd before exiting to the southwest out the channel back to the Pacific Ocean. The FAA also mandated a 1500 ft minimum altitude over the bridge, 1000 ft minimum for all aircraft traveling over 200 knots, and a 500 ft minimum for all aircraft. It was surreal to watch the aerial review with the backdrop of normal commercial airliner approaches and departures in adjacent airspace.

Coordinating this aerial ballet from atop Building 346 was the Air Boss, LCDR Ed "Stalker" Chandler and his team of assistants. "That was the hardest thing: Pull-

ing a show together with 30-second to two-minute spacing, with minimal gaps, but getting everybody to be where they needed to be, on time, in the right piece of sky, coming from up to 10 different airfields," said Chandler.

The US Navy Blue Angels led the aerial review in a delta formation followed by privately owned vintage aircraft and parachute drops by the US Navy Leap Frogs. One Leap Frog jumped from the back of a N2S Stearman at 4500 ft, while the rest jumped from the doors of a Navy Seahawk helicopter. Despite the tough economic times and high price of aviation fuel, several vintage aircraft participated. Notable aircraft included a SBD-5 Dauntless and F6F Hellcat ("Minsi III") from Chino Planes of Fame, (two and four flyable in the US respectively), the PV- 2 Harpoon "Attu Warrior", an HU-16 Albatross, a T-2 Buckeye, and the only flyable FJ-4B Fury.

The USMC, USCG and USN air-

Kevin Helm

craft that followed did not disappoint either. Highlights included an Air to Air Warfare tail chase between a juking F-5 and a pursuing F-18, MV-22 Ospreys, an E-6B Mercury ("TACAMO"), one of three flyable S-3B Vikings (VX-30 "Bloodhound 700"), USN F-16s and two separate USN/USMC F-5 adversary formations. Additionally there was an "EW Flight" mixed formation of a USN EA-6B Prowler with two EA-18G Growlers.

The grand finale of the event was a mass flyover of 35 fixed

wing aircraft from Carrier Air Wing 9 (CVG-9) from the USS John C. Stennis (CVN-74). In a formation measuring ¾ mile wide flying at 1500 ft were 29 F/A-18 Hornets (F/A-18E/F Super Hornets of VFA-41 "Black Aces" and VFA-14 "Tophatters"; F/A-18C Hornets of VFA-97 "Warhawks" and VFA-192 "Golden Dragons"); three EA-6B Prowlers of VAQ-133 "Wizards"; two E-2C Hawkeyes of VAW-112 "Goldenhawks" and one C-2A Greyhound of Det IV of the VRC-30 "Providers". The forma-



Sean Sydnor



Christopher Roberts



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Christopher Roberts



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Kevin Helm

tion staged from nearby MCAS Miramar, needed 60 miles of air-space to form up and caused the FAA to stop flight operations at Lindbergh Field for a few minutes as it flew over at the predetermined time.

“It was great to see the formation. I’ve already seen a lot of photos and they don’t really do it justice. When you see photos of flyovers from the 1930’s, those aircraft are much lower and are going less than 100 knots. The air wing was going just over 300 knots (approximately 345 miles per hour). Airplanes are designed around a certain air speed for the most maneuverability. A speed of 300 knots for the Hornets is the safest way from them to do that.” said Chandler.

“We are the oldest squadron in the Navy,” said Lt. Carson Miller of the VFA- 14 ‘Tophatters’. “We are all pretty excited to represent ourselves at CONA with our jets and our team.”



Kevin Helm
Kevin Helm



Kevin Helm



Christopher Roberts



Kevin Helm



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Sean Sydnor



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Kevin Helm

MCAS Miramar

Article and Photos by Brandon Thetford



The main focus of the Centennial of Naval Aviation Kickoff may have been the extraordinary flyover and events at North Island, but the action that day wasn't only in the skies over downtown San Diego. MCAS Miramar was the launch point for Carrier Air Wing 9 (CVW-9) and other aircraft participating in the flyover. A small group was on location to photograph the launch and recovery of aircraft from between the runways. It was a beautiful day filled with the smell of jet fuel and smoking tires as the aircraft departed in full burner and returned right on the touchdown markers in front of us.

The C-130's were first to launch consisting of Marine KC-130 tankers from both local and visiting squadrons. Following the KC-130s were an almost endless stream of around 45+ F/A-18 Hornets and Super Hornets from CVW-9 and other squadrons. Others involved in the flyover included EA-6Bs, T-45s, E-2Cs, C-2s, EA-18s and F-16s.

After almost an hour and a half of departures there was a short pause before the aircraft began recovering back at Miramar. The variety of aircraft and paint schemes was spectacular as there were numerous CAG jets participating in the event.

Even more impressive was the fact that from Miramar we were able to see the CVW-9 formation as it flew over the bay displaying the massive 36 aircraft formation! We were 20 miles away! A final moment of excitement came when one of the EA-6B Prowlers from VAQ-129 had to make an emergency landing with hook down due to a possible brake failure. Thankfully the aircraft landed without incident and the crew was safe.

I would like to send thanks to MCAS Miramar Public Affairs as well as the Marines who escorted us on base for making this unique opportunity possible.

Squadrons/Aircraft at MCAS Miramar for CONA Flyovers

VMGR-352 "Raiders"	MCAS Miramar, CA	KC-130J
VMGR-234 "Rangers"	NAS Ft. Worth, TX	KC-130T
VMGR-452 "Yankees"	Stewart ANGB, NY	KC-130T
VMFAT-101 "Sharpshooters"	MCAS Miramar, CA	F/A-18D
VMFA-232 "Red Devils"	MCAS Miramar, CA	F/A-18C
VMFA-314 "Black Knights"	MCAS Miramar, CA	F/A-18A
VMAQ-4 "Seahawks"	MCAS Cherry Point, NC	E/A-6B
VT-7 "Eagles"	NAS Meridian, MS	T-45C
VAW-112 "Golden Hawks"	NAS Point Mugu, CA	E-2C
VRC-30 "Providers"	NAS North Island, CA	C-2
VAQ-133 "Wizards"	NAS Whidbey Island, WA	E/A-6B
VFA-41 "Black Aces"	NAS Lemoore, CA	F/A-18F
VFA-14 "Tophatters"	NAS Lemoore, CA	F/A-18E
VFA-97 "Warhawks"	NAS Lemoore, CA	F/A-18C
VFA-192 "Golden Dragons"	NAS Lemoore, CA	F/A-18C
NSAWC	NAS Fallon, NV	F/A-18E, F/A-18F, F-16N
VFC-111 "Sundowners"	NAS Key West, FL	F-5N
VFC-13 "Saints"	NAS Fallon, NV	F-5N
VMFT-401 "Snipers"	MCAS Yuma, AZ	F-5N, F-5F
VAQ-129 "Vikings"	NAS Whidbey Island, WA	E/A-6B, E/A-18G
VMFA-112 "Cowboys"	NAS Ft. Worth, TX	F/A-18A+
VFA-122 "Flying Eagles"	NAS Lemoore, CA	F/A-18E, F/A-18F





Michelle Rouch: CONA Artist

Volunteers

2011



Article and Photos

by Alan Radecki - Courtesy Northrop Grumman Corp.

When visitors to the Centennial of Naval Aviation (CONA) kick-off reception walked into the main hall at the San Diego Aerospace Museum, they were greeted by a series of original paintings commemorating the legacy of naval aviation. The following night, at the gala on the USS Midway, guests walked the red carpet through the ship's hangar deck with the same commemorative

pieces displayed along the route. The artist behind this series of eleven paintings is a talented and energetic engineer and aviation artist named Michelle Rouch.

The project was inspired by a lecture given by Navy historian and CONA Project Director Captain Richard Dann to the American Society of Aviation Artists in Savannah, GA, in 2010. Energized by the talk, Rouch says she "want-

ed to capture the moment in time of Naval Aviation History and promote the Centennial."

After producing the eleven paintings, plus three digital mini-posters, Rouch approached Capt. Dann about displaying them during the CONA celebration events. Dann was able to connect her with other event organizers, who quickly agreed with the idea. Dann commented that he "loved"



Four of Rouch's paintings line the red carpet on the hangar deck of the USS Midway during the VIP gala.

her art. "I think it has a feel to it, an old-time, retro feel to it, and it captures the spirit and essence of naval aviation in the early days."

Of the eleven original paintings, five have so far been promised a place of permanent display, or have been bought by private collectors. She has approached the San Diego Air & Space Mu-

er, as it tours many of the CONA Tier One events around the country.

As Rouch describes it, "The strongest influence to produce this series was researching...Eugene Ely. He was the first daredevil to fly off and land on the USS Pennsylvania in 1910/1911." Of the centennial paintings, her

safety has come a long way. A friend of mine, James Horkovich uses this artwork in his AIAA System Safety lectures."

A key moment for Michelle as the artist of the CONA painting series occurred during the SDASM reception, when Vice Admiral Allen G. Myers, Commander, Naval Air Forces and Commander, Naval



Under an imposing PBY Catalina, two of Michelle Rouch's CONA paintings greet visitors to the San Diego Air & Space Museum's CONA Kick-off Reception.

seum (SDASM) to see if they are interested in acquiring the remaining CONA pieces. One of the digital mini-posters has been licensed to Ely-Curtiss Aerial Exhibitions, who have applied the design to T-shirts for sale at airshows and online to provide financial support for the organization's flying replica 1911 Ely-Curtiss Push-

personal favorite is the abstract oil entitled, Pioneer Aviator Eugene Ely. "I used a palette knife to enhance the drama of the pilot wearing a football helmet, mouth guard, and rubber inner-tubes for a flotation device. As an engineer auditor, I found the 1911 flight safety gear quite intriguing. Thank goodness flight system

Air Force, U.S. Pacific Fleet said, "We have a tremendous start and a terrific year telling our story across the country and around the world, celebrating 100 years of accomplishments, 100 years of achievements, and 100 years of courage." For Rouch, her Centennial-themed works "further enhanced the event, and I felt

1911-2011



One of three mini-posters created by Michelle Rouch, this piece is also offered by Ely-Curtiss Aerial Exhibitions as a T-shirt to support the flying operations of their replica 1911 Ely-Curtiss Pusher. Image courtesy of and copyright Michelle Rouch.

NAVAL CENTENNIAL of FLIGHT



ROUCH

www.rouch.com

that the artwork connected me to that moment.”

Michelle is a systems engineer by training, and works as an engineering auditor with the DoD’s Defense Contract Management Agency at the Raytheon Tucson Missile Operations facility. While she had painted other subjects for many years, she started painting planes in 2002 as a result of some gentle suggestions from her husband, Fotios, who is also a systems engineer. “I find my inspiration from my husband’s artistic skills in making one of a kind resin airplane models, and he influenced me to become an aviation artist,” says Michelle.

“Mathematically, if you combine a portrait and a building, you can draw an airplane,” explains Rouch. “The curvature of a face and the perspective of a building allowed me to quickly grasp aviation art. The support of my husband landed me my first commissioned work, the first painting of which included my son walking at Pima Air & Space Museum, and is being sold on stationary at the museum’s gift shop. My second painting, a C-2 Greyhound, was published on box tops for airplane models. The aviation art world got serious fast.”

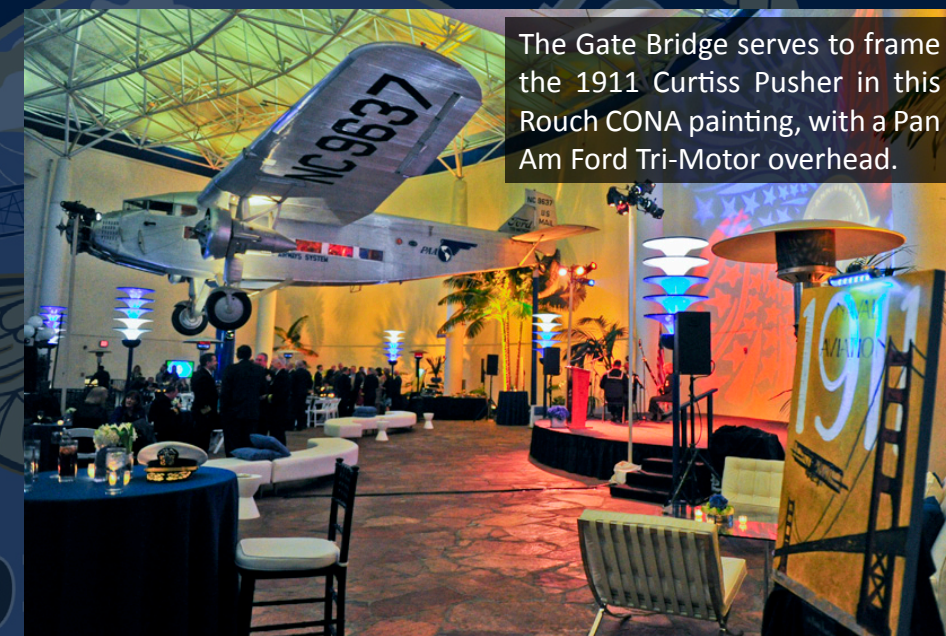
As Rouch said in an address at the Pima museum, “Art is a communication tool and I use my art to communicate technology.” Her experience as an engineer affects how she approaches her art, as well. “When I start with any project, I think like a Program Manager. Managing large acquisition

programs every day has curbed my way to think of the end product first and how to calculate cost, schedule and performance.”

For her art projects, Michelle takes the same approach. “First I have to see the feasibility of the total cost, and then I have to measure how long the piece of work will take and if I can fit the work into my life. Being a full time mom and engineer leaves very little room to be creative. After

This hybridization of engineering and art led the American Institute of Aeronautics and Astronautics (AIAA), of which she is a senior member, to recognize Rouch’s unique contributions in their June 2011 Momentum Member Spotlight.

Besides the CONA events, Rouch also currently has an exhibition at Pima Air & Space Museum, where her art has been shown on a number of occasions. Her paint-



The Gate Bridge serves to frame the 1911 Curtiss Pusher in this Rouch CONA painting, with a Pan Am Ford Tri-Motor overhead.

cost and schedule constraints are reasonably thought out, I then create a rapid prototype and explore every possible scenario before I execute the painting. Rapid prototyping in an essential piece, because it brings the final painting to a well thought plan. Once I have the artwork sketched in pencil, I request for inspection and my Quality Manager, my husband, ensures all angles are correctly defined. He has a critical eye and can detect the slightest imperfections; we make a good team.”

ings have also been exhibited at the National Naval Aviation Museum, the Pentagon, the USS Hornet museum, Planes of Fame, Kitt Peak Observatory, Mighty Eighth Air Force Museum, and Tucson International Airport, among other venues. Some of her work was exhibited at this year’s EAA AirVenture Gathering of Eagles Gala at Oshkosh, where Naval Apollo Astronauts Gene Cernan, Jim Lovell, and Dick Gordon were due to sign her artwork on stage before it was auctioned off for charity.”

CONA Closing Ceremony Gala

CENTENNIAL OF NAVAL AVIATION



Article by
Michelle Rouch

DOD Photo by Erin A. Kirk-Cuo

as possible.”

The evening’s theme was a message of “Courage, Commitment, Loyalty, Vision and Honor”: Courage, the ability to fight through fear for an honorable purpose; Commitment, the vow to continue the mission even when the cost is high; Loyalty, the dedication to protect another person despite great personal risk; and Vision, the ability to create the future.

Arizona Senator and retired naval aviator John McCain shared the history of his father and grandfather, both admirals in the United States Navy. Senator McCain, who endured nearly six years as a prisoner of war in North Vietnam, offered words of wisdom to raise more leaders who are willing to take risks, versus training more managers who avoid risk.

Defense Secretary Leon Panetta acknowledged the celebration of the magnificent history of American naval aviation. It is a history with perhaps no finer chapter than the Pacific campaign of World War II. “It was a time for bold defensive action, for daring in the face of grave risks, and for the kind of innovation that matters most. It was in other words, a mission for naval aviators.”, said Panetta.

Captain Thomas Hudner, USN (retired), received a standing ovation in recognition of his Medal of Honor, received for his heroic actions trying to save the life of his wingman during the Battle of Chosin Reservoir during the Korean War. He later pinned the wings



Leigh Vogel



Michelle Rouch

of gold on a new naval aviator as part of the ceremony.

Admiral James Winnefeld recognized “the true secrets to our success, of course it’s our people.. it’s the crews, the maintainers at all levels, ships company to keep the aircraft airborne and who love them so much, like a son or a daughter, it’s our industry partners, many who have helped sponsored this evening, and to whom we are very grateful, continue to drive innovation and push the edge of what’s possible so we can best defend our country. And of course the air crews,

the men and women you heard about throughout the evening, giants in the world of naval aviation on whose shoulders we now stand.” Later, Admiral Winnefeld introduced Commanding Officer Captain Brian E. Luther and two crew members on a live stream video feed from the USS George H.W. Bush (CVN-77) during their transit home.

To complete the evening’s event, legendary country music artist Lee Greenwood performed a series of patriotic songs and ended the ceremony appropriately with “God Bless the U.S.A.”

The Centennial of Naval Aviation Commemorative Gala kicked off the closing ceremony of the yearlong CONA celebration at the National Building Museum in Washington, D.C. on Thursday, December 1st. NBC News correspondent Tom Costello served as the evening’s Master of Ceremonies.

Guests of honor attending the black-tie gala included the Honorable Leon Panetta, United States Secretary of Defense; members of the House and Senate; his Royal Highness the Duke of York, Prince Andrew; the Honorable Ray Mabus, United States Secretary of the Navy; foreign military guests from

Italy, Japan, and Korea; USN Admiral James Winnefeld, Vice Chairman of the Joint Chiefs of Staff; USN Admiral Jonathan Greenert, Chief of Naval Operations; USCG Admiral Robert Papp, Commandant of the Coast Guard; USMC General Joseph Dunford Assistant Commandant of the Marine Corps; USCG Vice Admiral John Currier, Deputy Commandant for Mission Support; and USN Captain Chris Ferguson, Commander of the final Space Shuttle Flight.

Also in attendance were Dennis Muilenburg, President & CEO of Boeing, as well as representatives of Lockheed Martin, Northrop Grumman, Breitling,

Raytheon, Rolls-Royce and many other. Dignitaries convened in the VIP Reception, exhibiting a collection of Naval Aviation artwork by artist Michelle Rouch.

Foundation President, and USN Captain, Jim DiMatteo welcomed honored guests and shared VADM Kilcline’s, USN (retired) vision as to how the Naval Aviation Centennial should be celebrated. Thomas J. Kilcline, Jr. wanted the celebration to be more than a few golf tournaments and black-tie affairs. Captain DiMatteo explained, “He wanted it to be a celebration for the entire nation throughout the United States in multiple locations impacting as many people

CVW-8 Homecoming

Article and Photos
by Andy Backowski

Nearly 150 naval aviators from Carrier Air Wing Eight (CVW-8) returned to Norfolk Naval Station Chambers Field and NAS Oceana on Wednesday, December 7 following their seven month deployment aboard the USS George H.W. Bush (CVN 77) in support of Maritime Security Operations. The Air Wing consists of forty four F/A-18 Hornets and Super Hornets at NAS Oceana as well as four E-2C Hawkeyes, three C-2A Greyhounds and eight MH-60S Knight Hawks at Chambers Field.

Their departure in May marked several milestones for naval aviation, as CVW-8 was the first to deploy aboard the new carrier, the first to deploy with the E/A-18G Growler electronic





warfare aircraft, and the first East Coast deployment with both MH-60R and MH-60S helicopters.

The Air Wing was comprised of the "Blacklions" of Strike Fighter Squadron 213 (VFA-213) with 12 F/A-18F Super Hornets, VFA-31 "Tomcatters" with 12 F/A-18E Super Hornets, VFA-15 "Valions"

with 10 F/A-18C Hornets, and VFA-87 "Golden Warriors" with 10 F/A-18A Hornets. The "Bear Aces" of Airborne Early Warning Squadron 124 (VAW-124) with E-2C Hawkeye aircraft, the "Rawhides" of Fleet Logistics Support Squadron 40 (VRC-40) Det 2 with C-2A Greyhound aircraft, and He-

licopter Support Combat Squadron 9 (HSC-9), the "Tridents", with MH-60S Knight Hawk helicopters. Additionally, the "Shadowhawks" of Electronic Attack Squadron 141 (VAQ-141) became the first squadron to deploy with the new E/A-18G Growler, which is replacing the EA-6B Prowler electronic countermeasures aircraft. They returned to their home base at NAS Whidbey Island, WA.

During the deployment the Air Wing successfully completed nearly 12,000 sorties, over 9,000 arrested landings and logged almost 31,000 flight hours. Of those missions, 2,216 were combat sorties flown in support of Operations New Dawn and Enduring Freedom. They also delivered 20 tons of ordnance including laser- and GPS-guided bombs and 20mm ammunition in support of coalition ground forces. In addition, the Air Wing participated in joint operations with the Royal Jordanian and Royal Saudi Air Forces.

VFA-213 was awarded the Commander, Strike Fighter Wing Atlantic 2011 Maintenance Excellence Award, and VAW-124 won the Commander, Air Command, Control, and Logistics Top Hook Award. At the same time, the squadron's Lt. Dennis Szpara was awarded the Hawkeye Naval Flight Officer (NFO) of the Year award for East Coast E-2C squadrons. A big thank you goes out to the men and women of CVW-8 and the USS George H. W. Bush for a job well done.





Special Paint Scheme Profiles

Articles by Kevin Helm, Chad Grosvenor, and Courtesy US Navy

Kevin Helm



Kevin Helm



Aircraft: TH-57C "Sea Ranger" (BuNo 162064)
Unit: Training Wing Five – HT-28 "Hellions"
Stationed: NAS Whiting Field
Aircraft Mission: Advanced Training - Helicopter
Period: Pre 1917
Significance: The first national insignia carried by US Navy aircraft
Painted by: Vector Aerospace in Andalusia, AL



Kevin Helm

Kevin Helm

TH-57C (BuNo 162064) was the first CONA Heritage Paint Project aircraft to be repainted and returned to service on Aug 4, 2010. The "Sea Ranger" was painted in over-all gloss gull gray and features the stylized anchor national insignia carried by US Navy aircraft prior to 1917.

Capt. James Vandiver, Commander, TRAWING-5 said "It's great to see this aircraft to help remind us of our history. Looking back at all the great things that Naval Aviation has accomplished, you know that as we move forward, we can accomplish anything."



Alan Barbor



Kevin Helm

Kevin Helm

Kevin Helm



Aircraft: F/A-18F "Super Hornet" (BuNo 165677)
 Unit: Strike Fighter Squadron – VFA-122 "Flying Eagles"
 Stationed: NAS Lemoore
 Aircraft Mission: Fleet Replacement Training Squadron
 Period: 2009 - current
 Significance: To honor the enlisted
 Painted by: AM1 Whipple, AE2 Gay, AM2 Silva, AM3 Burton, AMAM Boudreau, AEAN Sharp and AMAN Mullins

F/A-18F Super Hornet (BuNo 165677) is painted to represent the current Navy Working Uniform (NWU). Designed and painted by enlisted Sailors in VFA-122.



Kevin Helm

Aircraft:	F/A-18C Hornet (BuNo 165210)
Unit:	VX-31 "Dust Devils"
Stationed:	NAWS China Lake
Aircraft Mission:	Air Test and Evaluation
Period:	Late 1950s – mid 1960s
Significance:	Scheme of A-4C Skyhawk
Painted by:	NAS Fallon, NV



Kevin Helm
Kevin Helm



Kevin Helm

Kevin Helm



F/A-18C Hornet (BuNo 165210) "COSO 101" is painted in glossy gull gray and flight test orange to evoke the look of China Lake's A-4C Skyhawks to pay homage to the rich heritage of NAWCWD China Lake, Calif. and the significant flight test contributions to the nation's warfighting capability. The airframe was chosen because it accumulated over 4,000 flight hours. "The entire China Lake workforce played a pivotal role in the history of naval aviation and we wanted to honor those achievements," said Cmdr. Brady Bartosh, VX-31 Commanding Officer. "

Cmdr. Ian Anderson, VX-31 Executive Officer and military aviation history buff, researched China Lake's history for a design

concept that would evoke this facility's rich heritage. "We focused on the 1960s" Anderson said, "which saw the development and introduction of innovative new weapons technologies that revolutionized air warfare and increased the combat potential of carrier aircraft during the Vietnam conflict and the Cold War." From 1958 through 1969, China Lake's NAF Flight Test Branch developed and tested a wide array of new conventional weapons on A-4 Skyhawks. The Snakeye, Wall-eye and Rockeye bombs, and the Shrike anti radiation missile tested here were all used in Vietnam.

After settling on a design concept, Anderson contacted his longtime friend, Capt. Rich Dann, CONA Director of History and Out-

reach for CNAF. Based on this concept, Dann created a template. Two months later, Chief Warrant Officer Chris Obenland and volunteers from VX-31's Contract Oversight Team put the plan into action. Chief Petty Officers Kenneth Smart and Paul Williams, along with Sean Corcoran, painted the historic colors onto COSO 101.

This retro paint scheme is a great way to acknowledge our rich history and remind ourselves of the importance of what we do on a daily basis," said Cmdr. Bartosh. "As long as NAWCWD has such dedicated, talented artisans and relevant aircraft like COSO 101, naval aviation will continue to be the premier power projection enterprise as we move into our next 100 years of service."



Kevin Helm

2

Kevin Helm





Kevin Helm

Aircraft: P-3C "Orion" (BuNo 160770)
 Unit: PATWING 2, Patrol Squadron VP-9 "Golden Eagles"
 Stationed: Marine Corps Base Hawaii, Kaneohe Bay
 Aircraft Mission: Antisubmarine warfare/Antisurface warfare
 Period: 1957 - 1963
 Significance: Scheme used on large patrol airplanes
 Painted by: Fleet Readiness Center Southeast (FRCSE), Jacksonville, FL

Ryan Sundheimer



Ryan Sundheimer



P-3C "Orion" (BuNo 160770) is painted in Sea-plane Gray bottom and an Insignia White top, a scheme that was commonly seen on the P5M Marlin and the P2V Neptune, and in some cases the PBM Mariner aircraft from 1957-1963. It was also used on the P-3A for a very short time before the adoption of Light Gull Gray in place of Sea-plane Gray.

Patrol Squadron (VP) 9 chose to honor the VP-6 "Blue Sharks" by using the defunct squadron's insignia on the P-3C Orion. The Dictionary of American Naval Aviation Squadrons (Vol. 2) indicates the unit stood up as Bombing Squadron (VB) 146 in July 1943. In September 1948, it became the third squadron to earn the VP-6 designation, which it retained until its disestablishment in 1993.

Kevin Helm



Kevin Helm





Kevin Helm



Kevin Helm

Aircraft: MH-60R Seahawk (BuNo 166524)
 Unit: HSM-41 "Seahawks"
 Stationed: NAS North Island
 Aircraft Mission: Multimission Shipborne Helicopter
 Period: Circa late 1944
 Significance: Three tone dark blue, light blue, and white markings represent a TBM Avenger of Night Air Group 90 aboard USS Enterprise (CV 6)
 Painted by: Fleet Readiness Center Southwest, San Diego. CA



Kevin Helm



Kevin Helm



Kevin Helm

Aircraft:	T-34C Mentor (BuNo 161841)
Unit:	Training Wing Four – VT-27 “Boomers”
Stationed:	NAS Corpus Christi
Aircraft Mission:	Primary and intermediate pilot training
Period:	Circa 1938
Significance:	Represents scheme of aircraft assigned to Ranger Air Group. (CV 4)
Painted by:	Sabreliner, Perryville, MO

Kevin Helm



Kevin Helm





Chris Adolor

Aircraft: MH-60S Knighthawk (BuNo 166294)
 Unit: HSC-2 "Fleet Angels"
 Stationed: NAS Norfolk, VA
 Aircraft Mission: Multimission Shipborne Helicopter
 Period: Circa 1950
 Significance: Aircraft painted to represent then-Lt. j.g. John Thornton, recipient of Navy Cross, assigned to HU-2
 Painted at: Fleet Readiness Center Mid-Atlantic, Norfolk, VA



Andrew DeMartini



Ryan Sundheimer



Chad Grosvenor
Chad Grosvenor



Chad Grosvenor



Chad Grosvenor

Aircraft: T-45C Goshawk (BuNo 165598)
 Unit: Training Wing One
 Stationed: NAS Meridian, MS
 Mission: Advanced Jet Trainer
 Period: Circa 1939
 Significance: Represents scheme of aircraft as signed to Enterprise Air Group. (CV-6)
 Painted at: NAS Kingsville, TX



Alan Barbor



Chad Grosvenor



Kevin Helm

Aircraft: EA-6B Prowler (BuNo 160609)
 Unit: VAQ-129 "Vikings"
 Stationed: Naval Air Station (NAS) Whidbey Island
 Aircraft Mission: FRS (Fleet Replacement Squadron)
 Period: May 1942
 Significance: Early WWII tactical paint scheme, circa the Battle of the Coral Sea
 Painted: NAS Whidbey Island (Jan 2011)

Kevin Helm



Kevin Helm



Kevin Helm



The EA-6B Prowler (BuNo 160609) is painted in the blue-gray over light gull gray tactical scheme in use at the time of the Battle of the Coral Sea. The aircraft wears an early style national insignia and 13 red and white rudder stripes. The markings represent TBD-1 Devastators assigned to Air Group 8 (VF-8, VB-8 & VT-8) aboard the USS Hornet (CV-8) during that period.

The name of Navy Cmdr. (Ret) Harry H. Ferrier, one of three surviving servicemen from Torpedo Squadron VT-8 during the Battle of Midway later in 1942, adorns the aircraft. To preserve Ferrier's legacy, he autographed the inside of an access panel below the cockpit window under which his name had been scribed.

On June 4, 1942, VT-8 was divided into two groups, with 15 Douglas TBD-1 Devastators on the USS Hornet and six Grumman TBF-1 Avengers on Midway Atoll. All 15 of the Devastators and five of the Avengers were shot down during the attacks on the Japanese carrier force. Ens. George Gay, Ens. Albert Earnest and Radioman 3rd Class Harry Ferrier were the only survivors of the 48 airmen who flew into battle that day.



Kevin Helm

Aircraft:	EA-18G Growler (BuNo 166899)
Unit:	VAQ-129 "Vikings"
Stationed:	Naval Air Station (NAS) Whidbey Island
Aircraft Mission:	FRS (Fleet Replacement Squadron)
Period:	Late 1944
Significance:	Colors of Air Group 85 aboard USS Shangri-La (CV-38)
Painted at:	NAS Whidbey Island (Jan 2011)

The E/A-18G Growler (BuNo 166899) is painted in three tone blue/blue/white, representing two types of aircraft from Air Group 85; a VF-85 F4U-1C Corsair (No. 55), and a VT-85 TBM-3E Avenger (tri-tone color scheme). The underside of the wing fold is painted in mid-tone blue to match the upper colors as seen from above just like the aircraft in WWII.

Kevin Helm

Bob Ketenheim, Historian of the USS Shangri-La Association, stated in February 2008 that VF-85 had 30 F4U-1C Corsairs, numbered 38 to 67, that were painted overall glossy blue and VT-85 had 15 TBM-3E Avengers, numbered 85 to 99, that were painted overall glossy blue with the exception of two; No. 86 and another unknown aircraft.



Kevin Helm





The S-3B Viking (BuNo 160581) is painted in the blue-gray over light gull gray tactical scheme at the time of the Battle of the Midway in June, 1942. The markings are consistent with period regulations. The last three S-3 Vikings in USN operation belong to VX-30.

The S-3 squadrons traced their early roots back to the carrier-based torpedo squadrons that fiercely fought in the Pacific theater during World War II, according to Centennial of Naval Aviation Project Director and Historian Capt. Richard Dann. He worked closely with the Naval Air Test and Evaluation Squadron (VX-30) to recreate a design that combined the TBD-1 Devastator-equipped torpedo bomber squadrons' (VT) capabilities with the antisubmarine reconnaissance capabilities of the SBD Dauntless-equipped scouting squadrons (VS).

TM

Kevin Helm

Aircraft:	S-3B Viking (BuNo 160581)
Unit:	VX-30 "Bloodhounds"
Stationed:	Naval Air Station (NAS) Point Mugu
Aircraft Mission:	Range Support, Pacific Missile Test Range
Period:	June 1942
Significance:	Early WWII tactical paint scheme, circa the Battle of the Midway
Painted:	FRC Southeast, Jacksonville, FL (October 2010)

Kevin Helm



Kevin Helm



Kevin Helm

The TC-12B Huron (BuNo 161197) is painted in the blue-gray over light gull gray tactical scheme in use at the time of the Battle of the Coral Sea. The aircraft wears an early style national insignia and 13 red and white rudder stripes. The Centennial Paint Project staff located several photos of Beechcraft transports taken in 1942 with this scheme.



Kevin Helm



Kevin Helm

Aircraft:	TC-12B Huron (BuNo 161197)
Unit:	VT-35 "Stingrays", Training Wing 4
Stationed:	Naval Air Station (NAS) Corpus Christi
Aircraft Mission:	Advanced multi-engine training
Period:	May 1942
Significance:	Early WWII tactical paint scheme, circa the Battle of the Coral Sea
Painted:	Hawker Beechcraft, Wichita, KS



Kevin Helm



Kevin Helm

Aircraft:	T-45C Goshawk (BuNo 16365)
Unit:	Training Wing Two
Stationed:	Naval Air Station (NAS) Kingsville
Aircraft Mission:	Advanced Jet Training
Period:	1939
Significance:	Scheme of aircraft assigned to USS Wasp (CV-7)
Painted:	NAS Kingsville/L-3 Corp, June - July 2010



Kevin Helm



Ryan Sundheimer



T-45C (BuNo 163656) is painted with a silver fuselage, orange-yellow wings, and a black tail (denoting carrier assignment) with black section markings (denoting fourth section leader). It was the first jet aircraft to receive a complete CONA Heritage Paint Project scheme.



Kevin Helm

The HH-60H Seahawk (BuNo 163787) is painted in the Army Olive Drab with White lettering worn by the UH-1B Hueys of U.S. Navy Attack Helicopter Squadron 3 (HAL-3) "Sea Wolves" during the Vietnam War. The aircraft was the first aircraft to emerge with a Centennial Heritage Paint Project and was unveiled to a group of 17 HAL-3 alumni on July 23, 2010.

The HSC-84 "Red Wolves" are the only squadron in the U.S. Navy dedicated to supporting Navy SEAL and SWCC Teams, and Combat Search & Rescue. They currently operate eight HH-60H "Rescue Hawks" organized into four independent, two aircraft detachments that can deploy anywhere in the world within 72 hours of notice. The "Red Wolves" draws its lineage back to the HAL-3 "Sea Wolves".



Kevin Helm



Kevin Helm

Aircraft:	HH-60H Seahawk (BuNo 163787)
Unit:	HSC-84 "Red Wolves"
Stationed:	Naval Air Station (NAS) Norfolk
Aircraft Mission:	Special Warfare Support, Combat Search & Rescue (CSAR)
Period:	1968-1972
Significance:	UH-1B of Light Attack Helicopter Squadron 3 (HAL-3) "Sea Wolves", Vietnam War
Painted:	Fleet Readiness Center (FRC) Mid-Atlantic, Norfolk, VA



Antonio More'

Aircraft: F/A-18C Hornet (BuNo 164673)
 Unit: VFC-12 "Fighting Omars" (Reserve)
 Stationed: Naval Air Station (NAS) Oceana
 Aircraft Mission: SFARP (Strike Fighter Advanced Readiness Program)
 Period: Mid 1945
 Significance: Late WWII



Kevin Helm



Antonio More'

Kevin Helm



The F/A-18C Hornet (BuNo 164673) is painted in the gloss sea blue of late WWII. The markings represent F6F-5 Hellcats assigned to VF-12 aboard the USS Randolph (CV-15) in 1945. Notice the authentic white ailerons and that the stripes on the vertical tails are the exact proportions as the original F6F scheme.

The left canopy rail is adorned with the name of CDR (Ret) Hamilton "Mac" McWhorter III (1921-2008). Then Lt. McWhorter became the first Hellcat ace on 19 NOV 1943, and the first double ace on 16 FEB 1944. In mid 1944, McWhorter helped to re-organize VF-12 (formerly flying Corsairs) as a Hellcat squadron, on the carrier Randolph. He took part in the first carrier raid against Tokyo on 16 FEB 1945, downing a Zero.

Later in his career, McWhorter served as Executive Officer of VF-12 aboard the USS Franklin D. Roosevelt from FEB to SEPT 1953, and then as Commanding Officer from SEPT 1953 to SEPT 1954 flying the F2H Banshee jet fighter.



Kevin Helm



Kevin Helm

The MH-60S (BuNo 166323) is painted in the overall glossy sea blue scheme in use at the time of the Korean War. The 1950's scheme represents specifically a Sikorsky H-3S "Dragon Fly".

Aircraft: MH-60S Knighthawk (BuNo 166323)
 Unit: HSC-3 "Merlins"
 Stationed: Naval Air Station (NAS) North Island
 Aircraft Mission: Multimission Shipborne Helicopter
 Period: 1947-1956
 Significance: Korean War
 Painted: Fleet Readiness Center (FRC) Southwest, San Diego, CA, Sept 2010



Kevin Helm



Ryan Sundheimer

T-39N "Sabreliner" (BuNo 165523) is painted in colors worn by aircraft assigned to the USS Enterprise (CV-6) Air Group in 1938. The aircraft was painted by Sabreliner Corporation in their Perryville, MO facility and rolled out on December 20, 2010.

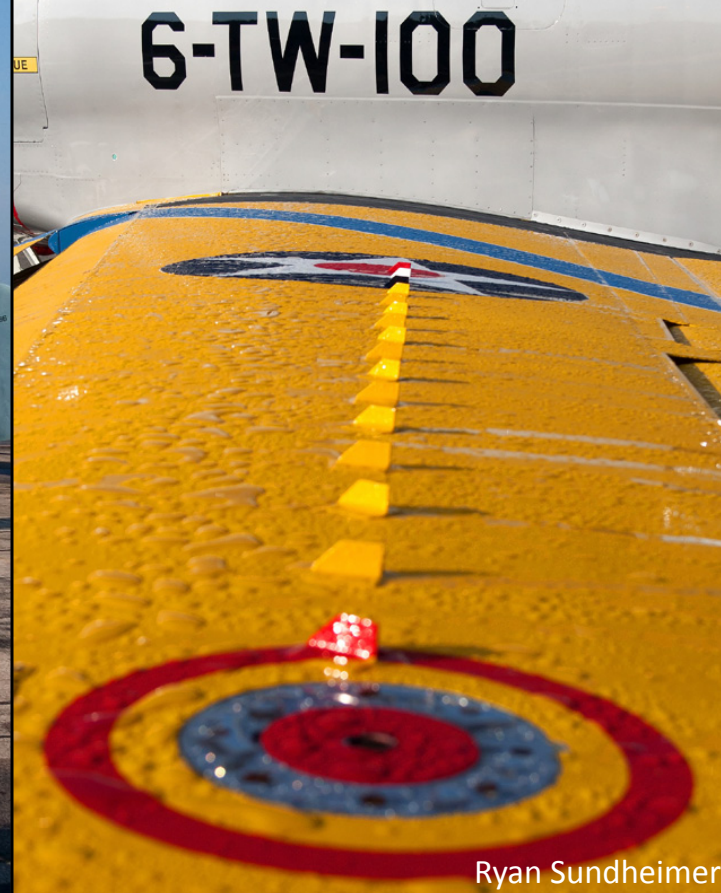
Aircraft:	T-39N "Sabreliner" (BuNo 165523)
Unit:	Training Wing Six (TAW-6), VT-86 "Sabrehawks"
Stationed:	Naval Air Station (NAS) Corpus Cristi
Aircraft Mission:	Naval Flight Officer (NFO) Training
Period:	Circa 1938
Significance:	Enterprise (CV-6) Air Group
Painted by:	Sabreliner Corp, Perryville, MO



Patrick Barron



Ryan Sundheimer



Ryan Sundheimer



Ryan Sundheimer

Ryan Sundheimer



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Kevin Helm

Aircraft: F/A-18A+ Hornet (BuNo 162866)
 Unit: VFA-204 "River Rattlers"
 Stationed: Naval Air Station (NAS) Joint Reserve Base (JRB) New Orleans
 Aircraft Mission: Fleet Services as part of the USNR Tactical Support Wing
 Period: Circa 1950
 Significance: Navy Reserve Aircraft Scheme
 Painted by: Fleet Readiness Center (FRC) Southwest, San Diego, CA

Kevin Helm



Kevin Helm



F/A-18A+ Hornet (BuNo 162866) is painted in glossy Blue with an Orange band representing Navy Reserve aircraft during the 1950s.



Kevin Helm

Kevin Helm

Kevin Helm





T-6B Texan II (BuNo 166064) is painted in the "Yellow Peril" scheme worn by primary trainers from 1930-1950. This aircraft is unique in the fact that it is the only Heritage Paint Project aircraft that was not already in the inventory. The aircraft was delivered on December 7, 2010 to the Navy by Hawker Beechcraft in Wichita, KS with this factory-applied special scheme as a no-cost contract change.

"In keeping with HBC's long tradition of supporting our service men and women in peacetime or in conflict, we are honored to be a part of this historical celebration by delivering this specially painted T-6B to the U.S. Navy," said Jim Maslowski, HBC president, U.S. International and Government Business.

"I am extremely honored to accept this beautiful T-6B Texan II on behalf of the Navy and put it to work in our training fleet," said Rear Admiral William G. Sizemore, Chief of Naval Air Training. "Throughout the next year, the aircraft will be proudly and widely used and displayed to train student naval aviators, as well as enable the Navy and Naval Aviation to properly recognize and celebrate the Centennial of Naval Aviation."



Ryan Sundheimer



Ryan Sundheimer

Aircraft:	T-6B Texan II (BuNo 166064)
Unit:	Training Wing 5 (TAW-5), VT-3 "Red Knights"
Stationed:	Naval Air Station (NAS) Whiting Field
Aircraft Mission:	Primary flight training
Period:	1930s – 1950s
Significance:	Standard "Yellow Peril" scheme for primary trainers
Painted by:	Hawker Beechcraft, Wichita, KS upon initial delivery

Ryan Sundheimer

Damon Duran



Ryan Sundheimer



Ryan Sundheimer



Kevin Helm



Ryan Sundheimer

Aircraft: T-34C "Mentor" (BuNo 164169)
 Unit: Training wing Five (TAW-5), VT-6 "Shooters"
 Stationed: Naval Air Station (NAS) Whiting Field
 Aircraft Mission: Primary and intermediate pilot training
 Period: Circa 1936
 Significance: Standard paint scheme for Coast Guard Aircraft
 Painted by: Sabreliner Corp, Perryville, MO



Ryan Sundheimer



Ryan Sundheimer



Ryan Sundheimer



Ryan Sundheimer

T-34C "Mentor" (BuNo 164169) is painted in colors worn by Coast Guard aircraft in 1936. The aircraft was painted by Sabreliner Corporation in their Perryville, MO facility on December 20, 2010.



Alan Barbor



Alan Barbor

Aircraft: F/A-18C Hornet (BuNo 163733)
 Unit: VFA-122 "Flying Eagles"
 Stationed: Naval Air Station (NAS) Lemoore
 Aircraft Mission: Fleet Replacement Squadron
 Period: 1944 Tri color
 Significance: Scheme of F6F Hellcat assigned to USS Hornet
 Painted by: Fleet Readiness Center (FRC) Southeast, Jacksonville, FL

Alan Barbor



Alan Barbor



Alan Barbor

Alan Barbor



F/A-18C Hornet (BuNo 163733) is painted in 1944 fleet paint scheme tri-color blue/blue/white. The aircraft is marked as a F-6F "Hellcat" assigned to VF-17, Carrier Air Group 17 (CVG-17) on USS Hornet (CV-12) during 1944.



Aircraft:	T-6A Texan II (BuNo 165966)
Unit:	Training Wing Six (TAW-6), VT-10 "Wildcats"
Stationed:	Naval Air Station (NAS) Pensacola
Aircraft Mission:	Training
Period:	1943
Significance:	Gloss Sea Blue
Painted by:	Fleet Readiness Center (FRC) Southeast, NAS Jacksonville

T-6A Texan II (BuNo 165966) is painted in Gloss Sea Blue as worn by F4U-1D Corsairs flown by Marine Fighter Squadron (VMF) 312, the "Checkerboards" starting in 1943. Although the starboard side of the aircraft says "Navy," this is really a Marine heritage paint scheme. "Marines" is painted on the port side of the aircraft and repeated under the port wing.

The T-6A's paint scheme marks an end and also a beginning. On June 2, 2011 165966 became the final Heritage Paint Project aircraft delivered. However, it pays tribute to the upcoming Marine Aviation Centennial, which takes place in May 2012.

Ryan Sundheimer



Ryan Sundheimer

Ryan Sundheimer

Ryan Sundheimer



Antonio More'



Ryan Sundheimer



Ryan Sundheimer



Antonio More'

Aircraft: T-34C Mentor (BuNo 164172)
 Unit: Training Wing 5, VT-6 "Shooters"
 Stationed: NAS Whiting Field, Florida
 Aircraft Mission: Primary and intermediate pilot training
 Period: Circa 1938
 Significance: Represents standard paint scheme for Marine Corps aircraft during the period.
 Painted by: Sabreliner, Perryville, MO



Ryan Sundheimer



Ryan Sundheimer



Antonio More'



Ryan Sundheimer



Ryan Sundheimer



Scott Shea

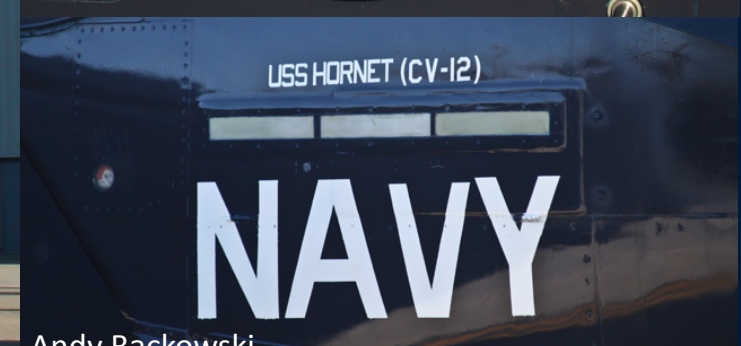
Scott Shea



Aircraft:	T-44A Pegasus (BuNo 160984)
Unit:	Training Wing 4, VT-31 "Wise Owls"
Stationed:	NAS Corpus Christi, Texas
Aircraft Mission:	Advanced multi-engine training
Period:	Circa 1919
Significance:	Represents the NC-4, the first aircraft in history to fly across the Atlantic Ocean.
Painted by:	Sabreliner, Perryville, MO

Michael Misorski





Aircraft: F/A-18C Hornet (BuNo 163745)
 Unit: VFA-106 "Gladiators"
 Stationed: NAS Oceana, Virginia
 Aircraft Mission: Fleet Replacement Squadron
 Period: Circa 1945
 Significance: Painted as an F6F-5 Hellcat from Bomber-Fighter Squadron Seventeen (VBF-17) on the USS Hornet (CV-12).





Aircraft: HC-130H Hercules (73-0845)
 Stationed: CGAS Elizabeth City, North Carolina
 Aircraft Mission: Long Range Surveillance/SAR
 Period: Circa 1950s
 Significance: Honoring 50 years of service for the C-130 in the United States Coast Guard.





Andy Backowski

Aircraft:	F/A-18E Super Hornet (BuNo 165666)
Unit:	VFA-106 "Gladiators"
Stationed:	NAS Oceana, Virginia
Aircraft Mission:	Fleet Replacement Squadron
Period:	Circa 1967
Significance:	Painted as a VA-106 squadron Skyhawk during the Vietnam War on the USS Forrestal (CVA-59).



Andy Backowski



Kevin Helm

Aircraft: P-3C Orion (BuNo 161591)
 Unit: PATWING 11
 Stationed: NAS Jacksonville, Florida
 Aircraft Mission: Maritime patrol
 Period: Circa 1942
 Significance: Painted as the PBY-5A Catalina (44-P-5) "Strawberry 5" from VP-44 "Golden Pelicans", which located the Japanese Fleet prior to the Battle of Midway.
 Painted by: NAF Atsugi, Japan

Kevin Helm



Kevin Helm



Kevin Helm
Kevin Helm



Kevin Helm



Kevin Helm



Kevin Helm





Kevin Helm



Kevin Helm

The Marine Attack Squadron 214 "Black Sheep" honored one of their plane captains by painting his name onto the squadron commander's AV-8B Harrier, which was unveiled here May 13, 2010.

Cpl. Jonathan Prince, squadron power-line mechanic, now has a name on the jet along with squadron commanding officer Lt. Col. Robert Schroder, squadron sergeant major Sgt. Maj. Leonard Maldonado, and the iconic Black Sheep World War II ace Col. Gregory "Pappy" Boyington.

"Being that it's our flagship bird, any time we have a static display for air shows, that'll be the primary aircraft on display," said Capt. Charles George, Prince's officer in charge.

Plane captains' responsibilities are monumental, said George. From the time they step out onto the flight line until they salute the pilot taxiing off, they are in charge of the Harrier. The plane captains go over the Harrier to examine any discrepancies before flying. Their thoroughness can determine whether a pilot makes it back to the flight line.

During his deployment to Afghanistan, Prince, a native of Lexington, N.C., located an engine problem that nearly went undiscovered. The damage was such that the Harrier and its pilot may have been lost.

"In my mind, his actions saved the life of a pilot and an asset for the United States Marine Corps," said George.

Kevin Helm



165421 / WE-01 (cn 293) VMA-214 "Black sheep" on static display. Painted at Naval Aviation Depot, Cherry Point, North Carolina in March 2010 and displayed at the 2010 Yuma Airshow.

CONA In Photos

As we mark the conclusion of the Centennial of Naval Aviation, we take a look back at the 2011 celebrations with some of the best naval aviation photos taken by our Contributors throughout the year. Enjoy!



Sean Sydnor



Mark Hrutkay



Melanie D Lee

Alan Barbor



Chris Adolor



Sean Sydnor

Sean Sydnor





Andy Backowski



Jonathan Loveless



Ryan Sundheimer
Jeremy Hampton



Jerome Dawson



John Nyren

Andy Nixon



Charlie Lai



Matt Shinavar



Antonio More'



Alan Barbor

Eric A Rosen



Brandon Thetford



Chris Adolor



Ryan Sundheimer



Chris Parypa



Chris Adolor



Ryan Sundheimer



Matt Shinavar



Chris Adolor



Alan Barbor
Eric A Rosen



Chris Adolor
Eric A Rosen



Jerome Dawson

