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OA/ID Number: 13725
Folder ID Number: 13725-001

Folder Title:
George Washington Aircraft Carrier Christening 7/21/90 [OA 8314]

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Newport News Shipbuilding
A Tenneco Company

Lynda J. Whitley
Senior Coordinator
Public Relations

4101 Washington Avenue
Newport News, Virginia 23607
(804) 380-3558

NY Shipbuilding
Corp.
Camden, NJ
1943

- Doro
- Adm Frank Kelso - CNO
- Garrett
- John Betti - Undsec Def Acq
- Mrs. Bush
- Mr Campbell
- POTUS
- Cheney
- Warner
- Cong Herb Bateman - VA
- James Ketelsen, Chair, CEO Tenneco

380-3550

Phyllis Stevenson

Sec. Cheney

Ed J Campbell Pres+CEO
Rr. Adm. Alvin Koeneman
Navy Chief of Chaplains
Invocation

Campbell
Sen. Warner
Sec Navy - H. Lawrence Garrett III

Cheney
PRES
Campbell - BB + Doro

- Capt Wasson - Sup. Shipbldg
- Vice Adm Peter Hechman -
- Cdr. Naval C-Systems Command
- Cong Owen Pickett - 2d VA
- Vice Adm Dick Dunleavy - Dep Chf Naval Ops Air Warfare
- Adm Gerry Johnson - Vice CNO
- Adm Leon Edney ~~Sup Allied Cd~~ CINC-LANT
- Adm Bruce de Mars Dir Naval Nuc Propuls. Prog.
- Cong Norman Sisisky - VA
- Capt Robt Nutwell - PCO - GW
- Rr Adm Koeneman

Dear Mr. Davis:

Thank you for your kind note. I'm sorry you could not attend the christening of the GEORGE WASHINGTON. I was pleased, though, to recognize you and the members of your family who have given their working lives to building these great ships which have served so much to strengthen our country's defenses.

Best wishes.

Sincerely,

Mr. O. Edgar Davis
105 Woodhaven Drive
Yorktown, Virginia 23692

GB/JG/jt (7PRESF)

PRESIDENT TO SIGN

To the President
of the United States
Mr. George Bush

July 25, 199(

Dear Mr. President

At the launching ceremony of the airplane Carrie George Washington, which your beautiful wife Christer and daughter served as her matron of honor.

In your speach to the people and T. V. news, I'm grateful for you mentioning the 4 generations of my family past, and present, with Newport News shipyard. My father, myself, 4 brothers, my son, and 2 grandsons

I was sorry I was not present to see you in person. If I had been there you would have heard from me, also able to shake your hand.

I and my family have supported you during the 8 years

as Vice President and now as President

I want to comend you on your message about 10 days ago to the people and news media. I was most impressed by your answer you gave to one of the news media questions about your son. I know he will always remember your answer.

Sincerly

Edgar Davis

JULY 12, 1990

EDGAR DAVIS
RETIRED, AGE 80 (BORN SEPT. 1909)
4TH GENERATION SHIPYARD WORKER, NEWPORT NEWS

804 898-8056.

Father worked there, Edgar and 5 brothers, son and 2 grandsons. Assorted nephews.

YEAR BEGUN?
Sept 10, 1926 to September 30, 1974, 48 yrs. And 5 1/2 more as a consultant. Supervisor of all steel structure work.

FIRST CARRIER/SHIP YOU EVER WORKED ON?
the ice cutter Northland, for the Coast Guard. No portable lights -- went down into the hull with candles!
Worked on the Ranger -- 1934.
Worked on the Enterprise -- 1956.
Worked on Franklin -- Dec 7, 43 to Jan 31, 1944(?) -- keel to commissioning in 13 months!

DID YOU EVER SUSPECT THAT YOUR SON, GRANDSON, GREAT-GRANDSON WOULD WORK AT THE YARD AS YOU HAD?
"Didn't give it much thought, but I'm proud of it."

ON HOW IT FEELS TO SEE YOUR SHIP LAUNCHED:

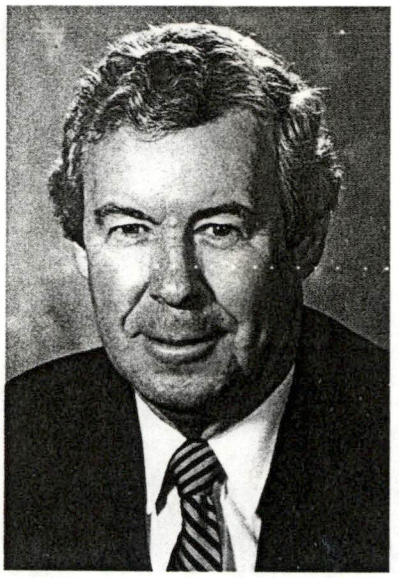
"Tremendous. Great pride. Takes so many good people working together."

"I'm going to attend if my wife's up to it, and the weather's good. You know, I've seen so many.... But I'll tell you, I'm just as enthused about it as you are."

ON SUPERVISING STEEL WORKERS:
"I was tough. Steel workers are a tough bunch -- so you've got to be."

WELCOME TO THE CHRISTENING/LAUNCHING OF *ABRAHAM LINCOLN* (CVN72)

The *Abraham Lincoln*, CVN72, the Navy's fifth *Nimitz*-class aircraft carrier, is being christened today in Dry Dock #12, the largest such dock in the Western Hemisphere. Two weeks ago, the sixth *Nimitz*-class carrier, CVN73, *George Washington*, was also being built in this same dock, just in front of *Lincoln*, a "first" in shipbuilding history. *George Washington* will be brought back into Dry Dock #12 next week to continue its construction. Welders, pipefitters and electricians have been busy constructing huge sections or modules that will be lowered into place in the dock to further form the *Washington* in a tightly choreographed effort called modular construction. It was also used extensively on *Lincoln*. Nearby is an 11-acre automated steel production facility and storage areas where steel in thousands of different shapes and sizes waits stoically to be part of *Washington*, and later on, CVN74 and CVN75. Thanks to the Navy and the U.S. Congress and you, the taxpayer, CVN74 and 75 will be built here starting in 1989.



Embodied in the scene I've described is the latest in shipbuilding technology and methodology, decisions in national security requirements, political and fiscal wisdom, hundreds of millions of dollars in private capital investment, and the talents of thousands of highly skilled Americans. It is truly a success story in defense procurement in which many people can find pride and satisfaction, including the fine crafts people of Newport News Shipbuilding.

Today, we reenact an age-old tradition of christening a ship. Today we give this massive steel structure a name. And, what a great name it is—*Abraham Lincoln*.

Newport News Shipbuilding is very proud to be the Navy's builder of aircraft carriers. We know that when we build these giant ships we are not just constructing another product; rather, we are manufacturing an important part of the defenses of this nation for the next 50 years, and, not insignificantly, a home, and, if need be, a fighting platform for her complement of 6,000 Navy personnel. We welcome that responsibility and the dedication to quality that comes with it.

E. J. Campbell

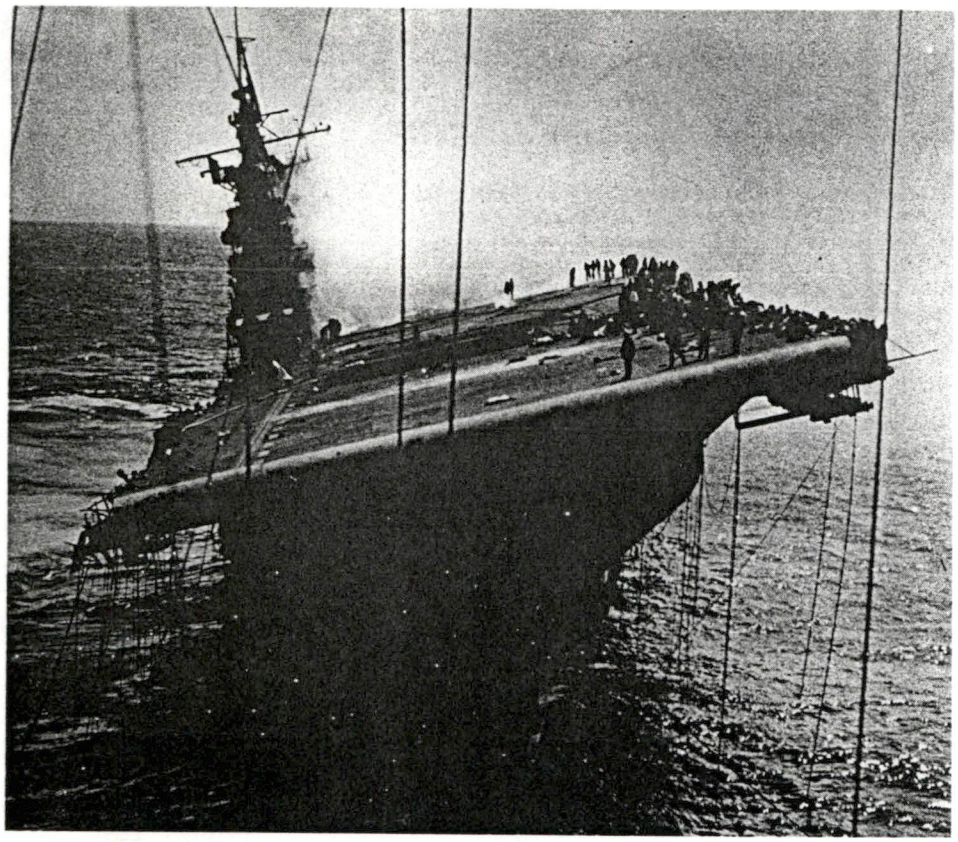
Edward J. Campbell
President and Chief Executive Officer

Peggy –

Excerpts from the book of the last carrier christened, ABRAHAM LINCOLN (2-13-88).

A history of aircraft carriers and an overview of modular construction is included. LW

BUILDING AMERICA'S CARRIERS



Although badly damaged during a Japanese attack, ***Franklin*** *was able to steam home under her own power.*

The year was 1910. It was a time of merriment, barnstormers and aerial daredevils. It was also an age of imagination and adventure, a time of wondering "What if...."

From the ingenuity of this exciting era came the birth of the modern aircraft carrier.

The evolution started in November 1910 when American pilot Eugene Ely took off from an 83-foot makeshift platform on the bow of the light cruiser *Birmingham* anchored in Hampton Roads. Ely's homemade biplane dipped suddenly after takeoff, its wheels barely touching a wave, and then suddenly it gained enough air speed to remain airborne.

Two short months later and on the other side of the continent, Ely made the first air-to-ship landing as his plane touched down on a 119-foot platform built on the deck of the cruiser *Pennsylvania* in San Francisco Bay. The ship's captain heralded the event as "the most important landing ...since the dove flew back to the ark."

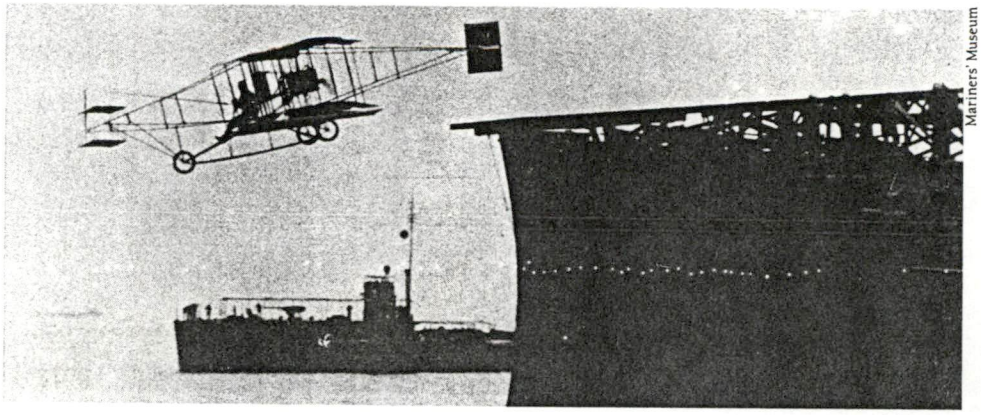
That was 77 years ago, and as aircraft have evolved and become more sophisticated, so have their airports at sea. In the forefront of the design and construction of the "flattops" has been Newport News Shipbuilding.

The Navy's first vessel commissioned as an aircraft carrier was *Langley* in 1922. It was an 11,000-ton experimental carrier, converted from the coal collier *Jupiter.*

In 1934 Newport News delivered *Ranger,* the country's first ship designed and built from the keel up as an aircraft carrier. The 769-foot ship displaced 15,750 tons, carried 80 airplanes and was "home" for 1,788 sailors. That same year the Shipyard laid the keels for the carriers *Yorktown* and *Enterprise.*

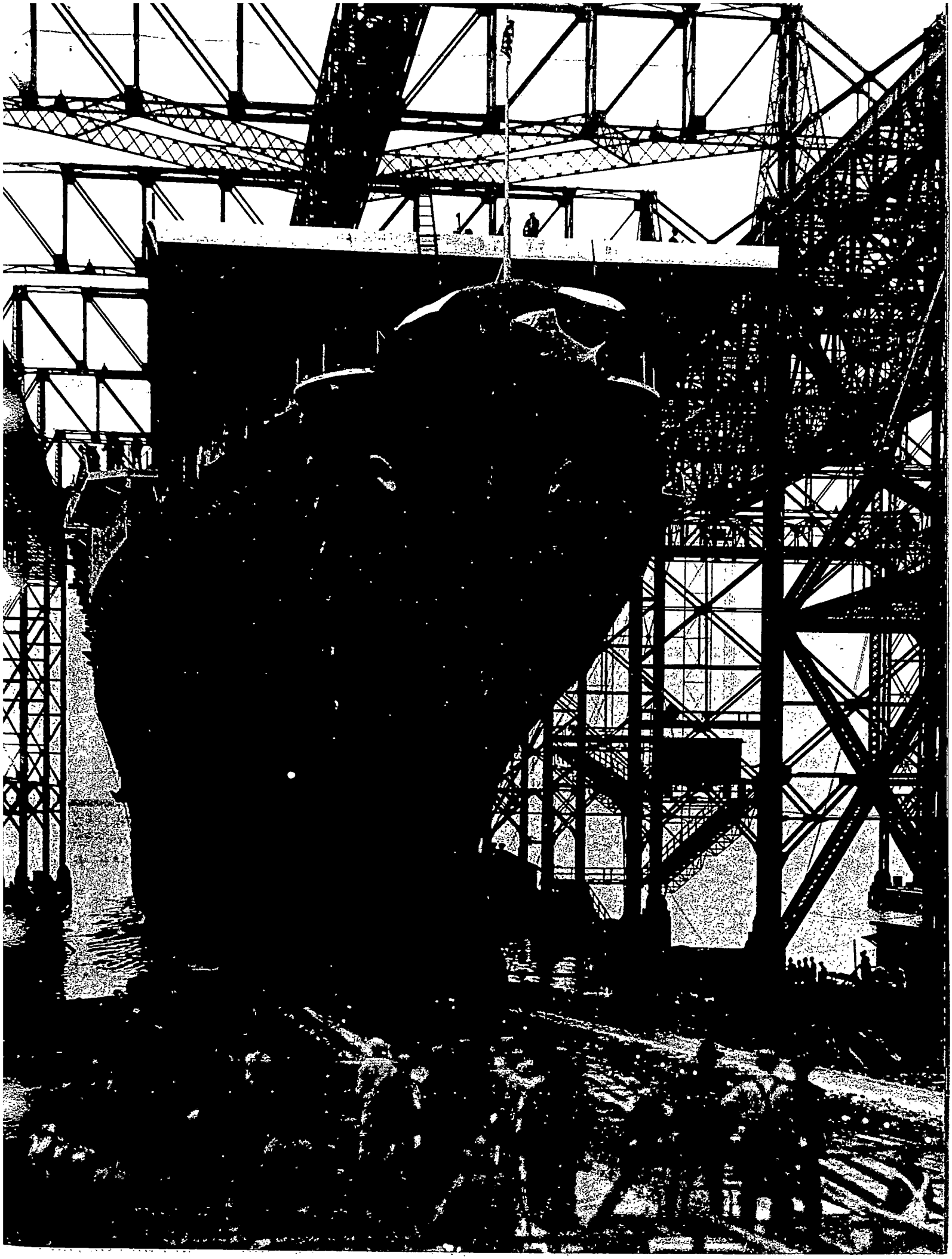
When the U.S. entered World War II, it had seven aircraft carriers in the fleet. Newport News Shipbuilding went immediately to work on the *Essex*-class carriers. Designed to be front line warships, these carriers were 876 feet long, had a speed of 33 knots, carried 110 aircraft and had one shipside and two center-line elevators. In an unprecedented show of patriotism on the home front, Newport News built eight *Essex*-class carriers in an average construction time of only 17¼ months each.

Ranger, *the first U.S. ship designed and built as an aircraft carrier, was launched at Newport News on Feb. 25, 1933.*



Mariners' Museum

Eugene Ely's flight from a platform on the light cruiser ***Birmingham*** *in 1910 launched the age of the aircraft carrier.*

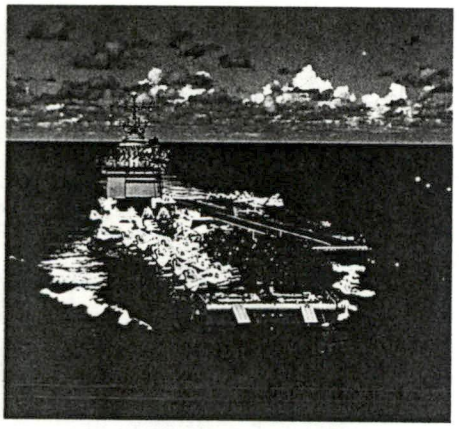


Also in support of the war effort, Newport News converted cargo vessels into escort carriers called "baby flattops."

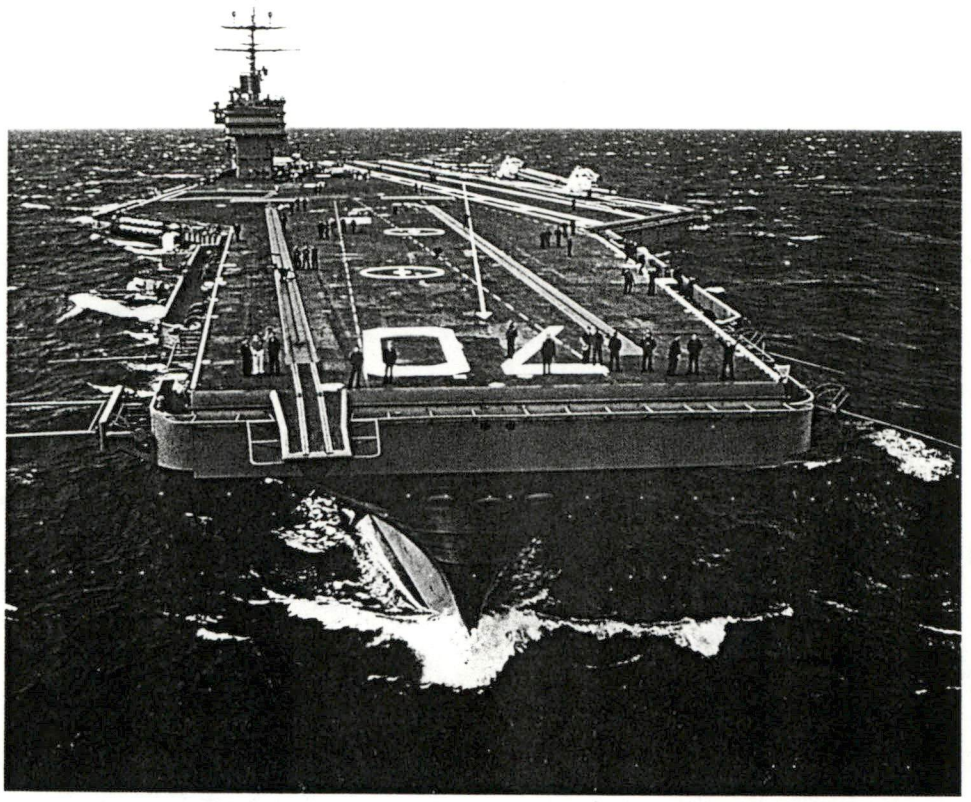
The Navy began the conversion of five light cruisers to light carriers in early 1942. Each was an 11,000-ton, 610-foot warship capable of 32 knots and carried 35 planes. *Independence* was the first to be completed, in 1943, and 17 *Essex*-class and nine *Independence*-class carriers were operational by the end of the war.

Carriers like *Yorktown, Enterprise, Essex, Intrepid, Randolph,* all Newport News-built ships, became legends during the war. There was also *Hornet,* used by Jimmy Doolittle to launch his B-25 attack against Tokyo. *Franklin* was the first large carrier to suffer extensive damage from a kamikaze attack. Wounded but not out, *Franklin* limped back to the United States under her own power.

The first of the U.S. carriers to have armored flight decks were those of the *Midway*-class, which were completed in 1945-47. Both the *Essex* and the *Midway*-classes were later modified for jet aircraft operation.



***Enterprise** was the world's first nuclear-powered aircraft carrier, and was delivered in 1961.*



*The mammoth **Nimitz**-class aircraft carriers, like **Carl Vinson** (above) and **Theodore Roosevelt** (right), are 1,092 feet long, have a 4.5-acre flight deck and have accommodations for more than 6,000 sailors.*

In 1955 the country's first supercarrier, *Forrestal,* was built by Newport News Shipbuilding. Designed specifically for jet aircraft, *Forrestal* was 1,039 feet long and featured a large starboard "island" design with four deck-edge elevators that reduced the interruption of flight and hangar deck activities associated with center-line elevators.

Enterprise, the world's first nuclear-powered aircraft carrier, was built by Newport News Shipbuilding and delivered in 1961. The ship is 1,102 feet long, displaces 85,350 tons and has eight nuclear reactors. During the Vietnam War, *Enterprise* was the first nuclear-powered ship to see combat.

In 1975 Newport News delivered *Nimitz,* one of the largest mobile structures ever built by man. *Nimitz*—and the ships in her class, *Dwight D. Eisenhower, Carl Vinson* and *Theodore Roosevelt*—are 1,092 feet long, displace 91,000 tons and carry about 80 planes and 6,000 sailors.

In addition to *Abraham Lincoln,* Newport News is currently building another *Nimitz*-class carrier, *George Washington.* The keel for *Washington* was laid on August 25, 1986, and she is scheduled for launch in 1990 and delivery in 1991.

For more than a half a century Newport News Shipbuilding has helped the U.S. Navy keep pace with ever changing technology and has built the best, most sophisticated aircraft carriers in the world.

MODULAR CONSTRUCTION

The construction of an aircraft carrier is a mammoth undertaking. It's a project that takes approximately 40 million manhours and nearly five years to complete.

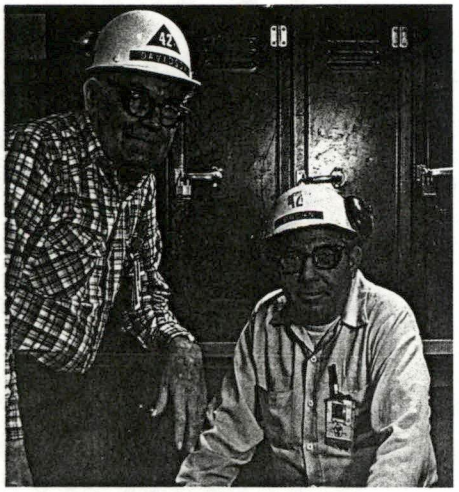
Newport News builds its carriers in a process called modular construction. By carefully designing and planning the fabrication phases, the Shipyard builds modules that resemble giant toy building blocks.

While the modules are on work platens, employees abrasive blast them and give them a coat of paint. They also take advantage of the easy access to the modules and install as much electrical equipment, machinery, ducts and piping as possible. That process is called pre-outfitting.

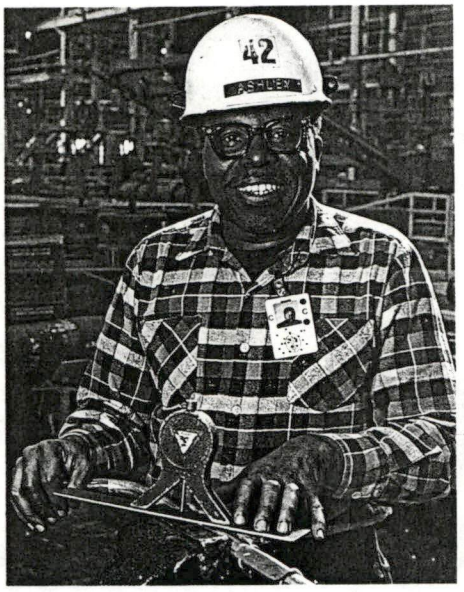
After the modules have been pre-outfitted, they are lifted by the 900-ton capacity gantry crane and placed into the dry dock to be attached to other modules to form the ship structure.

The larger modules are called superlifts, and *Abraham Lincoln* is comprised of some 150 superlifts weighing up to 870 tons each.

Modular construction has been one of the keys to Newport News' success in building aircraft carriers. The



A.R. Davidson (l), C.W. Brown, Pipe Department



Ravadean Ashley, Pipe Department

yard's previous aircraft carrier, *Theodore Roosevelt,* was delivered 16 months ahead of schedule, thanks in large part to modular construction.

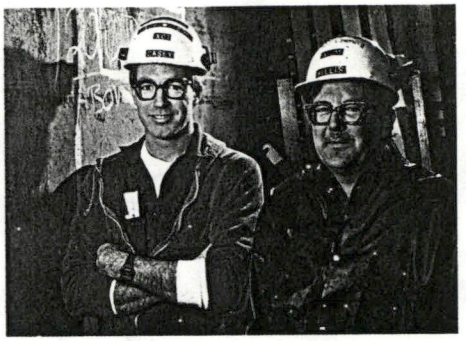
Throughout the construction of *Lincoln,* the Shipyard has concentrated on developing larger and more fully pre-outfitted modules. (Carriers before *Roosevelt* were not extensively pre-outfitted, and many of the components had to be installed in the ship *after* the hull had been put together in the dry dock.)

When *Lincoln's* island house (where the ship's bridge is located) was lifted into place last November, it was more than 50 percent complete. Extensive pre-outfitting—far more than on previous carriers—included installation of firemain and drain piping, major wireway trunks, ventilation coamings, foundations and ladders and a sound barrier.

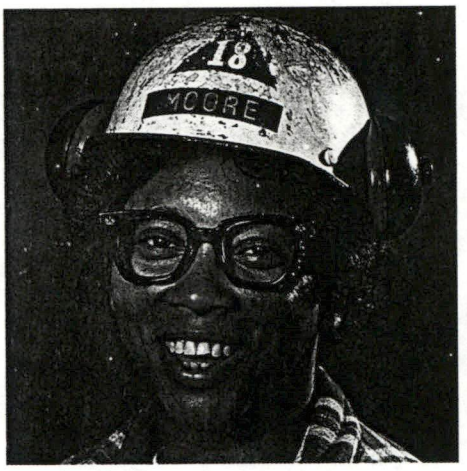
"We are constantly striving for bigger assemblies," says A.R. "Dave" Davidson, Non-nuclear Pipe Shop foreman. Davidson says as much pipe fabrication work as possible is done in the shops, even before their product goes into the modules on the assembly platen.

"We work to tight tolerances," says First Class Specialist C.W. Brown, a 38-year Shipyard veteran. "By working on the pipe in the shops, we can see all the way around the joints, making it easier for welding, inspection and X-ray."

In another pipe shop, Pipe Fabricator Ravadean Ashley says, "I try to make piping as complete as possible



Steve Casey (l), Curtis Willis, Construction Project



Cynthia Moore, Welders

right here in the shop area before it goes to the ship."

The attention to intensified pre-outfitting on *Lincoln* is easily noted on the ship.

"I've seen greater prefabrication, more so than on *Roosevelt,*" says

Pre-outfitted superlift modules like this 580-ton lower side shell unit are lifted from the work platen and placed in the dry dock to form the ship. (Inset) ***Lincoln's*** *840-ton keel was laid on Nov. 3, 1984.*

David Baker, a shipfitter who helps piece the ship together in the dry dock.

"There's a big difference between *Roosevelt* and *Lincoln,"* says Operations Supervisor Steve Casey. "The units are a whole lot more complete when they come off the final assembly platen."

Casey and Curtis Willis, also an operations supervisor, help coordinate the activities of the various craft trades aboard the ship. They've both noticed a difference in the way *Lincoln* is being assembled.

"With each carrier, we get smarter, and we can work the ship faster," notes Willis.

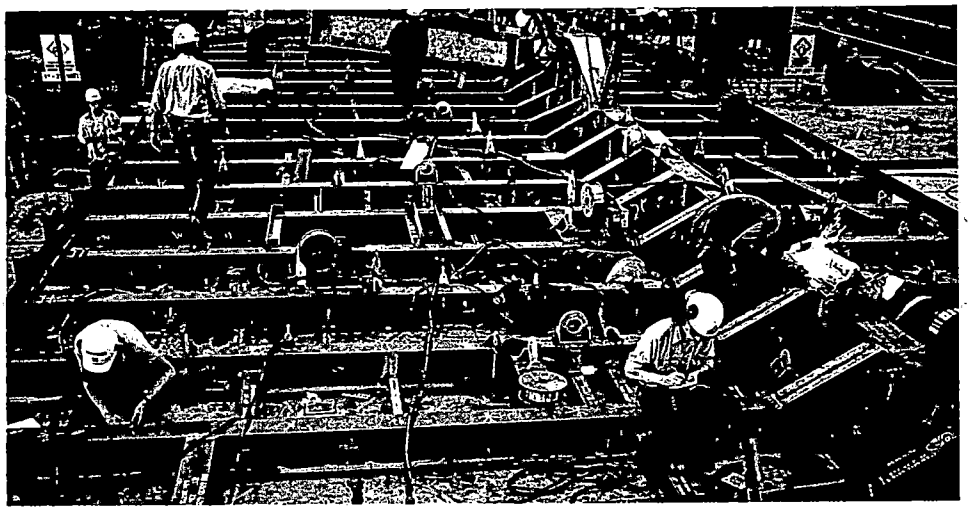
Newport News has capitalized on its lessons learned during the construction of *Roosevelt* and has taken advantage of working on two carriers back-to-back for an even, uninterrupted flow of technology and personnel from one ship to the next.

"This ship is going together a whole lot easier," says Welding Foreman Cynthia Moore. "We're getting even better as we go along."

"It's a big help when the machinery is basically the same," says Willie Pearson of Machinery Installation. His job is to bolt down machinery on the ship, get it running and test it.

Electrician Danny Osborne has been working on carriers for most of his 20 years in the yard, and it's easy for him to see the advantage of moving from one carrier to the next.

"It's an advantage to know how it was on *Roosevelt* and to be able to perform the same work on this ship," he says. "I know exactly where to go and what to do. I don't have to go back and reinvent the wheel."



Welders in a fabrication shop weld a deck assembly. The unit is upside down so employees can work downward, instead of having to weld on an overhead structure.

Allen Worrell, Foundry

Elaine Powell, an electrician who helped install lights below deck in the forward end of the ship, agrees.

"If you worked a job on *TR,* you can go right to the job on this ship," she says. "There are very few major changes. And if there are any changes, you know about them in advance."

Investment in new equipment and technologies has helped Newport News build its carriers better and faster. Since 1978 more than three-quarters of a billion dollars has been spent on capital investments in the Shipyard.

"If you don't have the equipment, you can't do the job," asserts Foreman Keith Elvington, who has been in Steel Fabrication for 37 years and has seen an evolution of burning machines.

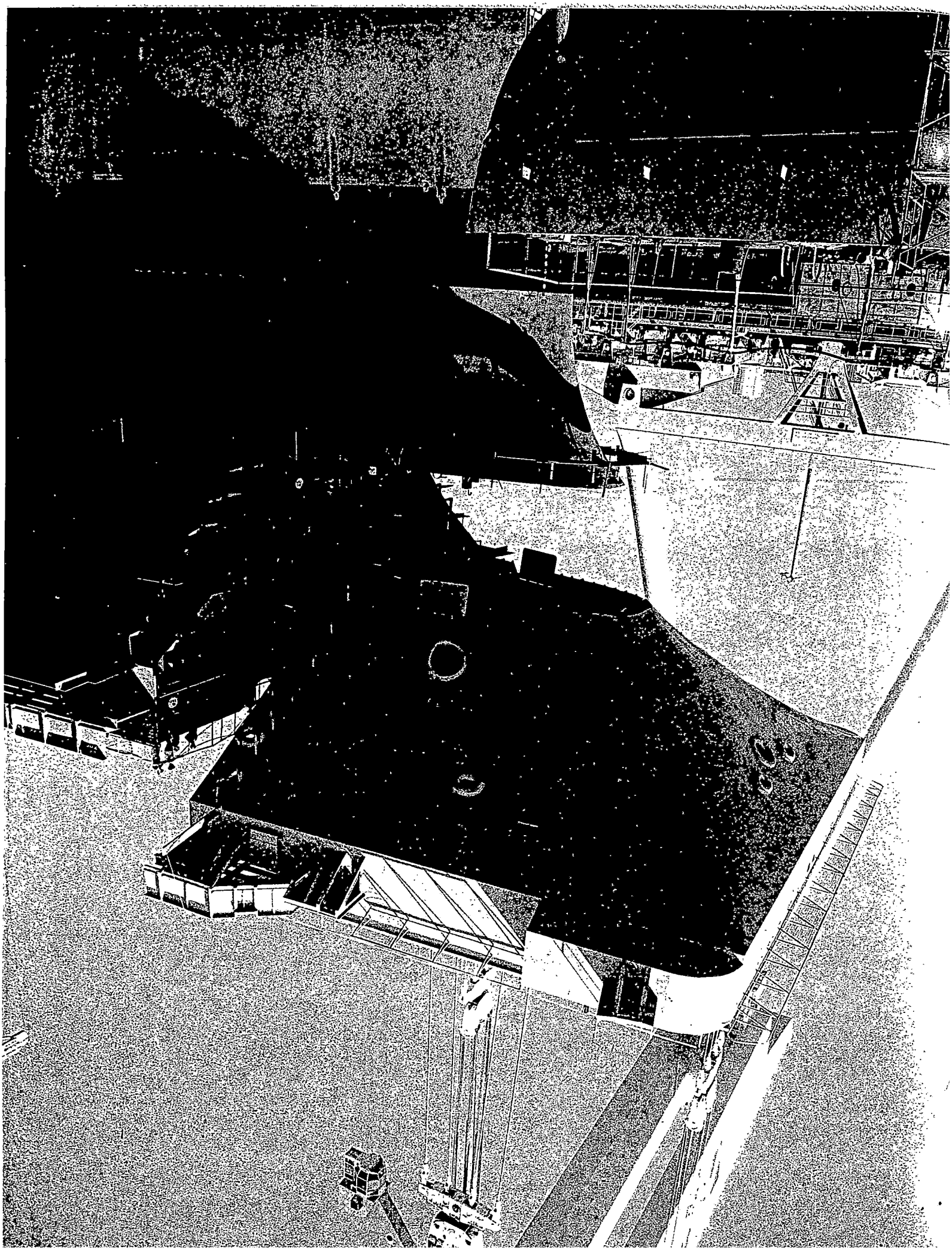
"Our NC (numerical control) burning machines can cut to closer tolerances," he says. Elvington likes to brag about how his NC plasma arc cutting machines have increased productivity by being able to cut steel plate up to five-eighths of an inch thick more accurately and at higher speeds than before.

Computers are also a valuable tool. Purchasing is using a new IBM system to help place the 10,000 purchase orders required to support construction of *Lincoln.* "The system's

Elaine Powell, Electricians

Bob Armstrong, Hull Design

The upper bow unit of **Lincoln** *was one of the most dramatic superlifts, because it completed the overall profile of the hull.*



Paul Linton, Safety

advantages are threefold," says Supervisor Scott Stabler. "In addition to simplifying order processing, the system provides immediate access to historical vendor and pricing information previously found only in files. The system also maintains on-line status of the order from receipt of the requisition to placement to delivery and acceptance of material."

Controllers Catherine Buchanan and Kenny Taylor of Production Control-Machine Shops use computers to identify and monitor work and potential problem areas as work flows through the Machine Shop complex.

Design Supervisor Bob Armstrong and his 18 employees use computers to design the structural areas of the ship, like the rudder system, all machinery foundations, antennae platforms and aircraft elevator platforms. Armstrong's group also prepared the installation drawings for *Lincoln's* energy-efficient aircraft catapult system.

While sophisticated equipment and computers certainly have their impact on how aircraft carriers are built, almost every Newport News Shipbuilding employee contributes to *Lincoln's* construction.

Take Allen Worrell, for example. Worrell, a molder in the Shipyard's Foundry, says there's three million pounds of foundry metal in a carrier.

"This is what I do, and this is what I like," Worrell says with a warm smile. "Making something for *Lincoln* is an accomplishment. It's something to tell your grandkids about."

Paul Linton of Safety walks the carrier from bow to stern, from inner bottom to flight deck.

"I believe people have the right to work in an environment as free of hazards as possible," says Linton, who has monitored *Lincoln* for the past two years, watching for potential unsafe work conditions or actions. "There's a real team approach to safety throughout this ship," he says proudly.

Like Linton, Willie Green and other Security guards walk *Lincoln* from top to bottom. "Fire equipment on a carrier comes first," says Green. "You've got to have something to fight a fire with. If you don't do your job, you could lose the ship."

About a half a mile south of *Lincoln,* Vernon Johnson, a first class specialist in Sheet Metal, points to an aluminum box on a pallet in his shop and says it will eventually house the electrical controls for the ship's flight deck.

"We work to close tolerances in this shop, because the ship's electrical components must slide perfectly in and out of the consoles we build."

Willie Green, Security

Vernon Johnson, Sheet Metal

Even further away from *Lincoln* is J.A. "Butch" Bohannon, superintendent in Receiving and Inspection.

"Our role is important because if we accept a component that doesn't meet the specifications, and the item is installed on the ship, the ship's construction could be delayed or the ship's mission could be jeopardized."

Bohannon says his staff receives and inspects everything from small fasteners to huge reduction gears and propellers.

Howard Hunt's work on *Lincoln* is probably one of the most visible. His

Howard Hunt, Painters

work, and the work of the other employees in Painters, is "the first thing people look at when they see the ship," says Hunter. "It's satisfying because you can stand back and look at the work you've done."

Abraham Lincoln is a blend of the crafts of thousands of Shipyard employees, matched with the most modern tools and technology, to make this aircraft carrier one of the best ships Newport News has built for the Navy.

D 740
.A5
WH

THE HISTORICAL ENCYCLOPEDIA OF WORLD WAR II

Edited by
Marcel Baudot
Henri Bernard
Hendrik Brugmans
Michael R. D. Foot
Hans-Adolf Jacobsen

Translated from the French by
Jesse Dilson

With additional material by
Alvin D. Coox
Thomas R. H. Havens

Facts On File, Inc.
119 West 57th Street, New York, N.Y. 10019

Blankinsop. All the participants in the action were captured in SS raids on August 1 and 11, 1944. In retaliation the Germans killed 68 people—one-sixteenth of the village's population—and the flier as well.

MENDES-FRANCE, Pierre (1907-).
A French lawyer, Mendes-France was a deputy from Louviers in 1932, undersecretary of the treasury and the inventor of a bold plan for budgetary reform in 1938. In 1940 he was imprisoned while attempting to flee by ship to North Africa, where he intended to continue his fight against the Nazis. He escaped and then volunteered as a pilot for **Free France**. In November 1943 he became commissioner of finances for the Algiers French Committee and in September 1944 minister of the national economy in the de Gaulle government. He resigned on April 5, 1945 because of the failure of the head of the state to adopt his plan for a special tax on capital that was designed to confiscate illicit profits.

MENZIES, Sir Stewart (1890-1968).
A British cavalry officer, Menzies fought in France in 1914-18. On Adm. Hugh Sinclair's death in November 1939, he succeeded as chief of **MI-6.**

MERS EL-KEBIR.
Naval base on the Gulf of Oran where the Royal Navy on July 3, 1940 sank the French fleet anchored there (see **Atlantic, Battle of the; Mediterranean and Middle Eastern Theater of Operations**).

MESSE, Giovanni (1883-1968).
An Italian general, Messe participated in Italy's invasions of **Ethiopia** (1935-36) and **Albania** (1939). In 1941 he commanded the Italian expeditionary force on the Russian front. At the beginning of 1943 he was made commander in chief of the Italian First Army in Tunisia, but the **Axis** situation there was hopeless. In May 1943 he surrendered his forces and himself to the Allies.

MESSERSCHMITT, Willy (1898-1978).
German engineer and founder and director of the Augsburg aircraft manufacturing plant of the Messerschmitt Werke, AG. A designer of many planes, he was also head of the war economy.

METAXAS, Ioannis (1871-1941).
From 1913 to 1917 Metaxas, a Greek general, was army chief of staff. He was then exiled on two occasions (1917-21 and 1923-25). In April 1936 he became prime minister of Greece and on August 4 seized dictatorial power, wielding it until he died on January 29, 1941. Under his severe but well-intentioned despotism, Greeks united to fight **Italy** beginning in October 1940.

MI.
See **Military Intelligence.**

MI-5.
Counterespionage section of British military information (see **Intelligence Service**).

MI-6.
Espionage service of the British military (see **Intelligence Service**).

MI-9.
British service responsible for repatriation of fliers parachuting into enemy territory and escaped prisoners.

MICHELET, Edmond (1899-1970).
A veteran of World War I and a militant Christian Democrat in 1932, he represented the *Liberte* and *Combat* **Resistance** movements from 1941 to 1943. He was arrested in February 1943 and deported to Dachau in July. In 1945 he became minister of the armies. An enthusiastic follower of de Gaulle, he wrote an excellent book on the Nazi practice of deportation, *Rue de la Liberte.*

MIDDLE EAST.
See **Mediterranean and Middle Eastern Theater of Operations.**

MIDWAY.
Following the attack on **Pearl Harbor**, the Japanese armed forces stretched like a gigantic octopus in every direction and won easy successes against feeble opposing forces. After March 1942, however, the first signs of Allied resurgence appeared. The dikes that finally halted the Japanese flood were the frontier between **Burma** and **India** on one side and the **Australia-New Zealand** bloc on the other. Up until then the Japanese had conquered only populations indifferent to the struggle and even welcoming their intrusion—as in Java. The **Philippines** and Burma were two exceptions; guerrilla warfare against the occupier continued there. Gen. **Harold Alexander** stopped the enemy at the foot of the Manipur hills. Australia and New Zealand, the cradle of hardy fighters, were eager to stave off the Japanese hand reaching for their throats.

The Japanese were in control of all the Philippines except for the Bataan peninsula and the island of Corregidor off Luzon, where Gen. **Douglas MacArthur's** forces hung on desperately. On February 23, 1942

Roosevelt ordered MacArthur to take supreme command of the Allied forces in the Southwest Pacific, in accordance with a decision the president had reached with **Churchill**. On March 12 he turned the defense of Bataan over to Gen. Jonathan N. Wainwright and left for Australia. Bataan continued to resist the numerically superior enemy until April 8, and Corregidor held out until May 6, both serving as breakwaters against the Japanese tide.

On March 10 the Allies achieved an important victory when a fleet of bombers escorted by fighters destroyed several Japanese warships and transports assembling at Lae and Salamaua on the northeast coast of **New Guinea**. The purpose of the naval grouping was to supply the contemplated attack on Port Moresby, on the island's southeastern coast. The effect of this feat was to delay the Japanese assault on the city by two months. And, on April 19, 16 B-25 bombers under the command of Lt. Col. **James H. Doolittle**, taking off from the flight deck of the aircraft carrier *Hornet*, 668 miles from Tokyo, dropped their explosives on the Japanese capital—to the surprise of the home island defense command, which considered itself outside of striking range. Reinforcements of American troops arrived in Australia some time afterward, while two Australian divisions in the Middle East came back home.

The Battle of the **Coral Sea**, one of the epic struggles in the Allied march to Japan, took place May 4-8. American planes from the carriers *Yorktown* and *Lexington* converged on a large Japanese fleet. These vessels had rounded the eastern cape of New Guinea and were entering the Coral Sea with the intention of depositing troops to occupy Port Moresby, thus posing a serious threat to Australia. The battle was a confused affair, with heavy losses on both sides. A bad blow to the Allied cause was the sinking of the *Lexington*, but the remnants of the Japanese fleet were forced to withdraw and Australia was saved. The Battle of the Coral Sea was the first in naval history in which aircraft carriers played a major role; neither fleet was within sight of the other.

In possession of the northern coast of New Guinea, the Japanese attempted by a series of land and sea maneuvers to take Port Moresby. But their movements on sea were severely restricted and finally stopped by Australian and American forces. Port Moresby remained forever out of reach. The Japanese did, however, capture **Guadalcanal** in July, thereby acquiring for themselves a valuable natural aircraft carrier for their operations in the direction of the Hebrides Islands and New Caledonia.

Impressed by the American strength displayed in the Battle of the Coral Sea and in the earlier attack on their home islands by Doolittle, the Japanese kept only a secondary naval force in the South Pacific and concentrated their major strength in the direction of the Midway Islands, an archipelago in the Hawaiian group. Possession of one of these atolls would give them a base a little more than a thousand miles from Pearl Harbor and Hawaii itself. And with this American outpost in Japanese hands, all of the Central Pacific would be in the emperor's pocket.

The Japanese admiralty subdivided the fleet into five groups:

—The advance group, consisting of four forces with a total of 16 submarines.

—The shock group, with four large aircraft carriers and 261 planes, two battleships, two heavy cruisers, one light cruiser, 12 destroyers and five oilers.

—The occupation group, with a covering force and a close-support force, totaling two battleships, eight heavy cruisers, one light cruiser, one aircraft carrier with 24 planes, 11 destroyers and two hydroplane carriers with 32 aircraft. (Also in this group were a transport force of 12 troop ships containing 5,000 soldiers, one light cruiser, 10 destroyers and one oiler; a third force consisting of minesweepers; and a fourth force, a maintenance flotilla with four oilers and a floating machine shop for naval repairs.)

—The main group of three battleships, one light cruiser, one light aircraft carrier with eight planes, nine destroyers, two oilers and two hydroplane carriers.

—The **Aleutian Islands** diversionary group, with two aircraft carriers holding 101 planes, four battleships, three heavy cruisers, five light cruisers, 24 destroyers, six submarines, some minelayers and minesweepers and three troop transports carrying 2,250 soldiers.

The Aleutian diversionary group bombed Dutch Harbor on Unalaska Island. The shock group preceded the main group by two days. These two groups headed in the direction of the Aleutians and did not veer toward Midway until just before the attack was launched on June 5. Two hundred miles from the island fortress, aircraft took off from the shock group's aircraft carriers, bombed the island's defenses and attempted to destroy the American planes there. The troop transports and minesweepers of the occupation group left from **Saipan** and Eniwetok with their close-support force, while the covering force left from **Japan**. The distinctive feature of Adm. **Isoruku Yamamoto**'s plan was the dispersion of his strength. He spread a large array of submarines in an arc east and northeast of Midway to ward off enemy interference with his operation against the island and with the diversionary detachment to the Aleutians. There was no question of the effectiveness of the Aleutian

attack, for the Japanese managed to take Attu and Kiska, two of the islands in the Alaskan chain. But it represented a waste of naval and air power.

The selection of Adm. **Chester Nimitz** as commander in chief of the naval forces in the Pacific was an especially smart one. The job he assumed, that of commanding a fleet whose ships were either in repair or under constructiona after Pearl Harbor, was hardly enviable. But he showed by the scope of his **strategy**, the accuracy of his intuition, the swift execution of his decisions and the effective combination of his tactical and technical perceptions that he was one of the great figures of the war. Nimitz was, furthermore, ably seconded by his team of Raymond A. Spruance, **William F. Halsey**, Marc A. Mitscher, Frank J. Fletcher, Willis A. (''Ching'') Lee, Jr. and Thomas C. Kinkaid, who carried air-naval strategy to heights that would have been unattainable before 1941.

He was also aided by the fact that Americans had broken the Japanese code. Intercepted by American antennae, the messages transmitted within the enemy fleet were deciphered to inform Nimitz in the middle of May that Midway and the Aleutians were to be targets of attacks. Unable to match the power available to the enemy, he assigned only a small fleet to defend Australia and an even weaker one, well over 4,000 miles away, to guard the Aleutians. He secretly concentrated three aircraft carriers with 233 planes, seven heavy cruisers, one light cruiser, 17 destroyers and 19 submarines in the Central Pacific. Also, he added reinforcements to the air defense on Midway until it included 121 aircraft, among them 19 Flying Fortresses, the redoubtable B-17s.

Beginning in the last few days of May, the air patrols taking off from the island surveyed a patch of the sea with a radius of about 800 miles while American submarines kept watch on the west and north. The task force ''Sugar'' included the aircraft carriers *Enterprise* and *Hornet*, six cruisers and 11 destroyers under the command of Adm. Spruance. It lay off the northern coast of Midway, ready either to defend the island or to speed to the Aleutians in the event of a large-scale attack on the latter. The aircraft carrier *Yorktown* was being refitted at Pearl Harbor; extra crews were working to prepare her for service by May 30 as the nucleus of Adm. Fletcher's ''Fox'' task force. Also included in Fox were two cruisers and six destroyers. His ships finally ready, Fletcher joined Spruance off Midway.

On June 3 just before 9:00 a.m., a **reconnaissance** plane from Midway sighted the Japanese occupation group steaming 700 miles southwest of the island.

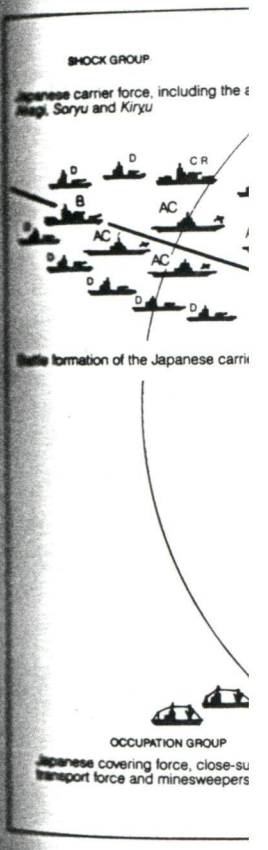
The commander of the air unit based on Midway dispatched nine B-17s to intercept the occupation group. Starting at 4:24 p.m., 570 miles out to sea, they attacked the Japanese three times. The bombers were followed by a wave of four Catalina hydroplanes, each armed with one torpedo. The losses to the Japanese were negligible; the American commander was holding the bulk of his striking force for the main enemy fleet with its big carriers.

On the same day at 6:00 p.m., Fox and Sugar were 300 miles east-northeast of Midway. Receiving his signal to make contact with the enemy, Fletcher guessed that the ships he was to engage consisted only of troop transports and their escorts. Nimitz's intelligence officers advised him that the carriers approaching the island from the northwest intended to attack it on the morning of June 4. As for the Aleutian attack, Fletcher considered it no more than a feint or a secondary operation. At 7:15 p.m. on June 3, Fox and Sugar steamed southwest to take up their positions 200 miles north of the island at dawn on June 4, from which their planes were to attack the Japanese carriers once their positions were found.

At 5:34 a.m. on June 4, an American reconnaissance plane sighted the enemy carriers 180 miles northwest of Midway. At 6:07 Fletcher, in command of both task forces, ordered Spruance to lead Sugar southwest to attack the Japanese carriers the moment their position was definitely ascertained. Fox followed in Sugar's wake. It was Fletcher's brilliant assessment of the situation that set up the Midway victory.

Almost immediately after the Japanese aircraft carriers were sighted, 72 Japanese bombers escorted by 36 Zeros pounced on the island. The B-17s and the 10 torpedo-carrying hydroplanes took to the air to intercept the aircraft carriers. And at the same time, from the island of Midway itself, 27 American fighters rose to meet the oncoming enemy aircraft. It was perhaps the most unequal battle in the whole of World War II. In their briefing the American fighter pilots had been told that their mission was one of self-sacrifice on which the fate of the Central Pacific and perhaps the entire war depended. They fulfilled this sacrifice to the bitter end—27 of them against 108 of the enemy. With the help of the island's antiaircraft guns, they destroyed 43 Japanese planes, but only 12 returned to the island base. All the installations on Midway were destroyed except for the air base and its landing strips. The bombers and torpedo planes based on the island attacked the Japanese fleet but suffered heavy losses from the Zeros and the ships' antiaircraft gunnery. At 6:50 a.m. the first phase of the battle ended.

In the meantime, 200 miles to the northeast, the second phase was beginning. Completely surprising the Japanese, the two task forces, Fox and Sugar, bore down on them at full speed. The Japanese had had no idea of their existence.



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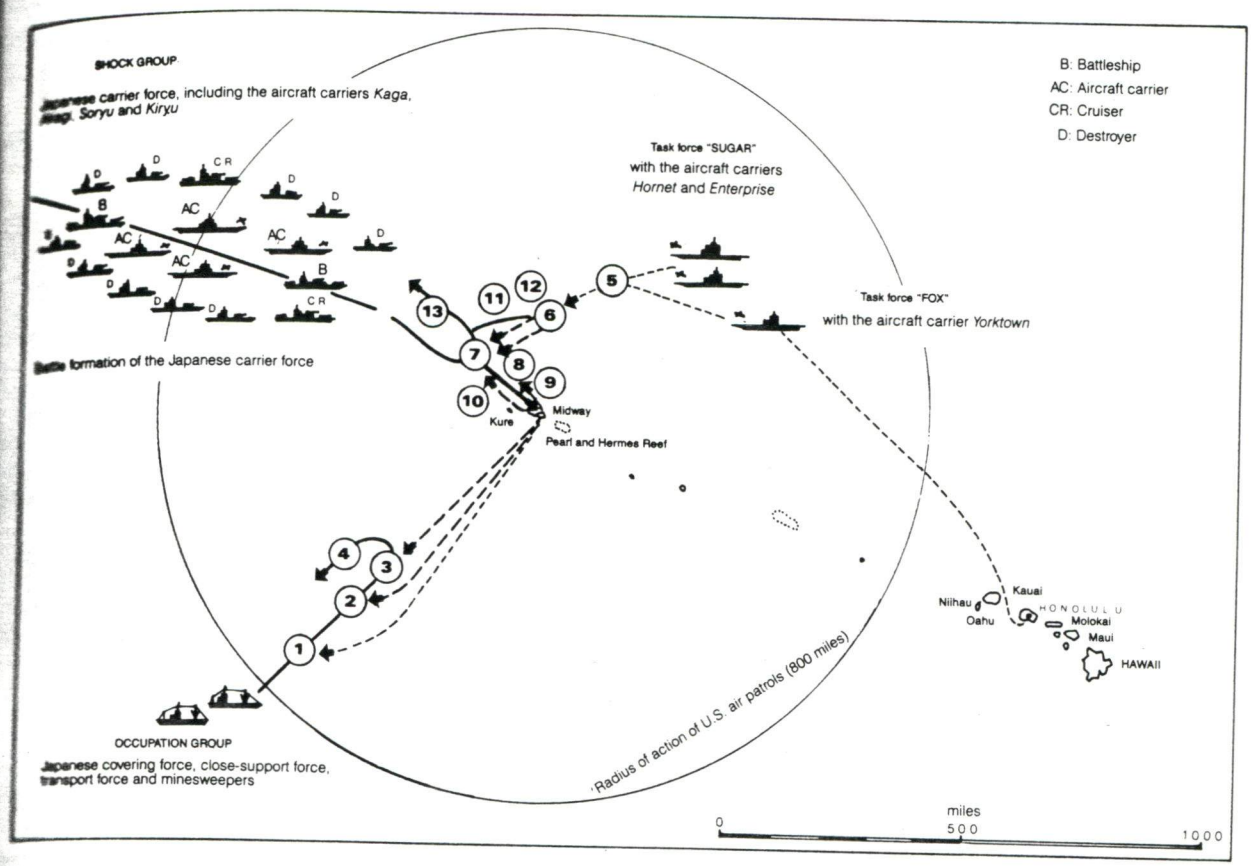


1. Aircraft from Midway sighted the occupation group just before 9:00 a.m. on June 3, 1942.
2. Nine B-17s from Midway attacked the group at 4:24 p.m. on June 3.
3. On the evening of the same day four torpedo planes from Midway attacked the group again.
4. The group withdrew that evening.
5. Positions of "Sugar" and "Fox" at 6:00 p.m. on June 3 (300 miles north-northeast of Midway).
6. Positions of "Sugar" and "Fox" at dawn on June 4 (200 miles north of Midway).
7. Japanese shock group sighted at 5:34 a.m. on June 4 (180 miles northwest of Midway).
8. Seventy-two Japanese bombers and 30 fighters attacked Midway before 6:00 a.m. on June 4.
9. Twenty-seven fighters from Midway intercepted the Japanese aircraft.
10. B-17s and torpedo planes from Midway hit the Japanese aircraft carriers.
11. Aircraft from "Sugar" and "Fox" hit the Japanese aircraft carriers at 8:06 a.m. on June 4.
12. Planes from the *Hiryu* attacked "Sugar" and "Fox."
13. The Japanese shock group withdrew on the evening of June 4.

The first planes, which took off from the *Hornet*'s deck at 8:06 a.m. could not locate the enemy until 9:25. They attacked in a rather scattered fashion and suffered severe casualties. Three squadrons of torpedo planes drove at the Japanese aircraft carriers and were almost entirely wiped out. Of 41 American planes involved in the combat, 35 were shot down. But they accomplished the important feat of throwing the enemy shock group into confusion. The American attacks intensified at about 10:15, with wave after wave of aircraft aiming their explosives at the Japanese ships. This operation represented a new tactic—mass strikes by dive bombers against enemy surface vessels, assisted by planes launching torpedoes. Unwittingly, Adm. Yamamoto lent some assistance of his own to the Americans by placing his aircraft carriers in com-

pact formation. His purpose was to increase the concentration of his antiaircraft fire power and his carriers' defending planes. But although he took the precaution of surrounding the carriers with other warships, they were still vulnerable from the air. Of the four aircraft carriers in the shock group, three were sunk. The sole survivor, the *Hiryu*, loosed all its fliers against the American task forces. But in this instance Fletcher and Spruance proved wiser than their opponents, for their forces were six miles apart; they were close enough to benefit from the support lent by the other's air power without being perilously concentrated. Despite these precautions, however, the carrier *Yorktown* was hopelessly damaged. By way of compensation, however, the only remaining Japanese carrier, the *Hiryu*, had been so badly crippled by the *Enterprise*'s aircraft that it was deliberately scuttled by its officers. Adm. Yamamoto then issued the order to retreat in an effort to husband his resources.

Bad weather on the next day, June 5, gave the shock group a respite. But its agony resumed on the following day with the return of good flight conditions. A Japanese cruiser went to the bottom while two others were damaged. However, the main Japanese force, commanded by Yamamoto himself, remained aloof from the melee. Although his advantage in firepower was overwhelming, he ordered his fleet to retire without having challenged the enemy. His reason? Simply that Fletcher and Spruance had between them destroyed his air power while preserving theirs.

In this battle the Americans kept rigidly to the principle of economy of power. Quite to the contrary the Japanese command had dispersed its forces strategically and concentrated them tactically, thus contributing to its own downfall. Japan's naval might was exhausting itself with the loss of four heavy aircraft carriers, two cruisers, three destroyers and numerous small boats—and what was even worse, the loss of the battle-seasoned crews in the four carriers. The American fleet had lost one carrier, one destroyer and 150 planes.

The Battle of Midway was one of those rare conflicts in history won by the side inferior in number but superior in tactical wisdom and flexibility.

The naval equilibrium between the two great opponents in the Pacific was slowly reestablishing itself, although the Japanese fleet still had six heavy aircraft carriers against the American four. Adm. Yamamoto had lost the opportunity at Midway to tilt this balance even further in the direction of Japan. He was never again to have it. Moreover, the continuing drop in Japanese naval strength was reflected in increasing losses of transports and merchant vessels to Allied submarines and aircraft. Unlike seven months before, when they had been short compared to the Allied lines of communications, the Japanese arteries became much longer and more tenuous as a result of this battle. Furthermore, the shipyards in the home islands were incapable of compensating for the casualties sustained by the Japanese supply ships.

In Europe the Allies had experienced three years of setbacks before snatching from the Axis bloc and its satellites the decisive victories of El Alamein and Stalingrad to reverse the current. But all the Americans needed to reverse the war in the Pacific was six months. Apparently, Roosevelt and Churchill's judgment at the Arcadia Conference of December 22, 1941 (see Conferences, Allied; World War II—General Conduct) was vindicated—the enemy to be feared was Germany. Japan, its initial victories notwithstanding, was little more than a muscle-bound dwarf.

H. Bernard

MIHAILOVICH, Dragolyub (Draza) (1893-1946). A royaltist army officer and Serbian nationalist, Mihailovich organized a resistance group known as the Chetniks after Germany invaded Yugoslavia in 1941. Almost from the start his group clashed with Tito's partisans, and through an understanding with the Nazi occupation forces, his army drove the partisans out of Serbia. Although initially backed by the British and the Yugoslav government-in-exile, the British warned him in 1943 against cooperating with the Nazis and a year later threw all their support to Tito, who eventually gained control of the country. Mihailovich was captured by the Communists and executed in 1946.

MILITARY INTELLIGENCE.

British agency for gathering military information (see Intelligence Service).

MILITARY ORGANIZATION AND FIREPOWER.

Land Forces

The fundamental unit of the land forces of most countries was the division.

Infantry divisions

With a typical strength of 16,000 to 18,000 men, infantry divisions usually included a general headquarters, a reconnaissance unit, three regiments ("brigades," in the British army) of infantry, each regiment containing three battalions of about 800 men. The battalion was further subdivided into three or four companies, depending on the country, and a heavy artillery unit armed with mortars, heavy machine guns, motorized artillery and the like. Also

Hubert Pierlot after Belgium was liberated. It demanded that the ministers publicly recognize their guilt. On June 7, 1944 the king was deported to the Reich; on May 7, 1945 he was freed at Strobl by American troops. When he undertook once more to exercise his preogatives of state, he ran into the opposition of the Socialist, Liberal, Communist and Udebist parties. Leopold then retired to **Switzerland**. On March 12, 1950 a popular referendum showed 57.7 percent to be in favor of the king's return, but with a regional imbalance of 72 percent in Flanders, 48 percent in Brussels and 42 percent among the Walloons. The king returned on July 22, 1950. To appease the disturbances his reappearance aroused, he endowed Prince Baudouin with his powers, finally giving up everything except his title on July 16, 1951.

LEY, Robert (1890-1945).

In 1933 Ley, an early Nazi leader, suppressed the labor unions and replaced them with the *Deutsche Arbeitsfront* ("German Labor Front"), which included practically all of **Germany**'s manpower. He also founded the *Kraft durch Freude* ("Strength Through Joy") organization. During the war he organized the recruitment of laborers from territories occupied by the Reich, at first on a voluntary basis and then by force. In 1945 he was in command of the **Adolf Hitler** corps of volunteer soldiers. Arrested by the Allies, he hanged himself in his cell at Nuremberg, leaving a letter in which he recommended the reconciliation of Germans and Jews (see also **War Criminals**).

LEYTE.

Allied Progress Toward the Philippines Between February 1943 and October 1944

After February 1943, when all Japanese resistance ceased at **Guadalcanal**, the initiative never returned to the empire's forces. The American occupiers would spend the first seven months of 1944 building up the island of Guadalcanal as a staging base. While materiel accumulated in the embarcation area, they continued to improve their positions in the South Pacific. At the end of 1942, Australian troops moving through the jungles of **New Guinea** had taken Gona and Buna. Between March 1 and 3, 1943, American and Australian aircraft destroyed a **convoy** of eight enemy supply transports in the Bismarck Sea, escorted by destroyers and bound for Lae and Salamaua. Heavy aerial fighting involved both sides around Rabaul from April to July.

On the Allied side, Gen. **Douglas MacArthur** was in command of the South Pacific theater and Adm. **Chester Nimitz** of the Central Pacific. On March 28 the Third Fleet of Vice Adm. **William** "Bull" **Halsey**, operating in the Solomon Islands, which had previously been under Nimitz's command, passed temporarily into MacArthur's domain. Halsey's fleet included the aircraft carriers *Enterprise* and *Saratoga*, two escort carriers and a protective complement and the Third Amphibious Force under Rear Adm. Richmond K. Turner. MacArthur's Seventh Amphibious Force contained five Australian divisions in addition to three American divisions, which were commanded by Gen. **Walter Krueger**.

The Allied naval successes of the first days in March provided MacArthur with broader freedom of action at sea, thus sparing his troops the trials of jungle marches. During the summer the Allies captured New Georgia and the air base of Munda.

At the beginning of September, MacArthur began an attack on the fortified zone of Salamaua, defended by the Japanese 18th Army, which included three divisions. The Third Australian Division, reinforced by an American division arriving by sea, completed the encirclement of Salamaua. On September 4, while fighting in the zone still continued, the Australian Ninth Division landed east of Lae. Almost simultaneously, supported by aircraft and under cover of a smoke screen, 1,700 paratroopers from the 11th Airborne Division landed near the Nadzab air base, about 20 miles northwest of Lae. The capture of this base permitted the arrival by air of the Australian Seventh Division, which had taken off from Port Moresby. Lae fell under the convergence of the Seventh Division and the forces that had landed to the east of the city. All resistance in Salamaua had ceased five days before.

At the other extreme of the immense front, in the **Aleutian Islands**, American and Canadian forces recaptured the islands of Attu and Agattu in the spring of 1943. These prizes had been taken by the Japanese the year before and were indispensable to the Allies for the planned converging air attack. In August the Japanese evacuated the Aleutian island of Kiska as well.

Supplies could now arrive in quantity. Rather than trying to take the islands one by one, wasting time and effort, the Allies thrust toward **Japan** with combined power, attempting to capture only those points necessary for the establishment of bases and airports and neutralizing or simply ignoring islands of no immediate importance, which might contain hundreds of thousands of isolated defenders. Already revealed at Casablanca in January 1943, the broad outlines of the operations were confirmed at the "Quadrant" Conference in Quebec in August 1943 (see **Conferences, Allied**). In **Burma** Adm. **Mountbatten**'s forces took the offensive with the aim of reopening the supply route to **China**. In the South Pacific, forces from the **United States**, **Australia** and **New Zealand**, led by

MacArthur, continued their penetration of New Guinea, the Solomon and Bismarck Islands and beyond, in preparation for a thrust at the Philippines in the fall of 1944. In the Central Pacific, Adm. Nimitz's forces pressed on toward the Marshall, Mariana and Gilbert Islands and toward the Philippines, in anticipation of a concerted attack, with MacArthur, on that archipelago.

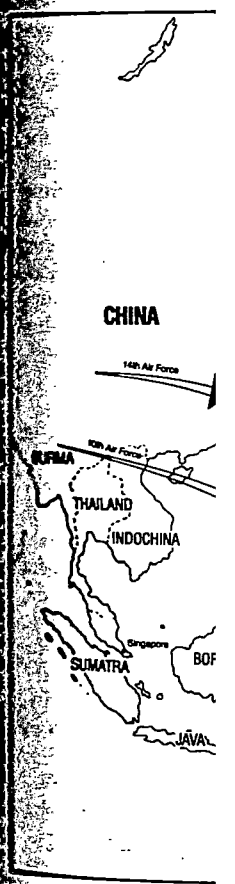
The strategy of the Allied command was to force the Japanese navy to accept battle. Once in Allied hands, the Marianas could serve as bases for B-29 strategic bombers within range of Japan itself. The military problems arising in the Pacific were more complex than those in Europe, where the British Isles themselves were, in effect, natural aircraft carriers. Land bases in the Pacific, however, were often thousands of miles from the objective, a distance that exceeded the range of most bombers. Hence the development of aircraft carriers and the essential functions of the "task force," a self-sufficient, flexible, powerful and fast-moving unit. The vast range of its reconnaissance aircraft contributed considerably to the task force's freedom of action, as did its ability to concentrate the power of its individual components on a single target far enough from the original base to serve as a "stepping stone" for an attack on still another potential base. The task force was capable, too, of creating diversions, neutralizing enemy bases, covering troop landings and defending against enemy raids.

From Lae to the Philippines, MacArthur had to cover nearly 2,250 miles. Nimitz' first objective was some 2,500 miles from his home base, and his ultimate goal, the Ryukyu Islands, was some 5,450 miles away. To complicate the situation further, MacArthur's point of departure was 4,000 miles from Nimitz'. Nevertheless, cooperation between the two was secure. The Japanese defenders, on the other hand, were established along a primary front line marked by Wake Island, the Marshall Islands, the Gilberts, the Bismarcks, and western New Guinea, with their secondary line of defense based on the Bonin Islands, the Marianas, Yap, the Palaus, Morotai and Timor. The keystone of the first line of defense, its air-naval center of gravity, was the island of Truk.

Beginning in October 1943 the Allies initiated the action leading to the convergence on the Philippines. MacArthur established two axes for the operations in the South Pacific—the first in New Guinea under Gen. Krueger, the second in the Solomon Islands under Adm. Halsey. Krueger took Finschhafen on October 2, 1943, and followed it up with the capture of Aitape and Hollandia, with its numerous airfields, in April 1944, Biak shortly afterwards and Sansapor in July. In Halsey's zone, a detachment from New Zealand overran the island of Vella Lavella in September. The Treasury Islands fell in October. On November 1 the American Third Marine Division landed on Bougainville. These conquests put airfields capable of handling fighter planes in the hands of the Allies less than 200 miles from Rabaul, the large base in New Britain held by 60,000 Japanese soldiers and a heavy concentration of aircraft. In addition to these conquests, the landings on the Green and St. Matthias Islands as well as on the western part of New Britain completed the isolation of Rabaul. MacArthur had covered a stretch of 1,500 miles in 10 months and completely cut the supply routes of 135,000 Japanese in New Guinea and the southern islands. The Caroline Islands were blockaded by Nimitz on the north and MacArthur on the south, working closely together, despite the great distances separating them, to tighten the noose around the enemy and narrow his maneuverability. That action isolated another 100,000 Japanese.

The air-naval war conducted by Nimitz was electrifying, not only for the immense area in which he deployed his forces—the Seventh Air Force under his command patrolled a patch of the Pacific five times the area of continental United States—but also for the defensive power of the Japanese bases caught in his net, the bases of Jaluit, Ponape (Ascension), Saipan and the Bonins, which had been part of the Empire of the Rising Sun and had been continually fortified since before the war began. This was the greatest achievement of the combined operations of the two American chiefs. Their task forces amply demonstrated their flexibility and strength. In November 1943, the islands of Tarawa and Makin in the Gilbert group were captured; a month later, they were equipped with four airfields. Majuro, Kwajalein and Eniwetok in the Marshalls were taken in February 1944. To the amazement of the Japanese, Wake Island and the Carolines were simply bypassed. On June 15 the Marianas came under attack. A defending Japanese fleet was badly defeated, and the garrison of two large units on Saipan was assaulted by the Second and Fourth Marine Divisions, followed by the 27th Division. After 20 days of fierce fighting, the island succumbed; 26,000 Japanese were killed and 1,800 taken prisoner, while 3,500 Americans were killed and four times as many wounded. Nimitz's capture of Saipan, Tinian and Guam marked nearly 3,750 miles covered in nine months. The high price paid for the conquest of Saipan was not spent in vain; from it, B-29s could easily reach the heart of the Japanese Empire and return.

The Philippines, defended by 350,000 Japanese, the last obstacle in the path to Japan herself, were



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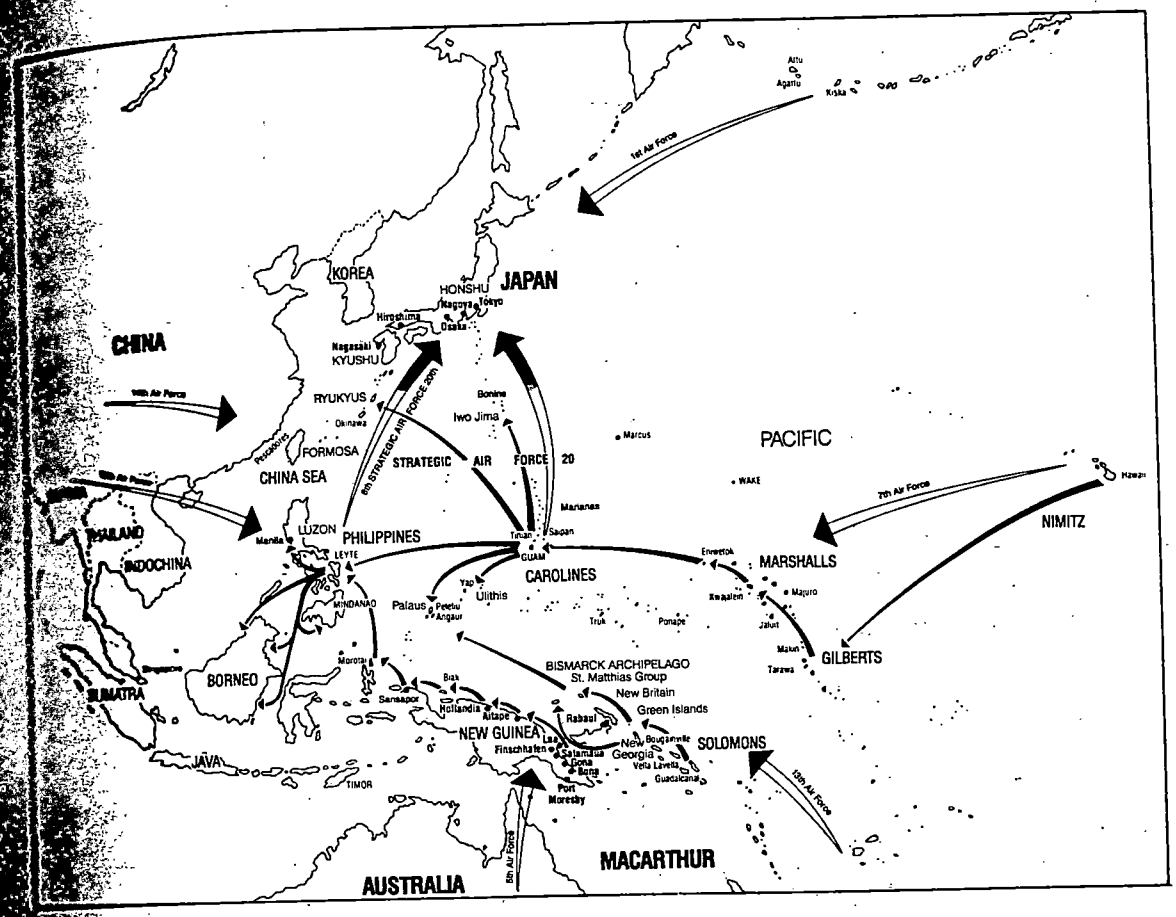
MacArthur's and Nimitz's Offensives Toward Japan, November 1943-August 1945



now the focal point of Nimitz's and MacArthur's power. A secure grasp on this far-flung archipelago was required for the final assault on the empire's home islands. The Philippines were to become the natural aircraft carriers from which Japanese communications lines in the China Sea could be destroyed. In the meantime, British, Indian, American and Chinese forces under Mountbatten were going ahead with the offensive they had begun in Burma at the end of 1943.

By September, Morotai was in MacArthur's possession, while Nimitz took the islands of Peleliu and Angaur in the Palau chain as well as the Ulithi Islands, to protect the flank of the offensive on the island of Leyte. At the same time the 11th Air Force, from Alaska, the Seventh Air Force, from Nimitz's group and the Fifth and 13th, from MacArthur's, converged on the enemy in continuous waves.

Before the attack on Leyte, American bombers had inflicted heavy damage to the air bases on Okinawa and Luzon and, between October 12 and 13, on Formosa. This last pass provoked the greatest air battle in history, between American planes based on aircraft carriers and Japanese aircraft based on the home islands, the Ryukyus and Formosa. For the 110 American planes lost in that epic struggle, the Japanese squandered 660. These losses were to prove fatal to the defenders of Leyte, the next goal of the Allies in their march toward the Japanese heartland.

The American Landing on Leyte and the Japanese Counteroffensive

MacArthur and Nimitz successfully combined their forces on Leyte in October 1944. For about a year they continually kept pushing ahead, enclosing hundreds of thousands of Japanese troops in pincer movements,

maneuvering ceaselessly and attacking simultaneously with increasingly powerful blows as their lines of communications lengthened. The Japanese command had been caught napping. Completely unaware that the American attack was bearing on Leyte, they had deplored six divisions in Mindanao, five in Luzon and only four spread between Leyte and Cebu. Misled by a furious American air bombardment of Luzon, they believed that this largest island of the Philippine group would surely be the landing point of American troops, rather than the much smaller Leyte. But it was Leyte, defended by only one Japanese division, where Krueger's Sixth Army came ashore.

The American fleet was divided into two groups. The task force commanded by Marc A. Mitscher, which was part of the Third Fleet, included six battleships, 16 aircraft carriers, 15 cruisers and 58 destroyers. Its mission was to protect the landing troops by warding off enemy attacks from air or sea. The Seventh Fleet, commanded by Thomas Kinkaid, included a support squadron under the command of Jesse B. Oldendorf and an escort aircraft carrier squadron under Thomas L. Sprague. The total power of the fleet, including several Australian units, amounted to six old battleships, four heavy cruisers, four light cruisers, 18 small escort carriers and 60 destroyers. Its function was to provide direct support to the landing parties.

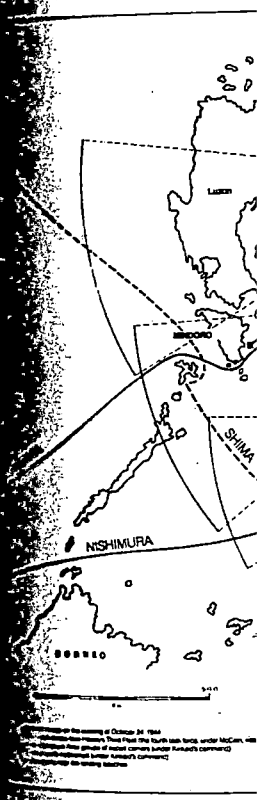
At dawn on October 20, the troops landed under Kinkaid's naval barrage blasting enemy positions. This time the hesitant Japanese commanders gambled their fleet to save the Philippines by breaking past the American ships and landing reinforcements for the defending garrison on the island. On that same day four Japanese squadrons headed for Leyte's waters. Jisaburo Ozawa's group, drawn from patrol duty around the Japanese home islands, included two mixed cruisers—which combined the functions of a battleship and an aircraft carrier—one heavy aircraft carrier, three escort carriers, three cruisers and eight destroyers. Takeo Kurita's group, coming from Singapore, had five battleships—including the powerful *Yamato* and *Musashi*, 18,000 tons heavier than the biggest American ships, whose superior fire power was supplied by nine 457-mm naval rifles and 140 antiaircraft guns—10 heavy cruisers, two light cruisers and 15 destroyers. Shoji Nishimura's group, also from Singapore and also under Kurita's command, had two battleships, one heavy cruiser and four destroyers. Finally, Adm. Kiyohide Shima's group arriving from the Pescadores Islands just west of Formosa included one light cruiser and four destroyers.

On October 23 the Japanese navy was reinforced by the Second Air Fleet with 450 planes. These had been sent to Luzon to join 250 army planes. To these surface and air fleets were added the Japanese subsurface fighters—the submarine fleet based on the Philippines.

Adm. Soemu Toyoda, in command of this Japanese array, first used Ozawa's group to attack the American fleet, attempting to draw it away from the landing zone. Kurita's group was then to pass through the San Bernardino Straits while Nishimura's group moved through the Surigao Strait; both units were then to attack the fleet supporting the disembarking American troops. Kurita, who had no aircraft carriers, was to get help from the air fleets based on Luzon. Shima was to take his naval group through the Surigao Straits a few hours after Nishimura; his mission was to sink all the American troop transports after the more heavily armed groups ahead of him had destroyed the American fighting ships. Thus, with the Leyte bridgeheads sealed off, the American invading force on the island could be cut up at leisure.

This strategy of moving separately and attacking in force might have succeeded if the Americans had reacted as Toyoda expected them to. They did not; the separately-deployed columns were not given time to join forces but were attacked singly, in raids in which submarines, aircraft and the new weapon of radar were all utilized. Perhaps the chief reason for the Japanese defeat, however, was the fact that Adm. Toyoda, commander in chief of the operation, directed the battle from his offices in Tokyo, while the American command coordinated operations locally, with all the threads of communication securely in its grasp.

Kurita's powerful battleships had no air umbrella. Beginning on the 23rd they were attacked by the American submarines *Darter* and *Dace*, which patrolled the passage to the south of Mindoro. Kurita lost two cruisers, one of which was the flagship, in the Sibuyan Sea. The next day at 6:00 a.m., Mitscher's task force loosed its aircraft to search out and destroy the enemy. They spotted Nishimura's and Shima's squadrons and hit the battleship *Musashi*, which until then had been kept out of action, with 21 torpedoes. The huge vessel was swallowed by the waves. A heavy cruiser was damaged in that fight. In the afternoon Kurita lost heart as a result of the poor coordination between the navy and the army flyers and turned back in his wake. This retreat was signaled to Adm. Halsey, who was also informed of the approach of Ozawa's aircraft carriers. This information, plus the unduly optimistic American pilots' reports of the damage to Kurita's ships, led Halsey to drive north with the entire Third Fleet and challenge Ozawa; in doing so, he left unprotected the San Bernardino Strait and the flank of the Leyte bridgehead. This slip was perhaps the consequence of the split in command between the



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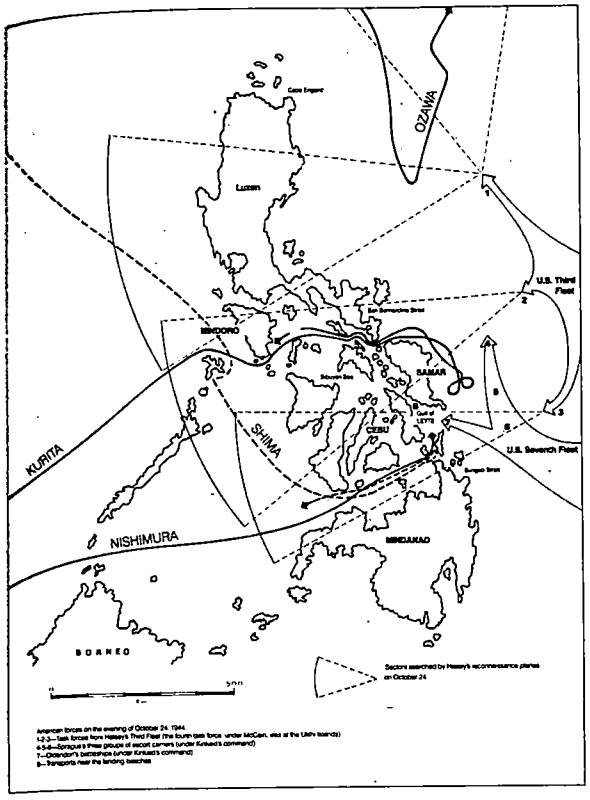

Third Fleet, under Nimitz's orders, and the Seventh Fleet, under MacArthur's. But the Japanese suffered from the same disease in an even more virulent form; the single battle that Tokyo had planned for turned out to be three isolated battles fought simultaneously on October 25, 1944.

The battle of the Surigao Strait

At 2:00 a.m. on October 25, Nishimura led his squadron into the Surigao Strait. Oldendorf's ships blocked his path. The American vessels were deployed in depth, with the fast torpedo boats in front, then the destroyers concealed in the coastal folds and finally six old battleships strung across the narrows. Assailed first by torpedoes, Nishimura rushed into the wily Oldendorf's trap. The American ships' radar-controlled guns opened fire at a range of nearly 12 miles. At 4:30, after two hours of fighting in almost complete darkness, Nishimura's fleet was wiped out, with only one torpedo boat still on the surface. The Americans had lost just one speedboat.

But Oldendorf's radar screen showed blips, indicating an enemy presence elsewhere. This was Shima's flotilla, trailing Nishimura's squadron, according to Toyoda's plan, into the Surigao Strait. Adm. Shima, however, was under Tokyo's direct orders, while Nishimura had been under Kurita's command. There had been no liaison between the two before the battle. Although he was only 50 miles behind his fellow admiral, Shima had no knowledge of the disaster that had just befallen Nishimura, and ran into Oldendorf's ships. He made a swift retreat, but not until he had lost his light cruiser and two destroyers.

The battle of Cape Engano

During the night of October 24-25, as we have seen, Halsey left Leyte with Mitscher's task force to battle Ozawa. The morning of the 25th a cloud of American planes attacked the enemy ships 100 miles east of Cape Engano. Ozawa's pilots were inexperienced; a good many of them who had taken off the night before had to go back to Luzon to land because they were not sufficiently trained to land on a carrier flight deck in a heaving sea. Ozawa was further handicapped by poor radiomen. He steamed north to entice Halsey away from Kurita.

In the meantime, Adm. Kinkaid was sending desperate calls for help. His opposite number, Kurita, had entered San Bernardino Strait and was advancing into the Leyte Gulf. At 11:00 a.m. Halsey changed his plan, deciding to return south with battleships borrowed from Mitscher's task force while Mitscher continued northward after Ozawa with only two groups of aircraft carriers. This could have resulted in the sacrifice of the task force, but Halsey was betting on the superiority of the American fighter pilots.

Left to himself, Mitscher engaged Ozawa and continued to pour destructive fire on the Japanese. Ozawa's four aircraft carriers were sent to the bottom, along with a cruiser and three torpedo boats. The Japanese admiral limped back to his home base with the remnants of his fleet, but he had accomplished his mission. When Halsey turned south on October 25, he radioed Kinkaid that he could not reach their rendezvous until the following morning at 8:00.

The battle of Samar

In an attempt to make up for the six-hour delay caused by his abrupt retreat, Kurita and his fleet rounded Cape Engano eastward and sped at 20 knots through narrow channels along the coast of Luzon during the night, in a brilliant demonstration of seamanship. He seemed to be shaping a victory. With no information to the contrary at dawn on the 25th, Adm. Kinkaid was under the impression that Halsey still guarded the San Bernardino Strait. Oldendorf at that moment had ended the battle of the Surigao Strait; Kinkaid's fleet of aircraft carriers was divided into three groups 120

miles east of Samar and Leyte. These carriers, actually refitted merchant vessels protected by destroyers, should have been easy prey for Kurita. If he decided to attack, they would be unable to flee. Laboring through the seas at a maximum speed of 17 knots, they could hardly hope to outrun a Japanese ship capable of 30 knots. The superbattleship *Yamato* opened fire at a range of 15 miles. For the only time in naval history, ships were under fire from 457-mm guns.

At 6:58 a.m. on October 25, the northern group of six escort carriers and seven destroyers took the opening salvos from the *Yamato*'s guns. The planes took off from their flight decks in spite of them. As the Japanese ships approached, the northern group retired behind a smoke screen. The American destroyers opened fire, sacrificing themselves to delay the enemy fleet. Three of them were sunk. An escort carrier also went down, its aircraft maneuvering capably although they were designed primarily for supporting landing troops rather than for attacking naval vessels.

But then a startling development occurred at 9:25 a.m. Kurita, no more than two hours away from the landing beaches, turned north once again. The reasons for this unexpected retreat are still obscure. Had the damage caused some of his ships to reduce their speed? Had they scattered to the point where radio communication was difficult and air protection nonexistent? Did Kurita think Halsey's squadron was 250 miles further south than it actually was? Or did he fear Oldendorf's battleships, which only hours before had ended their fighting in Surigao and were now out of ammunition—a fact Kurita obviously could not have known? Whatever his motives, he missed a golden oppourtunity and the trapped Kinkaid miraculously escaped disaster.

Pursued by enemy aircraft, Kurita suffered more losses in his retreat. The task group commanded by John S. McCain, in Halsey's fleet, had come to Kinkaid's assistance. At 1:10 p.m. its planes assaulted the Japanese ships. Later in the afternoon the Japanese admiral once again passed through the San Bernardino Strait before Halsey's fleet could intercept him. Leaving their land base that same day, some **Kamikaze** pilots destroyed the escort carrier *Saint Lo*. The following day, U.S. Army and Navy planes again subjected Kurita to a terrible bombing that cost him three cruisers and damaged the great ship *Yamato*. More fortunate than his colleagues, the Japanese admiral managed to save a good part of his fleet.

By the evening of the 26th, at the close of the greatest air-naval battle in history, the Japanese had lost three battleships, four aircraft carriers, 10 cruisers, nine destroyers and one submarine. American losses were only one light carrier, two escort carriers, three destroyers, one torpedo boat and one submarine. The victory could have been even more decisive if a single naval command had coordinated Halsey's and Kinkaid's activities and seen to it that the San Bernardino Strait remained sealed to the enemy. In any event, after this battle the Japanese fleet ceased to exist as a powerful and organized force. There were no further encounters between suface fleets, and never again was any landing beach threatened from the rear by a hostile fleet or by aircraft from a carrier.

After Leyte

After Japan lost the Battle of Leyte, its final agony commenced. The Philippines were gone. So were other strategically vital points: **Borneo, Iwo Jima** and **Okinawa**, which fell after a long and bloody battle, lasting from April 1 to June 21, 1945. Allied bombers struck repeatedly at the heart of Japan (see **Japan, Air War Against**). On July 24 a British squadron under Adm. Bernard H. Rawlings launched a murderous air-naval offensive against Nagoya, Osaka and Nagasaki. A total **blockade** was thrown around the home islands. Cities flamed, munitions dumps exploded and nothing remained of the Japanese fleet. Yet there were well-preserved aircraft in the country that had not been used; they were held in reserve against an enemy landing. In the home islands, in China, in Southeast Asia and in the islands by-passed by MacArthur and Nimitz, the Japanese land forces still numbered five million men.

The Allied landings were set for November 1, 1945 on the island of Kyushu and for March 1, 1946 on the island of Honshu. But after the **atomic bombs** were dropped on Hiroshima and Nagasaki, Japan surrendered on August 14, 1945.

H. Bernard

LIBYA.

Italy conquered Libya in 1911-12, driving out the occupying forces of **Turkey**. By 1939 the colony had a population of nearly 900,000, of whom 95,000 were Europeans, who lived in the coastal towns. Two of these were sizable: Tripoli with over 100,000 people and Benghazi, only half as large. The coastal zone was indeed declared, in January 1939, to be a part of Italian national territory. South of that zone lay cultivable steppe, which Italian colonists started to occupy, and south of that, a sand desert scattered with oases. In and across that desert the bulk of the population lived as nomads—camel-borne bedouin.

Libya provided an almost bare stage across which in 1940-43 German, Italian and British imperial troops (and a few anti-fascist units in exile) marched and countermarched as fast as the terrain, the presence of

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radar provides 360 degree coverage for 200 miles for low-altitude targets and farther for higher altitudes. An on-board data processor provides uncluttered coverage of airborne targets over all types of terrain for directing interceptors. AWACS communications use UHF, VHF, and HF radios to communicate with ground and air units, as well as the Tactical Data Link (TADIL). AWACSs are assigned to the 552d Airborne Warning and Control Wing, Tinker AFB, OK. Eight AWACSs are assigned to NORAD. Canadian personnel serve in crews of AWACS in Canadian airspace.

AWACS aircraft routinely stay on station for 18 hours, using augmented crews and air refueling. The E-3As can stay airborne for 12 hours without refueling. AWACS random patrols were used to supplement land-based radars while the **DEW Line** was upgraded and before the **OTH-B** radars were partially operational. The Peace Shield program has been to assist Saudi Arabia in obtaining command, control, and communications systems and ground-based long-range radars in support of their AWACS operations.

air breathing: A term that describes aircraft or missiles (normally cruise missiles) with engines that intake external air to provide oxygen for combustion of their fuel. Air breathing systems are typically contrasted to other weapons that carry their oxidizers internally, such as ballistic missiles.

airburst: An explosion of a nuclear warhead above the surface at such a height that the radius of the expanding fireball does not touch the Earth's surface, as distinguished from an explosion on contact with the surface or after penetration into the Earth. High airburst refers to the "fallout-safe" **height of burst** for a nuclear weapon that maximizes damage to soft targets and reduces induced radiation contamination at **actual ground zero**. Low airburst is the fallout-safe height of burst for a nuclear weapon that maximizes damages to surface targets.

Aircraft Alerting Communications Electromagnetic Pulse (AACE): Strategic Air Command program to harden all 24 bomber and aerial refueling wing command posts against **electromagnetic pulse (EMP)**. Its purpose is to provide assured, EMP-hardened, end-to-end communications from CINCSAC to alert aircraft and to provide CINCSAC and SAC main operating base commanders with indications of an EMP event that could signal a nuclear attack. AACE provides shielded enclosures for equipment for SAC bases in CONUS and protects communications equipment used to relay **emergency action messages (EAMs)** from the command post to bomber crews in the alert facility or in the cockpit.

aircraft carrier (CV/CVN): Largest warship of the U.S. Navy, ranging from 64,000 to 91,400 tons at full load. Aircraft carriers are mobile floating airfields whose aircraft are able to attack targets up to 1,000 nm (1,900 km) away. Aircraft carriers themselves have no offensive weaponry, only some short-range

missiles and guns for limited self-defense. For attacks and more extensive defensive measures, they rely on their complement of aircraft, which can conduct anti-surface, anti-air, and anti-submarine attacks, electronic warfare, reconnaissance, and land strikes. Aircraft carriers store a wide variety of conventional weapons for these aircraft, as well as B43, B57, and B61 nuclear bombs for surface attacks by their attack aircraft, and B57 nuclear depth bombs for their anti-submarine warfare aircraft. Aircraft carriers routinely carry about 100 nuclear weapons.

Aircraft carriers operate worldwide and typically spend months in forward deployment before being relieved by another carrier. Four or five aircraft carriers generally are forward-deployed at any given time, divided among the Mediterranean Sea, Indian Ocean, and Western Pacific. The other carriers are either in overhaul or participating in exercises and training off the east and west coasts of the United States or in the northern Atlantic. When underway, carriers are accompanied by several escort ships, forming **carrier battlegroups (CVBGs)**. The escort ships provide additional protection to the carrier from air, surface, and submarine attacks; in turn, the carriers' planes give similar protection to the escort ships. In peacetime, a carrier battlegroup usually consists of 1 carrier, 1–2 cruisers, 2–3 destroyers or frigates, 1–3 attack submarines, and support ships, particularly fuel and ammunition supply. In wartime, 2–4 carrier battle groups would operate together along with additional escort ships.

The United States currently has 15 deployable aircraft carriers distributed among Midway (CV-41) class, Forrestal (CV-59) class, Kitty Hawk (CV-63) class, John F. Kennedy (CV-67) class, Enterprise (CVN-65) class, and **Nimitz** (CVN-68) **class**. Five of these carriers are nuclear-powered. The original nuclear-powered carrier, the USS Enterprise (CVN-65), was commissioned in 1961 and has eight nuclear reactors. The four later Nimitz class carriers, USS Nimitz (CVN-68), USS Eisenhower (CVN-69), USS Carl Vinson (CVN-70), USS Theodore Roosevelt (CVN-71) and USS Abraham Lincoln (CVN-72), each have two reactors. The nuclear-powered carriers have an estimated steaming life of 13 years and one million miles before refueling.

Eight older carriers are undergoing a **Service Life Extension Program (SLEP)** to increase their service life from 30 to 45 years. The USS Saratoga (CV-60), USS Forrestal (CV-59), and USS Independence (CV-62) have completed their SLEPs. The USS Kitty Hawk (CV-63) began its SLEP in January 1988, and four other carriers are programmed for SLEP in future years: USS Constellation (CV-64), USS Ranger (CV-61), USS America (CV-66), and USS John F. Kennedy (CV-67).

The latest Nimitz class carriers, the USS Theodore Roosevelt (CVN-71) and the USS Abraham Lincoln (CVN-72), were commissioned on 25 October 1986, and 11 November 1989, respectively. An additional nuclear-powered aircraft carrier of the Nimitz class, USS George Washington (CVN-73), is under construction and is scheduled to be delivered in 1991. Two Nimitz class carriers (CVN-74/75) were authorized in the

FY 1988 budget to replace the USS Midway (CV-41) and USS Forrestal (CV-59) in the mid- to late 1990s. The Navy's goal, with new construction and SLEP, and taking retirements into account, is to have 15 deployable aircraft carriers. As the centerpiece of the 600 ship fleet planned under the Reagan Administration, this goal was to have been achieved by 1990 with the commissioning of the USS Abraham Lincoln; it now appears, however, that that objective will be short-lived. (The Navy does not consider carriers undergoing SLEP to be deployable; therefore, 16 carriers are required to support 15 deployable carriers.)

The Navy hopes to maintain a 15 carrier force by starting the construction of one nuclear-powered carrier every three years, commencing in FY 1990 with CVN-74. These carriers would be built by Newport News Shipbuilding in Newport News, VA, the only shipyard in the United States currently capable of building nuclear-powered large-deck aircraft carriers.

Aircraft carriers deploy with a 65–95 **carrier air wing**, depending on the size of the carrier and the mission. Aircraft include **F/A-18 Hornets** for surface attack and air-to-air combat; **F-14 Tomcats** for air-to-air combat; **A-6E Intruders** and **A-7E Corsairs** for attack missions; **S-3A/B Viking** jets and **SH-3D/H Sea King** helicopters for anti-submarine warfare; **EA-6B Prowlers** for electronic warfare; **KA-6D** aerial refueling tankers; and **E-2C Hawkeyes** for airborne early warning and command and control. Several electronic reconnaissance and logistic planes are also usually on board. The F/A-18s, A-6Es, A-7Es, S-3A/Bs, and SH-3D/Hs are all nuclear-capable.

These aircraft are organized into squadrons, and the squadrons in turn collectively constitute the carrier air wing. A typical carrier air wing includes two squadrons of A-7s or F/A-18s (24 aircraft), one squadron of A-6s (14 aircraft consisting of 10 A-6Es and 4 KA-6Ds), one squadron of S-3s (10 aircraft); one squadron of SH-3s (6 helicopters); two squadrons of F-14s (24 aircraft); one squadron of EA-6s (4 aircraft); one squadron of E-2Cs (4 aircraft); and detachments of electronic reconnaissance and transport aircraft.

This carrier air wing mixture is changing as F/A-18s enter the fleet to replace A-7s. The Navy is introducing a nominal new air wing of 86 aircraft: 20 F-14s, 18 F/A-18s, 20 A-6s, 10 S-3s, 8 SH-60Fs (a replacement for the SH-3, due to become operational in 1989), 5 E-2Cs, and 5 EA-6Bs. The two oldest aircraft carriers, the Midway and the Coral Sea, cannot support F-14s and will have four squadrons of F/A-18s instead. They also do not support S-3 aircraft.

As of 1989, eight aircraft carriers were assigned to the **Pacific Fleet** and seven to the **Atlantic Fleet**. Pacific-based aircraft carriers currently are home-ported in Yokosuka, Japan (the USS Midway), and Alameda (San Francisco) and North Island (San Diego), CA. Moreover, the USS Nimitz's homeport recently was changed to Bremerton, WA, in preparation for a move to a homeport currently under construction at Everett, WA, as part of the Navy's strategic homeporting plan. In the Atlantic, carriers are stationed at Norfolk, VA, and Mayport,

Aircraft Carriers (1989)

	Nimitz (CVN-68)	*Enterprise (CVN-65)*	*Kennedy (CV-67)*	*Kitty Hawk (CV-63)*	*Forrestal (CV-59)*	*Midway (CV-41)*
Number Deployed	5	1	1	3*	4	2
Nuclear Weapons	B43, B57, B61	B43, B57, B61	B43, B57, B61	B43, B57, B61	B43, B57, B61	B43, B57 B61
Displacement (full load) (tons)	91,487	89,600	82,000	80,800	75,900–79,300	62,000
Length (ft)	1,040	1,040	1,052	1,046	1,063–1,086	979
(m)	(317)	(317)	(320.6)	(318.8)	(324–331)	(298)
Draft (ft)	36	39	37	37	37	36
(m)	(11)	(12)	(11.3)	(11.3)	(11.3)	(11)
Beam (ft)	134	133	130	130	129	121
(m)	(40.8)	(40.5)	(39.6)	(39.6)	(39.3)	(36.9)
Nuclear Reactors	2 A4W	8 A2W	—	—	—	—
Speed (knots)	30+	30+	30+	30+	30+	30+
(kph)	(56)	(56)	(56)	(56)	(56)	(56)
(mph)	(35)	(35)	(35)	(35)	(35)	(35)
Ship's Complement	3,200	3,350	3,117	3,150	3,019	2,533
Air Wing Complement	2,480	2,480	2,480	2,480	2,480	2,239
Aircraft (approx.)	85	85	85	85	75	65
IOC	1975	1961	1968	1961	1955	1945

* The USS Kitty Hawk (CV-63) entered SLEP in January 1988.

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FL. A training carrier, the Lexington (AVT-16), is homeported at Pensacola, FL.

Though not generally considered part of the Navy's aircraft carrier force, the five Tarawa (LHA-1) class general-purpose amphibious assault ships and seven Iwo Jima (LPH-2) class helicopter amphibious assault ships are, in effect, small aircraft carriers (respectively, 39,300 and 18,000 tons at full load). (see also **amphibious warfare ships**)

aircraft carrier, training (AVT): Training aircraft carrier specifically used for aviator training purposes. The U.S. Navy operates one carrier of this type, the USS Lexington (AVT-16), at Pensacola, FL, the last of the World War II Essex class carriers still in use. At full load, it displaces about 42,500 tons. It is scheduled to be replaced by the Coral Sea (CV-43) sometime in the 1990s.

Aircraft Monitoring and Control (AMAC): That equipment installed in aircraft to permit monitoring and control of the safing, arming, and fuzing functions of a nuclear bomb or nuclear missile delivered by the aircraft. The AMAC is normally integral to the cockpit controls in modern aircraft, and is used to transmit signals from the pilot (or weapons officer) to the nuclear weapon(s) on board. It is the avenue for transmission of the **permissive action link (PAL)** codes.

air cushion landing craft (LCAC): Operational Navy amphibious assault hovercraft deployed with the Atlantic and Pacific Fleets. The LCAC is a gas turbine-powered craft that carries amphibious assault troops from ships to the beach. The craft is transported by **dock landing ships** and Wasp class amphibious assault ships (depending on the ship class, up to four LCACs can be carried at once). Its troop capacity is 24. The LCAC is equipped with the LN-66 navigation radar with processed video, UHF/VHF/HF communications, and gyrocompass. The speed of 30+ kts and range of 200 nm provides great flexibility; for instance, the craft can be launched from over the horizon and reach the beach in roughly the same time a conventional landing craft can traverse the standard 5,000–10,000-yard boat lane. It is able to glide over 80 percent of the world's beaches without **SEAL** or other preparatory forces being used to survey a boat lane. The first deployed LCAC detachment is on board the USS Germantown (LSD-42) as part of Amphibious Squadron Five. The Germantown is the second ship of the Whidbey Island (LSD-41) class, specially designed to support LCAC. Plans are to procure eight ships of the LSD-41 class for LCAC duties. LCACs are assigned to assault units based at Little Creek, VA, and Camp Pendleton, CA. About 40 personnel are assigned to a three- or four-unit detachment for an operation or deployment. The LCAC can also carry tanks, artillery, light armored vehicles, and tracked personnel landing vehicles. The LSD does not need to ballast or deballast to embark LCACs. Capabilities for the LCAC include conventional assault, general unloading, advance force support, and amphibious rapid capabilities. Survivability depends on its ability to

* The USS Kitty Hawk (CV-63) entered SLEP in January 1988.

APPENDIX C
Ship Designations

A. Warship Classifications

Aircraft Carrier Type

CV	Multipurpose Aircraft Carrier
CVA	Attack Aircraft Carrier
CVN	Multipurpose Nuclear-Powered Aircraft Carrier
CVS	Anti-Submarine Warfare Aircraft Carrier

Surface Combatant Type

BB	Battleship
CA	Gun Cruiser
CG	Guided-Missile Cruiser
CGN	Nuclear-Powered Guided-Missile Cruiser
DD	Destroyer
DDG	Guided-Missile Destroyer
FF	Frigate
FFG	Guided-Missile Frigate

Submarine Type

SS	Attack Submarine
SSN	Nuclear-Powered Attack Submarine
SSBN	Nuclear-Powered Ballistic Missile Submarine

B. Other Combatant Classifications

Patrol Combatant Type

PG	Patrol Combatant
PHM	Hydrofoil Guided-Missile Patrol Combatant

Amphibious Warfare Type

LCC	Amphibious Command Ship
LHA	General-Purpose Amphibious Assault Ship
LHD	Multipurpose Amphibious Assault Ship
LKA	Amphibious Cargo Ship
LPA	Amphibious Transport
LPH	Helicopter Amphibious Assault Ship
LSD	Dock Landing Ship
LST	Tank Landing Ship

Mine Warfare Ships

MCM	Mine Countermeasures Ship
MSH	Minesweeper Hunter
MSO	Ocean Minesweeper

C. Auxiliary Ship Classifications

Mobile Logistic Type Ships—Underway Replenishment

AE	Ammunition Ship
AF	Stores Ship
AFS	Combat Stores Ship
AO	Oiler
AOE	Fast Combat Support Ship
AOR	Replenishment Oiler

Mobile Logistic Type Ships—Material Support

AD	Destroyer Tender
AR	Repair Ship
AS	Submarine Tender

Support Type Ships—Fleet Support

ARS	Salvage Ship
ASR	Submarine Rescue Ship
ATF	Fleet Ocean Tug
ATS	Salvage and Rescue Ship

Support Type Ships—Other Auxiliaries

AG	Miscellaneous
AGDS	Deep-Submergence Support Ship
AGF	Miscellaneous Command Ship

AGM	Missile Range Instrumentation Ship
AGOR	Oceanographic Research Ship
AGOS	Ocean Surveillance Ship
AGS	Surveying Ship
AGSS	Auxiliary Research Submarine
AH	Hospital Ship
AK	Cargo Ship
AKR	Vehicle Cargo Ship
AOG	Gasoline Tanker
AOT	Transport Oiler
AP	Transport
ARC	Cable Repairing Ship
ARL	Small Repair Ship
AVB	Aviation Logistic Support Ship
AVM	Guided Missile Ship
AVT	Auxiliary Aircraft Landing Training Ship

D. Combatant Craft Classifications

Coastal Patrol Combatants

PB	Patrol Boat
PCF	Fast Patrol Craft

River/Roadstead Craft

ATC	Mini-Armored Troop Carrier
PBR	River Patrol Craft

Amphibious Warfare Type—Landing Craft

LCAC	Landing Craft, Air Cushion
LCM	Landing Craft, Mechanized
LCPL	Landing Craft, Personnel, Large
LCU	Landing Craft, Utility
LCVP	Landing Craft, Vehicle, Personnel
LWT	Amphibious Warping Tug
SLWT	Side Loading Warping Tug

Amphibious Warfare Type—Special Warfare Craft

LSSC	Light SEAL Support Craft
MSSC	Medium SEAL Support Craft
SDV	Swimmer–Delivery Vehicle
SWCL	Special Warfare Craft, Light
SWCM	Special Warfare Craft, Medium

Mine Warfare Type Craft

MSB	Minesweeping Boat

E. Support Craft Classifications

Dry Docks (non–self-propelled)

AFDB	Large Auxiliary Floating Dry Dock
AFDL	Small Auxiliary Floating Dry Dock
AFDM	Medium Auxiliary Floating Dry Dock
ARD	Auxiliary Repair Dry Dock
ARDM	Medium Auxiliary Repair Dry Dock
YFD	Yard Floating Dry Dock

Tugs (self-propelled)

YTB	Large Harbor Tug
YTL	Small Harbor Tug
YTM	Medium Harbor Tug

Tankers (self-propelled)

YO	Fuel Oil Barge
YOG	Gasoline Barge
YW	Water Barge

Lighters and Barges (self-propelled)

YF	Covered Lighter
YFU	Harbor Utility Craft

Lighters and Barges (non–self-propelled)

YC	Open Lighter
YCF	Car Float
YCV	Aircraft Transportation Lighter
YFN	Covered Lighter
YFNB	Larger Covered Lighter
YFNX	Special Purposes Lighter
YFRN	Refrigerated Covered Lighter
YFRT	Range Tender
YGN	Garbage Lighter
YON	Gasoline Barge
YOS	Oil Storage Barge
YSR	Sludge Removal Barge
YWN	Water Barge

Other Craft (self-propelled)

DSRV	Deep Submergence Rescue Vehicle
DSV	Deep Submergence Vehicle

NR	Submersible Research Vehicle
YAG	Miscellaneous Auxiliary Service Craft
YFB	Ferry Boat or Launch
YM	Dredge
YP	Patrol Craft, Training
YTT	Torpedo Trials Craft

Other Craft (non–self-propelled)

APL	Barracks Craft
YD	Floating Crane
YDT	Diving Tender
YFND	Dry Dock Companion Craft
YFP	Floating Power Barge
YLC	Salvage Lift Craft
YMN	Dredge
YNG	Gate Craft
YPD	Floating Pile Driver
YR	Floating Workshop
YRB	Repair and Berthing Barge
YRBM	Repair, Berthing, and Messing Barge
YRDH	Floating Dry Dock Workshop (hull)
YRDM	Floating Dry Dock Workshop (machine)
YRR	Radiological Repair Barge
YRST	Salvage Craft Tender

Unclassified Miscellaneous Units

IX	Unclassified Miscellaneous Unit

Source: U.S. Navy, Office of the Secretary of the Navy, *Classification of Naval Ships and Craft*, SECNAV Instruction 5030.1K, 4 February 1986.

slippery adversary until arriving at Key West on 15 January 1863.

There she was attached to the East Gulf Blockading Squadron as flagship. However, soon after she began this duty, word reached Key West that CSS *Florida* had escaped through the blockade from Mobile and was at Havana. On 22 January, Rear Admiral Bailey ordered *San Jacinto* to sail for Cuba and blockade the Confederate cruiser if she were in port or to chase and capture or destroy her if the commerce raider had departed. The Union frigate quickly put to sea but found little trace of *Florida*. She broke her shaft on 30 January; sailed north on 4 February; and reached the New York Navy Yard on the 16th for repairs.

Again ready for action, *San Jacinto* departed New York on 24 June and returned to Key West on 1 July. She celebrated Independence Day by becoming Rear Admiral Bailey's flagship, and she performed that duty until relieved by *Dale* on 6 September.

The ship then took up blockade duty off Mobile, Ala. On the afternoon of the 11th, her masthead lookout reported "black smoke bearing about south," and *San Jacinto* set out in pursuit of the steamer. During the chase, the lookout spotted blockade runner, *Fox*, aground and burning. About dusk, *San Jacinto* changed course for Mobile, hoping to intercept the fleeing vessel if she attempted to dash into that port. This strategy proved sound for, early the next morning, the Union steam frigate found that her quarry was again within sight; and the chase began again. Near the Chandeleur Islands, *San Jacinto* anchored in shoal water and sent her first cutter after the steamer. That evening shortly before twilight, the blockade runner—which happened to bear the name of the frigate's old adversary, *Alabama*—ran ashore and was abandoned. Before *San Jacinto*'s cutter could reach the prize, Union blockader, *Eugenie*, arrived upon the scene and took possession of the blockade runner.

On the 16th, *San Jacinto* captured steamer, *Lizzie Davis*, after a two-hour chase. This blockade runner had departed from Havana laden with lead and was endeavoring to dash into Mobile. On 6 October, *San Jacinto* was within signal distance when United States Schooner, *Beauregard*, took possession of *Last Trial* after heavy weather had forced that Southern sloop to seek shelter near Key West. On 16 December, *Ariel*, a tender to *San Jacinto*, captured Confederate sloop, *Magnolia*; and, on the 24th, schooner, *Fox*, another of *San Jacinto*'s tenders, took British schooner, *Edward*, trying to carry salt and lead from Havana to the Suwanee River. On the morning of 7 January 1864, *San Jacinto* overtook schooner, *Roebuck*, after a two-hour chase, and deprived the Confederacy of a general cargo including much clothing and lead. In another two-hour chase on 11 March, *San Jacinto* ran an unnamed schooner (formerly called *Lealtad*) aground. She then took possession of this prize which was laden with cotton and turpentine for export.

Yellow fever again struck the veteran warship the following summer; and *San Jacinto*—carrying Rear Admiral Bailey, now dangerously ill with the disease—departed Key West on 7 August and sailed north hoping for a quick restoration of the crew to good health. She reached the quarantine area at New York Harbor on the 13th; but, the next day was ordered to fill up with coal and set out in pursuit of Confederate cruiser, *Tallahassee*. The ship sailed on the 19th and raced as far north as Halifax, Nova Scotia, without finding the Southern commerce raider.

After the ship put in at Portsmouth, N.H., she received long overdue repairs. She returned to Key West on 3 December and resumed her role as squadron flagship a week later. Toward the end of the month, she was relieved of this duty and sailed for the Bahamas. On New Year's Day, 1865, the ship struck a reef near Great Abaco Island and filled with water. Her guns, along with some equipment and provisions, were saved; but efforts to salvage the ship were unsuccessful. The ship's hulk was sold at Nassau, New Providence, on 17 May 1871.

II

(CVL–30: dp. 11,000; l. 622'6"; b. 71'6"; ew. 109'6"; dr. 26'; s. 31.6 k.; cpl. 1,549; a. 28 40mm, 40 20mm, ac. 45; cl. *Independence*)

The second *San Jacinto* (CVL–30) was laid down as the light cruiser, *Newark* (CL–100), on 28 October 1942 by the New York Shipbuilding Co., Camden, N.J.; redesignated CV–30 and renamed *Reprisal* on 2 June 1942; renamed *San Jacinto* on 30 January 1943; converted, while building, to a light aircraft carrier and reclassified as CVL–30; launched on 26 September 1943; sponsored by Mrs. Jesse Jones; and commissioned on 15 November 1943, Capt. Harold M. Martin, in command.

After shakedown in the Caribbean, *San Jacinto* sailed, via the Panama Canal, San Diego, and Pearl Harbor, for the Pacific war zone. Arriving at Majuro, Marshall Islands, she became part of the growing might of Vice Admiral Marc A. Mitscher's Task Force 58/38, the fast carrier striking force of the Pacific Fleet. There, *San Jacinto* embarked Air Group 51, whose fighters and torpedo planes would be the ship's chief weapons in battle.

After providing search patrols to protect other carriers striking at Wake and Marcus Islands, *San Jacinto*, by 5 June 1944, was ready to participate in the largest fleet action since the battle of Midway, almost exactly two years before. On that day, Task Force 58 sortied from Majuro and headed toward the Marianas to conduct air strikes preparatory to American seizure of Saipan and to protect the invasion forces from enemy air and naval attack.

This American thrust triggered a strong Japanese reaction; on 19 June, the Japanese Fleet launched more than 400 planes against the invasion fleet and the covering carrier force. In the ensuing air battle, known to American pilots as the "Marianas Turkey Shoot," more than 300 enemy planes were shot down. While *San Jacinto*'s planes were achieving their most one-sided victory of the war, her gunners helped to down the few attackers able to get near the American ships. Then, at dusk, Admiral Mitscher dispatched an all-carrier attack after the retreating enemy fleet. The night recovery of the returning planes was accomplished amid considerable confusion. Reportedly, a Japanese carrier plane attempted a landing approach on *San Jacinto*, only to be waved off by the landing signal officer because its hook wasn't down.

San Jacinto then participated in strikes against Rota and Guam and furnished combat air patrol (CAP) and antisubmarine patrol (ASP) for her task group. During these raids, a *San Jacinto* fighter pilot was shot down over Guam and spent 17 days in a life raft trying to attract attention and 16 nights hiding on the island.

After a refueling and replenishment stop at Eniwetok Atoll, *San Jacinto* joined in carrier strikes against the Palaus on 15 July. On 5 August, her targets were Chichi, Haha, and Iwo Jima. A brief stop at Eniwetok preceded dawn-to-dusk CAP and ASP duty while other carriers struck at Yap, Ulithi, Anguar, and Babelthuap, pinning down Japanese air forces while the Palaus were being assaulted on 15 September.

Following a replenishment stop at Manus, Admiralty Islands, *San Jacinto* joined in strikes against Okinawa and furnished photographic planes to get information necessary for future invasion plans. After refueling at sea, she once again supplied dawn-to-dusk air protection as other carriers sent strikes against Formosa, northern Luzon, and the Manila Bay area from 12 to 19 October. During operations on 17 October, a fighter plane made a very hard landing and inadvertently

TO: Peggy Dooley
FROM: Stephanie Van Meter

Wingspan Information

GRUMNAN AVENGER: Wingspan - 54 ft., 2 in.
276 miles per hour
Length - 40 ft., 11 1/2 in.
Height - 16 ft., 5 in.

F 18 HORNET: Wingspan - 36 ft., 6 in.
(11.42 meters)

For future reference on any airplane questions, call the Naval Aviation Museum in Pensacola, Florida, at 904-452-3604. They have anything and everything you ever wanted to know about planes!

ROBERT DEBS HEINL, JR.
COLONEL, U.S. MARINE CORPS, RETIRED

DICTIONARY OF MILITARY AND NAVAL QUOTATIONS

UNITED STATES NAVAL INSTITUTE
ANNAPOLIS, MARYLAND

Japanese reports that the Third Fleet had sustained heavy damage and was retiring, Leyte Gulf, 12 October 1944

When the going gets tough, the tough get going.
Cadet saying, West Point

Agincourt, (25 October 1415)

This day is called the feast of Crispian;
He that outlives this day and comes safe home,
Will stand a tip-toe when this day is nam'd,
And rouse him at the name of Crispian.
He that shall live this day, and see old age,
Will yearly on the vigil feast his neighbors,
And say, "To-morrow is Saint Crispian:"
Then will be strip his sleeve and show his scars,
And say, "These wounds I had on Crispin's day."
Old men forget: yet all shall be forgot,
But he'll remember with advantages
What feats he did that day...
Shakespeare: King Henry V, iv, 3, 1598 (address to the English troops by King Henry before Agincourt)

Aide-de-Camp

An aide-de-camp is to his general what Mercury was to Jupiter, and what the jackal is to the lion.
Francis Grose: Advice to the Officers of the British Army, 1782

Let your deportment be haughty and insolent to your inferiors, humble and fawning to your superiors, solemn and distant to your equals.
Francis Grose: Advice to the Officers of the British Army, 1782

Airborne Operations

What would be the security of the good, if the bad could at pleasure invade them from the sky? Against an army sailing through the clouds, neither walls, nor mountains, nor seas, could afford any security. A flight of northern savages might hover in the wind and light at once with irresistible violence upon the capital of a fruitful region that was rolling under them.
Samuel Johnson: Rasselas, vi, 1759

Five thousand balloons, capable of raising two men each, could not cost more than five ships of the line; and where is the prince who can afford so to cover his country with troops for its defense as that 10,000 men descending from the clouds might not in many places do an infinite deal of mischief before a force could be brought together to repel them?
Benjamin Franklin: Letter to Jan Ingenhousz, 1784

It would probably astonish the reader were I able...to state the cost in manpower and material of the airborne forces of the late war, complete with all the aircraft and manpower devoted to training and carrying them...compared with their impact upon the enemy. They would certainly find no place in the early stages of another great war. They are too vulnerable.
Sir John Slessor: Strategy for the West, 1954

A parachute is merely a means of delivery but not a way of fighting.
Bernard Fall: Street without Joy, xii, 1964 ed.

Airborne—all the way!
Motto of U. S. Army airborne troops

Aircraft

The airship will revolutionize warfare.
Alexander Graham Bell: Letter, 1909

The volant or flying automata are such mechanical contrivances as have self-motion, whereby they are carried aloft in the air, like the flight of birds. Such was the wooden dove made by Archytas, a citizen of Tarentum, and one of Plato's acquaintances, and that wooden eagle framed by Regiomontanus Noremburg, which by way of triumph did fly out of the city to meet Charles V.
John Wilkins: Mechanical Magick, 1680

It [the airplane] will be a factor in war.
Wilbur Wright: Interview, St. Louis, March 1906

Aircraft Carrier

The air fleet of an enemy will never get within striking distance of our coast as long as our aircraft carriers are able to carry the preponderance of air power to sea.
Rear Admiral W. A. Moffett, USN: While Chief of Navy Bureau of Aeronautics, 1922

Scratch one flat-top.
Commander Robert Dixon, USN: Radio report as HIJMS Shoho *blew up and sank under attack by U. S. Navy carrier aircraft, Coral Sea, 7 May 1942*

Our aircraft carriers have lasted longer than a majority of our very expensive overseas air bases.
Vice Admiral W. A. Schoech, USN: Speech, 1964

(*See also* ~~Naval Aviation,~~ Naval Operations, Naval Warfare.)

Air Force

The Independent Air Force should embody the greatest power compatible with the resources at our disposal; therefore no aerial resources should under any circumstances be diverted to secondary purposes, such as auxiliary aviation, local air defense, and anti-aircraft defense.
Giulio Douhet: The Command of the Air, 1921

I have mathematical certainty that the future will confirm my assertion that aerial warfare will be the most important element in future wars, and that in consequence not only will the importance of the Independent Air Force rapidly increase, but the importance of the army and the navy will decrease in proportion.
Giulio Douhet: The Command of the Air, 1921

It is probable that future war will be conducted by a special class, the air force, as it was by the armored knights of the Middle Ages.
William Mitchell: Winged Defense, 1924

Never in the field of human conflict was so much owed by so many to so few.
Winston Churchill: To the House of Commons, 20 August 1940 (of the RAF in the Battle of Britain)

The Navy can lose us the war, but only the Air Force can win it. Therefore, our supreme effort must be to gain overwhelming mastery in the air.
Winston Churchill: To War Cabinet, 3 September 1940

The large ground organization of a modern air force is its Achilles' heel.
B. H. Liddell Hart: Thoughts on War, iii, 1943

The function of the Army and Navy in any future war will be to support the dominant air arm.
James H. Dolittle: Speech to the Georgetown University Alumni Association, 30 April 1949

Air Power

The nation that secures control of the air will ultimately control the world.
Alexander Graham Bell: Letter 1909

In order to assure an adequate national defense, it is necessary—and sufficient—to be in a position in case of war to conquer the command of the air.
Giulio Douhet: The Command of the Air, 1921

In the development of air power, one has to look ahead and not backward and figure out what is going to happen, not too much of what has happened.
William Mitchell; Winged Defense, 1924

New weapons operating in an element hitherto unavailable to mankind will not necessarily change the ultimate character of war. The next war may well start in the air but in all probability it will wind up, as did the last war, in the mud.
Report of the President's Board to Study Development of Aircraft for the National Defense, 1925

Air power is a thunderbolt launched from an egg-shell invisibly tethered to a base.
Hoffman Nickerson: Arms and Policy, x, 1945

The power of an air force is terrific when there is nothing to oppose it.
Winston Churchill: The Gathering Storm, 1948

Air power is the most difficult of all forms of military force to measure, or even to express in precise terms.
Winston Churchill: The Gathering Storm, 1948

Today air power is the dominant factor in war. It may not win a war by itself alone, but without it no major war can be won.
Arthur Radford: Speech, 1954

J(

Captain John Davis: The Seaman's Secret, 1594 (a close paraphrase if not plagiarism of Dr. John Dee's remarks on navigation in his 1570 introduction to Billingsley's Euclid)

You have done your duty in this remonstrance; now obey my orders, and lay me alongside the French Admiral.
Sir Edward Hawke: To his Fleet Navigator after being advised to turn away from the enemy for fear of grounding, Quiberon Bay, 20 November 1759

The winds and waves are always on the side of the ablest navigators.
Edward Gibbon: Decline and Fall of the Roman Empire, lxviii, 1776–1787

I own myself one of those who do not fear the shore, for hardly any great things are done in a small ship by a man that is.
Nelson: To the Admiralty, urging leniency in the case of a captain who had grounded his ship on inshore patrol, November 1804

The most advanced nations are always those who navigate the most.
R.W. Emerson, 1802–1883, Society and Solitude

Our navigator's a jolly tar;
He shot the truck-light for a star,
And wonders where in the hell we are,
In the Armored Cruiser Squadron.
Navy Song, The Armored Cruiser Squadron, c. 1904

Every drunken skipper trusts to Providence. But one of the ways of Providence with drunken skippers is to run them on the rocks.
George Bernard Shaw, Heartbreak House, 1913

Absolute freedom of navigation upon the seas, outside territorial waters, alike in peace and in war, except as the seas may be closed in whole or in part by international action for the enforcement of international covenants.
Woodrow Wilson: To Congress 8 January 1918 (Point II of the Fourteen Points)

Navy

Minos [of Crete] is the first to whom tradition ascribes the possession of a navy.
Thucydides: History of the Peloponnesian Wars, c. 404 B. C.

Their strength lay in the greatness of thier navy, and by that and that alone they gained their empire.
Alcibiades: Of the Athenians, 415 B. C.

King Solomon made a navy of ships in Eziongeber, which is beside Eloth, on the shore of the Red Sea.
I Kings, IX, 26

They that go down to the sea in ships, and occupy their business in great waters; these men see the works of the Lord, and his wonders in the deep.
Psalm CVII

Hearts of oak are our ships,
Jolly tars are our men,
We are always ready, steady, boys, steady,
We'll fight and we'll conquer again and again.
David Garrick: Hearts of Oak, 1759

. . . that they may be a safeguard unto the United States of America, and a security for such as pass on the seas upon their lawful occasions.
Book of Common Prayer: Prayer for the Navy

Of all the public services, that of the Navy is the one in which tampering may be of the greatest danger, which can worst be supplied in an emergency, and of which any failure draws after it the largest and heaviest train of consequences.
Edmund Burke: To the House of Commons, 1769

Without a Respectable Navy—alas America!
John Paul Jones: Letter to Robert Morris, 17 October 1776

Yr Excellency will have observed that whatever efforts are made by the Land Armies, the Navy must have the casting vote in the present contest.
George Washington: Letter to the Comte de Grasse, 28 October 1781

A naval force can never endanger our liberties, nor occasion bloodshed; a land force would do both.
Thomas Jefferson: Letter to James Monroe, 1786

. . . the ruinous folly of a navy.
Thomas Jefferson: During the Tripolitan War, 1805

Of all careers, the navy is the one which offers the most frequent opportunities to junior officers to act on their own.
Napoleon: Political Aphorisms, 1848

Navies are not all for war.
Matthew Fontaine Maury, 1806–187

Eternal Father! strong to save,
Whose arm hath bound the restless wave,
Who bidd'st the mighty ocean deep
Its own appointed limits keep:
O, hear us when we cry to Thee
For those in peril on the sea!
William Whiting: The Navy Hymn, 1860

Nor must Uncle Sam's web-feet be forgotten. At all the watery margins they have been present. Not only on the deep sea, the broad bay, and the rapid river, but also up the narrow muddy bayou, and wherever the ground was a little damp, they have been and made their tracks.
Abraham Lincoln: Letter to J.C. Conkling, 26 August 1863

Navies do not dispense with fortifications nor with armies, but when wisely handled they may save a country the strain which comes when these have to be called into play.
Mahan: The Influence of Sea Power Upon the French Revolution and Empire, 1892

The necessity of a navy springs from the existence of peaceful shipping.
Alfred Thayer Mahan, 1840–1914

In the brilliant exhibition of enterprise, professional skill, and usual success, by its naval officers and seamen, the country has forgotten the precedent neglect . . . to constitute the Navy as strong in proportion to the means of the country as it was excellent through the spirit and acquirements of its officers.
Mahan: Sea Power in Its Relations to the War of 1812, 1905

If the American nation will speak softly and yet build and keep at a pitch of the highest training a thoroughly efficient Navy, the Monroe Doctrine will go far.
Theodore Roosevelt: Speech, 2 September 1901

CONSULTANTS

, Professor Emeritus of History, London University

ES, Rear Admiral, United States Navy, Rtd.

NTON, Professor of Political Science, George Washington

TLE, Brigadier General, United States Marine Corps, Rtd.

EACH, Brigadier General, United States Air Force Re-
Story Professor of Law, Harvard University

N, Professor of History, Dartmouth College

TARR, Professor of History, University of Illinois

STAMPS, Brigadier General, United States Army, Rtd.,
meritus of Military Art and Engineering, United States
ademy

TAYLOR, H. C. Lea Professor of Medieval History, Har-
rsity

ODD, Curator Emeritus, United States Military Academy

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from 3500 B.C. to the present

R. ERNEST DUPUY and TREVOR N. DUPUY

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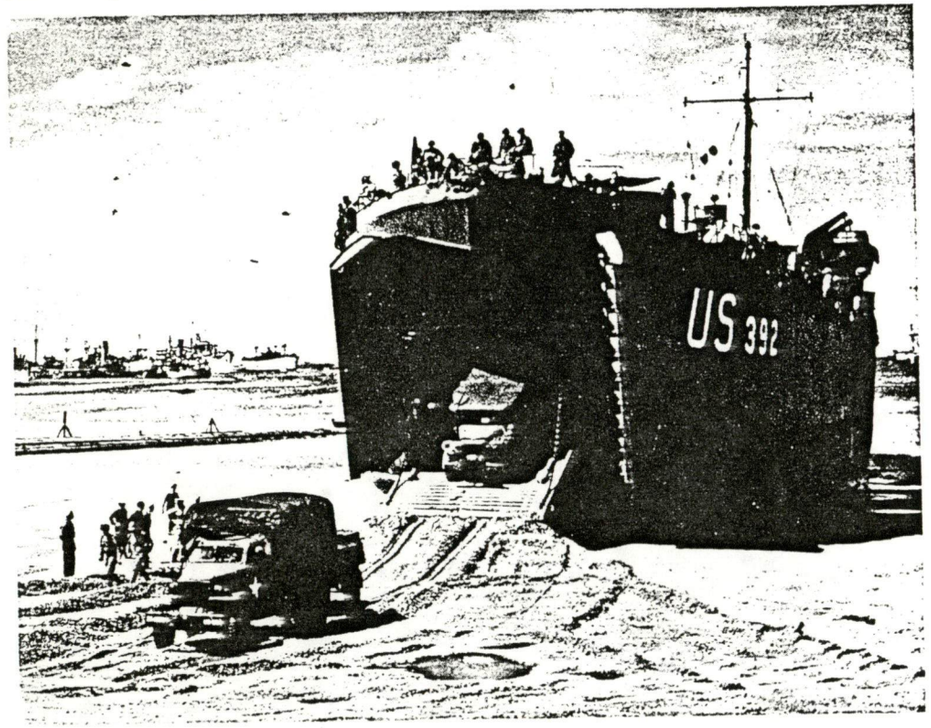
a wide front, multiplying artillery effectiveness many times. This capability, and particularly the massing of the multi-volleyed fires of large numbers of guns on one target in a demoralizing crescendo of destructiveness, gave the Americans a firepower superiority on the battlefield that was not matched by any other nation in the war.

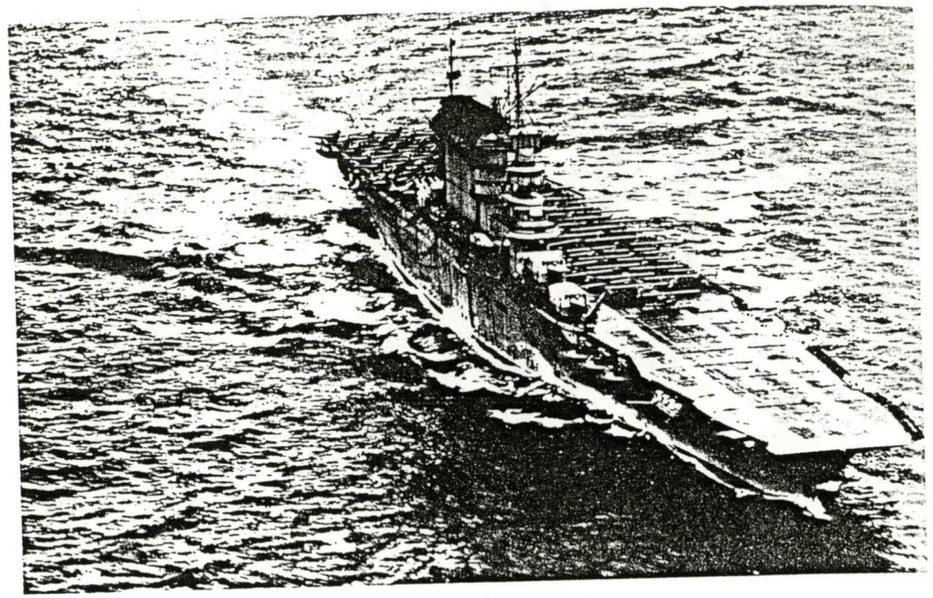
NAVAL WEAPONS, DOCTRINE, AND TACTICS

The effectiveness of bomber and torpedo aircraft against surface warships was so pronounced from the outset of the war—in European waters as well as in the Pacific—that it soon became evident that air superiority also automatically included surface superiority, almost regardless of the relative strength in surface warships of



American LST (Landing Ship Tank) in action

opposing forces. This was demonstrated beyond all doubt in the dramatic American naval victory of Midway (see p. 1146). Thus it was apparent early in the war that carrier-based aircraft were not mere supporters of surface naval forces, but were in fact the primary striking element. The carrier, providing the weapon to destroy enemy surface forces—an extension of fire power—thus quickly displaced the battleship as the capital ship of the fleet, at the very moment that the all-big-gun superdreadnought reached its apogee of firepower and of invulnerability to gunfire in such formidable warships as the German *Bismarck* and the Japanese super-battleships *Yamato* and *Musashi*. The change started with the Japanese carrier blow at



Aircraft carrier U.S.S. *Lexington*

tested and won in the air by bombs and torpedoes delivered by airplanes launched from surface vessels which never sighted one another, nor fired other than anti-aircraft artillery.

Yet, while the loss of H.M.S. *Renown* and *Prince of Wales* (see p. 1130) early in the Pacific war demonstrated the inability of surface vessels to resist properly delivered air strikes—either land- or carrier-based—the period also saw a number of other naval actions in which surface vessels slugged it out with gunfire. Notable were the Battles of the River Plate (see p. 1053) and the Komandorski Islands (see p. 1163), while the Battle of Surigao Strait, in itself a contest of surface maneuver-*cum*-gunfire, was a component of the large-scale Battle of Leyte Gulf in which carrier air power played the major role (see p. 1179).

The submarine loomed large as a component of sea power, its primary mission being commerce destruction. Germany's U-boat Atlantic campaigns almost, but not quite, weighted the scales in favor of Nazi victory. In the Pacific, where Japan never quite understood the strategic employment of the submarine and ignored antisubmarine procedure, the U.S. submarine campaign strangulated the Nipponese merchant marine. What emerged from the conflict was the sound premise that submarine warfare, in both offense and defense, was a highly specialized affair and—like all military operations of the period, for that matter—demanded professional competence and vision of high order. As a result, despite the fact that at the outset of World War II Japan possessed in the "Long Lance" torpedo, technically the best weapon of its category, her underwater strategy was erroneous.

The use of submarines to evade surface blockade, first attempted by the U.S. Navy during the opening Luzon campaign, became highly developed by the Japanese in the Southwest Pacific. Underwater vessels carried troops and matériel, supplementing the use of fast destroyer-transports for the same purpose.

A striking development in surface operations was the use of naval fire power in support of landing operations. Refinements in fire control and direction enabled

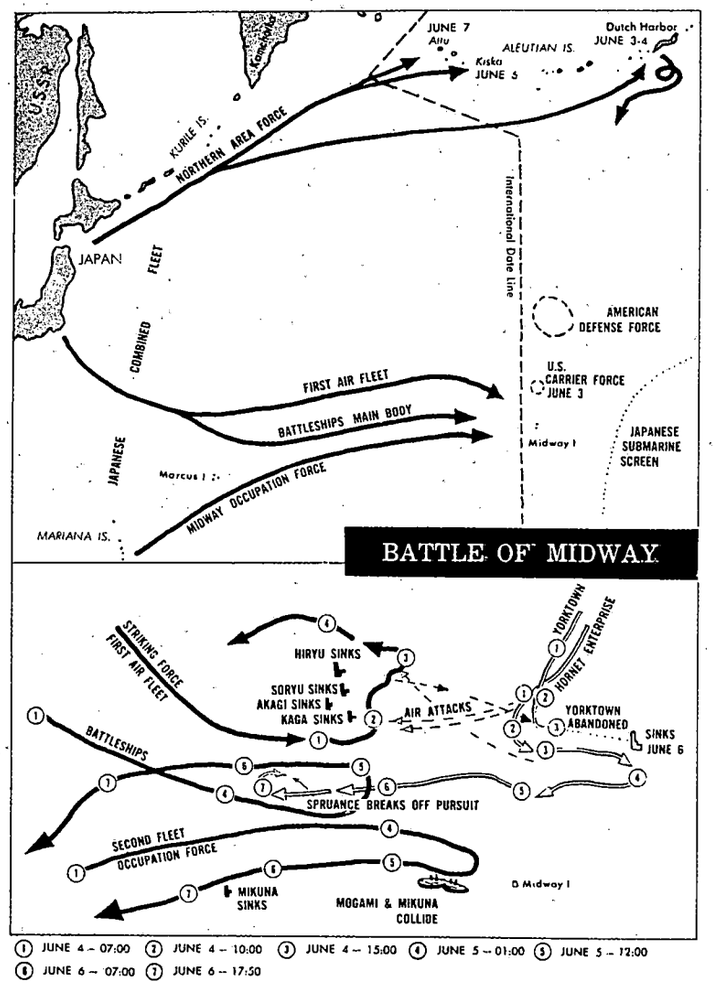
1942, May. Japanese Preparations. While Admiral Yamamoto, commander of the Combined Fleet, was preparing to carry out the revised Japanese strategic plan (see p. 1132), he learned that the American carriers *Enterprise* and *Hornet* were in the South Pacific (where Nimitz had rushed them in an effort to join in the Coral Sea battle). Believing that both the *Yorktown* and the *Lexington* had been sunk in that engagement, he was now certain that his planned blow at Midway would not be opposed by any American carriers. He nevertheless employed 165 warships, all of the available naval might of Japan, in the effort, the greatest armada yet assembled in the Pacific Ocean. Vice Admiral **Boshiro Hosogaya**'s Northern Area Force—2 light carriers, 7 cruisers, and 12 destroyers—was to make diversionary strikes against Alaskan bases just before the main forces struck Midway; after that, Hosogaya was to establish bases in the western Aleutians. The remainder of Yamamoto's fleet headed toward Midway in 3 separate forces: Nagumo's First Air Fleet (sadly missing the 2 carriers put out of action at the Coral Sea by damage or plane loss); the Midway Occupation Force, under Vice Admiral **Nobutake Kondo,** consisting of the powerful Second Fleet of 2 battleships, 1 light carrier, 2 seaplane carriers, 7 cruisers, and 29 destroyers, escorting 12 transports carrying 51,000 troops; and Yamamoto's main body, comprising 7 battleships, 1 light carrier, 4 cruisers, and 12 destroyers. In addition, 18 submarines had been sent to the waters between Midway and Pearl Harbor to report American movements and to attack opportune targets.

1942, May. American Preparation. Nimitz, warned through Navy Intelligence's knowledge of Japanese codes, ordered Halsey's *Enterprise-Hornet* task force to rush back north from the South Pacific; also Fletcher's *Yorktown,* requiring repairs after Coral Sea estimated to take 3 months, was made combat ready in an amazing 48-hour period at Pearl Harbor. These 3 fleet carriers could carry approximately 250 planes, about the same number as on Nagumo's 4 fleet carriers. Nimitz, detaching about one-third of his 76 warships to protect Alaska, planned to fight the main battle within air range of Midway and thus to be able to employ 109 additional Army, Navy, and Marine land-based planes based on that small island. In late May, the Pacific Fleet of some 50 vessels and submarines assembled north of Midway, unsighted by Yamamoto's submarine force, which did not establish its screen until June 1. Halsey was sick in hospital; his *Enterprise-Hornet* force was commanded by Rear Admiral **Raymond A. Spruance.** Fletcher, on the *Yorktown,* was in command at sea under Nimitz' supervision from the Pearl Harbor base.

1942, June 3–7. Operations in the Aleutians. The Japanese Northern Area Force, outmaneuvering Rear Admiral **Robert A. Theobald**'s protective force, bombarded Dutch Harbor twice (June 3 and 4), avoided attacks by American land-based planes, then landed small forces on the islands of Kiska (June 6) and Attu (June 7). Had it not been for the American realization that this was a diversion, these operations would have constituted a great Japanese success. As it was, very little was accomplished except to leave some American military men with red faces, and to arouse further U.S. anger by this seizure of two bits of useless territory in the Western Hemisphere.

1942, June 4, 0300–0700. Battle of Midway—First Phase. Nagumo, confident in Yamamoto's conviction that there were no U.S. carriers in the Central Pacific and that most remaining American warships were rushing north to repel the Aleutian attack, launched half his attack force (108 planes) against Midway in early morning. From Midway, simultaneously, U.S. land-based planes rose both to strike the Japanese carriers and to attack the approaching bombers. Both these American efforts were repulsed with great loss, the American planes being inferior in speed to the Japanese aircraft. While half of the planes attacking the carriers were being shot down by Japanese defensive fighters, with no harm to the carriers, Nagumo's bombers broke through the American screen at 6:30 A.M. and inflicted much damage on the island, sparing the runways, however, for their own expected later use.

1942, June 4, 0700–1700. Battle of Midway—Second Phase. Nagumo, receiving radio word from his Midway strike force



that a second blow would be needed against the island, now began stripping his reserve planes of armor-piercing bombs and torpedoes, rearming with incendiary and fragmentation bombs—at least an hour's task. At that moment a search plane sighted and reported a formation of large American warships to the northeast. Startled Nagumo began rearming his reserve planes for naval action, while at the same time his Midway force was being retrieved on the carrier decks. He was steaming with his 4 carriers in box formation, each surrounded by protecting battleships, cruisers and destroyers. He shifted course 90° to the east to meet the new threat. Fletcher, meanwhile, had ordered Spruance's *Enterprise* and *Hornet* planes to be launched against the Japanese carriers at 7 A.M. The *Yorktown,* several miles to the east, launched half its planes at 7:30. Spruance's dive bombers, overshooting the new Japanese course, missed Nagumo's carriers in the overcast. But the American torpedo bombers found them and came in, without fighter cover, to be almost completely destroyed by antiaircraft fire and fighter planes at about 9:30. Not a single American hit was scored. Nagumo, assuming victory to be in his grasp, was still feverishly rearming and refueling planes on his carriers' cluttered decks when the American dive-bomber squadrons found him—*Enterprise, Hornet,* and *Yorktown*

in turn. By 10:25, 3 Japanese carriers—*Akagi, Kaga,* and *Soryu*—were flaming wrecks. The fourth, *Hiryu,* undamaged, went steaming northeastward, sending her reserve planes to seek the American carriers. They found the *Yorktown* just after noon and hit her with 3 bombs. The *Hiryu,* meanwhile, had rearmed the planes which had struck Midway, and these also attacked the *Yorktown,* scoring 2 fatal torpedo hits. Fletcher abandoned his helpless and listing ship at 3 P.M. But searching American planes had located the Japanese carrier, and from the *Enterprise* a 24-dive-bomber strike—planes hurriedly retrieved from the earlier fight—mortally damaged the *Hiryu,* which burst into flames. It was now 5 P.M., the main battle over. Japan had lost her entire carrier force in being; the U.S. still had two in commission.

1942, June 4–5. Battle of Midway—Third Phase. Yamamoto, thunderstruck by a calamity in part due to his own separation of his fleet into several unsupporting forces, nevertheless hoped to retrieve the disaster. Pushing eastward during the night with all of his big ships, still infinitely superior in surface strength to the Americans, he hoped to lure them into a surface battle. Spruance (to whom Fletcher had relinquished command after the *Yorktown* was abandoned) was aware of this danger, and instead of attempting to pursue had turned eastward during the night. After midnight Yamamoto realized that he could not trap the Americans and, lacking air protection, he ordered a general retirement westward.

1942, June 5–6. Battle of Midway—Closing Actions. For 2 days the Americans pursued the retreating Japanese by day, but avoided possible traps at night. American planes caused additional damage, but no major actions took place. Finally, with fuel running low, Spruance ended the pursuit and turned back toward Pearl Harbor. Meanwhile, the crippled *Yorktown* had remained afloat, and was being slowly towed back to Pearl Harbor when she was sighted and, with an accompanying destroyer, sunk by the Japanese submarine *I-168.* These were the only American vessels lost during the battle. Also lost were 132 land- and carrier-based planes, with a total of 307 Americans killed in the battle. Japanese losses were 4 carriers, 1 heavy cruiser, 275 planes, and 3,500 men killed.

COMMENT. *Midway was one of the decisive battles of history. The loss of her fleet carrier force deprived Japan of the initiative; henceforward she was on the defensive—attempting to hold the great spread of the Southern Resources Area and contiguous regions she had so handily won. The psychological effect on the heretofore ever-victorious Japanese Navy was significant. Tactically, the American operations were almost faultless; Fletcher, the senior officer present, wisely gave Spruance full control over his 2-carrier task force after his own flagship was put out of action. And Spruance made good. Nagumo, on the other hand, was the victim of circumstance and faulty intelligence. His decision to rearm his reserve planes for a second strike at Midway—which resulted in his carriers being caught with their decks crowded with planes—was fatal but perhaps inevitable in view of his lack of vital information. Up to that time he too had conducted his operation faultlessly, and the final strikes of* Hiryu *planes against the* Yorktown *were planned and conducted with skill, gallantry, and determination. Two basic factors led to the result: first and foremost, American knowledge of the Japanese secret codes, which presented Nimitz with an accurate picture of Japanese intentions and dispositions; second, Yamamoto's original dispersion of his tremendous armada to fit his own estimate of probable American intentions and reactions. A minor but interesting sidelight to the battle was the successful transfer of command by both admirals from a sinking flagship to a cruiser: Nagumo from* Akagi *and Fletcher from* Yorktown.

OPERATIONS IN THE SOLOMONS

1942, August 7. Amphibious Landings at Guadalcanal and Tulagi. (For background and land operations, see pp. 1140 and 1141.) Over-all commander of the Allied amphibious invasion of the Solomons was Vice Admiral Ghormley, with headquarters ashore at Nouméa. Commander afloat was Rear Admiral Fletcher, with a task force built round the carriers *Saratoga, Enterprise,* and *Wasp.* The amphibious force itself, comprising 4 U.S. cruisers, 3 Australian cruisers, 19 U.S. destroyers, and 19 troop transports, was commanded by Rear Admiral **R. K. Turner.** Surprise was complete; the Marines were put ashore on Tulagi and Guadalcanal, and within 24 hours had secured their objectives.

1942, August 7–8. Japanese Reaction. Admiral Inouye at Rabaul reacted promptly to reports of the Allied landings. Three separate air raids were made against the invasion force on the first afternoon, and though these caused little damage, they seriously interfered with the landing of supplies and reinforcements to the troops ashore. Meanwhile a naval task force of 7 cruisers and 1 destroyer, under Vice Admiral **Gunichi Mikawa,** rushed southward through the "Slot," or central sound between the central Solomon chains. The following day, Japanese planes continued their intensive attacks, and a series of violent air battles raged over the sound between Guadalcanal and Tulagi, and the seas nearby, as Japanese planes also attempted to hit the American carriers. The carrier planes took a heavy toll of the attackers, but suffered substantial losses themselves. Fletcher decided, therefore, that he would withdraw his carriers from the area, since he feared his losses would make the carriers more vulnerable and would prevent him from providing adequate support to Turner's force and the Marines ashore. As a result of this faulty decision, Turner decided (August 8, evening) that he could not keep his vessels near Guadalcanal without air cover, but decided to continue unloading supplies for 1 more day.

1942, August 9. Battle of Savo Island. Mikawa's force, passing south of Savo Island into the sound between Guadalcanal and Tulagi (later known as Ironbottom Sound), surprised Turner's patrolling cruisers shortly after midnight. In 32 minutes of battle characterized by excellent Japanese gunnery and shiphandling, 4 of the 5 Allied heavy cruisers engaged—1 Australian and 3 U.S.—were sunk and the fifth damaged. Mikawa, fearing American air attack with the dawn (he did not know that Fletcher had withdrawn his carrier force), broke off the engagement and headed for Rabaul, his ships practically unscathed and with only 37 men killed and 57 wounded. Allied casualties were 4 cruisers and 1 destroyer sunk, 1,270 officers and men killed, and 709 wounded. On the way back, an American submarine, *S-44,* took the one substantial toll of Mikawa's command, the heavy cruiser *Kako,* small price for the most humiliating defeat ever suffered in fair fight by the U.S. Navy. Later that day, Admiral Turner departed with the remnant of his warships and all the transports, still only partly unloaded.

COMMENT. *Turner's disposition of his warships in 3 packets to guard all 3 entrances to Ironbottom Sound was faulty, setting up conditions for defeat in detail accomplished later by Mikawa's bold attack. Turner's controversial abandonment of the Marine division, taking with him the greater part of its supply and all heavy ordnance and construction equipment, was justified by Fletcher's prior departure with the carrier force (approved by Ghormley), leaving the amphibious flotilla bare to air attack.*

1942, August 10–23. Force Build-up on Guadalcanal. The Japanese sent in scattered reinforcements and supplies to their small force on Guadalcanal, mostly by fast destroyers which traveled through the Slot only by night. At the same time, the American Marines were receiving supplies by destroyer transport; the captured Japanese airfield (renamed Henderson Field) was completed, and planes brought in (August 20). During this time, long-range air battles were taking place over the island, Japanese planes coming from Rabaul and the northern Solomons, American planes from the New Hebrides. The Japanese failure to take advantage of the withdrawal of the American Navy and undertake an immediate, large-scale land build-up on Guadalcanal, and to make an overwhelming land and naval assault on the Marine positions, was a serious mistake.

1942, August 22–25. Battle of the Eastern Solomons. The next major action was precipitated by a Japanese decision to send a small convoy of destroyers and transports, under Rear Admiral **Raizo Tanaka,** carrying 1,500 reinforcements to Guadalcanal. To provide support and air cover, a Japanese squadron, built around the fleet carriers *Shokaku* and *Zuikaku* and light carrier *Ryujo,* under Admiral **Nobutake Kondo,** steamed toward the Solomons from Truk. The Japanese, because of Midway, had changed their code (al-

support of the Morotai-Pelelieu operations, Halsey's Third Fleet carriers had struck Yap, Ulithi, and the Palaus to neutralize nearby Japanese bases and soften the defenses (September 6). They had then swept the Philippine coast (September 9–13). Encountering slight resistance, Halsey sent a message to Nimitz, recommending cancellation of the proposed intermediate landings on Mindanao and Yap, which seemed unnecessary, and urging that the Leyte assault be mounted as soon as possible. Nimitz, agreeing, queried the Joint Chiefs of Staff, then attending the Quebec Conference. Nimitz offered to "loan" MacArthur his III Amphibious Force and his Army XXIV Corps. MacArthur, queried by the JCS if he could step up his Leyte landings to October 20 instead of December 20, as originally planned, immediately agreed (September 15). Accordingly, a directive was issued that day.

COMMENT. *Never had American military men better displayed flexibility and initiative than did Halsey, Nimitz, MacArthur, and the JCS. MacArthur's decision to advance by 2 months the timetable of a full-scale amphibious assault was audacious in light of the monumental logistical problems involved.*

1944, October 7–16. Prelude to Invasion. The Third Fleet moved to paralyze the remnants of Japanese air power. While Army land-based planes—the Fifth AF from New Guinea and the Seventh from the Marianas—attacked all enemy bases within range, long-range B-29's of XX Bomber Command bombed Formosa from bases in China (October 10). Meanwhile, Halsey hit shipping and shore installations in and around Okinawa, then turned south toward Formosa and Luzon (October 11).

1944, October 13–16. The Battle off Formosa. The Japanese air units on Formosa struck back fiercely; 2 cruisers were severely damaged, other vessels hit. Misled by fires on these ships and the flames of many shot-down Japanese planes, Japanese radio reports claimed a great naval victory. Halsey, hoping to decoy the Combined Fleet to action, left 1 carrier group to escort his cripples and took the rest of the Third Fleet east into the Philippine Sea (October 14–15). Toyoda, taking the bait, sent 600 of his carrier planes from Japan to Formosa airfields to complete the "destruction" of the American fleet. Halsey, returning toward Formosa, in 2 days destroyed about half these planes (October 15–16). The total score in these operations was more than 650 Japanese planes destroyed, many others crippled, and numerous shore installations smashed. Most serious was the wrecking of the rebuilt Japanese carrier air squadrons. U.S. losses were 2 cruisers badly damaged, several others hit, and 75 planes lost.

VISAYAS CAMPAIGN

The Philippines were defended by approximately 350,000 Japanese under the command of General Yamashita, conqueror of Malaya and Singapore. General Sosaku Suzuki's Thirty-fifth Army defended the southern and central Philippines.

1944, October 14–19. Approach to Leyte. A vast amphibious armada was closing on the Leyte coast, some 700 vessels, carrying 200,000 men of General Krueger's U.S. Sixth Army, in Admiral Kinkaid's Seventh Fleet. Wilkinson's III and Barbey's VII Amphibious Forces were supported by Rear Admiral **J. B. Oldendorf**'s gunfire-support group—6 battleships (reconditioned survivors of Pearl Harbor), 5 heavy cruisers (including H.M.A.S. *Shropshire*) and 4 light cruisers, and 66 destroyers (including convoy escorts). The air-support group (Rear Admiral **Thomas L. Sprague**) consisted of 16 escort carriers, 9 destroyers, and 11 destroyer escorts. Far in the offing (now neutralizing Luzon air bases and guarding San Bernardino and Surigao straits) was Halsey's Third Fleet, with Mitscher's fast carrier TF 38 its nucleus: 8 heavy and 8 light carriers, 6 fast new battleships, 6 heavy and 9 light cruisers, and 58 destroyers. Mitscher's planes numbered more than 1,000. Four American submarines were engaged.

COMMENT. *One operational blemish marred this magnificent amphibious array: command was joint, instead of being unified. MacArthur commanded the ground forces and Kinkaid's Seventh Fleet, while Halsey, still under Nimitz' direction, had a dual mission: first, to destroy the Japanese fleet should it put to sea; and second, to give all possible assistance to Kinkaid and the landings. The Americans had no reason to believe that these 2 missions could be contradictory, but the Japanese had a plan which the Americans had not foreseen.*

The "Sho" Plan. *Japan, feeling the effect of continuous air and submarine attacks against her shipping, had long realized that American seizure of the Philippines, Formosa, or the Ryukyus would spilt the empire in two; separate the Southern Resources Area, reservoir for fuel oil and gasoline, from the homeland. Accordingly, the "Sho" (Victory) Plan had been devised as a last-ditch gamble by the Combined Fleet. In principle it embodied use of a portion of the now scattered elements of the fleet to decoy the American carrier force, while the remainder, converging on any new landing area, would overwhelm the amphibious support and isolate the troops ashore. The plan, good in principle, had one major flaw. Without adequate air power it would not work, and the Battle off Formosa had ruined most of Japan's carefully reconstituted naval air strength. Toyoda hoped, however, that land-based air units in the Philippines might make up for this serious deficiency.*

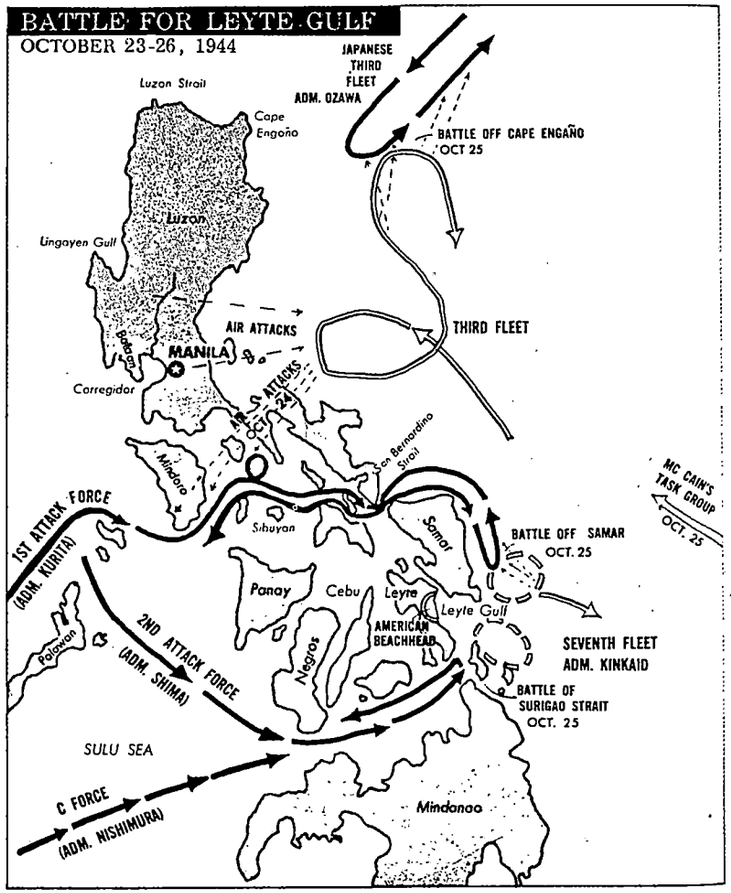
1944, October 20–22. Leyte Landings. Following intensive reconnaissance and a heavy naval bombardment, Sixth Army's X Corps (Major General **Franklin C. Sibert**) and Lieutenant General **John R. Hodge**'s XXIV Corps began landing. The Japanese 16th Division (General **Tomochika**), 16,000 strong, garrisoning the island, gave but little initial opposition. By midnight, 132,400 men and nearly 200,000 tons of supply and equipment were landed, and Kinkaid's combat ships were hurrying south to Surigao Strait to meet a Japanese naval threat. General MacArthur, accompanied by Philippine President **Sergio Osmeña,** came ashore, broadcasting his return (October 22).

The Battle for Leyte Gulf

1944, October 17–23. The Preliminaries. Warned of American intentions, disclosed by the Leyte reconnaissance (October 17), Japan put the **Sho Plan** into immediate effect. The Combined Fleet moved from widely scattered bases. Ozawa's Northern Force (or Third Fleet)—the 4 remaining carriers, 2 battleships, 3 cruisers, and 8 destroyers—steamed from Japan toward Luzon to lure the U.S. Third Fleet away from the landing area; the carriers were phantoms of naval air power, carrying only 116 planes with half-trained pilots. Kurita's Center Force (or First Attack Force)—2 superbattleships, 3 other battleships, 12 cruisers, and 15 destroyers—moving northeast from Malaya, Borneo, and the China Sea, was to traverse the San Bernardino Strait. The Southern Force (or C Force) of Vice Admiral **Shoji Nishimura**'s 2 battleships, 1 heavy cruiser, and 4 destroyers (from Malaya and Borneo), backed up by Vice Admiral **Kiyohide Shima**'s Second Attack Force of 2 heavy and 1 light cruisers and 4 destroyers (from the Ryukyus), moved southeast and east to pass through the Surigao Strait between Mindanao and Leyte. These Center–Southern Force pincers were to destroy all U.S. amphibious forces in Leyte Gulf by a concerted attack, marooning the troops ashore.

1944, October 23–24. Battle of the Sibuyan Sea. U.S. submarines *Darter* and *Dace* discovered Kurita's Center Force as it entered Palawan Passage from the South China Sea. Flashing word to Halsey, the subs sank 2 heavy cruisers and damaged a third. Kurita, continuing into the Sibuyan Sea, was attacked by Mitscher's TF 38. The superbattleship *Musashi* was sunk after 2 days of incessant bombardment and several other vessels damaged. Kurita turned around and headed westward again (late October 24). Halsey assumed he was retreating. Meanwhile, Japanese land-based planes harassed a division of TF 38. Most were shot down, but U.S.S. *Princeton* (light carrier) was sunk and U.S.S. *Birmingham* (cruiser) severely damaged. Unknown to Halsey, after dark Kurita changed course again and headed doggedly for San Bernardino Strait.

1944, October 24–25. Battle of Surigao Strait. Warned of the approach of the Japanese Southern Force, Kinkaid placed Oldendorf's gun-support ships to intercept it. Reconnoitering PT boats picked



up Nishimura's force that night, moving in single line ahead. Two converging destroyer attacks torpedoed the battleship *Fuso* and 4 destroyers. Nishimura's crippled line then ran into Oldendorf's main force, which crossed his "T." American gunfire and torpedoes sank all except 1 destroyer; Nishimura went down with his flagship, *Yamashiro*. Shima's force, bringing up the rear, now ran the gantlet of PT-boat attack, which crippled 1 light cruiser. Attempting now to retire, Shima's flagship collided with one of Nishimura's mortally wounded vessels. Oldendorf pursued through the strait. Between his fire and planes from Admiral Thomas L. Sprague's escort carriers and land-based Army planes, another Japanese cruiser was sunk. The rest of Shima's [illegible] Oldendorf, his mission accomplished, and knowing he might have to fight another battle immediately—turned back.

1944, October 25, Dawn. San Bernardino Strait. Kurita, hoping still to join Nishimura in Leyte Gulf, debouched unopposed from San Bernardino Strait and turned south. Halsey, with his entire force, was rushing after Ozawa's decoy carrier force, which had been sighted to the far north. Word received of Kurita's retirement in the Sibuyan Sea the previous afternoon, combined with overenthusiastic reports from his flyers, led Halsey to believe Kurita was permanently out of the fight. So—his dual mission in mind—Halsey was rushing northward with all available elements of the Third Fleet to destroy the Japanese carrier force. He failed to inform Kinkaid

1944, October 25, Early A.M. Battle off Samar. Kurita's southward advance completely surprised Rear Admiral **Clifton A. F. Sprague,** commanding an escort carrier group of Kinkaid's amphibious force, supporting land operations. Sprague, with 6 escort carriers, 3 destroyers, and 4 destroyer escorts, armed only with 5-in. guns, found himself giving battle to 4 battleships, 6 heavy cruisers, and about 10 destroyers. In an amazing running fight, during which his aircraft, armed with relatively harmless fragmentation bombs (for support of land operations), harassed the heavily gunned Japanese ships, while his destroyers nipped boldly at them, Sprague and his escort flattops fought off disaster. One carrier—U.S.S. *Gambier Bay*—was sunk, 2 destroyers and 1 destroyer escort went down, and Kurita's ships were closing in. But planes from other escort-carrier groups—all fleeing south to rejoin Kinkaid's Seventh Fleet—were now attacking Center Force. Kurita, with victory in his hands, hauled off, thinking he was being attacked by TF 38, his decision bolstered by reports that Nishimura's Southern Force had been demolished. At first Kurita thought to reinforce Ozawa, then gave that up and retreated through San Bernardino Strait. He was now harried by American reinforcements—planes from Rear Admiral **John S. McCain**'s task group of Halsey's fleet—rushing back in response to Seventh Fleet calls for help. Meanwhile, Admiral Thomas L. Sprague's escort carriers and Oldendorf's force, returning from the Surigao Strait fight, were assailed by land-based planes—including the first Japanese kamikaze attacks, which sank U.S.S. *St. Lô* and damaged several other ships.

1944, October 25. Battle off Cape Engaño. Halsey's headlong northward rush to catch the Japanese carrier force bore fruit at 2:20 A.M., when Mitscher's search planes picked it up. With dawn came the first of 3 successive plane strikes. Ozawa, who had put nearly all his small force of planes ashore to operate from land bases, had only antiaircraft fire to oppose the U.S. planes and it was not enough. By nightfall, all 4 Japanese carriers were sunk as well as 5 other of the remaining ships. Two battleships, 2 light cruisers, and 6 destroyers escaped. Halsey, infuriated by a query from Nimitz at Pearl Harbor, demanding explanation of his "failure" to help Kinkaid, went steaming southward at "flank speed" (full speed) with most of his fleet.

COMMENT. *The 4-phased naval Battle of Leyte Gulf ended the Japanese fleet as an organized fighting force. Four carriers, 3 battleships, 6 heavy and 4 light cruisers, 11 destroyers, and a submarine were sunk; nearly every other ship engaged was damaged. About 500 planes were lost; some 10,500 Japanese sailors and airmen were dead. American losses were 1 light carrier, 2 escort carriers, 2 destroyers, 1 destroyer escort, and more than 200 aircraft. About 2,800 Americans had been killed, some 1,000 additional wounded. In this, the greatest naval battle ever joined, 282 vessels were involved: 216 U.S.N., 2 R.A.N., 64 Japanese. Estimated man-power strengths were 143,668 U.S.N. and R.A.N., 42,800 Japanese.*

Both Halsey and Kurita may be criticized, the one for abandoning the Leyte Gulf area to chase Ozawa, the other for his timidity in retreating at the moment of victory. In mitigation, one notes that Halsey was on the horns of his dual-mission dilemma; he had no way of knowing that Ozawa's carrier force was only a decoy. As for Kurita, he was bewildered by conflicting reports and already shaken by 2 previous severe joltings. For all he knew, he might be throwing the only Japanese naval strength that remained afloat into the jaws of the overwhelming force of the entire U.S. Navy. So he limped away, victim of an overly complicated plan and of his own fears.

Struggle for Leyte

1944, October 21–December 31. General Yamashita, Japanese commander in the Philippines, recovering from the strategic surprise of the landings, decided to fight for Leyte. While the veteran 16th Division carried on a skillful delaying action, reinforcements were hurried from Luzon and the Visayas to build up the Thirty-fifth Army. Between October 23 and December 11, some 45,000 men and 10,000 tons of supply arrived in small increments, carried mostly by fast-running destroyer transports. U.S. Navy and long-range Army planes then dried up the supply routes, despite fierce Japanese land-based air strikes which only expended a great

part of the remaining Japanese air power. Toward the end, only a trickle of sailing craft traversed the Leyte waters. Meanwhile, U.S. Sixth Army made slow progress against desperately defended delaying positions in the central mountain ridge. Progress was further impeded by tropical storms which turned the few dirt roads into quagmires. On the right, X Corps, by overland and amphibious movements, was approaching Limon, the northern anchor of Suzuki's defense line (November 7). On the left, XXIV Corps hammered at the precipitous heights protecting Ormoc, the southern Japanese key point and principal port. An amphibious lift (December 7) threatened Suzuki's southern flank, while at the same time a desperate but ineffective Japanese air drop farther east was repelled. Krueger, reinforced, launched a double envelopment (December 7–8), taking both Limon and Ormoc (December 10). The 77th Division from the south and 1st Cavalry and 24th divisions from the north then met (December 20) at Libungao, surrounding Suzuki's combat elements and cutting him off from his last remaining port, Palompom. All organized resistance collapsed Christmas Day. The Japanese had suffered over 70,000 casualties in the campaign; American losses were 15,584. Meanwhile, a foothold had been gained on adjoining Samar (late October).

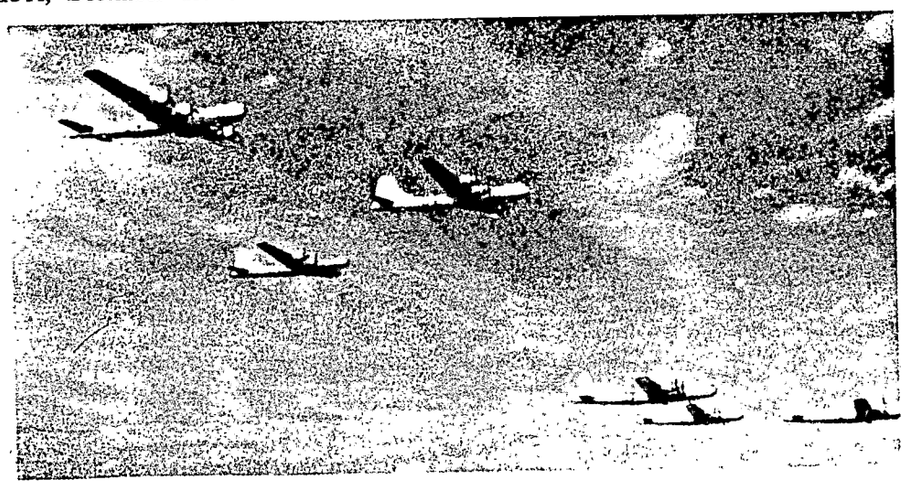
1944, December 15. Seizure of Mindoro. A bold amphibious operation put a task force of approximately brigade strength ashore on Mindoro in the northern Visayas, just south of Luzon, to establish an advance air base for MacArthur's coming assault on Luzon.

COMMENT. *Japan's election to force a decision in the Leyte area had cost her a fatally crippled fleet and air force, and a serious reduction in ground-force strength in the Philippines. As the year ended, Japan had lost the war. Her communications with the Southern Resources Area were severed, her merchant fleet reduced from a tonnage of 6 million in 1941 to 2.5 (60 per cent of this loss caused by U.S. submarines). Approximately 135,000 of her soldiers were marooned, helpless, behind the American advance. But as yet Japan would not admit defeat.*

The Strategic Air Offensive

OPERATIONS FROM INDIA AND CHINA

1944, April–May. B-29's to India. With the agreement of Britain and China, new American B-29 "Superfortress" bombers began to arrive at bases near Calcutta. These planes of the XX Bomber Command were to undertake long-range strategic bombardment from India, and were also to strike industrial targets in Manchuria and southern Japan itself from bases in China. These powerful, heavily armed planes could fly over 350 mph, and could carry 20,000 pounds of bombs against targets over 1,500 miles from their bases. They were each armed with 12 .50-cal. machine guns and a 20 mm. cannon.



B-29 Superfortresses

1944, June 5. First B-29 Combat Mission. This was an attack on railway targets at Bangkok, Thailand.

1944, June 15. First Strike against Japan. Five airfields with extra-long runways had been painstakingly built by coolie labor near Ch'engtu, in western China. Sixty-eight planes, staged to the Ch'engtu bases from Calcutta, hit a steel plant on the Japanese island of Kyushu.

1944, June–December. Continuing Strategic Missions. Because of the limitations on the total amounts of supplies and equipment that could be carried over the Hump, the B-29's were not based permanently in China. Barracks, repair shops, and heavy support equipment were all near the Calcutta bases. The B-29's carried their own fuel and bombs from India to Ch'engtu in preparation for their periodic raids on Kyushu, southern Manchuria, and Formosa. In between these raids, the great planes continued to attack Japanese bases in Southeast Asia from their fields near Calcutta. Under Major General **Curtis E. LeMay,** the XX Bomber Command became increasingly efficient.

OPERATIONS FROM THE MARIANAS

1944, October. B-29's to Saipan. As soon as the Marianas islands of Saipan, Tinian, and Guam had been captured (see p. 1177), Army B-17 and B-24 bombers moved into the captured Japanese airfields to strike at the Bonins and Iwo Jima (August–September). At the same time, Army Engineers began to lengthen existing runways and to build new extra-long airfields on all available areas of the islands. As soon as the first of these was ready, B-29's of the XXI Bomber Command began to arrive.

1944, October 28. First B-29 Mission from the Marianas. This was the first of several operational-training missions against Truk.

1944, November 24. First Marianas Mission against Japan. More than 100 B-29's initiated the final strategic air offensive against Japan by a raid against an aircraft plant near Tokyo.

1944, November–December. Continuing the Strategic Offensive. About once every 5 days, 100 to 120 Superfortresses struck industrial targets in Japan. The raids usually began with a dawn take-off from the Marianas airfields, the planes climbing steadily until they reached an altitude of about 30,000 feet as they crossed the Japanese coast. Resistance was fierce. Fighter planes based on Iwo Jima struck at the bombers as they flew over in the mornings and as they returned in the early afternoons. Over Japan, 200 or more fighters, with the best pilots available, rose to meet them. The Superfortresses shot down many of the attackers, but suffered severely themselves. By the end of the year, XXI Bomber Command was losing about 6 per cent of the planes that started on every raid, exceeding the theoretically acceptable maximum loss rate of 5 per cent.

THE WAR AGAINST JAPAN, 1945

Strategy and Policy

The collapse of Japan's defensive perimeter in the east and south, resulting from the crushing defeats suffered in 1944 by Japan's land, sea, and air forces in the Southwest Pacific and Pacific Ocean Areas, made the outcome of the war against Japan a foregone conclusion to Allied military leadership. Surprisingly, at the outset of the year, it seemed even possible that Japan's defeat might come as early as Germany's. This was the result not so much of the Allies' failing to adhere to their basic strategy of "Germany first"—though the Americans *had* deviated from that strategy to some extent—but was rather the natural consequence of the amazing military might which America had been able to mobilize in 3 short years. No nation in history had ever before been able to exercise so much power over so wide an expanse of

PD -
for file.

THE WHITE HOUSE
WASHINGTON

4/27/90
t/c Commander John Kenny
(Office of the Secretary
of the Navy)
695-5410

advised Mrs. Bush would
love to accept invitation;
he will call back with the
name of our contact and
time and what Mrs. Bush's
participation would be

PAGE.001

JUL 6 '90 8:28

THE SECRETARY OF DEFENSE

WASHINGTON, THE DISTRICT OF COLUMBIA

90 MAY 22 AM 8:30

21 MAY 1990 OSD WHITE HOUSE LIAISON

The President
The White House
Washington, DC 20500

Dear Mr. President:

We were honored that the First Lady has agreed to be the sponsor for the Navy's newest aircraft carrier, GEORGE WASHINGTON (CVN 73). The christening ceremony will be held on Saturday, July 21, 1990, at Newport News Shipbuilding and Drydock Company, Newport News, Virginia.

We would be doubly honored if you would deliver the principal address at that ceremony. The men and women of the armed forces would be thrilled to see their Commander in Chief.

Respectfully yours,

Dick Cheney

W26862

4065 ADD-ON

NATIONAL SECURITY COUNCIL
WASHINGTON, D.C. 20506

90 JUN 22 PM 3:39

June 21, 1990

OSD
WHITE HOUSE LIAISON

MEMORANDUM FOR COL GEORGE P. COLE, JR.
Executive Secretary
Department of Defense

SUBJECT: President's Participation in Christening of the GEORGE WASHINGTON -- July 21, 1990

Secretary Cheney's invitation to the President to attend the christening of the GEORGE WASHINGTON has been accepted. The National Security Council point of contact is Captain Don Pilling, USN, at 395-6923.

William F. Sittmann
Executive Secretary

THE WHITE HOUSE
WASHINGTON

TO: Susan ~~Porter~~ Ann? Rose

FROM: JOSEPH W. HAGIN, II
Deputy Assistant to the President
for Appointments and Scheduling

- [x] For Your Information
- [ ] For Your Action
- [ ] For Your Files
- [ ] As Requested
- [ ] For Your Comments and Suggestions
- [ ] Let's Discuss
- [ ] Please Return

COMMENTS: Everyone here thinks that this is an A+ event for Mrs. Bush and that we should try to go also. I can't give them an answer for POTUS for quite some time but thought you might want to accept ??

THE SECRETARY OF THE NAVY
WASHINGTON

5 May 1989

Mrs. George Bush
The White House
Washington, D. C. 20500

Dear Mrs. Bush:

It is my privilege to extend to you our invitation to christen the nuclear-powered aircraft carrier GEORGE WASHINGTON (CVN 73), the sixth carrier of the Nimitz class now under construction at Newport News Shipbuilding and Drydock Company.

As you may know, there is a long tradition of First Ladies christening our newest capital ships, and you would do our Navy a great honor if you could serve as the sponsor of this proud addition to our fleet. Our submarine force remains grateful for your sponsorship of USS HOUSTON, and I can assure you that all naval aviators, past as well as present, would be delighted by your agreeing to christen the namesake of the father of our Country.

The christening ceremony and launching will occur at Newport News, Virginia, on September 8, 1990. It would mean a great deal to our entire Navy family if you could accept, and it would no doubt secure a long and distinguished career for a ship that will carry the name George Washington around the world for the next forty years.

Sincerely,

William L. Ball, III

6/8/ UUU Sept 1990

THE WHITE HOUSE

WASHINGTON

June 6, 1989

MEMORANDUM FOR ANN BROCK

FROM: STEPHEN M. STUDDERT

SUBJECT: CHRISTENING OF THE GEORGE WASHINGTON

I was pleased to see this invitation come in from Secretary Ball. It is my opinion that both the President and Mrs. Bush should do this event. As Chase Untermeyer points out, the George Washington christening provides a perfect opportunity for the President to present tough remarks on issues surrounding our national defense.

The event also offers historical perspectives because of the President's naval aviator career, and the celebration of the Bicentennial of the Presidency (From George to George).

Mrs. Bush would serve as the sponsor of the ship and perform the actual christening event (breaking the champagne bottle).

I have passed on this recommendation to Joe Hagin as well.

cc: Joe Hagin
Chase Untermeyer

THE WHITE HOUSE

WASHINGTON

4 June 1989

To: Ann Brock,
Director of Scheduling for Mrs Bush

From: Chase Untermeyer

Subj: Invitation from former SecNav Ball of 5 May 89

By all means Mrs Bush should accept former SecNav Ball's invitation to christen the carrier GEORGE WASHINGTON on 8 Sep 90 and should indicate her acceptance even at this early date.

It is an enormous honor to be asked to sponsor any naval vessel, and GEORGE WASHINGTON will be our newest and mightiest warship. Further, because the spouse of the sponsor is typically invited to give remarks on the occasion, the christening will enable the President to make a strong speech on national defense with a spectacular backdrop right at the start of the 1990 campaign season. Senator Warner (a former SecNav) will be running for reelection, and no doubt he would appreciate the event tremendously.

Please call me (x 7060) if I can answer any further questions.

Chase

cc: Steve Studdert

THE WHITE HOUSE
WASHINGTON

5/1/90
t/c Jack Garrow
(804) 380-3900

aircraft in drydock
large barges flank carrier

10:30am principals meet in Ed Cambell's office (BB, sr. naval officials, VIPs)
11:00am on dais
ceremony
national anthem
speakers - main tbd
Campbell introduces BB
ascends to christening platform
whistle blows
"I christen thee USS GEORGE WASHINGTON"
closing remarks

reception - 400
will be presented with bottle encased in box

20,000 attendance at event

THE WHITE HOUSE

WASHINGTON

May 2, 1990

MEMORANDUM TO: KIM BRADY

FROM: SUSAN PORTER ROSE

SUBJECT: Approved Out-of-House Event for Mrs. Bush

EVENT: Christening of the USS GEORGE WASHINGTON (CVN 73) Aircraft Carrier

DATE: Saturday, July 21, 1990

TIME: 10:30am Principals meet
11:00am Christening Ceremonies

LOCATION: Newport News Shipbuilding and Drydock Company North Yard
4101 Washington Avenue
Newport News, VA 23609 (804) 380-2000

CONTACT: Ann Brock ext 6633
Jack Garrow ofc (804) 380-3900
res (804) 229-6952

REMARKS: No

PRESS: Yes

COMMENTS: Mrs. Bush has been invited to christen the sixth Nimitz-class carrier, the USS GEORGE WASHINGTON. The principals will meet in th office of Mr. Ed Campbell (CEO of Newport News Shipbuilding) before moving to the North Yard to take position on the dais. The ceremon will begin at 11:00am - national anthem, innvocation, remarks by various VIPS, Mr. Campbell will introduce Mrs. Bush who will christ the carrier (no remarks, other than "I christen thee USS GEORGE WASHINGTON"), closing remarks (the main speaker is tbd). A recepti will follow in which Mrs. Bush will be presented with the christeni bottle encased in a ceremonial box. Attendance at the christening may be up to 20,000 and attendance at the reception will be 400.

Thank you.

cc:

Gov. Sununu	**Tim McBride**
BB Staff	**Patty Presock**
Tony Benedi	**Sig Rogich**
Marlin Fitzwater	**Usher's Office**
Joe Hagin	**USSS/BB Ops-89 EOB**
John Keller	**USSS/Staircase**
General Scowcroft	**David Valdez**
Bob Gates	

THE WHITE HOUSE

WASHINGTON

May 2, 1990

MEMORANDUM TO: FRED McCLURE
JIM WRAY
LEE ATWATER
DEBRA ANDERSON

FROM: SUSAN PORTER ROSE

SUBJECT: Notification needed for Mrs. Bush's upcoming travel

Would you please notify the appropriate Congressional representatives, Mayors, party people, and any others who should know of Mrs. Bush's upcoming travel.

EVENT: Christening of the USS GEORGE WASHINGTON (CVN 73)

DATE: Saturday, July 21, 1990

TIME: 11:00am

LOCATION: Newport News, VA

CONTACT: Ann Brock 456-6633

COMMENTS: Mrs. Bush has been invited to christen the sixth Nimitz-class carrier, the USS GEORGE WASHINGTON at the Newport News Shipbuilding and Drydock Company.

Thank you.

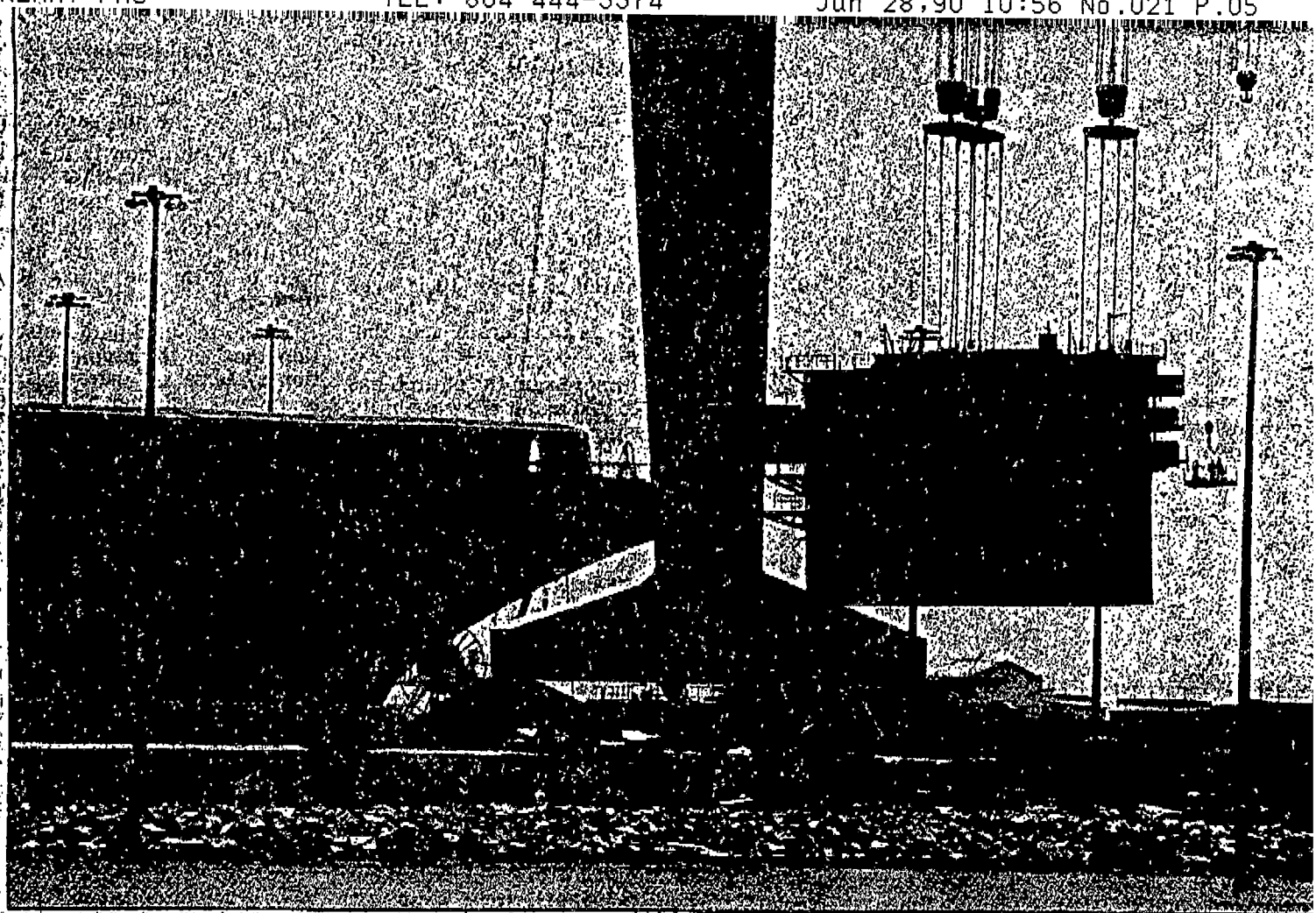
FACT SHEET
SPONSORSHIP OF GEORGE WASHINGTON (CVN 73)

Prior to leaving office, former Secretary of the Navy Ball invited the First Lady to be the sponsor of the aircraft carrier GEORGE WASHINGTON (CVN 73).

GEORGE WASHINGTON, the sixth Nimitz-class carrier, is under construction at the Newport News Shipbuilding and Drydock Company, Newport News, Virginia, where the ship will be christened. The christening date is September 8, 1990. The sponsor is involved in both the christening and commissioning ceremonies. The date of the commissioning ceremony is not yet set; it is dependent on construction progress. At this time the best estimate of the commissioning date is August 1992.

The First Lady is familiar with sponsorship of a ship having sponsored USS HOUSTON. The sponsor breaks the bottle (of champagne) on the bow of the ship. She also chooses the maid or matron of honor to assist her.

The christening and commissioning of an aircraft carrier is a major event, with the commissioning being the bigger of the two. The last carrier commissioning, USS THEODORE ROOSEVELT, also at Newport News had an audience of 10,000. A video tape of that ceremony is available.



KENNETH D. LYONS/Staf

A crane at Newport News Shipbuilding lifts into place a 516-ton island house for the Nimitz-class aircraft carrier George Washington on Monday afternoon. The island is w ship's bridge is located. Story, A2.

Va. beefs up drug war

New tactics needed, Wilder tells officials

By BOB KEMPER
Staff Writer

RICHMOND — Gov. L. Douglas Wilder told about 350 law enforcement officials Monday that they need to come up with innovative ways to combat drugs and "do more than ask for more money."

"Virginians must live within their means. We must likewise fight drugs and crime within our means," Wilder told the officials he called together for a two-day Virginia Summit on Drugs, a gathering that will help define the administration's anti-drug agenda.

Hampton Police Chief Patrick G. Minetti, addressing the group, said, "The scourge of this terrible epidemic is unprecedented. All of us need to do a little bit more, and that's why we're here today."

While warning the police chiefs, sheriffs, prosecutors and others that they would have to find ways to do more with less money, Wilder outlined for them how his administration and the General Assembly had set aside millions of dollars more for anti-drug programs.

The governor said the state will spend about $3.6 million next year on drug programs agreed upon by the officials during the summits' closed-door meetings.

SCOTT KINGSLEY/
Hampton Police Chief Patrick G
speaks to Gov. Douglas Wilder

"The people of Virginia and
ing on you to provide this a
with concrete proposals for ma
of our limited law enforcemen

■ Please

Taxing time for Virginians

Some put it off; others just forget

"My husband called me and said, 'The taxes have been on the visor for four weeks,'" Scheuring said Monday night

7-Eleven and I'm about to throw up. They've been done; he just hasn't mailed them."

Newport News Postmaster

ANDY PARKER/Staff photographer

Mount Nebo Baptist Church congregation show their support for Willie and Lucy Butler.

m

ontinued from A1

her arms, began
and down and
hank you Jesus,
ord, thank you
e collapsing into
riends.
ıldn't control my-
d later. "My hus-
thief. He has al-
lling to give what
others, whether it
as or an expensive
achinery. People
o him for help in
the night. God is
Butler, 62, took the
shaking the hands
d relatives. "Thank
ou," he said, over-
think it's wonder-

for the farm fore-
set last month when
y court judge dis-
valid Willie Butler's
ter 12 bankruptcy

declaration in four years, leaving creditors to tear apart the 262-acre farm to cover the debts that Butler says just wouldn't go away after the 1985 drought.

The decision by the church's board to purchase and return the farmhouse to the Butlers brought with it a strong sense of justice and a repayment of an old debt to the Butler family, said Baltimore. In 1970 when the Mount Nebo congregation was attempting to get the financing to back the construction of the brick church that sits on Route 10 midway between Surry and Bacons Castle, it was Willie Butler's father, a former deacon in the church, who put up "everything he had" as collateral.

"He put up his assets," said Baltimore. "He set the example. He showed the congregation what real faith was."

The church had been trying to buy the Butler farm outright but because more than one financing institution controlled the acreage, the deal became too complex, said Baltimore. The Farmers Home Administration still controls 104 acres of the land.

The farm property, located on Route 635 about four miles west of the Town of Surry, will also give the church some control over future development patterns in the area and could possibly serve as the future site of the church if Route 10 is ever expanded to four lanes, forcing the church to relocate, said Baltimore.

Baltimore said the church has not decided about the possibility of leasing the farmland back to Butler. "I'd like to see him catch his breath," said Baltimore of Butler.

The church was to pay 10 percent of the purchase price for the property Monday. The entire amount must be paid within 30 days.

"The main thing is, we're a church and we love each other," said Baltimore. "We're just exercising our faith."

Crane pulls its weight at shipyard

By DONALD LOEPP
Staff Writer

NEWPORT NEWS — Looking like a step in the construction of a plastic model of a toy aircraft carrier, Newport News Shipbuilding's 800-ton capacity gantry crane lifted the 516-ton island house into place on the deck of the George Washington Monday afternoon.

The island, where the ship's bridge is located, was lowered onto the aircraft carrier structure at about 1:45 p.m.

The island is the last of about 150 major modules, called superlifts, to be put into place by the crane. Each superlift weighs between 100 and 900 tons.

"The island house was placed on the flight deck without a hitch, as planned," a spokeswoman for the shipyard said.

The Washington is the shipyard's third Nimitz-class aircraft carrier to be built using modular construction, in which preoutfitted superlifts are assembled to form the ship's structure.

Prior to modular construction, most of the piping, ventilation systems and wireways had to be put together in the dry dock. The island house on the USS Abraham Lincoln, the last carrier launched from the shipyard, was more than half-finished when it was installed.

The Washington's keel was laid Aug. 25, 1986, and it is scheduled for delivery to the Navy in late 1991. First lady Barbara Bush is scheduled to christen the $2.99 billion nuclear-powered carrier in a ceremony scheduled for July 21.

■ Drug

Continued from A1

Wilder told the gathering.

"Asking for more money, while failing to develop specific initiatives, would be utterly fu-

set general, statewide priorities for the war on drugs by Monday night. Today officials will gather in regional groups to determine how those priorities would fit their particular needs, said Bob Northern, a former Wilder bodyguard who now oversees

■ Soviet

Continued from A1

saying that deliveries of oil and gasoline will be curtailed beginning Wednesday

.J35
19

JANE'S FIGHTING SHIPS

FOUNDED IN 1897 BY FRED T JANE

EDITED BY
Captain RICHARD SHARPE OBE RN

1989-90

ISBN 0 7106 0886 1

JANE'S DEFENCE DATA

LIBRARY

F-14s, two light attack squadrons of 20 F/A-18s, two medium attack squadrons of 20 A-6E Intruders, one ASW squadron of 10 S-3A Viking aircraft, one detachment of six EA-6B Prowler electronic warfare aircraft, five E-2C Hawkeye early-warning

Service Life Extension Programme (SLEP): The SLEP programme was initiated in 1979 *Saratoga* and *Forrestal* have completed 28 month SLEP overhaul and modernisation

ship has no aircraft maintenance or arming capabilities and is not considered as a combat ship. In an emergency, aircraft could be embarked on a very restricted operational basis

1 "DOLPHIN" CLASS (AGSS)

Name	No	Builders	Laid down	Launched	Commissioned	F/S PA
DOLPHIN	AGSS 555	Portsmouth Naval Shipyard	9 Nov 1962	8 June 1968	17 Aug 1968	

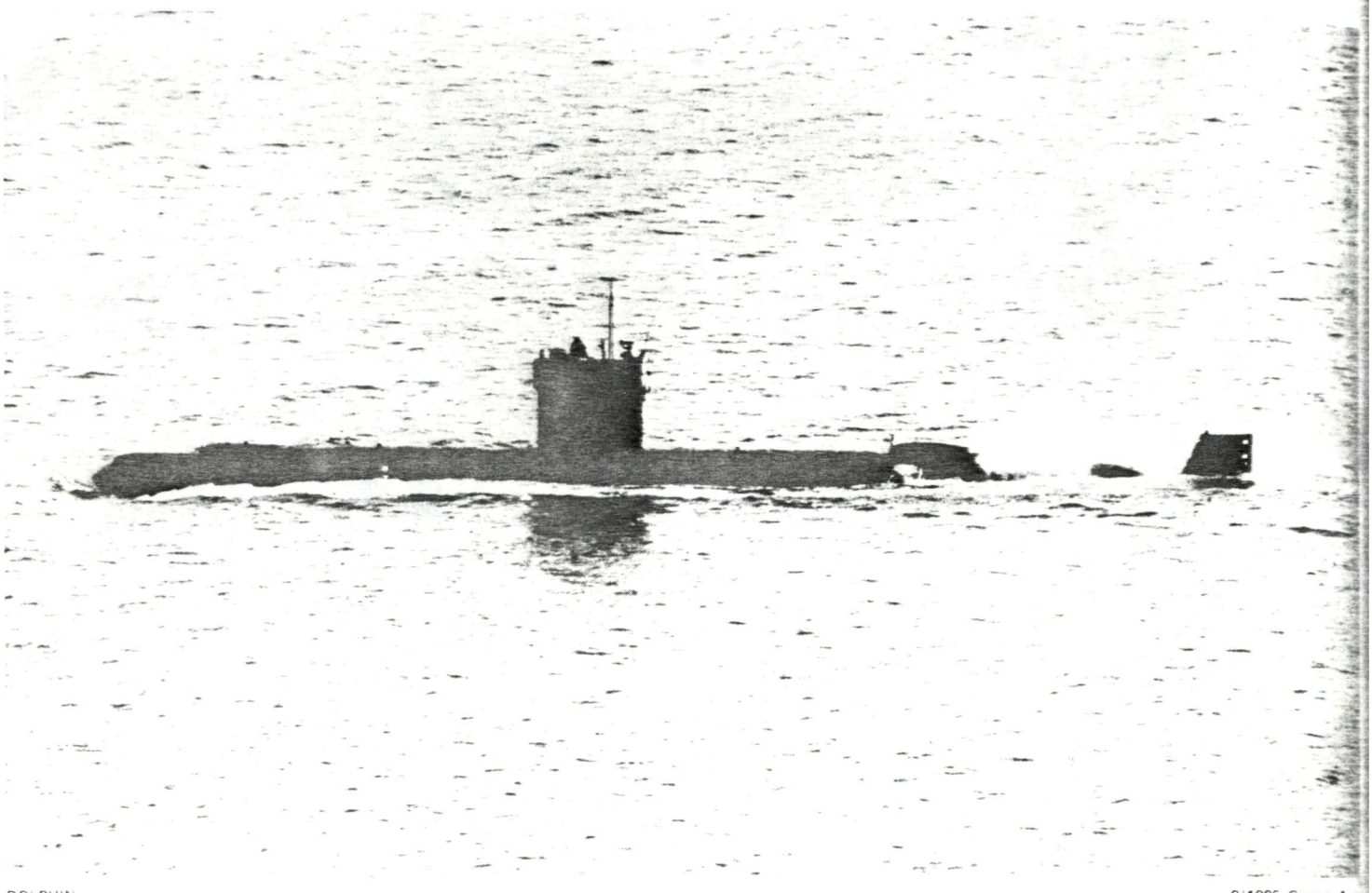
Displacement, tons: 800 standard 930 full load
Dimensions, feet (metres): 152 × 19.3 × 18 (46.3 × 5.9 × 5.5)
Main machinery: Diesel-electric; 2 Detroit 12 V71 diesels 1 650 hp; 1 shaft
Fitted with 330 cell silver-zinc battery
Speed, knots: 15+ dived
Complement: 37 (4 officers) plus 4-7 scientists

Torpedoes: Single tube removed
Radars: Navigation: Sperry SPS 53 portable; I/J band
Sonars: Ametek BQS 15 active close-range detection; high frequency
EDO BQR 2; passive search; low frequency
Acoustic arrays towed at up to 4 000 ft astern

Programmes: Authorised in FY 1961 but delayed because of changes in mission and equipment coupled with higher priorities being given to other submarine projects

Structure: Has a constant diameter cylindrical pressure hull approximately 15 ft in outer diameter closed at both ends with hemispherical heads. Pressure hull fabricated of HY-80 steel with aluminium and fibre-glass used in secondary structures to reduce weight. No conventional hydroplanes are mounted, improved rudder design and other features provide manoeuvring control and hovering capability. Fitted for deep-ocean sonar and oceanographic research. She is highly automated and has three computer-operated systems, a safety system, hovering system and one that is classified. The digital-computer submarine safety system monitors equipment and provides data on closed-circuit television screens; malfunctions in equipment set off an alarm and if they are not corrected within the prescribed time the system, unless overridden by an operator, automatically brings the submarine to the surface. There are several research stations for scientists and she is fitted to take water samples down to her operating depth. Underwater endurance is limited (endurance and habitability were considered of secondary importance in design)

Operational: Assigned to Submarine Development Group 1 at San Diego. Designed for deep diving operations. Submerged endurance is approximately 24 hours with an at-sea endurance of 14 days



DOLPHIN

9/1985, Giorgio Arra

AIRCRAFT CARRIERS

The US Navy currently operates 15 aircraft carriers (one of which is always in SLEP overhaul): 13 ships of post Second World War construction (including five nuclear powered) and two "Midway" class ships completed shortly after the war. In addition, an obsolescent "Essex" class ship serves as a training carrier.
This total is frequently criticised as inadequate by those who are charged with the implementation of national and NATO naval plans.
Two nuclear carriers, *Abraham Lincoln* and *George Washington*, are under construction with construction funds approved in the FY 1983 programme and two more were included in the FY 1988 budget with contracts awarded in June 1988. These last two will replace *Midway* and probably *Saratoga*.
It is now planned to maintain a 15 carrier force level through the 1990s, the total not including the ship in SLEP.

Air Wings: Each large aircraft carrier (CV/CVN) normally operates an air wing of 85-90 aircraft. In recent years those air wings have included F-4 Phantom fighter aircraft and A-7 Corsair II attack aircraft. However F-14 Tomcat fighters and F/A-18 attack aircraft have just about replaced these aircraft in the fleet. Beginning in late 1988, CV/CVNs began transition to the new "notional" air wing. It consists of two fighter squadrons of 20 F-14s, two light attack squadrons of 20 F/A-18s, two medium attack squadrons of 20 A-6E Intruders, one ASW squadron of 10 S-3A Viking aircraft, one detachment of six EA-6B Prowler electronic warfare aircraft, five E-2C Hawkeye early-warning control aircraft and one ASW squadron of six SH-3G/H helicopters although budget constraints may limit numbers embarked.
The "Midway" class carriers cannot accommodate the full wing described above, but have been modified to operate F/A-18s. Also because of budget problems the Navy is deactivating one active carrier air wing during FY 1989 and will have to rely on two Naval Reserve air wings to augment its forces in event of crisis. Seven active and one reserve wing will be assigned to the Atlantic Command, five active and one reserve wing to the Pacific Command, and one active wing will remain deployed to Japan.
See *Shipborne Aircraft* section for details of aircraft.

Classification: From 1972 onward attack aircraft carriers (CVA) were reclassified as aircraft carriers (CV) upon being fitted with anti-submarine control centres and facilities to support ASW aircraft and helicopters (in addition to fighter/attack aircraft). The multi-purpose configuration was dictated by the phasing out of dedicated anti-submarine aircraft carriers (CVS), the last being decommissioned in 1974.
All active ships still classified as attack aircraft carriers (CVA, CVAN) on 30 June 1975 were changed to CV/CVN regardless of their ability to support anti-submarine aircraft.

Service Life Extension Programme (SLEP): The SLEP programme was initiated in 1979. *Saratoga* and *Forrestal* have completed 28 month SLEP overhaul and modernisation. *Independence*, scheduled for 34 months, completed in May 1988 and *Kitty Hawk* started SLEP in January 1988. The principal objective of SLEP is to extend the service life of aircraft carriers an additional 15 years, providing a reliable, logistically supportable platform capable of operating all current and future fleet aircraft. While the major thrust of SLEP is repair and life enhancement, warfighting improvements are incorporated to keep pace with the aircraft carrier modernisation baseline. SLEP includes complete overhaul of propulsion, auxiliary, and launch systems; upgrade of aircraft recovery equipment; extensive structure, tank, and piping repair; and installation of updated sensors, weapons systems, and electronic suites. On earlier SLEP ships this included installation of Vulcan Phalanx close-in weapons system (CIWS), NATO Sea Sparrow missile system, SPS 49 radar, and F/A-18 Hornet capability. Future SLEP ships, if already equipped with these systems, will receive modernisation to current standards incorporating improved NTDS, SPS 48E, TAS Mk 23 radar, new ASW systems and Raytheon SLQ-32(V)4 combined EW intercept and jammer. SLEP overhauls subsequent to *Independence* are planned for 37 months for improved industrial efficiency.

Training Carrier: The "Essex" class carrier *Lexington* (AVT 16) operates as a training ship and is based at Pensacola, Florida. The ship has no aircraft maintenance or arming capabilities, and is not considered as a combat ship. In an emergency, aircraft could be embarked on a very restricted operational basis.

4 + 4 "NIMITZ" CLASS (CVN)

Name	No	Builders	Laid down	Launched	Commissioned	F/S
NIMITZ	CVN 68	Newport News Shipbuilding & Dry Dock Co	22 June 1968	13 May 1972	3 May 1975	PA
DWIGHT D. EISENHOWER	CVN 69	Newport News Shipbuilding & Dry Dock Co	15 Aug 1970	11 Oct 1975	18 Oct 1977	AA
CARL VINSON	CVN 70	Newport News Shipbuilding & Dry Dock Co	11 Oct 1975	18 Mar 1980	26 Feb 1982	PA
THEODORE ROOSEVELT	CVN 71	Newport News Shipbuilding & Dry Dock Co	13 Oct 1981	27 Oct 1984	25 Oct 1986	AA
ABRAHAM LINCOLN	CVN 72	Newport News Shipbuilding & Dry Dock Co	3 Nov 1984	13 Feb 1988	Dec 1989	Bldg
GEORGE WASHINGTON	CVN 73	Newport News Shipbuilding & Dry Dock Co	25 Aug 1986	Sep 1989	Dec 1991	Bldg
JOHN C. STENNIS	CVN 74	Newport News Shipbuilding & Dry Dock Co	1991	—	1998	Bldg
—	CVN 75	Newport News Shipbuilding & Dry Dock Co	1992	—	1998	Bldg

Displacement, tons: 72 916 (CVN 68-70) 73 973 light; 91 487 (CVN 68-70) 96 386 full load

Dimensions, feet (metres): 1 040 pp; 1 092 × 134 × 37 (CVN 68-70); 38.7
(317; 332.9 × 40.8 × 11.3; 11.8)

Flight deck, feet (metres): 1 092; 779.8 (angled) × 252 *(332.9; 237.7 × 76.8)*

Main machinery: 2 pressurised-water cooled A4W/A1G nuclear reactors; 4 geared steam turbines; 260 000 shp; 4 shafts

Speed, knots: 30+

Complement: 3 136 (155 officers); 2 800 aircrew (366 officers)

Missiles: SAM: 3 Raytheon Sea Sparrow Mk 29 octuple launchers; semi-active radar homing to 14.6 km *(8 nm)* at 2.5 Mach

Guns: 4 General Electric/General Dynamics 20 mm Vulcan Phalanx 6-barrelled Mk 15 (3 in CVN 68 and 69); 3 000 rounds/minute combined to 1.5 km

Countermeasures: Decoys: 4 Loral Hycor SRBOC 6-barrelled fixed Mk 36; IR flares and Chaff to 4 km *(2.2 nm)*

ESM/ECM: SLQ 29 (WLR 8 radar warning and SLQ 17AV jammers)

Fire control: 3 Mk 91 MFCS. NTDS action data automation; Links 11 and 14; OE-82 satellite communications antenna; SSR-1 receiver

Radars: Air search: ITT SPS 48; 3D; E/F band; range 402 km *(220 nm)*
Raytheon SPS 49; C/D band; range 457 km *(250 nm)*

Surface search: Norden SPS 67V; G band

CCA: SPN 41; SPN 42; SPN 43; SPN 44 (CVN 68-70); SPN 43; SPN 44; SPN 45; SPN 46 (CVN 70-73); J/K/E/F band

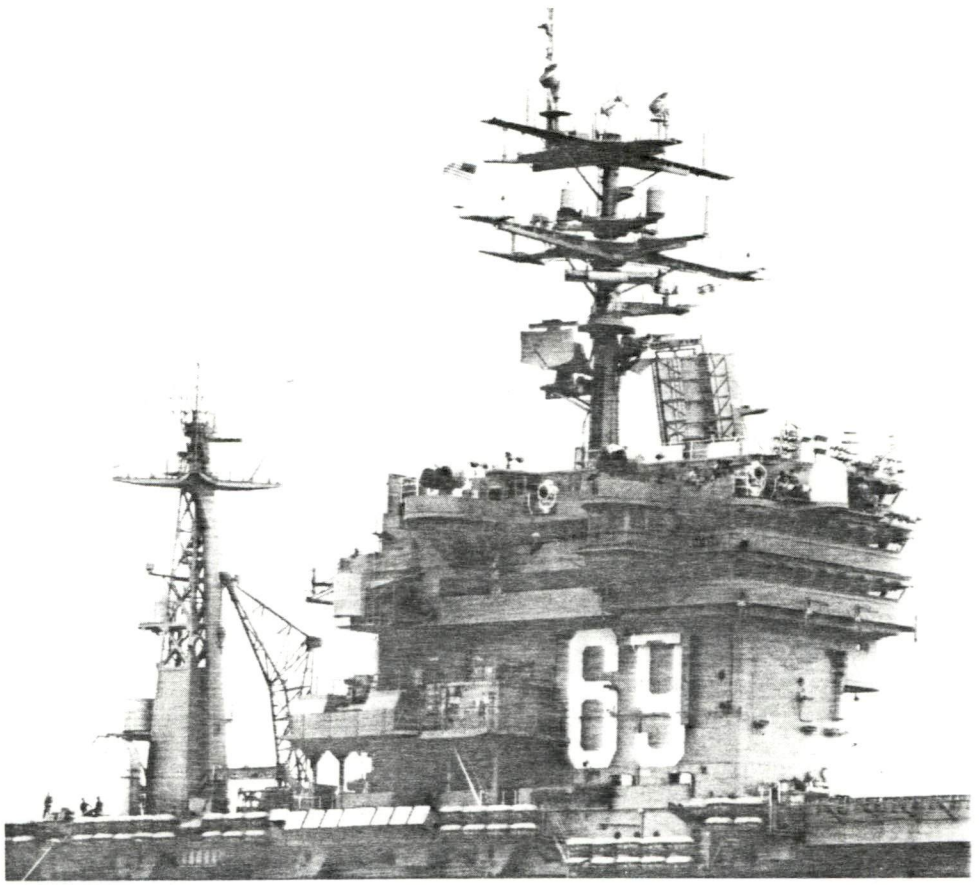
Navigation: Raytheon SPS 64; I/J band; Marconi LN 66 (CVN 70-73); I/J band

Fire control: 6 Mk 57; I/J band (for SAM); 1 Hughes Mk 23 TAS; D band

Tacan: URN 25

Fixed wing aircraft: Typically 20 F14 Tomcat; 20 F/A-18 Hornet; 6 EA-6B Prowler; 20 A-6 Intruders; 5 E-2C Hawkeye; 10 S-3A Viking. See *Shipborne Aircraft* section

Helicopters: 6 SH-3G/H Sea King



DWIGHT D. EISENHOWER *1987, Giorgio Arra*

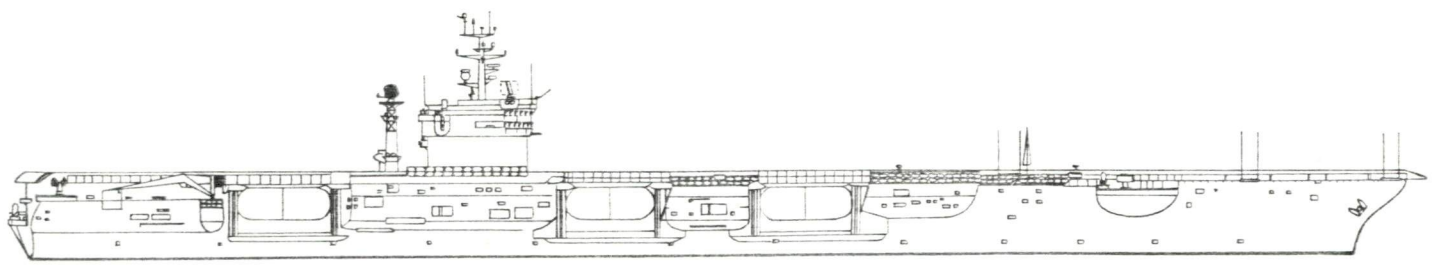
Programmes: The lead ship for this class and the world's second nuclear-powered aircraft carrier was ordered 9¼ years after the first such ship, *Enterprise* (CVN 65). *Nimitz* was authorised in FY 1967, *Dwight D. Eisenhower* in FY 1970, *Carl Vinson* in FY 1974, *Theodore Roosevelt* in FY 1980 and *Abraham Lincoln* and *George Washington* in FY 1983. The builders are the only US shipyard now capable of constructing large, nuclear-propelled surface warships.

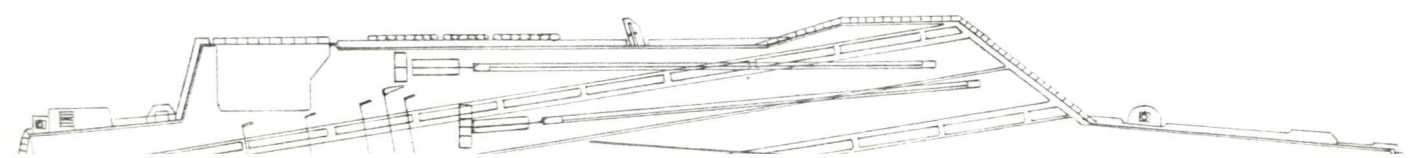
In his statement accompanying the proposed FY 1988-89 budget, the Secretary of Defense announced that the Navy would be seeking $1,441 billion in those two years for long-lead items for two additional "Nimitz" class carriers, one of which would replace *Midway* and the other a "Forrestal" class carrier which would be over 45 years old by 1999. The rationale for the change in plans was that problems with *Midway* were more severe than had been anticipated, and that advancing the dates for construction of these two new carriers would save almost $2 billion by ensuring a level work load at Newport News Shipbuilding, rather than causing the work force to be reduced as construction of *Abraham Lincoln* and *George Washington* neared completion and then having to increase its size at a later date. Subsequently the House and Senate Appropriations Committees took the totally unexpected action of including $6 325 billion in the FY 1988 budget for construction, even though actual outlays would not reach their highest levels until 1994-96, and the anticipated outlay in FY 1988 would be only $6 4 million. Contracts were awarded in June 1988 and CVN 74 will be called *John C. Stennis* in honour of the senator from Mississippi who retired from Congress in 1988 after 41 years service which included chairing at different times both the Senate Armed Services and Appropriations Committees. He was a vigorous proponent of strong defence.

Structure: Damage control measures include sides with system of full and empty compartments (full compartments can contain aviation fuel), approximately 2.5 in plating over certain areas of side shell; box protection over magazine and machinery spaces. Aviation facilities include four lifts, two at the forward end of the flight deck, one to starboard abaft the island and one to port at the stern. There are four steam catapults (C13-1) and four (or three) Mk 7 Mod 3 arrester wires. Launch rate is one every 20 seconds. The hangar can hold less than half the full aircraft complement; deckhead is 25.6 ft. Aviation fuel, 9 000 tons.

Operational: Multi-mission role of "attack/ASW". From CVN 70 onwards ships have an A/S control centre and A/S facilities; CVN 68 and 69 will be back fitted.

16 days' endurance for aviation fuel (steady flying); 13 years' theoretical life for nuclear reactors (CVN 68-70); 15 years' (CVN 71-73); 800 000 to 1 million miles between refuelling.





DWIGHT D. EISENHOWER	CVN 69	Newport News Shipbuilding & Dry Dock Co	15 Aug 1970	11 Oct 1975	18 Oct 1977	AA
CARL VINSON	CVN 70	Newport News Shipbuilding & Dry Dock Co	11 Oct 1975	18 Mar 1980	26 Feb 1982	PA
THEODORE ROOSEVELT	CVN 71	Newport News Shipbuilding & Dry Dock Co	13 Oct 1981	27 Oct 1984	25 Oct 1986	AA
ABRAHAM LINCOLN	CVN 72	Newport News Shipbuilding & Dry Dock Co	3 Nov 1984	13 Feb 1988	Dec 1989	Bldg
GEORGE WASHINGTON	CVN 73	Newport News Shipbuilding & Dry Dock Co	25 Aug 1986	Sep 1989	Dec 1991	Bldg
JOHN C STENNIS	CVN 74	Newport News Shipbuilding & Dry Dock Co	1991	—	1998	Bldg
	CVN 75	Newport News Shipbuilding & Dry Dock Co	1992	—	1998	Bldg

Displacement, tons: 72 916 (CVN 68-70) 73 973 light, 91 487 (CVN 68-70) 96 386 full load

Dimensions, feet (metres): 1 040 pp; 1 092 × 134 × 37 (CVN 68-70) 38.7
(317 332.9 × 40.8 × 11.3, 11.8)

Flight deck, feet (metres): 1 092; 779.8 (angled) × 252 *(332.9 237.7 × 76.8)*

Main machinery: 2 pressurised-water cooled A4W/A1G nuclear reactors 4 geared steam turbines; 260 000 shp, 4 shafts

Speed, knots: 30+

Complement: 3 136 (155 officers); 2 800 aircrew (366 officers)

Missiles: SAM 3 Raytheon Sea Sparrow Mk 29 octuple launchers; semi-active radar homing to 14.6 km *(8 nm)* at 2.5 Mach

Guns: 4 General Electric/General Dynamics 20 mm Vulcan Phalanx 6-barrelled Mk 15 (3 in CVN 68 and 69); 3 000 rounds/minute combined to 1.5 km.

Countermeasures: Decoys: 4 Loral Hycor SRBOC 6-barrelled fixed Mk 36; IR flares and Chaff to 4 km *(2.2 nm)*.

ESM/ECM: SLQ 29 (WLR 8 radar warning and SLQ 17AV jammers).

Fire control: 3 Mk 91 MFCS. NTDS action data automation; Links 11 and 14 OE-82 satellite communications antenna; SSR-1 receiver.

Radars: Air search: ITT SPS 48; 3D; E/F band; range 402 km *(220 nm)*
Raytheon SPS 49, C/D band; range 457 km *(250 nm)*

Surface search: Norden SPS 67V; G band

CCA SPN 41, SPN 42, SPN 43, SPN 44 (CVN 68-70); SPN 43, SPN 44, SPN 45, SPN 46 (CVN 70-73); J/K/E/F band

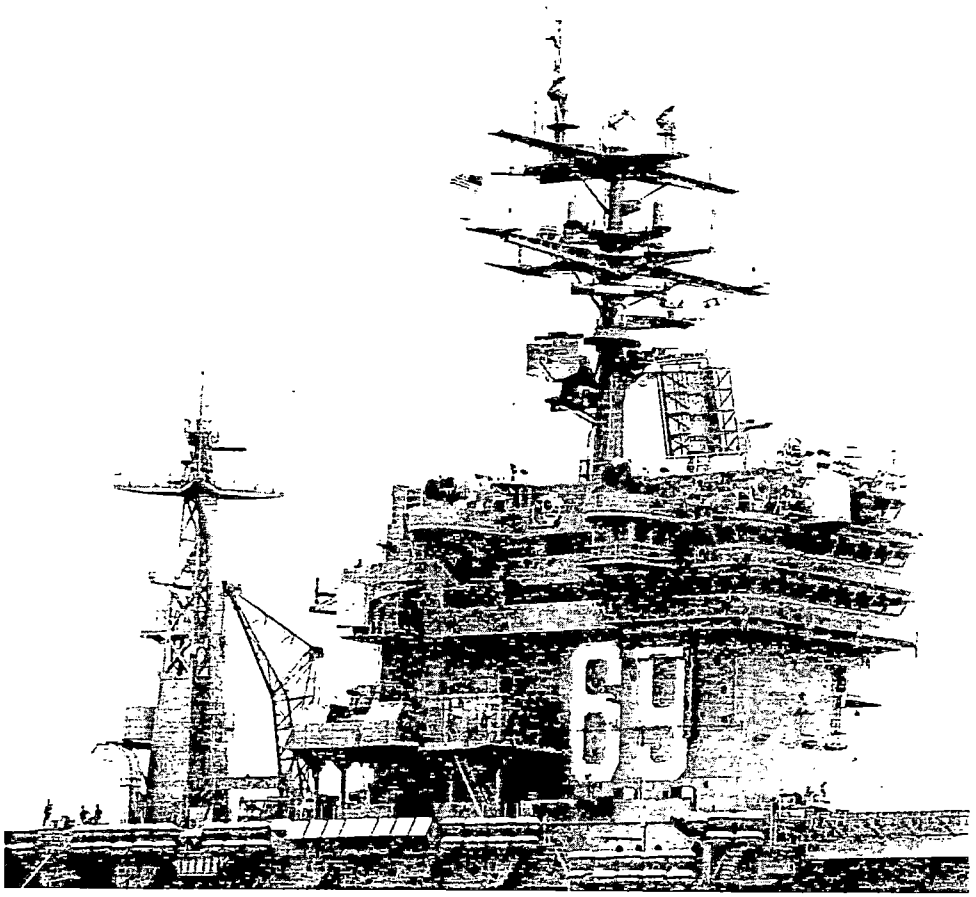
Navigation: Raytheon SPS 64; I/J band. Marconi LN 66 (CVN 70-73); I/J band

Fire control: 6 Mk 57; I/J band (for SAM). 1 Hughes Mk 23 TAS; D band

Tacan URN 25

Fixed wing aircraft: Typically 20 F14 Tomcat, 20 F/A-18 Hornet; 6 EA-6B Prowler, 20 A-6 Intruders; 5 E-2C Hawkeye; 10 S-3A Viking. See *Shipborne Aircraft* section.

Helicopters: 6 SH-3G/H Sea King



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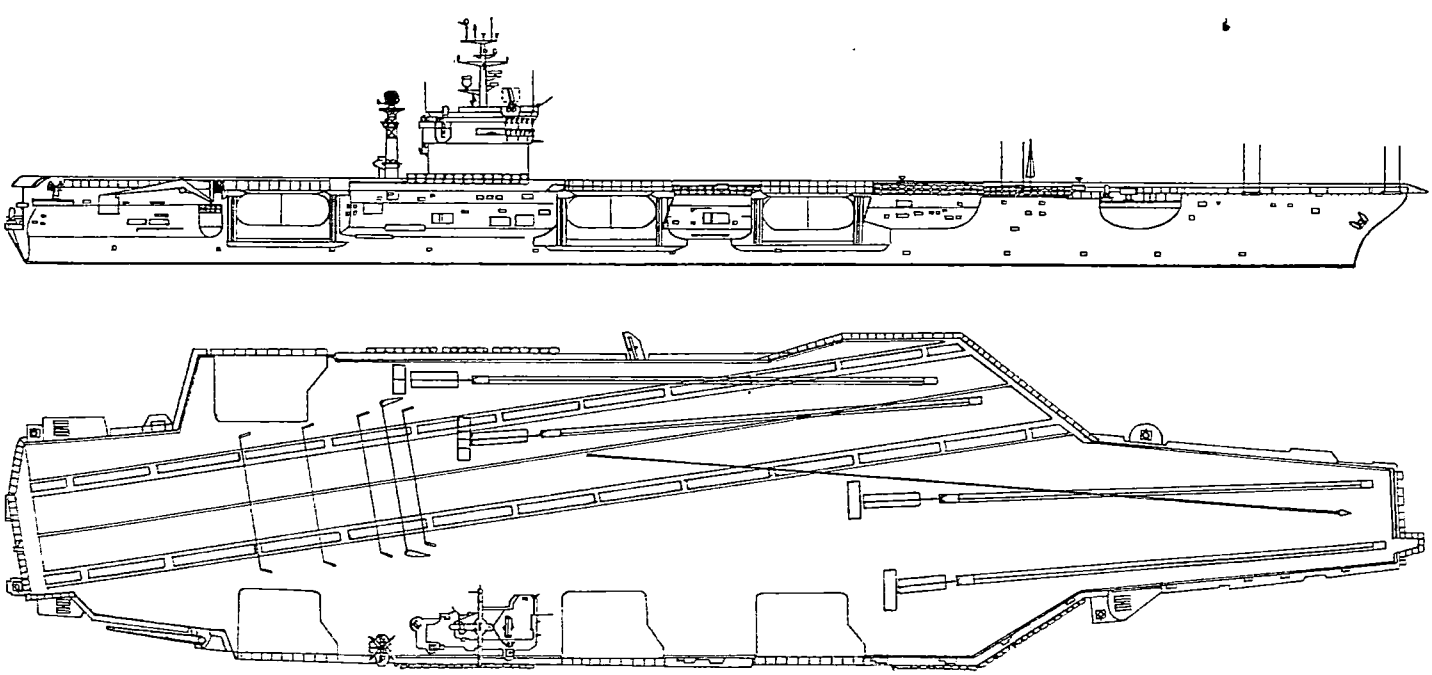
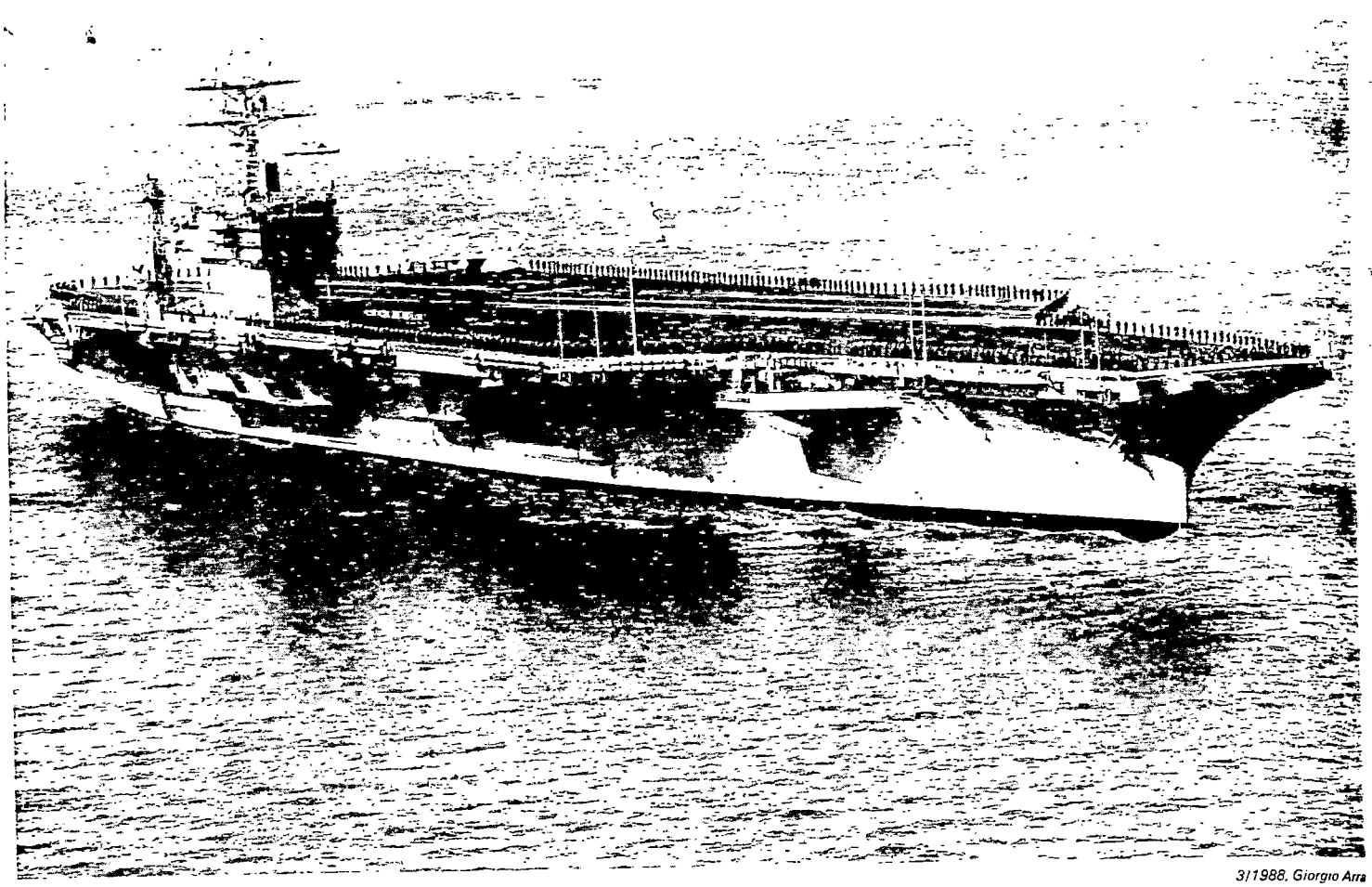
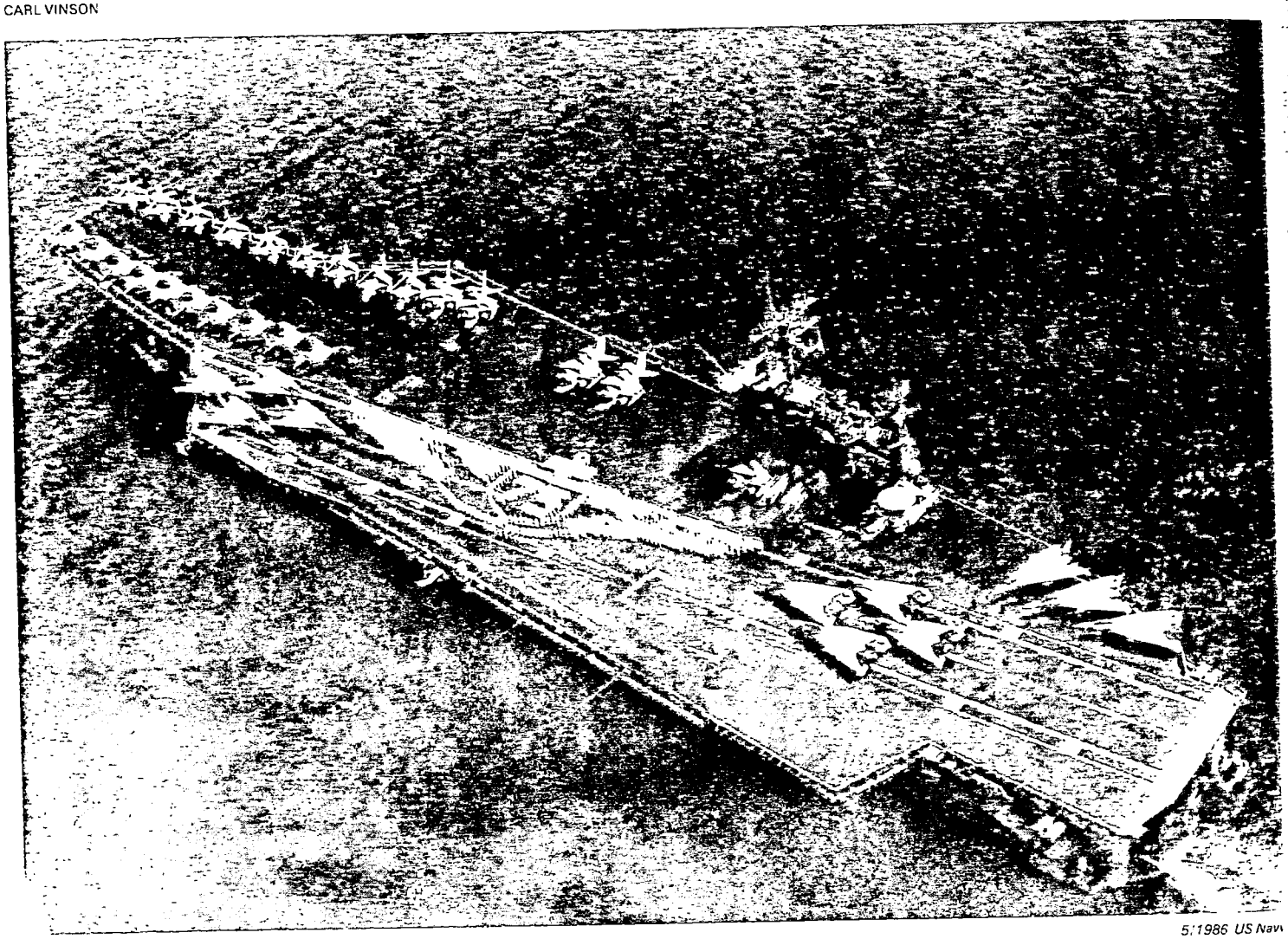




3/1988, Giorgio Arra

CARL VINSON



5/1986 US Navy

CARL VINSON

JUNE 1990

Shipyard Bulletin

Newport News Shipbuilding
Committed to Quality.

One month and counting: NNS finalizes christening details

Newport News Shipbuilders have been welding, molding, machining, painting and outfitting for nearly four years. The main mast was stepped June 12, and the time has finally come to show *George Washington* (CVN73) off to the world.

The date is July 21, and for NNS, it's a very special day. "To most of us on this project, christening and launching are events that everyone has a part in somehow," says Construction Manager Jim Morris. "We all feel a lot of pride in having reached this point on schedule."

Heralded as the most technologically advanced *Nimitz*-class aircraft carrier, *George Washinton* will be christened by First Lady Barbara Bush. The ceremony, which will begin at 11 a.m., is expected to attract national and local media, plus more than 29,000 spectators.

Across the Yard this month employees are beginning to prepare for this big event.

On the waterfront, Launchmaster Wayne Rammell prepares the ship and surrounding areas. "It's like company coming; we get ready for the party and then clean it all up," laughs Rammell. He needs christening area.

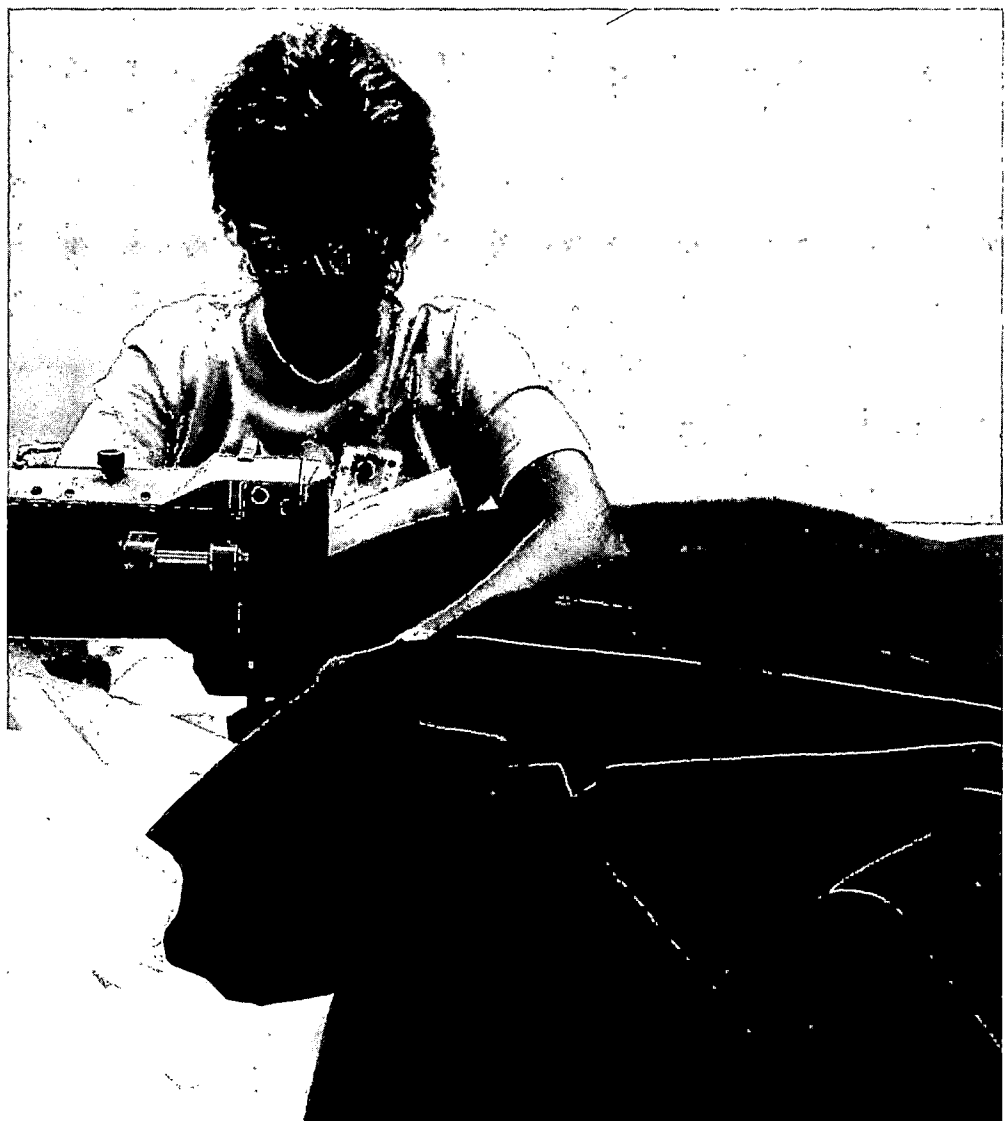
Sheet Metal also outfits the two barges that will float in the dry dock near the bow of the ship, holding a total of 1,200 guests and the christening party and stand.

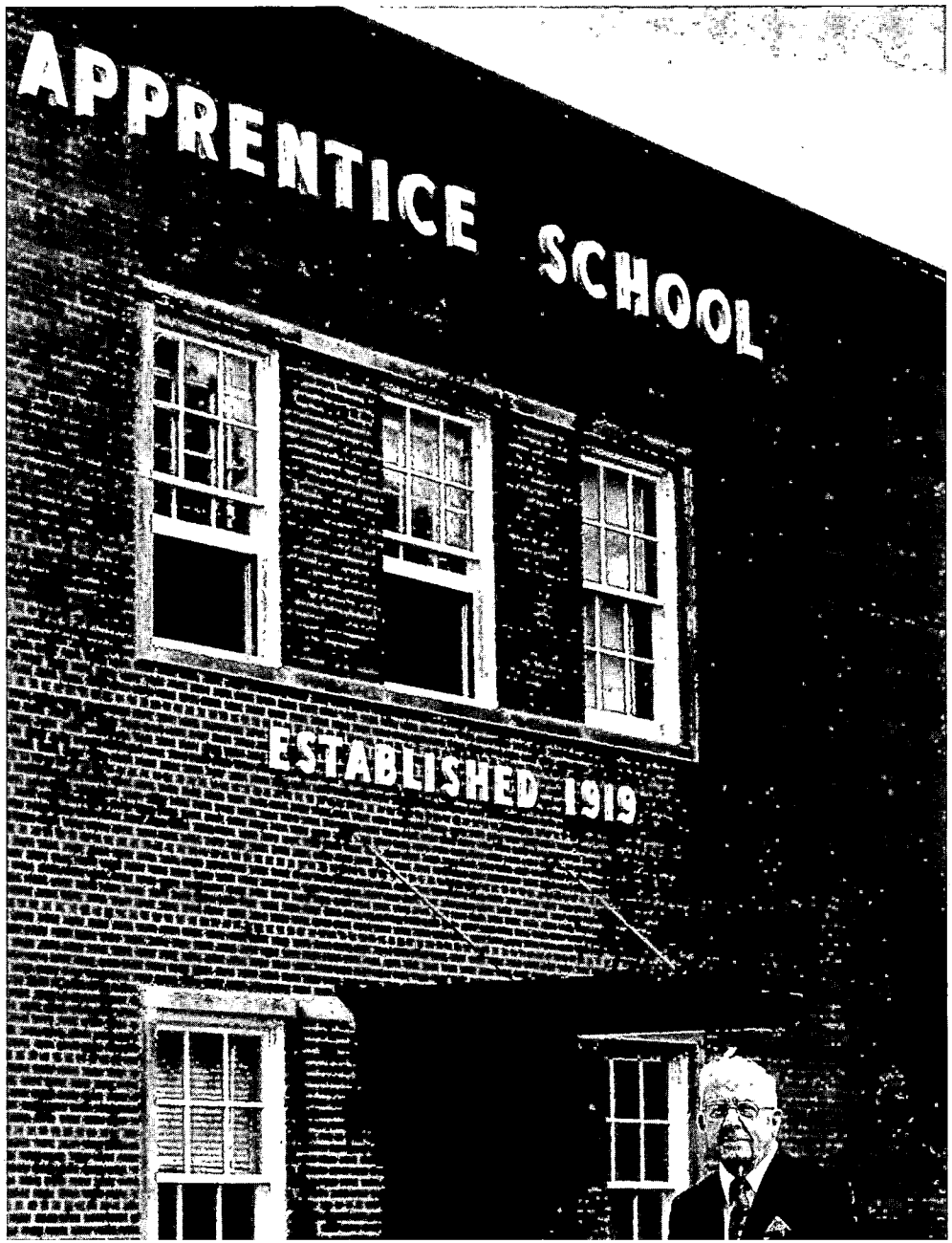
Since *Washington* was built with the bow outboard, these barges will present a special problem to Launchmaster Rammell after the christening. They must be moved out of the way in time for the undocking at high tide that same night.

"We do know that it will be a spectacular ceremony," says Vice President of Public Relations Jack Garrow.

Six weeks before the christening, the Sail Loft began work on the yards of red, white and blue bunting needed by Gibson to decorate the carrier. From 2,000 to 3,000 yards of each canvas color will be used to make the bunting, fans and runners.

Meanwhile, Maintenance and Utilities touches up the frame of the 40 by 70 foot American flag and





Task force studies communication

The Public Relations and Human Resources Divisions are working together to address an important issue: communication within NNS.

Specifically, the two departments are considering different methods for management to communicate with employees, and for employees to share information and concerns with management.

A task force consisting of representatives from key divisions has been formed, and their first task is to develop a mission or values statement, to be shared with all employees so that everyone will know the fundamental direction of the company. When complete, the statement will briefly explain the Yard's values.

Task force members also wanted to learn how employees feel about communication at the Shipyard. Eight employees were selected at random and invited to a luncheon meeting in early May, which was chaired by Public Relations Vice President Jack Garrow.

Individuals discussed how they get information about the company and what communication methods they would like to see in use at NNS.

Reaction to the meeting was "very favorable," according to Garrow. "They said they'd like to see regular meetings like this one, led by different executives, so that rumors, questions and concerns could be addressed.

"They also said they'd like to hear more hard news — updates on contracts, how defense cuts will impact us, why changes are made. We'll be considering all that as we develop a communication plan."

Utilization Review Program to change

Several changes are being made to the Shipyard's Utilization Review Program.

The current program provides for professional review of all hospital admissions if your primary medical insurance is provided by NNS. This review, now conducted by Corporate Health Strategies, is called pre-certification or pre-admission review.

Beginning July 1, these reviews will be conducted by Crawford and Company Health Management Services. If your primary medical insurance is provided by NNS, Crawford must be called before the medical plan's out-of-pocket maximum. In addition, participants may be responsible for the entire bill if treatment is found to be not medically necessary.

The new Utilization Review Program also will offer a Patient Counseling Program. Medical plan participants can call Crawford to discuss health-related concerns and receive information on specific medical conditions.

The phone number for this service and the number to call when your doctor recommends hospitalization or surgery are included on the

Scholarship winners named

"I'm happy that all her high school diligence paid off, and I hope my 15-year-old son takes note and decides to get his act together," laughs Charles Smith, Engineer III and proud father of Tenneco National Merit Scholarship winner Andrea Smith.

Tenneco is the corporate sponsor for eight National Merit Scholarships this year. Michele Kolet, Andrea Smith and Leslie Utley, children of NNS employees, each earned one of these competitive awards.

The Scholarship carries a cash prize which applies to the winner's college tuition.

"Frankly, I was tickled," says Wayne Utley, plant manager of NNS subsidiary Asheville Industries, "especially considering that Leslie applied to several private colleges, and they aren't cheap."

The Merit Scholarship is difficult to win, requiring high PSAT scores, a strong academic record, recommendation from a teacher and activity in the school or community.

"Michele really didn't expect it," says mother Karen Kolet, wife of Senior Contract Administration's Terry Kolet, "It was a big surprise."

For more information concerning this and other educational benefits, contact the Benefits Office at 380-2268.

Shop Talk

Free music with a view

Music under the stars is available free to the public at Continental Park, adjacent to the Chamberlin Hotel. The Fort Monroe U.S. Continental Army Band begins its outdoor summer concert series on June 7 with performances at 7:30 p.m. each Thursday evening. Bring a blanket and enjoy!

June 7,14	Concert Band
June 21	Jazz Band
June 28	Concert Band
July 5	No Concert
July 12,19	313th Army Band
July 26	Concert Band
Aug. 2	Jazz Band
Aug. 9	Concert Band
Aug. 16	Dixieland Band
Aug. 23,30	Concert Band

"Always Good Ships"

Chester "Chet" Long of Engineering Operations provides proof for this long time maxim of NNS. Long is this year's recipient of the Harold E. Saunders Award, the most prestigious award offered by the American Society of Naval Engineers. The award is presented in recognition of outstanding personal contributions to the naval engineering community.

Secretary of Defense Richard A. Cheney was the keynote speaker at the recognition banquet. Long had a few remarks as well, saying, "I also share this award with the officers at NNS, from the president on down. Complete support was always given to the pursuit of the right solution to every problem."

Long currently is Director, Advanced Submarine Program, and has spearheaded the Company's design of the *Seawolf* class of submarines.

Discount car rentals

Thrifty Car Rental has a special offer for Shipyard employees who have a valid drivers license, a major credit card and are 21 or older. Just show Thrifty your Shipyard badge and receive a 15% discount on their rental vehicles. Contact Kevin Teegarden at the Mueller Lane location, telephone 249-5451.

Attention: boat owners

May 14 thru June 17 is Courtesy Marine Examination month, and Melba Wood, Fitters, wants to inspect your watercraft to be sure that it measures up to Coast Guard standards. Violation of these standards is considered a federal offense and may result from something as small as not having an air horn on board your vessel.

Wood recently received an award from the National Coast Guard Commodore for outstanding work done for Courtesy Marine Examination as well as recognition for her outstanding service in the Coast Guard Auxiliary. If you would like to have your boat inspected before the Coast Guard does it for you, call Wood at 249-5451.

Bloodmobile: 2nd shift date changes

Due to the July holiday, second-shift employees will donate blood July 11 from 5-8 p.m. at the Red Cross Chapter House. Supervisors can arrange transportation by calling Karen Kennedy at 0-2934.

First-shift employees may donate blood at the Apprentice School Gym on July 19.

Employees in Building 600 may donate blood on July 16 at the Chapter House and should forward pledge cards to Dick Moore, E14, Bldg. 600, 8-4028.

The Red Cross Bloodmobile van will be in the Building 800 parking lot on July 24.

Employees in that building must make an appointment through Dana Phillips at 8-9783.

Benefits

Disability plan discussed

Photos by Caroline Kiehner

A ship in the desert...

They were handpicked from 25,000 NNS employees in 1956, and were told they were moving to Idaho to build a ship in the desert. The end result was the design, construction and testing of the land-based prototype reactor for *Enterprise*. That accomplishment heralded the Shipyard's entry into the construction of nuclear-powered ships and set the company's course for years to come. The reunion last month of more than 100 former employees of Eastern Idaho Construction Co. (the corporation formed by NNS) was special. Many of the Shipyard employees and retirees who worked at Idaho Falls hadn't seen each other in nearly 30 years. And their reunion coincides with the return of *Enterprise* this fall for refueling and overhaul. NNS retiree Gordon Brown, who worked in Fitters at Idaho, shares 1950s photos with Myrtle Watson, whose husband, Jack, was in Pipe. R. W. "Red" Matthews (left), an inspector at Idaho, and NNS retired vice president Felix Bledsoe, who was chief engineer there, review photos of NNS employees who worked on the project. Matthews is currently an engineering supervisor in *Enterprise* Refueling, and is preparing for his third refueling of the carrier.

Long Service

JUNE 1990

45 years service

Gene D. Holloway, Reactor Services; **Roya C. Wesley,** Surplus Material Sales.

30 years service

Darwin M. Barnhouse Jr., Machinery Installation; **William F. Boerner Jr.,** Electrical; **Robert E. Dent,** Machinery Installation; **Daniel J. Downer,** Machinery Installation; **Lawrence H. Foster Jr.,** *Seawolf* Electrical; **Leroy E. Foster,** Sheet Metal; **Clarence E. Fox Jr.,** Cost Engineering; **Braxton R. Gray,** Electrical; **Samuel W. Hudgins,** Riggers; **Jerry C. Lester,** Reactor Services; **Robert D. Mallison Jr.,** NNI-Engineering; **George C. Myers,** Machinery Installation.

Shipyard Bulletin

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Public Relations Division
(804) 380-2342
Newport News Shipbuilding
4101 Washington Avenue
Newport News, Virginia 23607

Betsy McNiel, Associate Editor
Whitney Espich, Associate Editor
David D. Brown, Graphic Artist
Nancy A. Hudson, Typesetter

James M. Pharr Jr., Carrier Overhaul Construction; **Harvey A. Pittman,** Machine Shop; **Harry J. Slear Jr.,** Production Control - Submarines; **Warren F. Tyler,** Maintenance & Utilities; **David A. Volhein,** Payroll; **Donald L. Wilkins,** Plant Protection; **Billy P. Wilson,** Accounting; **Kyle E. Wimmer,** Electrical; **Charles W. Wittkopp,** Machinery Installation.

25 years service

Phillip P. Bryant, General Foundry; **David E. Rawls,** Office Services; **Forrest L. Rollins,** Machine Shop; **Walter G. Satchell Jr.,** Submarine Construction Project; **William C. Ward Jr.,** Sheet Fabrication; **Larry R. White,** Carrier Reactor Plant Planning.

In Remembrance

Francis H. Austin Jr., Financial & Administrative Information Systems; **Reddick Burnett,** Machine Shop; **Thomas R. Burton,** Insulation; **Francis F. Caldwell,** Pipe; **Bert Clary,** Painters; **David G. Davis,** Fitters; **Hjalmar B. Fond,** Pipe; **Percy Gatting,** Fabrication; **Samuel T. Glover,** Riggers; **William R. Hansford,** Fitters; **Harry C. Harvey,** Electricians; **Alvin M. Hill,** Shipwrights; **William C. Howard,** Machinery Design; **Lester B. Johnson,** Riggers.

Grady W. Little, Quality Inspection; **Robert L. McFarland,** Machine Shop; **James McNair,** Shipwrights; **Wayne G. Phillips,** Machinery Installation; **Garland C. Presson,** Fabrication; **Lloyd S. Reed,** Sheet Metal; **Noah R. Suggs,** Welders; **Harold G. Thomason,** Fitters; **Isaiah Turner,** Sheet Metal; **Benjamin W. West,** Welders; **Oscar White,** Painters; **Jane R. Winborne,** Reproduction; **William J. Wood Jr.,** Insulation; **Harold C. Woodard,** Pipe; **Lonnie E. Wyatt,** General Foundry; **Charles B. Zehmer Sr.,** Toolroom.

Retirees

JUNE 1990

45 years or more

Charles T. Hicks Jr., Electrical.

40 years or more

Berkley Ivey, 688 Engineering.

35 years or more

Ralph C. Beahm, Electrical; **James Crawford Jr.,** Pipe; **Haskil J. Haynes,** Pipe.

30 years or more

Holmes H. Boyd, Riggers; **Arthur D. Moore Jr.,** Electrical; **Charles T. Reed,** Electrical.

25 years or more

Vernon R. Ducommun, Maintenance & Utilities; **Edward A. Rawls,** Sheet Metal; **Floyd M. Roach,** Sheet Metal; **Jacquelyn S. Stewart,** Accounting.

20 years or more

Thomas L. White, Purchasing; **Eugene M. Wilson,** Welding Services.

Less than 20 years

David Faulks, Food Services; **Robert E. Harrison,** Integrated Logistics Support; **Hawthorne L. Hope,** Transportation; **Frank E. Parsons,** Surplus Material Sales; **Nathan E. Vaden,** Riggers; **Mae M. Williams,** Cleaning Services.

Share-A-Ride

If you're looking for a ride or riders, call Public Relations at 380-2946 to list your name in Share-A-Ride.

From	Shift	Name	Number	Wanted
Chesapeake/ College Park	7:00-4:00	Steve Ames	420-3736	Van Riders
Gloucester	7:00-4:00	Carl Reffo	642-0862	Van Riders
Va. Beach	7:30-4:30	Michael Zirpolo	8-6791	Carpool/ Riders
Va. Beach	7:00-4:00	Charles Nellum	8-2673 427-6473	Van Riders
Va. Beach/ CBN-Indian River Road	3:00-11:00	Ernie Raspelli	8-6746 424-0367	Ride
Chesapeake/ Great Bridge	7:00-4:00	George Mushett	8-2271 482-0290	Carpool/ Van Riders

Photo by Kevin Milton

After Painter Anthony Kiemer's quick thinking averted an accident, he received a Safety Sense T-shirt. See the July *Bulletin* for other employees with Safety Sense.

Q: Does the Company have a disability benefit program if I am out of work due to an injury or illness?

A: Yes. For hourly employees it is called sickness and accident, and for salaried employees it is called short term disability.

Q: What does the disability benefit plan cover?

A: The disability plan covers employees with non-occupational injuries and illnesses, as well as those unable to work due to pregnancy.

Q: Who is eligible for disability benefits?

A: All full time hourly and salaried employees following three full months of continuous service.

Q: Who pays for the plan?

A: The Company pays the cost of the program.

Q: How are benefits payable to me?

A: For hourly employees, benefits are paid weekly, and for salaried employees, benefits are paid bi-weekly.

Q: What is the maximum period for which benefits are paid?

A: Benefits are paid for a maximum period of 26 weeks.

Q: Is proof of disability required?

A: Verification must be provided using the claim for Medical Disability Benefits Form (NN4060). The form must be completed by the employee and his/her physician, then turned in to the Benefits Office. Consult your summary plan description for details.

Q: How is the amount of my benefit determined?

A: For both hourly and salaried employees, the amount is based on your rate of pay.

Questions regarding your disability benefits should be directed to the Benefits Office at 380-2268.

NNS Job Opportunities

The following NNS Job Opportunities have been posted on company bulletin boards. For more information about the openings (as of 6/18/90), see the bulletin boards or the NNS Employment Department.

Position	Dept	Position	Dept
Engineer	003	Risk Administrator	074
QualityEngineer	004,039	Financial Systems Analyst	075
Coordinator, P.R.	029	Senior Payroll Data Clerk	076
Chemist	031	Senior Auditor	078
Welding Engineer	037	Food Service Routeman	524
QID Inspector	039	Health Claims Examiner	528
Shower Facility Attendant	047	Industrial Hygienist	530
Plant Engineer	048	Engineer	E61,E62,E63,E64, E81,E82,E88
Buyer	051		
Clerk	051	Test Engineer	E63,E67
Accountant	072,073	Instructor	E85
	074,085	Monitor Trainee	E85

■ Christening (continued from page 1)

requirements. Naval Sea Systems Command requires photographic coverage, in advance, of the view from the press stands to be sure that nothing sensitive can be seen.

Only members of the media who are issued Shipyard credentials through Public Relations may have cameras in the Yard, and they will be escorted to be sure that photos are taken only from authorized areas.

As support plans are made by the launchmaster and Security, Vice President of Public Relations Jack Garrow and Manager of Special Events Bill Robertson plan the actual christening.

"We don't know yet whether President Bush is coming," says Garrow. "That's usually something that would be announced much closer to the event.

"We do know that it will be a spectacular ceremony, and it will be a tribute to the employees who have worked on *Washington*."

The ceremony starts at 11 a.m., and the 80th street gate will open at 9:30 a.m. The public is invited and employees and their families are urged to attend, says Garrow.

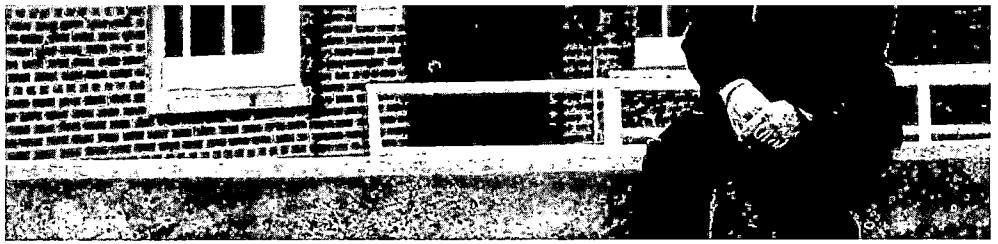

Photo by Chris Oxley

A member of the Apprentice School's tenth graduating class, Elliott Gay has seen many changes in the Shipyard over the past half century.

"Times, they are a-changin'," says 1933 "A" school graduate

"When I was there, you had to work for a living," laughs Elliott Gay as he remembers his days at the Shipyard. Gay is 82 years old, 83 in August, and recently returned to the Yard to visit his employer of nearly 50 years ago. His impression?

"Amazing!"

A 1933 graduate of the Apprentice School, Gay was here in the days when Homer L. Ferguson was president of the Yard and Guy Via headed the Apprentice School. Things have changed a lot since then. He remembers when apprentices made 20 cents an hour for a 45-hour week.

Says Gay, "Even after graduation it usually took two or three years to make first class rating, and that only paid 70 cents an hour.

"Back then, anything under five dollars was paid in silver dollars handed out on payday by lining up in order of your Shipyard number. I wish I'd saved a few of those silver dollars!"

Trained as a machinist, Gay worked at the Wilmington subsidiary as general foreman of the Machine Shop until 1943. "We launched a liberty ship every seven days at that site once the war began," says Gay, "Machining is done by computer now — what a luxury that would have been!"

From his perspective of almost 83 years, Gay remarks, "Everything in my life was a result of training at the Apprentice School. It was considered the best in the country and served me well."

Although Gay had already graduated from Northeastern University with a degree in mechanical engineering, finding a job was hard. It was the Great Depression, and he found himself pumping gas to earn a living.

Then one day a friend drove in to fill up his tank and was shocked to see Gay working at a gas station. The friend suggested that he apply to the Apprentice School. Says Gay, "It was a good suggestion."

being admitted to a hospital. In the case of emergency admissions, Crawford must be contacted by the end of the next work day.

In addition to hospital admissions, Crawford must be contacted for all outpatient surgery, except for minor office surgery such as removal of a mole.

These reviews are designed to avoid the risks of unnecessary hospitalization and surgery and may save you money. Crawford will work with your doctor to ensure the hospitalization or surgery is appropriate and necessary.

Participants who don't follow the Utilization Review procedures are required to meet an additional $300 deductible, which does not apply to

new Utilization Review Program identification cards. They will be mailed to medical plan participants by the end of June.

If you are hospitalized before July 1, call the current administrator, Corporate Health Strategies, for certification. On or after July 1, if you are hospitalized or require inpatient or outpatient surgery, call Crawford at 1-800-334-0275.

The Utilization Review Program applies only if a NNS Medical Expense Plan is the primary coverage (pays first). If the NNS plan provides secondary coverage, Crawford does not need to be contacted. For questions call the Health Claims Office at (804) 380-7886 or 1-800-442-1108.

Lincoln PSA nears final stage

The countdown is beginning for employees working *Lincoln's* Post Shakedown Availability (PSA). The four-month task is scheduled for completion on July 23, leaving about four weeks to finish the job.

"We're in the sprint part of the race. This is when we begin our dash to the end," says W. B. "Miff" Miffleton, construction manager for the carrier.

The list of work to be done includes both small and large tasks. A number of survivability improvements are being made. Other items on the Navy's list include catapult, navigation, fire fighting and computer systems refinements.

Until June 5, *Lincoln* was in Drydock 11. "The paint job was in excellent condition," Miffleton points out. "We waterblasted marine growth off the carrier's hull and then repainted it, which is standard procedure for a PSA."

Also part of the PSA, employees installed the close-in weapons systems on the ship.

"Now that we're at Pier 2, you really see that the end of the job is fast approaching," he says. "Right now we're just trying to finish up our work. Most of the items on the list are in progress and just need to be completed.

"We can't afford to get complacent and comfortable. It's in our best interest and the ship's best interest to bring all this to a close, on schedule."

Several weeks after PSA work is complete, *Lincoln* will leave for its homeport in Alameda, California.

Sheet Metal helps Rammell with much of the set-up. General Foreman Bobby Gibson oversees the decorating of the ship and takes care of details like mounting the bottle breaker, bow flag and ship emblem on the hull.

"We even have an extra bow flag as a back-up, in case of inclement weather," says Gibson.

His crew builds the eight-foot white fabric walls that surround the scribed on minute and 47 seconds during the playing of the national anthem.

As Rammell prepares the area around *George Washington*, Public Relations and Security develop a security plan for the ceremony.

With nearly 100 media representatives expected, a primary concern is meeting the Navy's security

(Please see Christening, page 3)

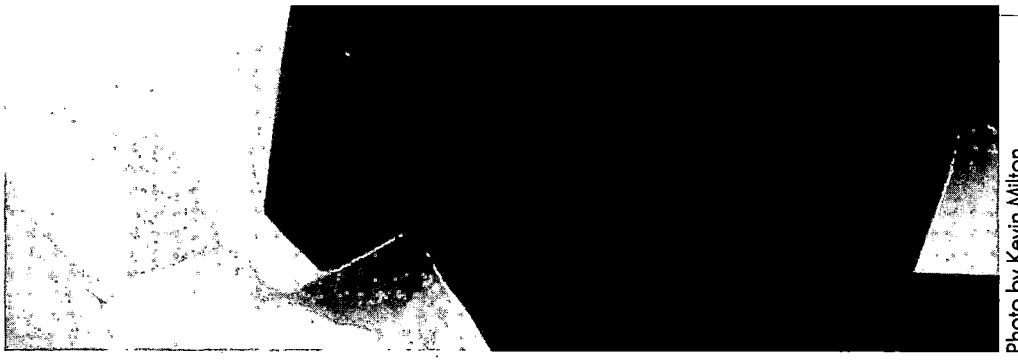

Photo by Kevin Milton

Sail Loft employees make the thousands of yards of bunting that will be used to decorate *Washington*. Charlene Avery sews some of the first yards of the red, white and blue cloth together.

New vision benefit introduced

A new NNS vision benefit, effective July 1, offers employees, retirees and their dependents discounts on prescription eyewear purchases.

Through the Special Price Eyewear Card Program (SPECS), participants receive discounts on eyewear purchased at Cole Vision Centers in participating Sears and Montgomery Ward stores. They also receive discounts on replacement contact lenses purchased through Lens Express, a mail order company.

Each family will be mailed a SPECS card which is presented at the time of purchase. An immediate discount is given, so no claims filing is necessary.

To receive the discount on eyewear, go to your nearest Cole Vision store in Sears or Montgomery Ward. Present the card when making your purchase, and an immediate discount will be given.

To replace existing contact lenses, call Lens Express at 1-800-666-LENS. Simply give the operator your SPECS card number and eye prescription. All lenses are guaranteed to be the exact brand and prescription your doctor specifies, and they usually arrive in less than one week.

Savings can be significant. Eyeglass frames retailing for $55 to $74 are available for $30. Bifocal lenses which usually cost $80 can be bought for $50.

Contact lenses through Cole Vision are offered at a 20 percent discount, and premium lens options are discounted 25 to 40 percent. Replacements purchased through Lens Express are discounted up to 50 percent. New tints, disposable and extended wear lenses are just a few of the types available.

Employees are encouraged to shop other eyewear retailers and compare quality, price and services offered.

For additional cards or information, call the phone number listed on your SPECS card. Because this benefit is managed by an outside agency and not by the NNS Benefits Office, all inquiries should be directed to that number.

Sculpin work speeds along

Shipbuilders working on the deactivation of *Sculpin* (SSN590) are making "great progress," according to Ed Matheson, nuclear construction superintendent, Inactivations.

Plans call for work on the *Skipjack*-class submarine to be finished in August. To date, costs and scheduling are on target.

"We've learned a lot from our first deactivation, *Skipjack*," says Matheson. "Now we're using different approaches and technology, and better planning."

For example, one task which has been streamlined is removal of the tunnel, a 31-ton section which must be cut out of the submarine.

Matheson explains, "We handled it very differently on the first ship. This time, our X11 lead workers used new technology, and that paid off."

Matheson is especially pleased because, "The Navy will have a number of deactivations coming up. We're proving that we can compete with the Navy yards for that type of work.

"Doing a good job means this is something we can get into down the road if we want to. It's another option for Newport News Shipbuilding."

According to Matheson, employees working on *Sculpin* feel positive about the job. "We've developed really good team spirit. Different NNS and ship's force departments are all working together, and that's showing up in our results.

"It's a good experience for everybody on the project. When you have a job that's going well, that makes the job fun, enjoyable. You feel good about it."

He adds, "*Skipjack* and *Sculpin* have been good training tools for the people who'll work *Enterprise*. The kind of teamwork we've developed is important to the success of the *Enterprise* job."

TO: Peggy Dooley
FROM: Stephanie Van Meter

Wingspan Information

GRUMNAN AVENGER: Wingspan - 54 ft., 2 in.
276 miles per hour
Length - 40 ft., 11 1/2 in.
Height - 16 ft., 5 in.

F 18 HORNET: Wingspan - 36 ft., 6 in.
(11.42 meters)

For future reference on any airplane questions, call the Naval Aviation Museum in Pensacola, Florida, at 904-452-3604. They have anything and everything you ever wanted to know about planes!

North Yard
Dry Dock 12 (CEW - bow facing west)

11 am
open to public ~25,000 people

CEO + Pres Campbell Welcome
Natl Anthem (big flag) + 50 state flags
Invocation
Pledge (band - Stars & Old Flag)
CEO + Pres Campbell again
Warner, Daniels, Cheney
Cheney intro

members of prospective ship's crew -
small group

shipyard workers - guys actually worked
on ship will have buttons

Feb 88 - last of series christening -
Lincoln

Jack Garrow - VP PR

Tom Olds

1981 - submarine Houston

NEWPORT NEWS SHIPBUILDING
FACTS AND FIGURES

Newport News Shipbuilding is the country's largest privately-owned shipyard. For more than a century the company has designed, built, overhauled and repaired a wide variety of ships for the U.S. Navy and commercial customers. Today it is the only yard in the United States capable of building and servicing a full range of surface and submersible ships. With 1989 sales of $1.9 billion, the yard is best known for building the giant Nimitz-class aircraft carriers, sleek Virginia-class guided missile cruisers and the sophisticated Los Angeles-class attack submarines. The yard also built the famous transoceanic luxury liner S.S. UNITED STATES and more than 700 other military and civilian ships in its 100-year history.

One subsidiary, Newport News Industrial Corporation, provides repair and maintenance services to the commercial power generation industry. The shipyard's other subsidiary, Sperry Marine Inc., designs, develops, manufactures and markets advanced marine instrumentation and communications systems for the defense and commercial maritime markets.

Principal NNS Operations

Naval shipbuilding:	Newport News Shipbuilding currently has construction contracts for fifteen Navy ships: three Nimitz class aircraft carriers, and 12 Los Angeles class submarines.
Naval overhaul/refueling:	Newport News is the only private shipyard to perform overhaul and refueling work on Navy submarines and Nimitz class aircraft carriers.
Naval engineering:	The shipyard provides a variety of engineering services to the Navy. It has modified and improved existing ship designs, and designed new classes of submarines and surface ships.
Commercial shipbuilding and repair:	Commercial ships have called upon Newport News for a variety of repairs ranging from paint repair to complete hull and machinery renovation.

Significant Statistics

1989 Sales:	$1.9 billion
1989 Operating income:	$200 million (before interest and taxes)
Employment:	28,000 men and women, many of whom are fourth generation shipbuilders. Newport News is the largest private employer in the Commonwealth of Virginia.
1989 Wages and benefits:	$947 million
Backlog (12-31-89):	$8.4 billion
Goods & services purchased in 1989:	$878 million (includes $177 million from Virginia suppliers)
Total ships built:	More than 700 commercial and Naval ships.
Facilities:	550 acres, including more than two miles of waterfront along the James River, near the Port of Hampton Roads...includes seven dry docks, two outfitting berths and five outfitting piers; an 11-acre automated steel fabrication center; a 130,000 square foot modular outfitting facility; a foundry complex; machine shops totaling 300,000 square feet; test laboratories; computer center; and apprentice and welding schools. Newport News Shipbuilding also has a metal fabrication plant in Greeneville, Tenn., and a 412,000 sq. ft. components facility near Asheville, N.C.

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Peggy-
A few excerpts from the HOUSTON launch book. MMBush helped christen the submarine — the WASHINGTON christening marks their first visit to NNS since.
Ive also attached a brief history of NNS from that booklet. LW

USS Houston Launching
March 21, 1981

Program

Pre-launch Festivities
United States Naval Academy Glee Club
United States Navy Ceremonial Band

Welcome
Edward J. Campbell, President
Newport News Shipbuilding

National Anthem
The Glee Club and Ceremonial Band

Invocation
Commander Normand A. Ricard, United States Navy
Chaplain, Coast Guard Reserve Training Center
Yorktown, Virginia

Remarks and Introduction of Distinguished Guests
Mr. Campbell

Introduction of the Principal Speaker
The Honorable John F. Lehman, Jr.
Secretary of the Navy

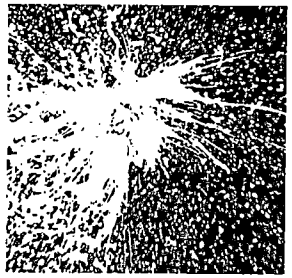
Principal Address
The Honorable George Bush
Vice President of the United States

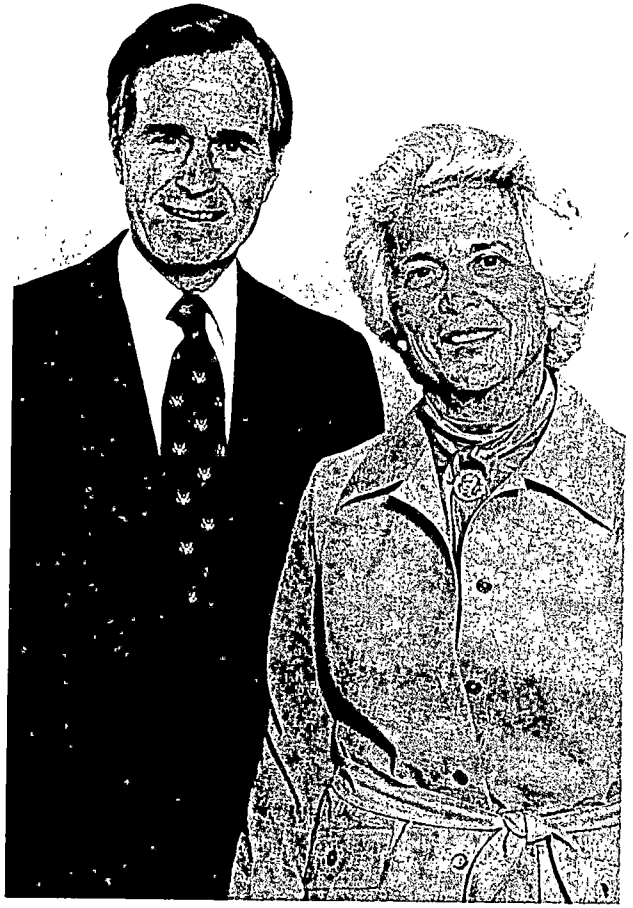
Introduction of the Sponsor and Matron of Honor
Mr. Campbell

"God Bless America"
The Glee Club

Christening of the USS HOUSTON
Mrs. George Bush, Sponsor
Mrs. Potter Stewart, Matron of Honor

"Anchors Aweigh"
The Glee Club and Ceremonial Band





Barbara Pierce Bush

When Barbara Bush is home in Houston, she jogs three miles a day in a tee-shirt emblazoned with "George Bush" on the front and back.

"People used to stop and ask, 'What's a George Bush?'," she recalls with a laugh. "That doesn't happen much anymore."

During her 35 years of marriage, she has lived in 17 cities and 28 homes. The Bushes have travelled in 26 countries and lived in the People's Republic of China for 14 months when George Bush served as Chief of the U.S. Liaison Office there. Barbara Bush also became the third American woman to ever visit Tibet, during a trip to the People's Republic of China in 1977.

All this is quite a step for a woman who had never left the United States until she was 35 years old.

"Life is never dull," she smiles, recalling her husband's tenure as a two-term Congressman from Texas, United States Ambassador to the United Nations, Chairman of the Republican National Committee and Director of Central Intelligence.

Through it all, Barbara Bush has dedicated herself to their family — four sons, George, 33; Jeb, 26; Neil, 24; Marvin, 22; a daughter, Dorothy, 20; and now two grandchildren, George and Noelle — and has been a supportive wife to her husband in his many endeavors.

She proudly describes herself as a "fantastic housekeeper" and plans to continue those skills in the Vice Presidential residence.

"I won't be making major decisions, and you'll be relieved to know I won't be sitting in on Cabinet meetings," she says. But she would like to improve reading abilities across the country — "teaching Jane and John to read," as she explains it.

Active in community affairs, she has worked for the American Cancer Society and is on the board of the Riverside General Hospital Foundation in Houston. She is also a member of the Women's Public Relations Council of St. Joseph's Hospital in Houston and the Garden Club of America, as well as being a trustee of the Houston Ballet Foundation and serving on the National Committee on United States-China Relations, Inc.

An avid gardener and needlepointer, Barbara Bush left Smith College after her freshman year to marry George Bush. He was 20, she only 19. "We grew up together," she says with a smile.

George Bush, Vice President of the United States of America

George Herbert Walker Bush was born in Milton, Massachusetts, on June 12, 1924. He was graduated from Phillips Academy in Andover, Massachussetts, in June 1942, and immediately enlisted in the U.S. Navy. At age 18 he was the youngest commissioned pilot in the Navy at that time.

He served from August 1942 to September 1945 as a naval aviation cadet and carrier pilot, and fought in the Pacific, winning three air medals and the Distinguished Flying Cross.

Returning home, he entered Yale University and completed his economics degree in 1948. He graduated Phi Beta Kappa, and captained the varsity baseball team.

After graduating Mr. Bush moved to Texas where he worked as a trainee and then as a supply salesman for Dresser Industries in West Texas and California from 1948 to 1950. He co-founded a small royalty firm, Bush-Overby Development Company, in 1951. In 1953 he co-founded Zapata Petroleum Corporation, and one year later — at age 30 — Mr. Bush became president and co-founder of a third firm, Zapata Off-Shore Company.

He was elected to the U.S. House of Representatives in 1966 from Texas' 7th District. One of the few freshmen members of Congress ever elected to serve on the Ways and Means Committee, Mr. Bush was re-elected to the House without opposition two years later.

During his Congressional service, he was active in legislation dealing with problems of excessive government spending, inflation, national defense, civil rights, quality education, natural resources and environmental matters.

From 1971 to 1973, he served as the United States Ambassador to the United Nations and, from January 1973 to September 1974, as Chairman of the Republican National Committee.

In October 1974 Mr. Bush traveled to Peking and served for more than a year as Chief of the U.S. Liaison Office in the People's Republic of China, a sensitive and complex assignment during a time of deepening hostility between the PRC and the Soviet Union.

He was then appointed Director of Central Intelligence, where he helped write the Executive Order that guaranteed the protection of civil rights of U.S. citizens, and restored morale and efficiency after a period of disorganization in the U.S. intelligence community.

In July 1980 Mr. Bush was selected by Ronald Reagan to be his running mate at the 1980 Republican convention, and on January 20, 1981, was sworn in as the 43rd Vice President of the United States.

Mary Ann Stewart

Mrs. Stewart is the wife of Justice Potter Stewart of the Supreme Court of the United States. She was born Mary Ann Bertles in Grand Rapids, Michigan, but her family moved to Glen Cove, Long Island when she was still a child. In 1927 her parents built a home in Bermuda, where she spent many happy months. Mrs. Stewart attended Bennington College in Vermont.

She has been an active leader in various community affairs, both in Washington and in Cincinnati, Ohio, where the Stewarts lived before moving to Washington. She has traveled extensively in many foreign countries.

The Stewarts have a daughter, two sons, and five grandsons.

Formerly close neighbors in Washington, Mrs. Stewart and Mrs. Bush are longtime friends.

John F. Lehman, Jr.
Secretary of the Navy

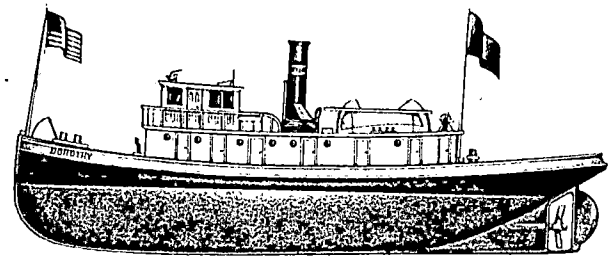
Edward J. Campbell
President
Newport News Shipbuilding

U.S. Navy

Newport News Shipbuilding TENNECO
A Tenneco Company
Newport News, Virginia

1886

Founded by industrialist Collis P. Huntington, Newport News Shipbuilding has delivered more than 700 ships, beginning with the tugboat DOROTHY and including such legends as the UNITED STATES, YORKTOWN, HORNET, ESSEX, ENTERPRISE and NIMITZ.



Four Generations of Craftsmanship

For nearly a century, the shipbuilders of Newport News have created ships of unsurpassed quality and performance. Four generations of craftsmen have achieved an enviable record of shipbuilding "firsts" that have marked Newport News as *the* premier shipbuilder and made it the largest and most diversified shipyard in the world.

On grounds fronting the shipyard rests the restored 90-foot tugboat DOROTHY. She is Hull Number One, the beginning of Newport News' long line of more than 700 ships. The simple lines of DOROTHY contrast sharply with the sprawling and sophisticated 475-acre complex of Newport News.

Together, the small tugboat and the giant construction complex symbolize the paradox of shipbuilding: It is an industry of huge facilities and sophisticated manufacturing processes, yet it is also an industry of personal contribution, where individual craftsmanship is as vital as space age technology.

In 1892 Newport News built four 406-foot cargo vessels, the largest steel ships constructed in the United States up to that time.

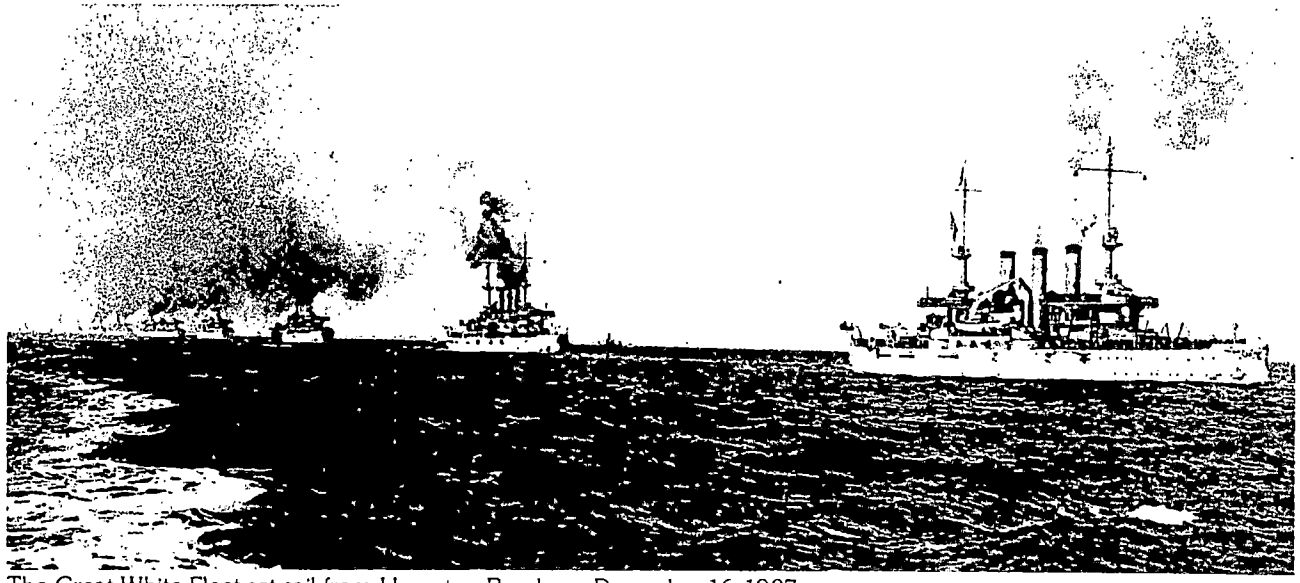
Since then the yard has built more than 270 tankers, cargo ships and passenger liners, including the superliner UNITED STATES, the largest passenger ship ever built in this country. On her maiden voyage in 1952, the UNITED STATES set transatlantic crossing records that remain unsurpassed more than a quarter of a century later.

Recent commercial ships designed and built here include three 125,000-cubic-meter liquefied natural gas (LNG) tankers, each capable of carrying enough natural gas in a single trip to satisfy the energy needs of a city of 34,000 people for a full year. Additionally, Newport News designed and built two 397,000-deadweight-ton tankers — the largest ships built in the Western Hemisphere — with cargo capacities in excess of three million barrels of crude oil.

Virtually from its beginning, Newport News has been the leader in construction of ships for the U.S. Navy.

In 1893 the fledgling shipyard was hard at work on Hull Number Seven, the 234-foot gunboat NASHVILLE, which later fired the first shot of the Spanish-American War. Newport News had been awarded the contract for NASHVILLE and two other gunboats because of its low bid and despite its relative lack of experience.

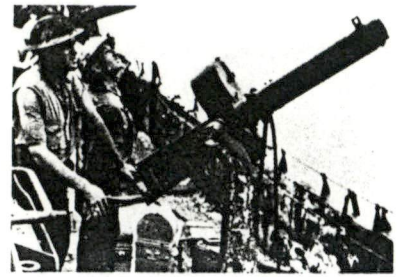
Industrialist Collis P. Huntington, who had founded the shipyard in January 1886, wrote at the time: "The price seems very low and more particularly so, as you know my feeling is that every ship we build should be first-class in quality in every respect, whether we make or lose on her. In fact, I think the shipyard in the end will make

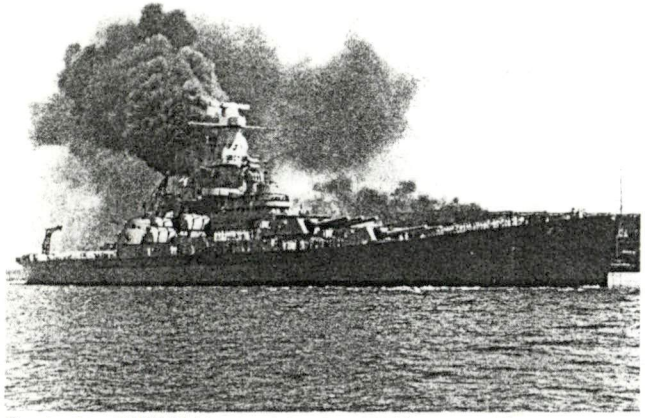


The Great White Fleet set sail from Hampton Roads on December 16, 1907.

1942

The yard's production record in World War II — when it delivered eight ESSEX class aircraft carriers at the rate of one every 15 months — has been hailed as one of the outstanding achievements in the history of shipbuilding. A total of 185 Newport News ships — including two HOUSTONs and the battleship TEXAS — served in every theater of operations.





Battleship INDIANA steaming out of Newport News.

more money by doing first-class work than to get ever so little below that high standard . . . We have the best shipyard plant in the world . . . I want to have for it the reputation of building the best ships. So do not make any calculations on scrimping the works of any of their parts."

The company did indeed suffer a loss on the little gunboat, and then proceeded to lose money on two more. An exasperated Huntington wrote: "There is something fearfully wrong; in fact, so wrong that I am afraid to take any more work until we have reached a point where we can get as much to build a ship as it costs to build it."

Chagrined by Huntington's stern assessment, the company set to work and began to function, finally, like the great shipyard it was meant to be.

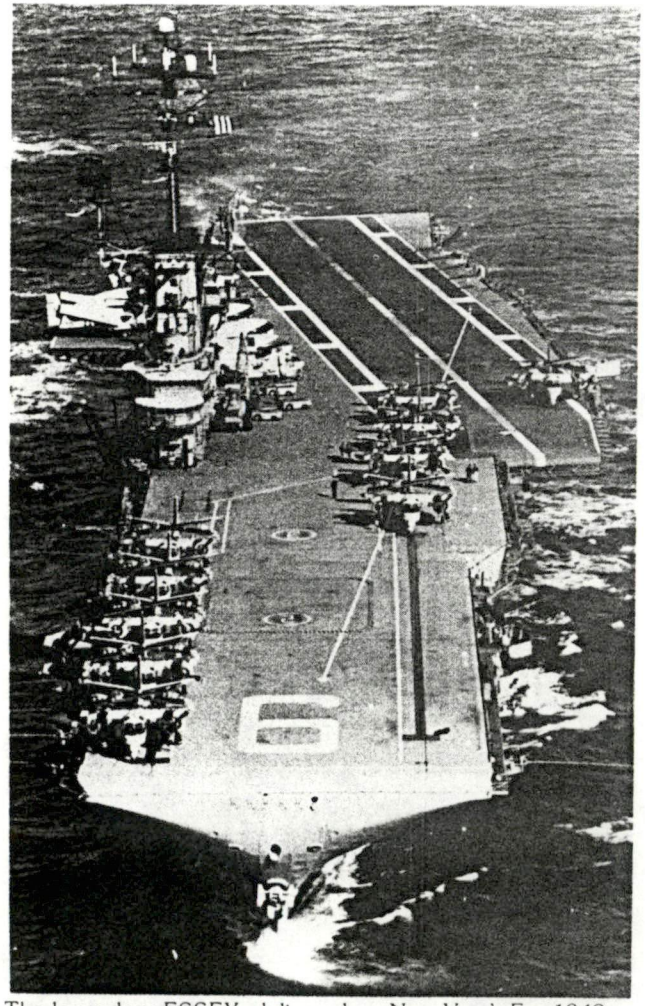
By the time President Theodore Roosevelt's "Great White Fleet" set sail in 1907 on its historic circumnavigation of the globe to demonstrate the military might of the United States, seven of the Fleet's 16 battleships had been built by Newport News. At a profit.

Among them were the still famous names KEARSARGE, KENTUCKY, ILLINOIS and MISSOURI. Just how well the yard had established its reputation for excellence was apparent in a statement made by Admiral George Dewey in 1903, while he was making an inspection of the MISSOURI.

The admiral congratulated the yard on all its Naval vessels, and said that everyone in Washington — from the President on down — looked to Newport News almost exclusively for the building of warships. He added that, if he had had the MISSOURI at the Battle of Manila during the Spanish-American War, he could have taken care of the Spanish fleet without further assistance.

When World War I broke out in Europe, approximately 20 percent of the total tonnage of the U.S. Navy had been constructed at Newport News. And during the 18 months of U.S. involvement in that war, the shipyard produced 25 destroyers, two battleships and a number of vitally needed oil tankers and cargo ships.

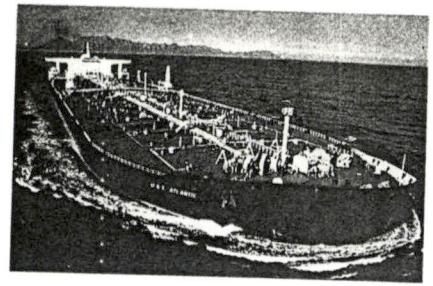
In 1933 the shipyard launched the RANGER, the world's first ship designed and built as an aircraft carrier. Since then, the words "Newport News" and "aircraft carrier" have become almost synonymous. The company has been the lead



The legendary ESSEX, delivered on New Year's Eve 1942.

1981

Today Newport News is the largest shipyard in the world and a leader in the design, construction and repair of both Naval and commercial ships. Since 1968 it has been a major operating division of Tenneco Inc., a diversified energy company with headquarters in Houston.



yard for the design and construction of virtually every class of carrier.

During World War II a total of 185 Newport News ships — including two cruisers named HOUSTON and the battleship TEXAS — served in every theater of operation.

Of the 46 Naval ships completed by Newport News during the war, eight were ESSEX class carriers — delivered at the rate of one every 15 months, a record not even approached by other shipyards.

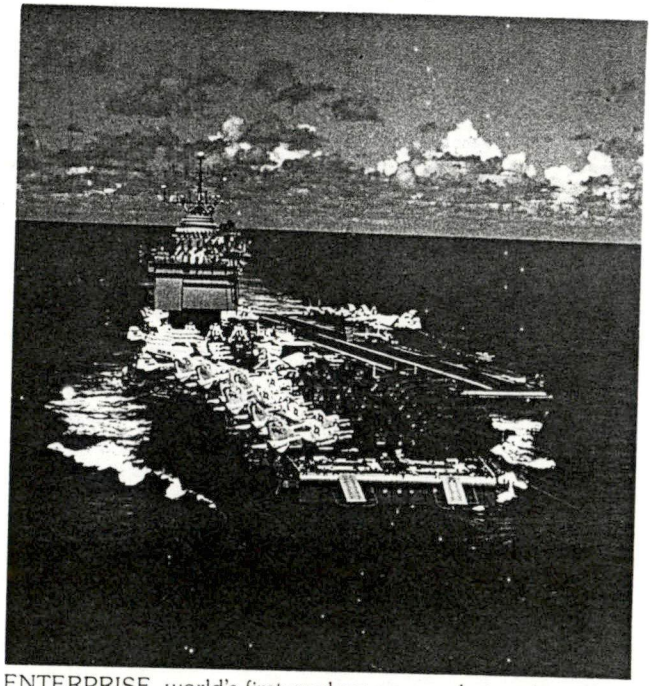
The 1950s saw the launching of the nuclear age, with Newport News Shipbuilding working as partners with the Navy. The year 1960 brought the completion of the company's first nuclear submarine, the Polaris vessel ROBERT E. LEE. The following year, incredibly, was highlighted by the delivery of the nuclear attack submarine SHARK and the ENTERPRISE, the world's first nuclear-powered aircraft carrier.

Since then, Newport News has delivered an additional 35 nuclear ships to the fleet.

Today, Newport News is the lead yard for LOS ANGELES class submarines, VIRGINIA class cruisers and NIMITZ class aircraft carriers. It remains the only shipyard capable of designing, building, repairing, overhauling and refueling nuclear-powered cruisers, carriers and attack submarines.

Newport News has also become a leader in the Navy's submarine conversion, overhaul and refueling program, overhauling an average of three missile or attack submarines every two years. And a recently completed nuclear overhaul and refueling facility has virtually doubled the shipyard's capacity.

During the recent Iranian crisis, the Navy maintained a task force on continuous patrol in the Indian Ocean. The Newport News-built NIMITZ and her nuclear cruiser escorts TEXAS and CALIFORNIA remained at sea for nine months, the longest Naval deployment since

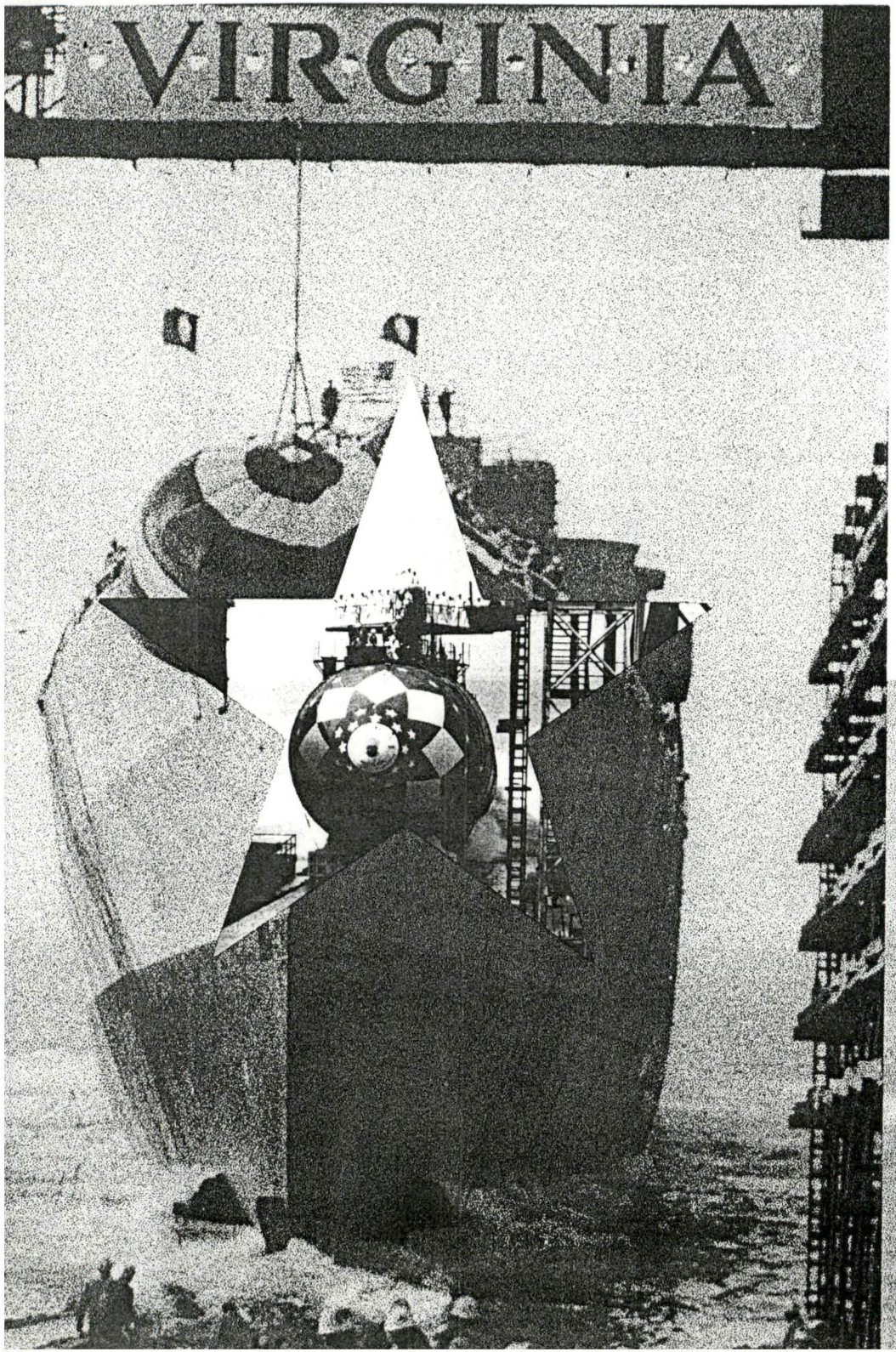


ENTERPRISE, world's first nuclear-powered aircraft carrier.

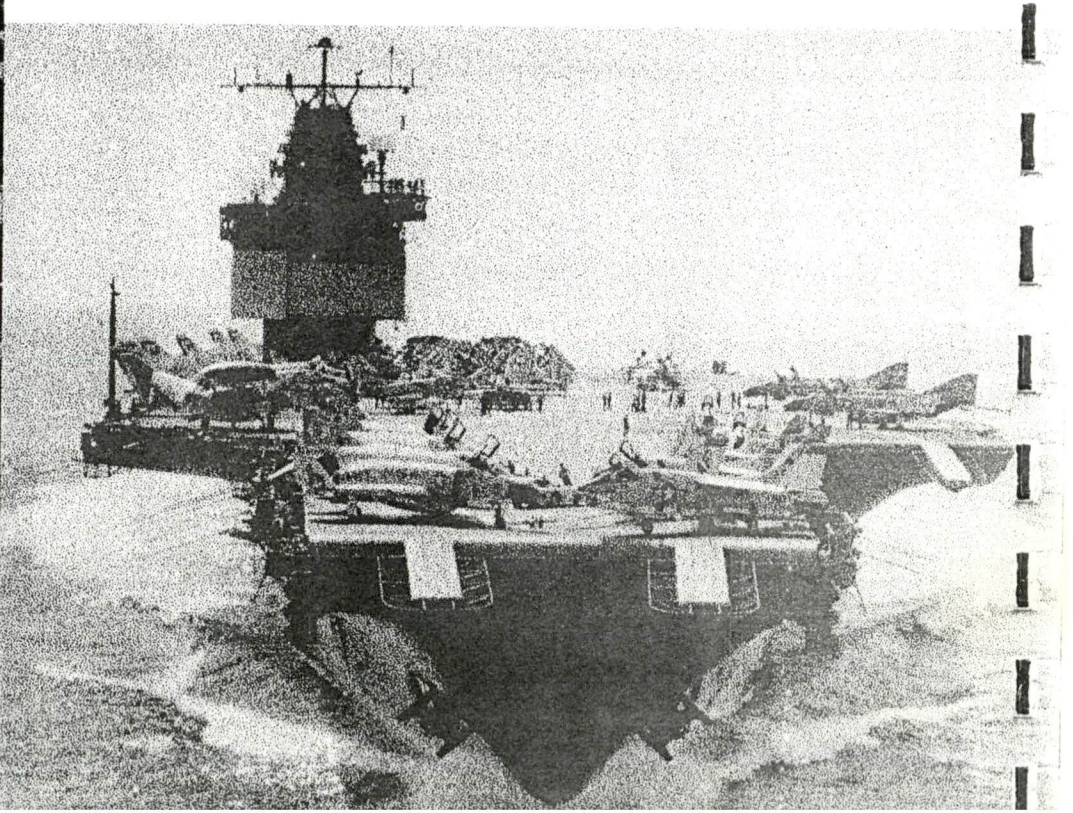
Nuclear-powered cruiser ARKANSAS, delivered September 1980.

World War II. And when they came home to a heroic welcome — including a Presidential visit — they were relieved by another Newport News fleet, the nuclear-powered carrier EISENHOWER and the nuclear cruisers SOUTH CAROLINA and VIRGINIA, which remained at sea for eight months.

The nearly 25,000 men and women of Newport News represent the finest shipbuilding team ever assembled. Their skills and craftsmanship — coupled with a tradition of pride passed down through four generations — have created a legacy of unequalled performance and uncompromising excellence applied to every task at Newport News Shipbuilding, from the most routine repair job to the building of the HOUSTON.



The efforts, ideas and achievements of four generations of craftsmen have made Newport News the world's premier builder of ships. Today it is the lead yard for the design and construction of nuclear-powered aircraft carriers, guided-missile cruisers and high-speed attack submarines.



40 events.
(DC + outside)

C. Smith
a "Francon!" lecture tour
is lovely, but...."
(see Pres. Dinner)

Drugs!
Educ....
Envir.?
(Budget – taxes.)

CRIME + TAXES....
↓ closer to Biden?
• held up by Repubs?

need more Repubs on Hill....

Convey: S+C issue can't be touched. – Ned B.

Redistricting – Calif. Failure.

Minority:
20% – target.

has to say: I went the extra mile. – I was ready to reverse. They wouldn't budge....

TAX:
① no deal – we win!!
② Deal – smoke + mirrors, B.S. deal. (we lose)
③ Deal that's Real – ~~can~~ sell this. We've made Deficit an issue.
→ (line item budget)

Newport News Shipbuilding
Committed to Quality.

4101 Washington Avenue
Newport News, Virginia 23607
(804) 380-2000

TENNECO

July 2, 1990

Peggy Dooley
Speechwriting Office
Old Executive Office Building, Room 111½
Washington, D.C. 20500

Dear Peggy,

As requested, I have enclosed some background information that should help you with your research for the christening of GEORGE WASHINGTON.

Some additional facts about the ship itself:

- Length: 1,092 feet
- Width: 252 feet
- Flight deck area: 4.5 acres
- Number of aircraft: 80
- Number of aircraft elevators: Four (3,800 square feet each)
- Number of propellers: Four
- Number of rudders: Two
- Number of anchors: Two (they weigh 66,220 pounds each)
- Number of catapults: Four
- Accommodations: 6,250
- Meals served aboard daily: 18,150
- Number of telephones: Over 2,000
- Capacity of air conditioning plants: 2,520 tons (enough to serve over 800 homes)
- Daily capacity of distilling plants: 400,000 gallons (enough to supply the daily needs of over 2,000 homes)
- Total number of lighting fixtures: Nearly 30,000
- Length of all cable and wiring: More than 900 miles (equal to 4,300 times the length of the ship)
- Bed mattresses: If lined up end to end, they would stretch more than nine miles
- Required technical manuals: A stack as high as the Washington Monument (555 ft.)

If you have any questions, just give me a call at (804)380-3558.

Cordially,

Lynda

Lynda Whitley

McGroarty/Dooley
July 12, 1990
5:15 pm
[WASH]

PRESIDENTIAL REMARKS: CHRISTENING OF THE GEORGE WASHINGTON
NEWPORT NEWS, VIRGINIA
JULY 21, 1990
11:00 A.M.

Thank you, Dick [Sec. Cheney]. [Introductory acknowledgements: Edward Campbell, President, Newport News Shipbuilding, U.S. Navy officials.] I am delighted to be here this morning, and I know Barbara is deeply honored that you have chosen her to christen this magnificent ship -- the GEORGE WASHINGTON. //

Flying in today, looking down as we came in over the shipyards, put me in mind of my first government job. / I was 18, an ensign in the U.S. Navy -- and after a ten-month training program, a carrier pilot. Of course, things were different then. The planes were slower, the ships were smaller. In fact, on my ship, the SAN JACINTO -- one of the "fast carriers" built atop cruiser hulls in the early months of our entry into the war -- the deck wasn't much wider than the wing span of the plane I flew. // Now, looking up at the WASHINGTON, I wonder whether the SAN JACINTO itself wouldn't fit on her deck. //

For all of you who have put months and years of your best work into this great tower of steel, this is a proud day in the long history of the Newport News Shipyards. The GEORGE

WASHINGTON joins a noble line that begins with the first aircraft carrier, the ~~USS~~ RANGER, built here back in 1934.

Many of you are sons and daughters of shipbuilders -- in some families, four generations have worked here, turning steel into ships. Men like Edgar Davis -- 80 years old now -- who followed his father and ~~five~~ four brothers into these yards -- and whose ~~son-in-law, 4 or 5 nephews~~ son and two grandsons work here today. / When Edgar started work in 1926, ~~there~~ 14 there were no portable electric lights -- so the steel workers went down into the hull holding candles. // And yet, before he retired 48 years later, Edgar Davis and his fellow workers here at Newport News had **helped launch the nuclear Navy. //**

[[Edgar said he'd be here today -- if the weather was good. // He said, "I've seen so many launchings.... But I'll tell you, I'm just as enthused about this one as I was about my first."]]

This magnificent ship is a tribute to the talents of each and every individual who works here. Few realize the magnitude of your task -- what it means to build **a state-of-the-art supercarrier: A warship, a floating city, and an airport -- all rolled into one. //** But here she is -- about to be launched, one step closer to service -- one step closer to the sea. //

The carrier came of age in the Second World War -- and the ships built in this yard helped us turn the tide in the Pacific. At the Battle of Midway -- the greatest naval contest in history. At Leyte Gulf -- where our Navy broke the back of the Japanese

fleet. When Jimmy Doolittle led his legendary raid on Tokyo, he took off from the deck of the USS HORNET -- built right here at Newport News. // Today, the carrier remains an indispensible element in the American arsenal: **Projecting power. / Preserving the peace. //**

Today, fortunately, is not a time of war. / A new chapter is opening -- a day of great promise, a time of triumph for the ideals all Americans hold dear.

But while freedom has made great gains, we have not entered an era of perpetual peace. / American power is still the world's paramount force for freedom. And, as in time of war, when America waged the fight for freedom far from our shores -- so today, we must maintain a policy of peacetime engagement -- and an Armed Forces sufficient to sustain our national interest. // **Let the GEORGE WASHINGTON proclaim America's commitment to remain <u>forever free</u>.** //

Once again, Barbara and I thank you for your warm welcome. // May God bless the GEORGE WASHINGTON, all who sail in her, and all who fly from her deck.

# # #

EXECUTIVE OFFICE OF THE PRESIDENT LIBRARY

Room 308 OEOB
x7000

1. ☐ Immediate
2. ☐ Brief
3. ☐ Research

Name: _____ Initials: _____

Agency: _____ Date Rec'd: _____

Office: _____ Date Due: _____

Room No. _____ Ext. _____

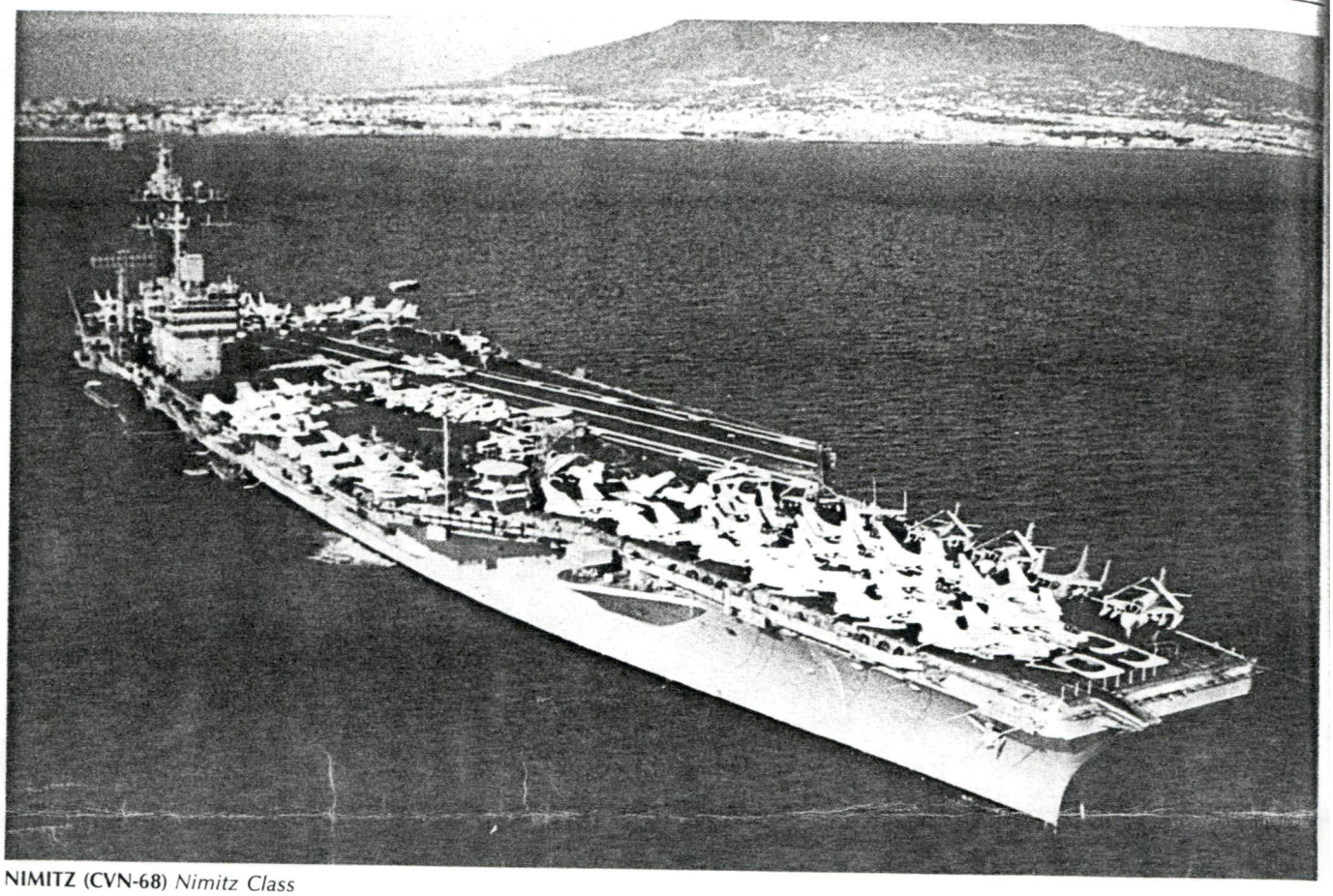
Information Requested:

Raymond Mann
Langley
Rumsfeld +

Newport News
Shipbuilding and
Dry dock Co.
433-3679
Navy Ship
History

Almanac of Sea Power 1990 Vol 33 No. 1 Jan. 1990

SURFACE COMBATANTS



NIMITZ (CVN-68) *Nimitz Class*

AIRCRAFT CARRIERS (CVN, CV)

Nimitz Class

DISPLACEMENT: 91,487 tons full load (CVN-71, 96, 358).
LENGTH: 1,040 feet.
BEAM: 134 feet.
FLIGHT DECK WIDTH: 252 feet.
SPEED: 30-plus knots.
POWER PLANT: two nuclear reactors, four geared steam turbines, four shafts, 280,000 shaft horsepower.
AIRCRAFT: 90-plus.
ARMAMENT: Sea Sparrow missiles, Phalanx CIWSs—three on *Nimitz* and *Eisenhower*, four on *Vinson*, four to be installed on later ships of class.
COMPLEMENT: 3,022 ship's company; 2,279 in air wing.
BUILDER: Newport News Shipbuilding.

Enterprise Class

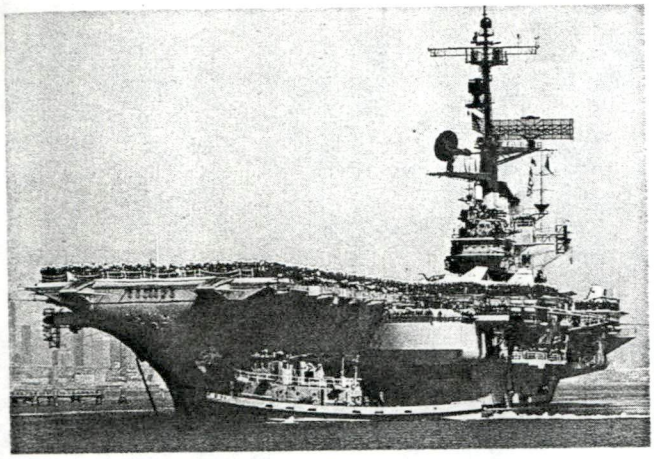
DISPLACEMENT: 89,600 tons full load.
LENGTH: 1,040 feet.
BEAM: 133 feet.
FLIGHT DECK WIDTH: 252 feet.
SPEED: approximately 35 knots.
POWER PLANT: eight nuclear reactors, four geared steam turbines, four shafts, 280,000 shaft horsepower.
AIRCRAFT: approximately 90.
ARMAMENT: Sea Sparrow missiles, three Phalanx CIWSs.
COMPLEMENT: 3,215 ship's company; 2,480 in air wing.
BUILDER: Newport News Shipbuilding.

John F. Kennedy Class

DISPLACEMENT: 80,940 tons full load.
LENGTH: 1,052 feet.
BEAM: 130 feet.
FLIGHT DECK WIDTH: 252 feet.
SPEED: 30-plus knots.
POWER PLANT: eight boilers, four geared steam turbines, four shafts, 280,000 shaft horsepower.
AIRCRAFT: approximately 85.
ARMAMENT: Sea Sparrow missiles, three Phalanx CIWSs.
COMPLEMENT: 2,924 ship's company; 2,279 in air wing.
BUILDER: Newport News Shipbuilding.

Kitty Hawk Class

DISPLACEMENT: 80,800 tons full load.
LENGTH: 1,046 feet.
BEAM: 130 feet.
FLIGHT DECK WIDTH: 252 feet.
SPEED: 30-plus knots.
POWER PLANT: eight boilers, four geared steam turbines, four shafts, 280,000 shaft horsepower.
AIRCRAFT: approximately 85.
ARMAMENT: Sea Sparrow missiles, three Phalanx CIWSs.
COMPLEMENT: 2,932+ ship's company; 1,782 in air wing.
BUILDERS: CV-63, New York Shipbuilding; 64, New York Naval Shipyard; 66, Newport News Shipbuilding.



CORAL SEA (CV-43) *Midway Class*

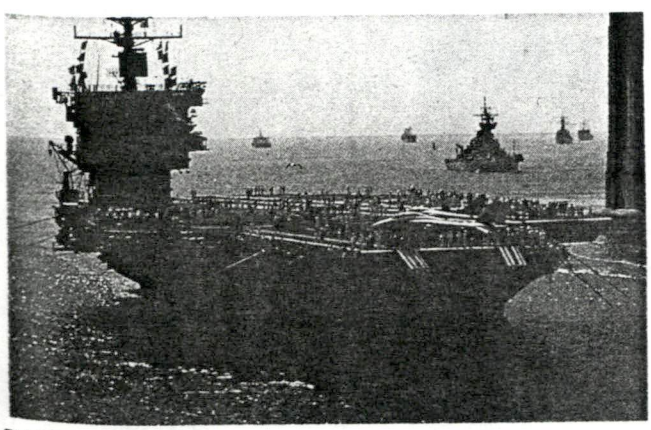
Forrestal Class

DISPLACEMENT: 75,900 to 79,300 tons full load.
LENGTH: 1,063 to 1,086 feet.
BEAM: 129 feet.
FLIGHT DECK WIDTH: 252 feet.
SPEED: 33 knots.
POWER PLANT: eight boilers, with *Forrestal*'s plant approximately 50 percent lower in psi (pounds per square inch) than those of other ships in class; four geared steam turbines; four shafts; 260,000 shaft horsepower for *Forrestal*, 280,000 for others.
AIRCRAFT: approximately 90.
ARMAMENT: Sea Sparrow missiles. Three Phalanx CIWSs being installed in each during SLEP overhauls.
COMPLEMENT: 2,900 ship's company; 2,279 in air wing.
BUILDERS: CVs 59, 61, Newport News Shipbuilding; 60, 62, New York Naval Shipyard.

Midway Class

DISPLACEMENT: 62,000 tons full load.
LENGTH: 979 feet.
BEAM: 121 feet.
FLIGHT DECK WIDTH: 238 feet.
SPEED: 30-plus knots.
POWER PLANT: 12 boilers, four geared steam turbines, four shafts, 212,000 shaft horsepower.
AIRCRAFT: approximately 75.
ARMAMENT: Sea Sparrow missiles, three Phalanx CIWSs.
COMPLEMENT: 2,944+ ship's company; 2,279 in air wing.
BUILDER: Newport News Shipbuilding.

BRIEFING: USS Ranger, delivered in 1934, was the first ship designed as an aircraft carrier. However, carriers did not come into their own until World War II, when they became the most important ships in the fleet, particularly in the Pacific. Despite the fact that carrier task forces have been called upon countless times since World War II to serve as the principal manifestation of U.S. strength and response in times of crisis, and also acquitted themselves exceptionally well in Korea and Vietnam—although admittedly without the opposition encountered in World War II—carriers still are highly controversial because of their high construction and operational costs and alleged vulnerability to modern weapons. Forrestal was the first carrier designed to operate jet aircraft, Enterprise the first with nuclear propulsion. Although Enterprise clearly demonstrated the inestimable value of nuclear propulsion for ships of this size and kind, two carriers laid down later were built with turbines driven by fossil fuel because the Navy was unable to convince those in the chain of command that the operational advantages to be gained more than compenstated for the high cost of nuclear reactors. However, all carriers constructed since 1964 have been nuclear powered. Funding for the fourth and fifth Nimitz-class ships was approved in the FY 1983 budget; this unusual funding of two carriers in the same budget permitted more rapid construction and will enable both, Abraham Lincoln and George Washington, to join the fleet almost two years earlier than would have been the case had they been funded singly. In FY 1988, once again funding for two carriers was approved; the first of these, CVN 74, will bear the name of John C. Stennis, long-time senator from Mississippi who was renowned for his vigorous support of a strong national defense. The second will be named United States. Despite the fact that the Navy has consistently and forcefully stated for some years that 15 carrier battle groups (CBGs) were the minimum required to meet existing deployed commitments, forced reductions in the FY 1990 defense budget stemming from the need to reduce the federal deficit resulted in a decision by the Bush admistration that when Abraham Lincoln was commissioned in late 1989 the venerable Coral Sea would be retired. This would leave the Navy with but 14 deployable carriers. Midway, commissioned in 1945 and modernized several times since then, will continue to be based in Yokosuka, Japan, until her retirement in the early 1990s, at which time she will be replaced by a Forrestal-class carrier. A four-year overhaul and reactor refueling of Enterprise, scheduled to begin in early 1991, also resulted in controversy because of its estimated cost of $1.86 billion; however, opposition to the overhaul and refueling spearheaded by Senator Edward Kennedy (D-MA) was overcome. The service-life extension currently being given Kitty Hawk is scheduled for completion in early 1991, at which time Constellation will commence a similar modernization program.



ENTERPRISE (CVN-65) *Enterprise Class*

Nimitz Class

CVN-68 Nimitz; Bremerton, WA (SF 98780-2820)
CVN-69 Dwight D. Eisenhower; Norfolk, VA (NY 09532-2830)
CVN-70 Carl Vinson; Alameda, CA (SF 96629-2840)
CVN-71 Theodore Roosevelt; Norfolk, VA (NY 09599-2871)

Enterprise Class

CVN-65 Enterprise; Alameda, CA (SF 96636-2810)

John F. Kennedy Class

CV-67 John F. Kennedy; Norfolk, VA (NY 09538-2800)

Kitty Hawk Class

CV-63 Kitty Hawk; Philadelphia, PA (NY 09535-2770) (SLEP)
CV-64 Constellation; San Diego, CA (SF 96635-2780)
CV-66 America; Norfolk, VA (NY 09531-2790)

Forrestal Class

CV-59 Forrestal; Mayport, FL (MI 34080-2730)
CV-60 Saratoga; Mayport, FL (MI 34078-2740)
CV-61 Ranger; San Diego, CA (SF 96633-2750)
CV-62 Independence; San Diego, CA (SF 96618-2760)

Midway Class

CV-41 Midway; Yokosuka, Japan (SF 96631-2710)
CV-43 Coral Sea; Norfolk, VA (NY 09550-2720)

TO DAN McGROARTY 756-6210
IMMEDIATE

Ravdin
19Jun90
1:00PM

DRAFT -- DRAFT

Page 1 of 2

Remarks by Secretary Cheney
Christening of USS GEORGE WASHINGTON
21 July 1990

Thank you, Larry [GARRETT].

Mr. President ... Mrs. Bush ... Secretary Garrett ... Mr. Campbell [Edward Campbell, Pres., Newport News Shipbuilding] ... Admiral Kelso ... And a particular thank you to the people who have made this day possible -- the men and women of the Newport News Shipyard:

It is my honor to introduce this afternoon, the only American President who's ever had a pilot's-eye view of a carrier deck.

In 1944, at the age of 18, George Bush stood up to serve his country as a Navy pilot -- flying combat missions in the Pacific. So the President has a different perspective on this ship than most of us -- and a fuller appreciation as well.

Aircraft carriers are powerhouses of military capability; our nation's designated hitters in crises and contingencies far from our shores.

But from the cockpit of a plane like the one flown by Lieutenant j.g. Bush, a carrier isn't just a strategic or tactical asset -- or a line item in a federal budget. It's a pinpoint of grey in a massive ocean; a safe return from dangerous skies. And, let me add, landing on one is a pretty good test of nerve ... teamwork ... and a sense of direction.

In fact, the power of a carrier isn't just in its steel or fuel, but in the quality of the people who give it life -- the builders who create it; the crew who sustain it; and the aviators who fly its missions, in harm's way.

Today, this country still needs aviators -- and <u>leaders</u> -- who have the courage and the good sense of direction that our defense requires.

Our generation is only the latest of many who have been responsible for American defense in an uncertain world.

Thirty years ago, GEORGE WASHINGTON was the name of another ship -- our <u>first</u> ballistic missile submarine. That was in 1960. We faced the dangers and uncertainties of a new kind of threat, the nuclear Cold War. By giving us the final leg of our triad, the submarine GEORGE WASHINGTON helped provide the deterrent our security required.

Today we stand at the brink of a new age, beside a new GEORGE WASHINGTON. For at least the next 30 years, this ship will help stay the hand of aggressors as it exercises American power around the globe.

But in that exercise, it's people that will give this ship its real power and real character.

- First, there are the people of this shipyard, who have proved once again that -- despite what we so often hear -- American workers care about excellence and produce quality.
- Second, there are the ship's sailors and aviators. Their talent, enthusiasm and dedication to service are the backbone of our defense.

The average age of a carrier crew is about 20 years old. That's pretty young -- but if one former Lieutenant j.g. is any guide, not too young for leadership.

So, it is my great honor to introduce that former Navy pilot -- our Commander in Chief, President George Bush.

* * *

DRAFT

DRAFT

SCHEDULE OF THE PRESIDENT AND MRS. BUSH

FOR

NEWPORT NEWS, VIRGINIA

JULY 21, 1990

GUEST AND STAFF INSTRUCTIONS:

7:00 am **Baggage Call.** Please place all unlocked baggage outside Room 89 1/2 OEOB at this time.

8:30 am Vans depart West Basement en route Andrews Air Force Base.

8:30 am Those with own transportation with baggage should arrive Andrews Air Force Base, Distinguished Visitors' Lounge at this time.

8:45 am Those with own transportation without baggage should arrive Andrews Air Force Base, Distinguished Visitors' Lounge at this time.

9:15 am Guests and Staff manifested on Marine One should proceed to South Lawn at this time.

9:20 am THE PRESIDENT and Mrs. Bush depart White House en route Andrews Air Force Base.

MARINE ONE MANIFEST:

THE PRESIDENT
Mrs. Bush
Gov. Sununu
Gen. Scowcroft
T. McBride

THE WHITE HOUSE
WASHINGTON

D. Valdez
Doctor
Mil. Aide
2 USSS

(Flying Time: 10 Minutes)

9:30 am THE PRESIDENT and Mrs. Bush arrive Andrews Air Force Base and proceed to board Air Force One.

9:35 am THE PRESIDENT and Mrs. Bush depart Anadrews Air Force Base en route Newport News, Virginia.

(Flying Time: 35 Minutes)
(Interchange: No)
(Time Change: None)
(Food Service: Beverages and Snacks)

10:10 am THE PRESIDENT and Mrs. Bush arrive Langley Air Force Base, Newport News, Virginia and proceed to Motorcade.

Met by:

10:15 am THE PRESIDENT and Mrs. Bush board Motorcade en route TBD Building.

MOTORCADE ASSIGNMENTS:

Lead	S. Broadbent
Spare	T. McBride Doctor
LIMO	THE PRESIDENT Mrs. Bush
Follow Up	

THE WHITE HOUSE
WASHINGTON

Control	Gov. Sununu Gen. Scowcroft Mil. Aide
Support	M. Fitzwater Official Photographer P. Swift J. Keller Medic
Staff I	S. Rogich
Camera I	
Camera II	S. Geissinger
Wire I	
Wire II	
Staff Van	
Guest Van	
Press Van I	J. Allison
Press Van II	
Press Van III	

(Drive Time: 2 Minutes)

10:17 am THE PRESIDENT and Mrs. Bush arrive TBD Building and proceed inside.

Met by:

EVENT: PRE-CEREMONY BRIEFING

CLOSED PRESS

10:18 am THE PRESIDENT and Mrs. Bush arrive TBD Room and begin participation in Pre-Ceremony Briefing.

THE WHITE HOUSE

WASHINGTON

10:30 am THE PRESIDENT and Mrs. Bush conclude participation in Pre-Ceremony Briefing and proceed to Motorcade.

10:35 am THE PRESIDENT and Mrs. Bush board Motorcade and depart Langley Air Force Base en route GEORGE WASHINGTON.

MOTORCADE ASSIGNMENTS:

Same as on Arrival.

(Drive Time: 15 Minutes)

GUEST AND STAFF INSTRUCTIONS:

Upon arrival at Shipyard, Guests and Staff will be escorted to Staff Viewing Area or Holding Trailer.

Immediately upon conclusion of THE PRESIDENT'S Remarks, Guests and Staff will be escorted to Motorcade for transport to Langley Air Force Base.

10:50 am THE PRESIDENT and Mrs. Bush arrive GEORGE WASHINGTON and proceed to Holding Trailer.

10:53 am THE PRESIDENT and Mrs. Bush arrive Holding Trailer and hold briefly.

10:55 am THE PRESIDENT and Mrs. Bush depart Holding Trailer and proceed to Off-Stage Announcement Area.

10:56 am THE PRESIDENT and Mrs. Bush arrive Off-Stage Announcement Area and hold briefly.

THE WHITE HOUSE

WASHINGTON

EVENT: ATTEND CHRISTENING OF GEORGE WASHINGTON

OPEN PRESS

RUFFLES AND FLOURISHES

OFF-STAGE ANNOUNCEMENT

HAIL TO THE CHIEF

BRIEF REMARKS

10:57 am THE PRESIDENT and Mrs. Bush are announced onto Stage, proceed to Dais and take their Seats.

10:58 am Mr. Ed Campbell, CEO and President, Newport News Shipbuilding Company, gives welcoming remarks

11:00 am National Anthem (raising of U.S. Flag)

11:03 am Invocation by TBD

11:04 am Pledge of Allegiance led by TBD

11:05 am U.S. Navy Band performs "It's a Grand Old Flag"

11:08 am THE PRESIDENT is introduced for Brief Remarks by Mr. Ed Campbell, CEO and President, Newport News Shipbuilding Company, for Brief Remarks.

11:10 am THE PRESIDENT gives Brief Remarks.

11:20 am THE PRESIDENT concludes Brief Remarks and returns to his Seat.

11:21 am Mr. Campbell introduces Doro Bush LeBlond, serving as Matron of Honor

CHRISTENING

THE WHITE HOUSE

WASHINGTON

11:30 am THE PRESIDENT and Mrs. Bush conclude participation in Christening and proceed to Motorcade.

11:35 am THE PRESIDENT and Mrs. Bush board Motorcade and depart GEORGE WASHINGTON en route Langley Air Force Base.

MOTORCADE ASSIGNMENTS:

Same as on Arrival.

(Drive Time: 15 Minutes)

11:45 am THE PRESIDENT and Mrs. Bush arrive Langley Air Force Base and proceed to board Air Force One.

GUEST AND STAFF INSTRUCTIONS:

Upon arrival at Langley Air Force Base, Essential Staff should board C-20 with THE PRESIDENT for transport to Camp David.

Guests and Staff returning to Andrews Air Force Base should board aircraft 27000 at this time.

11:55 am Aircraft 27000 departs Langley AFB en route Andrews AFB.

12:30 pm Aircraft 27000 arrives Andrews AFB.

11:50 am THE PRESIDENT and Mrs. Bush depart Langley Air Force Base en route Hagerstown, Maryland.

(Flying Time: 50 Minutes)
(Interchange: No)
(Time Change: None)
(Food Service: Lunch)

THE WHITE HOUSE

WASHINGTON

12:40 pm THE PRESIDENT and Mrs. Bush arrive Hagerstown, Maryland and proceed to board Marine One.

12:45 pm THE PRESIDENT and Mrs. Bush depart Hagerstown, Maryland en route Camp David.

MARINE ONE MANIFEST:

THE PRESIDENT
Mrs. Bush
Gov. Sununu
Gen. Scowcroft
T. McBride
D. Valdez
Doctor
Mil. Aide
2 USSS

(Flying Time: 15 Minutes)

1:00 pm THE PRESIDENT and Mrs. Bush arrive Camp David.

To Peggy

Date _____ Time 5:05

WHILE YOU WERE OUT

M Steve Broadbent

of _____

Phone 804-728-1517
Area Code Number Extension

TELEPHONED		PLEASE CALL	☰
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		URGENT	
RETURNED YOUR CALL			

Message Adm. Pilling

Steph
Operator

AMPAD
EFFICIENCY®
23-023 CARBONLESS

City/State: NEWPORT NEWS, VA

Event: USS GEORGE WASHINGTON

Date: 6/29/90 (Event: 7/21/90)

OFFICE OF PRESIDENTIAL ADVANCE

CONTACT SHEET

Name	Office	Phone Number
Presidential Advance Office		202/456-7565
Presidential Advance Fax Number		202/456-2820
PEGGY HAZELRIGG	PRES. ADVANCE/WHITE HOUSE	202/456-7565
LYNDA WHITLEY	SR. COORD/NNS P-R.	(804) 380-3558
WM ROBERTSON	MGR of SPEC SERVICES	(804) 380-2300
Claire Landry	USCINCLANT Protocol	804-444-6323
ROB CREAMER	MARINE ONE ADVANCE	703-640-2364
Steve Broadbent	Pres. Advance	202-566-5847
STEVE WOODARD	USSS/NORFOLK	(804) 441-3200
JERRY PATTON	USSS/ P.P.D.	202-395-6340
DAVID PISTILLI	WH COMMUNICATIONS	202-395-4012
LARRY LANDRUM	WH MIL OFC WH COMM AGCY	202-395-4040
BOBBY CARR	WH PRESS ADVANCE	202-447-5091
Peggy Dooley	WH Speechwriting	202/456-7750
JAY PARMER	WH ADVANCE	202 456-7565
SPENCER GEISSINGER	WH ADVANCE	202 456-7565
Nick Spanos	Director Security (NNS)	804-380-2900
C.E. ARNOLD	SECURITY	804-380-2992
Jarmon Eason	Security	804-688-8065
H.W. GOWERS	TRANSP. COORD.	804-380-4798
Nickey Atkins	Reservations Manager	804/380-2380
David Hinnant	V.I.P. Trans. Coord.	804-380-3314
Jack Schnaedter	Public Relations	" " 2946
Ralph Yarrow	Public Relations	804-380-3900
John E. Graham	Construction	804-380-7562
Wayne Rammell	Riggers Dept.	804-688-8030

fired its machine guns into the ship's island structure killing two men; wounding 24, including her commanding officer; and causing considerable damage to radar. Despite this accident, *San Jacinto* remained battleworthy.

As American troops landed on Leyte in the central Philippines on 20 October, *San Jacinto* provided close air support. On 24 October, this mission was interrupted by news of the tri-pronged approach of the Japanese fleet which precipitated the largest fleet battle in naval history.

San Jacinto sent planes against the central force in the Sibuyan Sea; then raced north to launch strikes against the northern force, resulting in heavy damage to the Japanese carriers and surface combatants off Cape Engaño. On 30 October, her fighters furnished air protection over Leyte while her guns shot down two planes attempting suicide attacks on the ship. After a pause at Ulithi, the carrier joined in attacks on the Manila Bay area; then took a side trip to Guam to exchange air groups, receiving Air Group 45. She received slight damage during a typhoon in December 1944.

After completing repairs at Ulithi, *San Jacinto* and the rest of her fast carrier force entered the South China Sea and launched massive air attacks on the airfields of Formosa and against shipping at Cam Ranh Bay, French Indochina, and at Hong Kong. By refueling and replenishing at sea, Task Force 38 was able to continue its pressure on the enemy and strategic support for the American invasion of Luzon by strikes against the Ryukyu Islands.

Next, *San Jacinto* joined in the first carrier strikes against the home islands of Japan. During the raids on 16 and 17 February 1945, carrier-based aircraft downed many enemy planes during fierce dogfights over airfields in the Tokyo area. These operations were designed to cover the imminent invasion of Iwo Jima. Next came air support for the landing marines, followed by further strikes against Tokyo and Okinawa before *San Jacinto* returned to Ulithi.

While conducting operations off Kyushu, Japan, she witnessed the conflagration on *Franklin* (CV-13); and, on 19 March 1945, narrowly escaped destruction herself when a kamikaze barely missed her. More massive enemy attacks came with Operation "Iceberg" as the carrier force furnished air support for the invasion of Okinawa. On 5 April, more than 500 planes, primarily kamikazes, attacked. Fighter planes and antiaircraft guns shot down about 300, but many got through. *San Jacinto's* gunners shot the wing off a would-be suicide plane, deflecting its dive, and splashed another only 50 feet off her port bow. Her mission of covering the Okinawa invasion entailed heavy air activity and kept the ship almost constantly at general quarters while supporting ground forces and repelling frequent attacks by suicide planes. On 7 April, *San Jacinto's* bombers torpedoed Japanese destroyer, *Hamakaze*, part of a naval suicide attack in which super battleship, *Yamato*, was also sunk. *San Jacinto* then returned to the dangerous job of defending against the suicide plane attacks, striking at the kamikaze airfields on Kyushu, and providing close air support for ground forces fighting on Okinawa. On 5 June, she successfully rode out another typhoon and, after replenishing at Leyte, sortied for her final raids as part of Task Force 58. Her aircraft struck at Hokkaido and Honshu, Japan, on 9 July and continued to operate off the coast of Japan until the end of hostilities on 15 August 1945. Her air missions over Japan then became mercy flights over Allied prisoner-of-war camps, dropping food and medicine until the men could be rescued. Her wartime mission completed, *San Jacinto* returned home and tied up at Alameda, Calif., on 14 September 1945.

She was decommissioned on 1 March 1947 and joined the Pacific Reserve Fleet berthed at San Diego. Reclassified as an auxiliary aircraft transport (AVT-5) on 15 May 1959; she was struck from the Navy list on 1 June 1970.

San Jacinto earned five battle stars and was awarded the Presidential Unit citation. Her hull was sold for scrapping on 15 December 1971 to National Metal and Steel Co., Terminal Island, Calif.

San Joaquin

A river in central California.

I

(YFNB: t. 1,551; l. 219'9½"; b. 41'7"; dph. 24'2"; nap.)

The first *San Joaquin*, a wooden, schooner-rigged barge, built during 1876 at Freeport, Maine, was purchased during 1918 by the Navy from the Luckenbach Steam Ship Co., and placed in service on 8 August 1918, Chief Boatswain's Mate John J. Miller in charge.

Assigned to the Naval Overseas Transportation Service as a non-self-propelled lighter, *San Joaquin* made seven round-trip voyages between Norfolk and New England ports transporting coal. During these operations, *San Joaquin* was towed by the tugs *Allegheny*, *Billow*, *Mohave*, *Pensacola*, and *Sagamore*. She was detached on 27 March 1919 and assigned to local duty within the 5th Naval District. *San Joaquin* was struck from the Navy list on 13 June 1919 and sold on 11 September 1919 to the Neptune Line of New York, N.Y.

San Joaquin (AKA-103), a *Tolland* class attack cargo ship, was laid down on 17 August 1945 by the Federal Shipbuilding and Dry Dock Company, Kearny, N.J. Further construction, however, was cancelled on 27 August 1945.

San Joaquin County

A county in California.

(LST-1122: dp. 1,625; l. 328'; b. 50'; dr. 11'2"; s. 12 k; cpl. 226; a. 8 40mm., 12 20mm.; cl. *LST-542*)

LST-1122 was laid down on 30 October 1944 by the Chicago Bridge and Iron Co., Seneca, Ill.; launched on 24 January 1945; sponsored by Mrs. Alice S. Weaver; placed in reduced commission on 2 February 1945 for ferrying to New Orleans; and commissioned in full on 14 February 1945, Lt. L. L. Hutchinson, USNR, in command.

Following shakedown off Pensacola, Fla., *LST-1122* loaded cargo at Gulfport and steamed via the Panama Canal to the Pacific. In mid-May, she arrived at Pearl Harbor, whence she continued on to deliver cargo in the Marshalls, the Western Carolines, the Ryukyus, and the Marianas. After the cessation of hostilities in mid-August, she continued her cargo and passenger runs. In September, she extended her range to include the Philippines and the Japanese home islands, in which areas she continued to operate through the end of the year.

With the new year, 1946, the tank landing ship was ordered back to the United States. On 18 February, she arrived at San Francisco. In May, she shifted to San Diego, whence she conducted operations, primarily off California, until 1949. In January of that year, she moved north; conducted exercises in the Aleutians; and returned to San Diego in March. The following month, she joined the Pacific Reserve Fleet; and, on 15 June, she was decommissioned and berthed at San Diego.

In June 1950, hostilities again broke out in the Far East as the North Korean People's Army pushed past the 38th Parallel into the Republic of (South) Korea.

FAX from The Naval Historical Center

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Date: 7/3 Time: 2:12 PM

ESSEX Class

CV–9 through 13, 16 through 18, 20 and 31
Displacement: Tons: 27,100
Length Overall: 872'
Beam: 147'6" Extreme Width at flight deck:
Draft: 28'7"
Speed: 33 k.
Complement: Off.: 360, Enl.: 3,088
Aircraft: 80 plus
Armament:
(12) 5"/38 cal.
(17) quad. 40 mm.
Catapults: 2
Engines: Mfr.: Wstgh; Type: Geared Turbine (CV–9 through 13), Turbine (CV–16 through 18, 20 and 31)
Designed Shaft Horsepower: 150,000
Boilers: Mfr.: B.W.; No.: 8
Fuel: Bbls.: Fuel oil: 43,838; Diesel oil: 1,214; Gasoline: Gals.: 231,650 (CV–9 through 11, 16); 225, 880 (CV–12, 13, 17, 18, 20 and 31)

TICONDEROGA Class

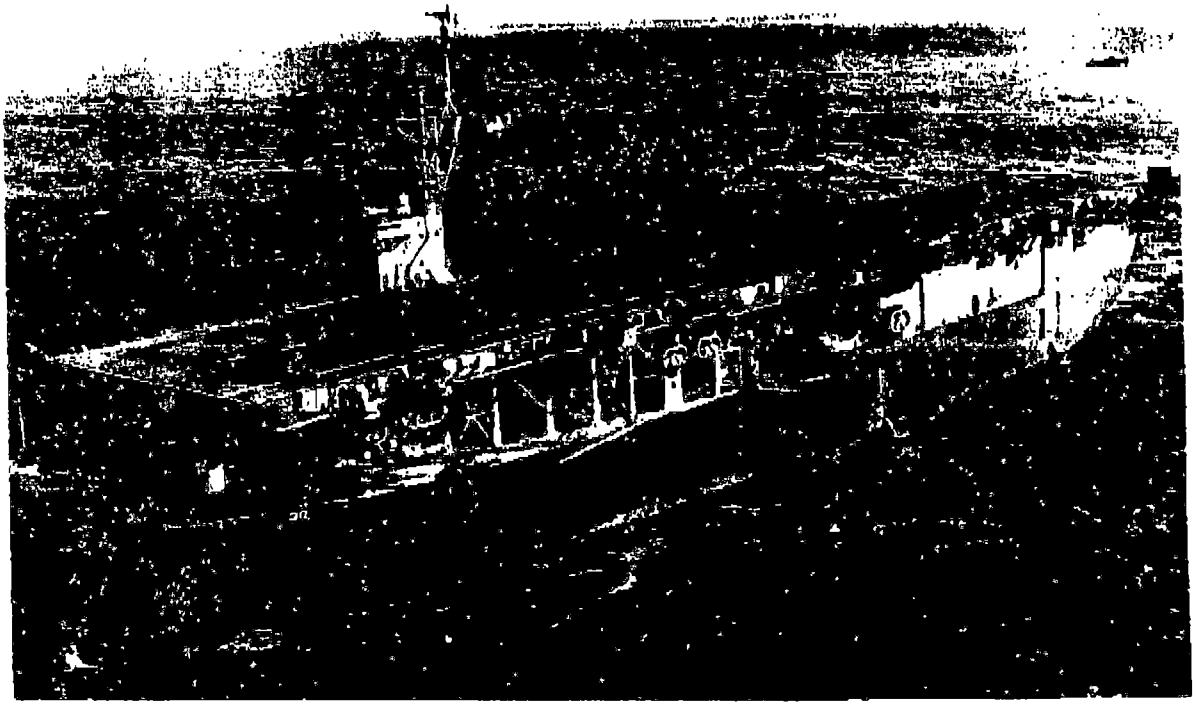
CV–14, 15, 19, 21, 32, 33, 36 through 40, 45, 47. 35, 46, and 50 through 55 were not completed.
Displacement: Tons: 27,100
Length Overall: 888'
Beam: 147'6" Extreme Width at flight deck:
Draft: 28'7"
Speed: 33 k.
Complement: Off.: 360, Enl.: 3,088
Aircraft: 80 plus
Armament:
(12) 5"/38 cal.
(18) quad. 40 mm.
Catapults: 2
Engines: Mfr.: Wstgh.; Type: Turbine
Designed Shaft Horsepower: 150,000
Boilers: Mfrs.: B.W.; No.: 8
Fuel: Bbls.: Fuel oil: 43,838 (CV–14 and 19), 44,475 (CV–15), 45,043 (CV–21, 32, 33, 36 through 40, 45 and 47); Diesel oil: 1,214; Gasoline: Gals.: 225,880 (CV–14 and 19); 242,684 (CV–15); 209,846 (CV–21, 32, 33, 36 through 40, 45 and 47)

INDEPENDENCE Class

CV–22 through 26; CVL–27 through 30
Displacement: Tons: 11,000
Length Overall: 622'6"
Beam: 71'6" Extreme Width at flight deck: 109'2"
Draft: 26'
Speed: 31 k.
Complement: Off.: 159, Enl.: 1,410
Aircraft: 45
Armament:
(2) quad. 40 mm.; (9) twin 40 mm.
Catapults: 2
Engines: Mfr.; G.E.; Type: Turbine
Designed Shaft Horsepower: 100,000
Boilers: Mfr.: B.W. No.: 4
Fuel: Bbls.: Fuel oil: 17,214; Diesel oil: 628; Gasoline: Gals.: 122,243

ORISKANY Class

CV–34
Displacement: Tons: 27,100
Length Overall: 888'
Beam: 147'6" Extreme Width at flight deck: 147'6"
Draft: 28'7"
Speed: 33 k.
Complement: Off.: 358, Enl.: 3,102
Aircraft: 80 plus
Armament:
(8) 5"/38 cal.; (14) 3"/50 cal. twin



USS Charger (CVE–30)

Smithsonian Institute
Air and Space Museum Library
Phone: 357-3133 (Larry Wilson)

San Jacinto

Normal Crew Compliment = 1,569

30 Aircraft

Length of 600 feet for the hull at waterline.
Length 622 feet and 6 inches from extreme tip of bow to end of the gun position.

Maximum Speed = 31 knots

13,000 Naughtical Miles at 15 knots

Deep Load Displacement 14,750 tons

Flight Deck 544 feet length

Flight Deck width 73 feet

Width of Hull 71 feet and 6 inches

Jane's Fighting Ships 1989-90 92nd Edition Edited by Captain Richard Sharpe RN pp 706-707

1 "DOLPHIN" CLASS (AGSS)

Name	*No.*	*Builders*	*Laid down*	*Launched*	*Commissioned*	*F/S*
DOLPHIN	AGSS 555	Portsmouth Naval Shipyard	9 Nov 1962	8 June 1968	17 Aug 1968	PA

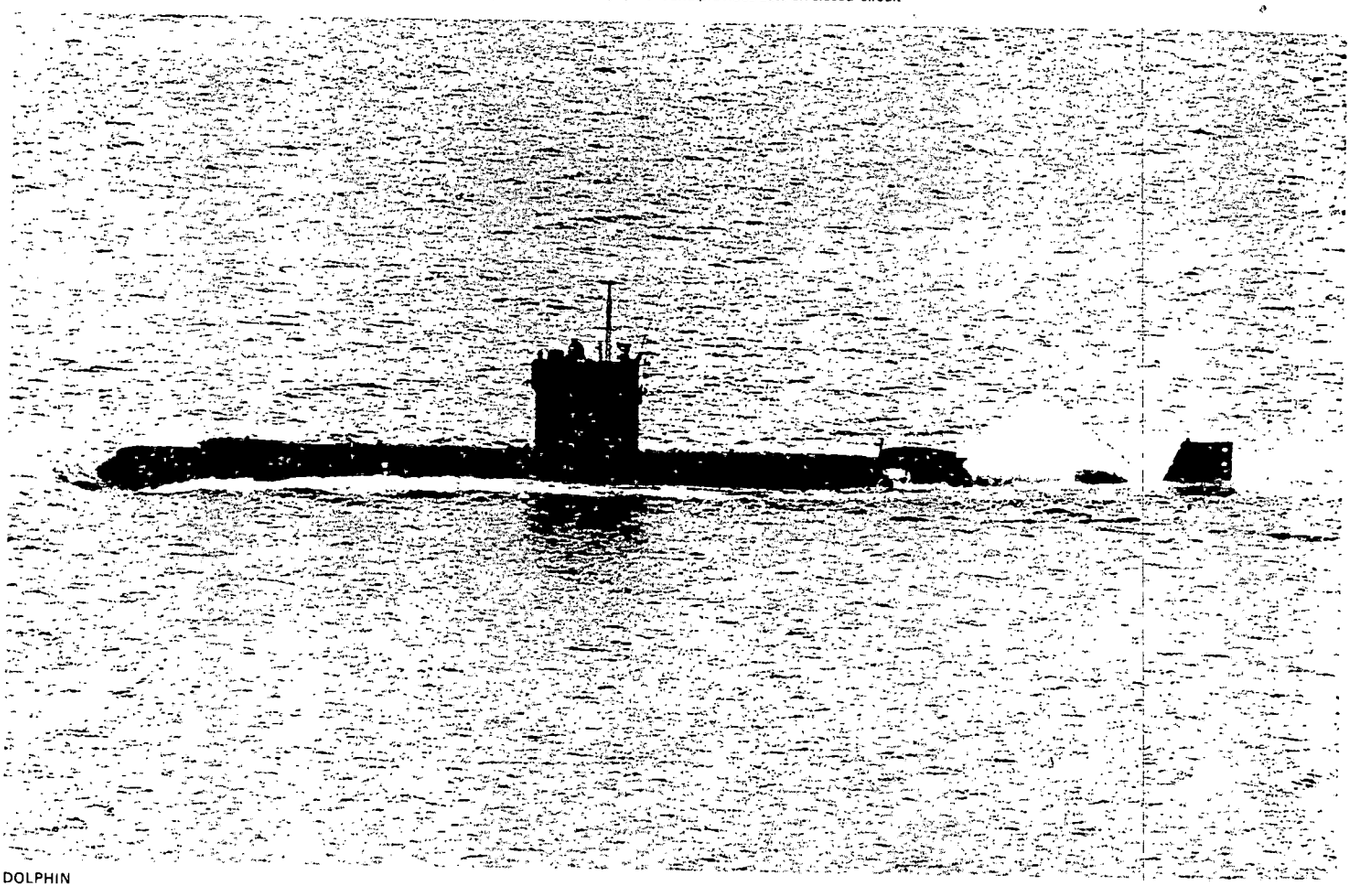
Displacement, tons: 800 standard; 930 full load
Dimensions, feet (metres): 152 × 19.3 × 18 *(46.3 × 5.9 × 5.5)*
Main machinery: Diesel-electric; 2 Detroit 12 V71 diesels; 1 650 hp; 1 shaft
Fitted with 330 cell silver-zinc battery
Speed, knots: 15+ dived
Complement: 37 (4 officers) plus 4-7 scientists

Torpedoes: Single tube removed.
Radars: Navigation: Sperry SPS 53 portable; I/J band.
Sonars: Ametek BQS 15; active close-range detection; high frequency.
EDO BQR 2; passive search; low frequency.
Acoustic arrays towed at up to 4 000 ft astern.

Programmes: Authorised in FY 1961 but delayed because of changes in mission and equipment coupled with higher priorities being given to other submarine projects.

Structure: Has a constant diameter cylindrical pressure hull approximately 15 ft in outer diameter closed at both ends with hemispherical heads. Pressure hull fabricated of HY-80 steel with aluminium and fibre-glass used in secondary structures to reduce weight. No conventional hydroplanes are mounted, improved rudder design and other features provide manoeuvring control and hovering capability. Fitted for deep-ocean sonar and oceanographic research. She is highly automated and has three computer-operated systems, a safety system, hovering system, and one that is classified. The digital-computer submarine safety system monitors equipment and provides data on closed-circuit television screens; malfunctions in equipment set off an alarm and if they are not corrected within the prescribed time the system, unless overridden by an operator, automatically brings the submarine to the surface. There are several research stations for scientists and she is fitted to take water samples down to her operating depth. Underwater endurance is limited (endurance and habitability were considered of secondary importance in design).

Operational: Assigned to Submarine Development Group 1 at San Diego. Designed for deep diving operations. Submerged endurance is approximately 24 hours with an at-sea endurance of 14 days.



DOLPHIN

9/1985, Giorgio Arra

AIRCRAFT CARRIERS

The US Navy currently operates 15 aircraft carriers (one of which is always in SLEP overhaul): 13 ships of post-Second World War construction (including five nuclear powered) and two "Midway" class ships completed shortly after the war. In addition, an obsolescent "Essex" class ship serves as a training carrier.
This total is frequently criticised as inadequate by those who are charged with the implementation of national and NATO naval plans.
Two nuclear carriers, *Abraham Lincoln* and *George Washington* are under construction with construction funds approved in the FY 1983 programme and two more were included in the FY 1988 budget with contracts awarded in June 1988. These last two will replace *Midway* and probably *Saratoga*.
It is now planned to maintain a 15 carrier force level through the 1990s, the total not including the ship in SLEP.

Air Wings: Each large aircraft carrier (CV/CVN) normally operates an air wing of 85-90 aircraft. In recent years those air wings have included F-4 Phantom fighter aircraft and A-7 Corsair II attack aircraft. However, F-14 Tomcat fighters and F/A-18 attack aircraft have just about replaced these aircraft in the fleet. Beginning in late 1988, CV/CVNs began transition to the new "notional" air wing. It consists of two fighter squadrons of 20 F-14s, two light attack squadrons of 20 F/A-18s, two medium attack squadrons of 20 A-6E Intruders, one ASW squadron of 10 S-3A Viking aircraft, one detachment of six EA-6B Prowler electronic-warfare aircraft, five E-2C Hawkeye early-warning/control aircraft and one ASW squadron of six SH-3G/H helicopters, although budget constraints may limit numbers embarked.
The "Midway" class carriers cannot accommodate the full wing described above, but have been modified to operate F/A-18s. Also because of budget problems the Navy is deactivating one active carrier air wing during FY 1989 and will have to rely on two Naval Reserve air wings to augment its forces in event of crisis. Seven active and one reserve wing will be assigned to the Atlantic Command, five active and one reserve wing to the Pacific Command, and one active wing will remain deployed to Japan. See *Shipborne Aircraft* section for details of aircraft.

Classification: From 1972 onward attack aircraft carriers (CVA) were reclassified as aircraft carriers (CV) upon being fitted with anti-submarine control centres and facilities to support ASW aircraft and helicopters (in addition to fighter/attack aircraft). The multi-purpose configuration was dictated by the phasing out of dedicated anti-submarine aircraft carriers (CVS), the last being decommissioned in 1974.
All active ships still classified as attack aircraft carriers (CVA/CVAN) on 30 June 1975 were changed to CV/CVN regardless of their ability to support anti-submarine aircraft.

Service Life Extension Programme (SLEP): The SLEP programme was initiated in 1979. *Saratoga* and *Forrestal* have completed 28 month SLEP overhaul and modernisation. *Independence*, scheduled for 34 months, completed in May 1988 and *Kitty Hawk* started SLEP in January 1988. The principal objective of SLEP is to extend the service life of aircraft carriers an additional 15 years, providing a reliable, logistically supportable platform capable of operating all current and future fleet aircraft. While the major thrust of SLEP is repair and life enhancement, warfighting improvements are incorporated to keep pace with the aircraft carrier modernisation baseline. SLEP includes complete overhaul of propulsion, auxiliary, and launch systems; upgrade of aircraft recovery equipment; extensive structure, tank, and piping repair, and installation of updated sensors, weapons systems, and electronic suites. On earlier SLEP ships this included installation of Vulcan Phalanx close-in weapons system (CIWS), NATO Sea Sparrow missile system, SPS 49 radar, and F/A-18 Hornet capability. Future SLEP ships, if already equipped with these systems, will receive modernisation to current standards incorporating improved NTDS, SPS 48E, TAS Mk 23 radar, new ASW systems and Raytheon SLQ-32(V)4 combined EW intercept and jammer. SLEP overhauls subsequent to *Independence* are planned for 37 months for improved industrial efficiency.

Training Carrier: The "Essex" class carrier *Lexington* (AVT 16) operates as a training ship and is based at Pensacola, Florida. The ship has no aircraft maintenance or arming capabilities, and is not considered as a combat ship. In an emergency, aircraft could be embarked on a very restricted operational basis.

4 + 4 "NIMITZ" CLASS (CVN)

Name	*No.*	*Builders*	*Laid down*	*Launched*	*Commissioned*	*F/S*
NIMITZ	CVN 68	Newport News Shipbuilding & Dry Dock Co	22 June 1968	13 May 1972	3 May 1975	PA
DWIGHT D. EISENHOWER	CVN 69	Newport News Shipbuilding & Dry Dock Co	15 Aug 1970	11 Oct 1975	18 Oct 1977	AA
CARL VINSON	CVN 70	Newport News Shipbuilding & Dry Dock Co	11 Oct 1975	18 Mar 1980	26 Feb 1982	PA
THEODORE ROOSEVELT	CVN 71	Newport News Shipbuilding & Dry Dock Co	13 Oct 1981	27 Oct 1984	25 Oct 1986	AA
ABRAHAM LINCOLN	CVN 72	Newport News Shipbuilding & Dry Dock Co	3 Nov 1984	13 Feb 1988	Dec 1989	Bldg
GEORGE WASHINGTON	CVN 73	Newport News Shipbuilding & Dry Dock Co	25 Aug 1986	Sep 1989	Dec 1991	Bldg
JOHN C. STENNIS	CVN 74	Newport News Shipbuilding & Dry Dock Co	1991	—	1998	Bldg
—	CVN 75	Newport News Shipbuilding & Dry Dock Co	1992	—	1998	Bldg

Displacement, tons: 72 916 (CVN 68-70) 73 973 light; 91 487 (CVN 68-70) 96 386 full load

Dimensions, feet (metres): 1 040 pp; 1 092 × 134 × 37 (CVN 68-70); 38.7
(317; 332.9 × 40.8 × 11.3; 11.8)

Flight deck, feet (metres): 1 092; 779.8 (angled) × 252
(332.9; 237.7 × 76.8)

Main machinery: 2 pressurised-water cooled A4W/A1G nuclear reactors; 4 geared steam turbines; 260 000 shp; 4 shafts

Speed, knots: 30+

Complement: 3 136 (155 officers); 2 800 aircrew (366 officers)

Missiles: SAM: 3 Raytheon Sea Sparrow Mk 29 octuple launchers; semi-active radar homing to 14.6 km *(8 nm)* at 2.5 Mach.

Guns: 4 General Electric/General Dynamics 20 mm Vulcan Phalanx 6-barrelled Mk 15 (3 in CVN 68 and 69); 3 000 rounds/minute combined to 1.5 km.

Countermeasures: Decoys: 4 Loral Hycor SRBOC 6-barrelled fixed Mk 36; IR flares and Chaff to 4 km *(2.2 nm)*.

ESM/ECM: SLQ 29 (WLR 8 radar warning and SLQ 17AV jammers).

Fire control: 3 Mk 91 MFCS. NTDS action data automation; Links 11 and 14. OE-82 satellite communications antenna; SSR-1 receiver.

Radars: Air search: ITT SPS 48; 3D; E/F band; range 402 km *(220 nm)*.
Raytheon SPS 49; C/D band; range 457 km *(250 nm)*.

Surface search: Norden SPS 67V; G band.

CCA: SPN 41, SPN 42, SPN 43, SPN 44 (CVN 68-70); SPN 43, SPN 44, SPN 45, SPN 46 (CVN 70-73); J/K/E/F band.

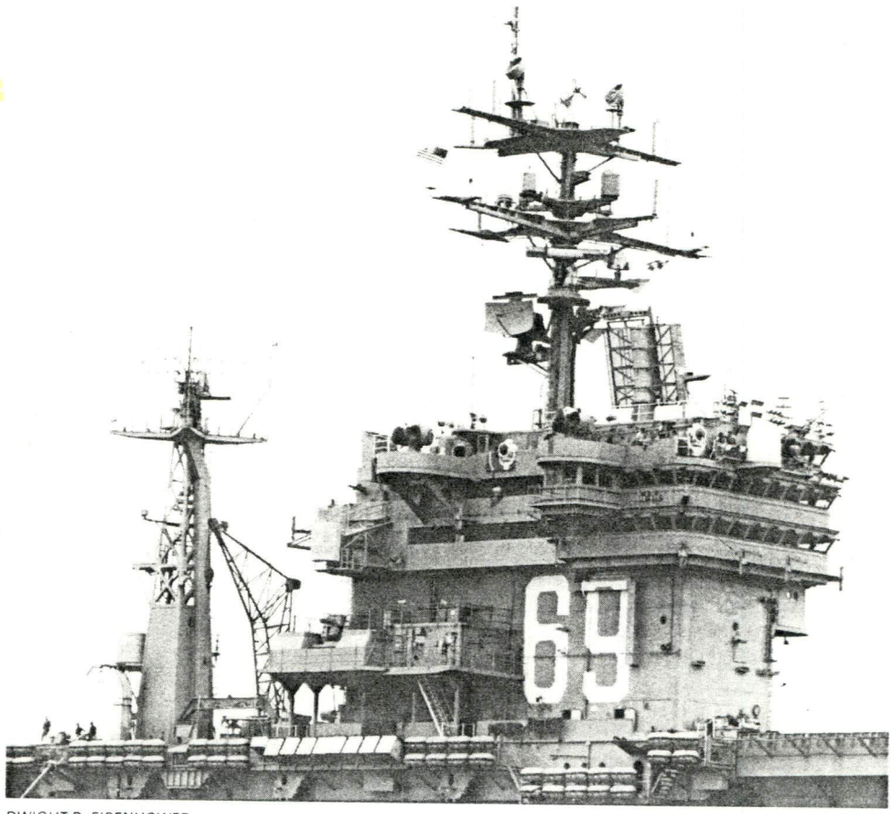
Navigation: Raytheon SPS 64; I/J band. Marconi LN 66 (CVN 70-73); I/J band.

Fire control: 6 Mk 57; I/J band (for SAM). 1 Hughes Mk 23 TAS; D band.

Tacan: URN 25.

Fixed wing aircraft: Typically 20 F14 Tomcat; 20 F/A-18 Hornet; 6 EA-6B Prowler; 20 A-6 Intruders; 5 E-2C Hawkeye; 10 S-3A Viking. See *Shipborne Aircraft* section.

Helicopters: 6 SH-3G/H Sea King.



DWIGHT D. EISENHOWER

1987, Giorgio Arra

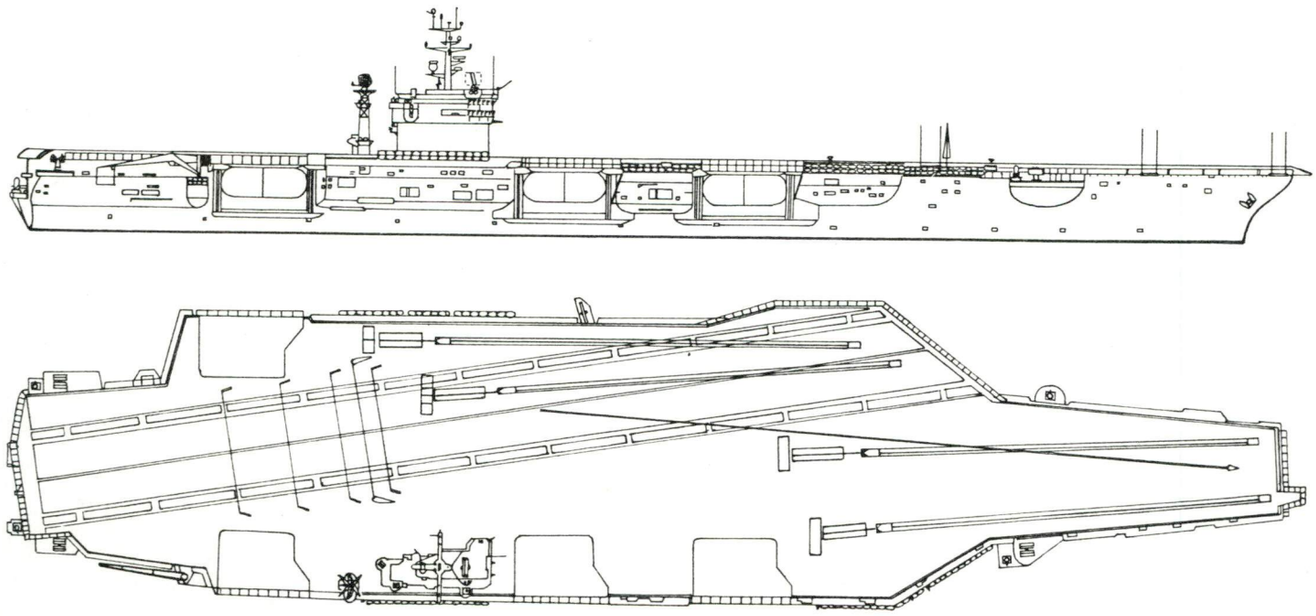
Programmes: The lead ship for this class and the world's second nuclear-powered aircraft carrier was ordered 9¼ years after the first such ship, *Enterprise* (CVN 65). *Nimitz* was authorised in FY 1967 *Dwight D. Eisenhower* in FY 1970, *Carl Vinson* in FY 1974, *Theodore Roosevelt* in FY 1980 and *Abraham Lincoln* and *George Washington* in FY 1983. The builders are the only US shipyard now capable of constructing large, nuclear-propelled surface warships.

In his statement accompanying the proposed FY 1988-89 budget, the Secretary of Defense announced that the Navy would be seeking $1.441 billion in those two years for long-lead items for two additional "Nimitz" class carriers, one of which would replace *Midway* and the other a "Forrestal" class carrier which would be over 45 years old by 1999. The rationale for the change in plans was that problems with *Midway* were more severe than had been anticipated, and that advancing the dates for construction of these two new carriers would save almost $2 billion by ensuring a level work load at Newport News Shipbuilding, rather than causing the work force to be reduced as construction of *Abraham Lincoln* and *George Washington* neared completion and then having to increase its size at a later date. Subsequently the House and Senate Appropriations Committees took the totally unexpected action of including $6.325 billion in the FY 1988 budget for construction, even though actual outlays would not reach their highest levels until 1994-96, and the anticipated outlay in FY 1988 would be only $6.4 million. Contracts were awarded in June 1988 and CVN 74 will be called *John C. Stennis* in honour of the senator from Mississippi who retired from Congress in 1988 after 41 years service which included chairing at different times both the Senate Armed Services and Appropriations Committees. He was a vigorous proponent of strong defence.

Structure: Damage control measures include sides with system of full and empty compartments (full compartments can contain aviation fuel), approximately 2.5 in plating over certain areas of side shell, box protection over magazine and machinery spaces. Aviation facilities include four lifts, two at the forward end of the flight deck, one to starboard abaft the island and one to port at the stern. There are four steam catapults (C13-1) and four (or three) Mk 7 Mod 3 arrester wires. Launch rate is one every 20 seconds. The hangar can hold less than half the full aircraft complement, deckhead is 25.6 ft. Aviation fuel, 9 000 tons.

Operational: Multi-mission role of "attack/ASW". From CVN 70 onwards ships have an A/S control centre and A/S facilities; CVN 68 and 69 will be back fitted.

16 days' endurance for aviation fuel (steady flying). 13 years' theoretical life for nuclear reactors (CVN 68-70); 15 years' (CVN 71-73); 800 000 to 1 million miles between refuelling.



CARL VINSON

(Scale 1 : 1 800)

!R! CASS 1; EXIT;

Newport News - Lt. Claire Landry 804/444-6323
latest nuc powered air craft carrier

June 27, 1990 CVN - carrier Fixed-wing Nuclear

PD: Geo.

Q's for USS WASHINGTON:

For color:

Any inside ship lore....

Any legends/traditions related to ship's name....

How long prior to official christening will crew have been on board, working on ship??

What will they be doing in the day or so run-up to the christening?

Can we get names, rank and kinds of duties of a few representative sailors (or groups)?

How does carrier compare to ones GB flew from in WWII? How much larger, etc. Maybe you can talk to a pilot (one of Bush's old rank: Lt., j.g.?)? This could be very helpful.

Find out whether there is any traditional language that we ought to use in, or at the end of, the remarks.

Finally, I think that, by tradition, the person who christens ship (Mrs. Bush?) thereby takes on a continuing "responsibility" for its well-being.... Can you check this?

Thanks
— Dan

Lincoln

444-3373
Lt. Grier

THE WHITE HOUSE

WASHINGTON

June 28, 1990

MEMORANDUM FOR PRE-ADVANCE PARTICIPANTS

FROM: JOHN G. KELLER, JR.

SUBJECT: **PRE-ADVANCE TO NEWPORT NEWS, VIRGINIA**

Attached for your information is a list of participants and an outline schedule for the Pre-Advance to Newport News, Virginia.

PRE-ADVANCE PARTICIPANTS

Office of Presidential Advance
Jay Parmer, Deputy Director for Special Projects
Spencer Geissinger, Deputy Director for Press
Peggy Hazelrigg, Assistant Director for Trip Coordination

United States Secret Service
Jerry Patton, ASAIC, Presidential Protective Division

White House Communications Agency
Dave Pistilli, Trip Officer
Larry Landrum, Operations

White House Military Office
Rob Creamer, HMX Advance
Rex Jordan, AFI Advance

Office of Communications
Peggy Dooley, Research Assistant

PRE-ADVANCE SCHEDULE

Friday, June 29, 1990

7:15 am — Vans depart West Basement for those requiring transportation to National Airport.

(Drive Time: 20 Minutes)

7:30 am — Those with own transportation should be at National Airport at this time for check-in.

7:35 am — Vans arrive National Airport.

7:59 am — Depart National Airport en route Norfolk, Virginia, US Air Express #4303.

9:03 am — Arrive Norfolk Airport, Norfolk, Virginia and proceed to Vans.

Met by: Lt. Claire Landry
Protocol Officer for the
Commander in Chief, Atlantic Command
U.S. Navy
804/444-6323, 444-6247
(Norfolk)

9:10 am — Board Vans and depart Norfolk Airport en route USS George Washington.

(Drive Time: 40 Minutes)

9:50 am — Arrive USS George Washington and begin Meeting with Counterparts.

Contact: Mr. Jack Schnaedter
Corporate Information Manager
Newport News Shipbuilding Company
804/380-2945

* ATTEND CHRISTENING OF USS GEORGE WASHINGTON
- Brief Remarks
- Open Press

Cdr. Zakem
697-7491

10:30 am	Conclude Meeting with Counterparts and begin Site Survey of USS George Washington.
11:30 am	Conclude Site Survey and proceed to Vans.
11:40 am	Board Vans and depart USS George Washington en route Norfolk Airport.
	(Drive Time: 40 Minutes)
12:20 pm	Arrive Norfolk Airport.
2:15 pm	Depart Norfolk Airport en route National Airport, US Air Express #4438.
3:14 pm	Arrive National Airport and proceed to Vans.
3:20 pm	Board Vans and depart National Airport en route White House.
	(Drive Time: 20 Minutes)
3:40 pm	Arrive White House.

Phalanx. This is a closed loop radar spotting ability with a gatling type gun and a firing rate of 3,000 rounds per minute.

The ship will be powered by two pressurized water nuclear reactors which are expected to provide sufficient energy to steam for at least 13 years, and an estimated 800,000 to one million miles before refueling.

The main engines will be Geared Steam Turbines with 280,000 shaft horsepower each. Four shafts will carry the power from the reduction gears to the screws. The four screws have five blades each, are 21 feet high, and weigh 66,200 pounds apiece.

The two rudders each weigh 65 tons.

Ship's speed will be in excess of 30 knots or 45 miles per hour.

The capacity of the air conditioning plants will be 2,520 tons, or enough to serve 800 homes.

400,000 gallons of water will be supplied to the ships crew daily. That's enough to serve the daily needs of over 2,000 homes at an average use of 200 gallons a day.

There will also be:

over 3,000 compartments
four aircraft elevators (4,000 square feet each)
four aircraft catapults
over 1,000 telephones
over one million tubes, transistors and diodes
about 900 miles of electrical cable
two anchors each weighing 30 tons, with each link weighing 365 pounds

The first commanding officer of the Abraham Lincoln was Capt.J.J. Dantone, and the first executive officer was Cmdr. S.W. Bryant.

Capt. Dantone was unexpectedly transferred to take command of the Dwight D. Eisenhower in September of 1988. Upon his departure, Cmdr. Bryant was promoted to captain and assumed interim command of the ship, with Cmdr. J.A. Cassidy, the ship's navigator, assuming duties of executive officer. On Dec. 13, 1988, Capt. William B. Hayden, took command of Abraham Lincoln. Capt. Hayden reported aboard from the Iwo Jima, an amphibious helicopter landing ship based in Norfolk, Va. Capt. Bryant then reassumed duties as executive officer.

The Abraham Lincoln will not be the last of the nuclear aircraft carriers. Construction began on the George Washington on Aug. 25, 1986 and it's due to be commissioned in 1991.

FACTS AND FIGURES OF THE USS ABRAHAM LINCOLN (CVN 72)

The Abraham, Lincoln is the Navy's newest aircraft carrier, and is the second notable ship to be named after the 16th President of the United States.

The first Abraham Lincoln was a 382 foot nuclear powered submarine. It was commissioned in 1961 and decommissioned in 1982.

Major milestones of the Abraham Lincoln include:

Keel laid:	3 November 1984
Launched:	13 February 1988
Commissioning:	18 November 1989

Abraham Lincoln will be the largest ship ever built for the U.S. Navy. It's dimensions are:

Length between perpendiculars (bow to stern), 1040 feet.
Breadth at main deck (Width side to side), 134 feet.
Length of flight deck, 1092 feet.
Extreme breadth, side to side of flight deck, 257 feet.
Area of flight deck, 4 1/2 acres.
Height, Keel to Mast Top, 244 feet (equal to a 24 story building).
Combat load displacement (tonnage), 97,000 tons.

Ship's company of the Abraham Lincoln will number 3,500 personnel and another 2,700 personnel will be attached to the Air Wing (Aircraft squadron flight crew and maintenance personnel). The entire crew will be served three meals a day, for a total of 18,600 meals daily, and 130,000 meals weekly.

The 2,700 Squadron/Air Wing personnel aboard Abraham Lincoln, will maintain and fly several different types of aircraft:

SH-3 Sea King Helicopter:	used for both Antisubmarine Warfare and search and rescue.
S-3A Viking:	used primarily for Antisubmarine Warfare.
EA-6B Prowler:	used in Electronic Warfare.
F/A-18 Hornet:	dual mission fighter and light attack bomber.
A-6 Intruder:	a low level, all weather, attack bomber.
F-14 Tomcat:	primarily an interceptor, with a wide variety of other fighter applications.
E-2C Hawkeye:	is used for airborne early warning purposes.

Other than the primary defense of aircraft and helicopters aboard the Abraham Lincoln, it will also be protected by:

NATO Seasparrow Missile System. Consists of three Launchers with eight tubes each. Used for short range and is a fully automatic rapid reaction system capable of providing a point defense capability against Anti-Aircraft (A/A) and Anti-Ship Missile (ASM) type threats.

-more-

ATTN: LT. LANDR,
CINCLANT FLEETCOL

Pg 1 of 6

I. INTRODUCTION

PRECOM UNIT MISSION AND GOALS

The mission of the Precommissioning Unit is to train and organize the crew and to participate in the ship's construction through inspection and testing. We are also tasked with maintaining the spaces and equipment after we have accepted them from the shipyard.

Training is our first responsibility. In order to operate the ship safely and efficiently on trials and after delivery, our training must be aggressive and thorough. The training will consist of off-ship schools, School of the Ship indoctrination, and departmental training. We must ensure that the training is properly documented.

Organizing the crew includes establishing the administrative organization and writing the ship/departmental organizational manuals and other directives. We should carry out these tasks with thorough research and care, since the administrative organization we create will stay with the ship for a long time.

During the construction phase, we will assist the Supervisor of Shipbuilding in conducting quality assurance inspections of the equipment and spaces as they are completed by the shipyard. Our nuclear-trained personnel will operate all reactor plant equipment throughout an extensive test program. Other personnel will participate in the testing of non-nuclear equipment.

Our goal is to deliver the best-built carrier with the best-trained crew. In the process we also want to avoid mishaps, maximize opportunities for professional growth of crewmembers, enhance the quality of life in the shipyard environment, and contribute to the local community. We will achieve these goals though professional expertise, teamwork, safety-consciousness, and innovation.

We are building more than a ship. We are building the spirit of GEORGE WASHINGTON - a spirit of professional excellence, pride, and teamwork. This will be our most important legacy to the crews that follow us.

Robert M. Nutwell
CAPT USN

ABOUT THE USS GEORGE WASHINGTON

SHIP'S MISSION

The mission of GEORGE WASHINGTON and her embarked air wing is to conduct sustained combat air operations. The air wing will consist of nine to ten squadrons of the following types of aircraft: F-14 Tomcats, F/A-18 Hornets, A-6 Intruders/A-12 Avengers, EA-6 Prowlers, S-3 Vikings, E-2 Hawkeyes, and SH-3 Sea Kings/SH-60 Sea Hawks.

The air wing can destroy enemy aircraft, ships, submarines, and land targets or lay mines hundreds of miles from the ship. GEORGE WASHINGTON's aircraft can be used to conduct retaliatory strikes, support a land battle, protect the battle group or other friendly shipping, implement a sea or air blockade, or just to provide a visible presence to demonstrate American power and resolve in a crisis. The ship will normally operate as the centerpiece of a carrier battle group consisting of four to six other ships and commanded by a flag officer embarked in GEORGE WASHINGTON.

GEORGE WASHINGTON's two nuclear reactors will give her virtually unlimited range and endurance and a top speed in excess of 30 knots. The ship's four C-13 Mod 2 catapults and four Mark 7 Mod 3 arresting gear engines enable her to launch and recover aircraft rapidly and simultaneously. The ship will carry approximately three million gallons of fuel for her aircraft and escorts, and enough weapons and stores for extended operations without replenishment. GEORGE WASHINGTON will also have extensive repair capabilities, including a fully equipped Aircraft Intermediate Maintenance Department, a micro-miniature electronics repair shop, and numerous ship repair shops.

For defense, in addition to her air wing and accompanying vessels, GEORGE WASHINGTON will have the NATO Sea Sparrow short-range surface-to-air missile system, the Phalanx Close-in Weapon system (a 20mm "Gatling Gun") for cruise missile defense, and the SLQ-32 electronic warfare system.

NIMITZ-class carriers are the largest, most powerful warships in the world. GEORGE WASHINGTON will serve the country for several decades as a flexible, impressive, and powerful instrument for protecting American interests and preserving the peace.

SHIPS NAMED FOR GEORGE WASHINGTON

The USS GEORGE WASHINGTON (CVN 73) will be the sixth Nimitz-class nuclear-powered aircraft carrier and the fourth ship in the fleet to bear the full name of the first President of the United States and Commander in Chief of the Continental Army.

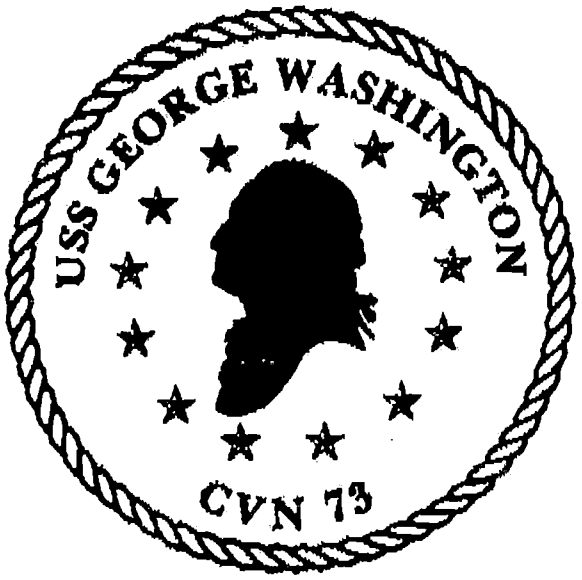
The first GEORGE WASHINGTON was originally a merchant ship built at Providence, Rhode Island in 1793 and was later converted to a 24-gun warship with a complement of 220 officers and men.

Built as a German liner by the Vulcan Works of Stetting, Germany, the second GEORGE WASHINGTON was launched November, 1908 and operated by the North German Lloyd Line prior to America's entry into World War I. It was seized at Hoboken, New Jersy, April 6, 1917, and towed to the New York Navy Yard for conversion into a troop transport.

The third GEORGE WASHINGTON (SSBN 598) was the world's first Fleet Ballistic Missile Submarine and was commissioned December 30, 1959. This submarine successfully launched the first Polaris missile from a submerged platform.

The aircraft carrier USS GEORGE WASHINGTON (CVN 73) is scheduled to be commissioned in July, 1992, 217 years after General George Washington was appointed Commander-in-Chief.

SHIP'S CREST



CVN 73 CHARACTERISTICS AND CONFIGURATION

Type of Vessel:	Nuclear Aircraft Carrier
Builder:	Newport News Shipbuilding
Keel Laid:	25 August 1986
Total Cost:	$3.5 billion
Propulsion:	Nuclear, with enough fuel for 13 years of normal operations (equivalent to 11 billion barrels of fuel oil)
Number of Reactors:	2
Speed:	Over 30 knots
Length of Flight Deck	1,092 feet
Breadth of Flight Deck	257 feet
Height (Keel to Mast)	244 feet (equal to a 24 story building)
Area of Flight Deck	4.5 acres (180,000 sq. feet)
Size of Airwing	80 tactical aircraft
Combat Load Displacement;	97,000 tons
Number of Crew	Over 6,200 (including airwing)
Meals served daily when operational:	18,600
Number of Compartments :	Over 4,000
Number of Anchors:	2
Weight of Anchors:	30 tons each
Weight of Links in Anchor Chain:	360 pounds each
Number of Screws:	4 (each has 5 blades)
Weight of Screws:	66,200 pounds each
Number of Telephones:	2,000 +
Number of Aircraft Elevators:	4 (all deck edge)
Size of Aircraft Elevators:	4,000 sq. feet
Number of Aircraft Catapults:	4
Capacity of Air Conditioning Plants:	2,520 tons (enough to serve 800 homes)
Daily Capacity of Distillation Plants:	400,000 gal. (enough to serve 2,000 homes)

BIOGRAPHY OF GEORGE WASHINGTON

George Washington was a patriot, military leader, and statesman. He commanded the Continental Army in its long, difficult, and victorious Revolutionary War struggle. In two terms as the first President of the United States, he led the fledgling nation through a critical period to economic and political stability and international respectability. For these accomplishments, he earned the popular title of "Father of our Country."

George Washington was born in Westmoreland County, Virginia, on February 22, 1732. He began a career as a surveyor, but dreams of adventure and glory inspired him to volunteer for the Virginia militia. He rose quickly to command the militia and fought in the French and Indian War, barely escaping death on several occasions.

When the American Revolution broke out in 1775, George Washington was selected by his countrymen for his military experience and virtue to command the American army. Under Washington's leadership, a professional army was organized, trained, and equipped.

During the war, Washington followed a prudent strategy of keeping continual pressure on the British Army and aggressively seizing favorable opportunities to attack. His brilliant victories at Trenton and Princeton in December 1776 bolstered sagging American morale. Taking advantage of French sea power and British ineptitude, Washington moved decisively to trap Lord Cornwallis at Yorktown, Virginia, in October 1781, thus winning the culminating battle of the war.

After the war Washington was again drafted by his countrymen to preside over the Constitutional Convention, which created the most successful government ever devised. In 1789 he was unanimously elected first President of the United States, and in 1792 he was reelected. During the Washington administrations the country's economy was placed on a sound footing, the federal government was strengthened, war was avoided, and the ideals of liberty and equality for which the Revolution was fought were firmly rooted in American political and social life.

George Washington's success and the reverence in which he is held by the nation derive from his exemplary character as well as his accomplishments. He served without pay during the Revolution; he shared the hardships of winter camp with his troops at Valley Forge; he overcame stinging military defeats and seemingly insuperable practical and political problems that would have discouraged lesser men.

For six years he carried his country's destiny on his back, knowing that a single strategic mistake could doom the Revolution. George Washington's courage, perseverance, and selflessness continue to inspire all of us who serve our country in the profession of arms.

"Under all circumstances, a decisive naval superiority is to be considered a fundamental principle, and the basis upon which all hopes of success must ultimately depend."

George Washington: Letter, 1780

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ENCYCLOPEDIA OF THE U.S. MILITARY

William M. Arkin
Joshua M. Handler
Julia A. Morrissey
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AN INSTITUTE FOR POLICY STUDIES BOOK

1817

Harper & Row, Publishers, New York
BALLINGER DIVISION
Grand Rapids, Philadelphia, St. Louis, San Francisco
London, Singapore, Sydney, Tokyo, Toronto

McGroarty/Dooley
July 11, 1990
1:15 pm
[WASH]

PRESIDENTIAL REMARKS: CHRISTENING OF THE GEORGE WASHINGTON
NEWPORT NEWS, VIRGINIA
JULY 21, 1990
11:00 A.M.

Thank you, Dick [Sec. Cheney]. [Introductory acknowledgements: Edward Campbell, President, Newport News Shipbuilding, U.S. Navy officials.] I am delighted to be here this morning, and I know Barbara is deeply honored that you have chosen her to christen this magnificent ship -- the GEORGE WASHINGTON. //

Flying in today, looking down as we came in over the shipyards, put me in mind of my first government job. / I was 18, an ensign in the U.S. Navy -- and after a ten-month training program, a carrier pilot. Of course, things were different then. The planes were slower, the ships were smaller. In fact, on my ship, the SAN JACINTO -- one of the "fast carriers" built atop cruiser hulls in the early months of our entry into the war -- the deck wasn't much wider than the wing span of the plane I flew. // Now, looking up at the WASHINGTON, I wonder whether the SAN JACINTO itself wouldn't fit on her deck. //

For all of you who have put months and years of your best work into this great tower of steel, this is a proud day in the long history of the Newport News Shipyards. The GEORGE

WASHINGTON joins a noble line that begins with the first aircraft carrier, the USS RANGER, built here back in 1934.

Many of you are sons and daughters of shipbuilders -- in some families, four generations have worked in these yards. [[ANECDOTE OR QUOTE FROM SECOND OR THIRD GENERATION SHIPBUILDER]].

Few realize the magnitude of your task -- what it means to build **a state-of-the-art supercarrier: A warship, a floating city, and an airport -- all rolled into one.** // But here she is -- about to be launched, one step closer to service -- one step closer to the sea. //

The carrier came of age in the Second World War -- and the ships built in this yard helped us turn the tide in the Pacific. At the Battle of Midway -- the greatest naval contest in history. At Leyte Gulf -- where our Navy broke the back of the Japanese fleet. When Jimmy Doolittle led his legendary raid on Tokyo, he took off from the deck of the USS HORNET -- built right here at Newport News. // Today, the carrier remains an indispensible element in the American arsenal: **Projecting power. / Preserving the peace. //**

Today, fortunately, is not a time of war. / A new chapter is opening -- a day of great promise, a time of triumph for the ideals all Americans hold dear.

But while freedom has made great gains, we have not entered an era of perpetual peace. / American power is still the world's paramount force for freedom. And, as in time of war,

when America waged the fight for freedom far from our shores -- so today, we must maintain a policy of **peacetime engagement -- and an Armed Forces sufficient to sustain our national interest. // Let the GEORGE WASHINGTON proclaim America's commitment to remain <u>forever free</u>. //**

Once again, Barbara and I thank you for your warm welcome. // May God bless the GEORGE WASHINGTON, all who sail in her, and all who fly from her deck.

# # #