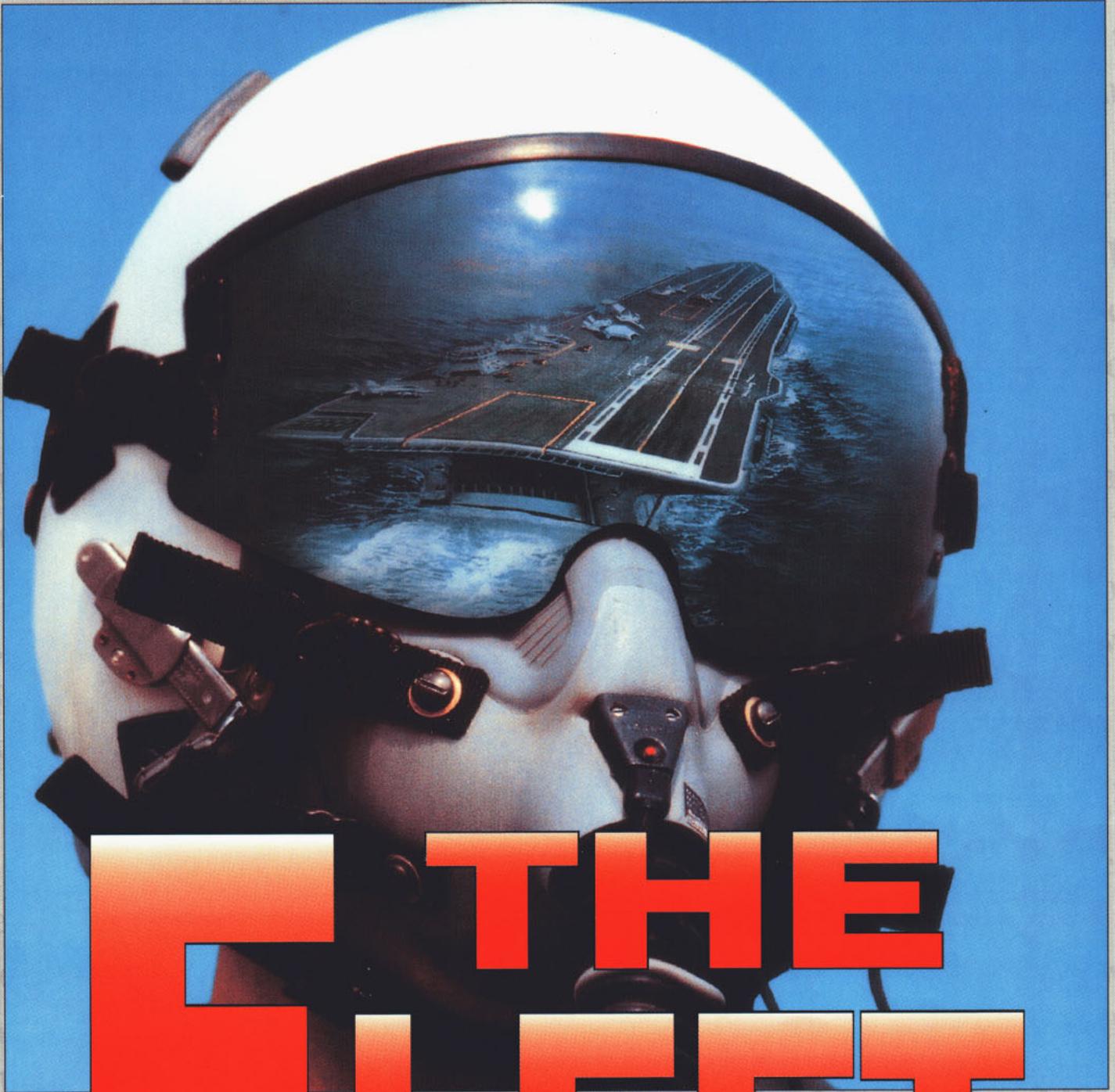


ALL HANDS

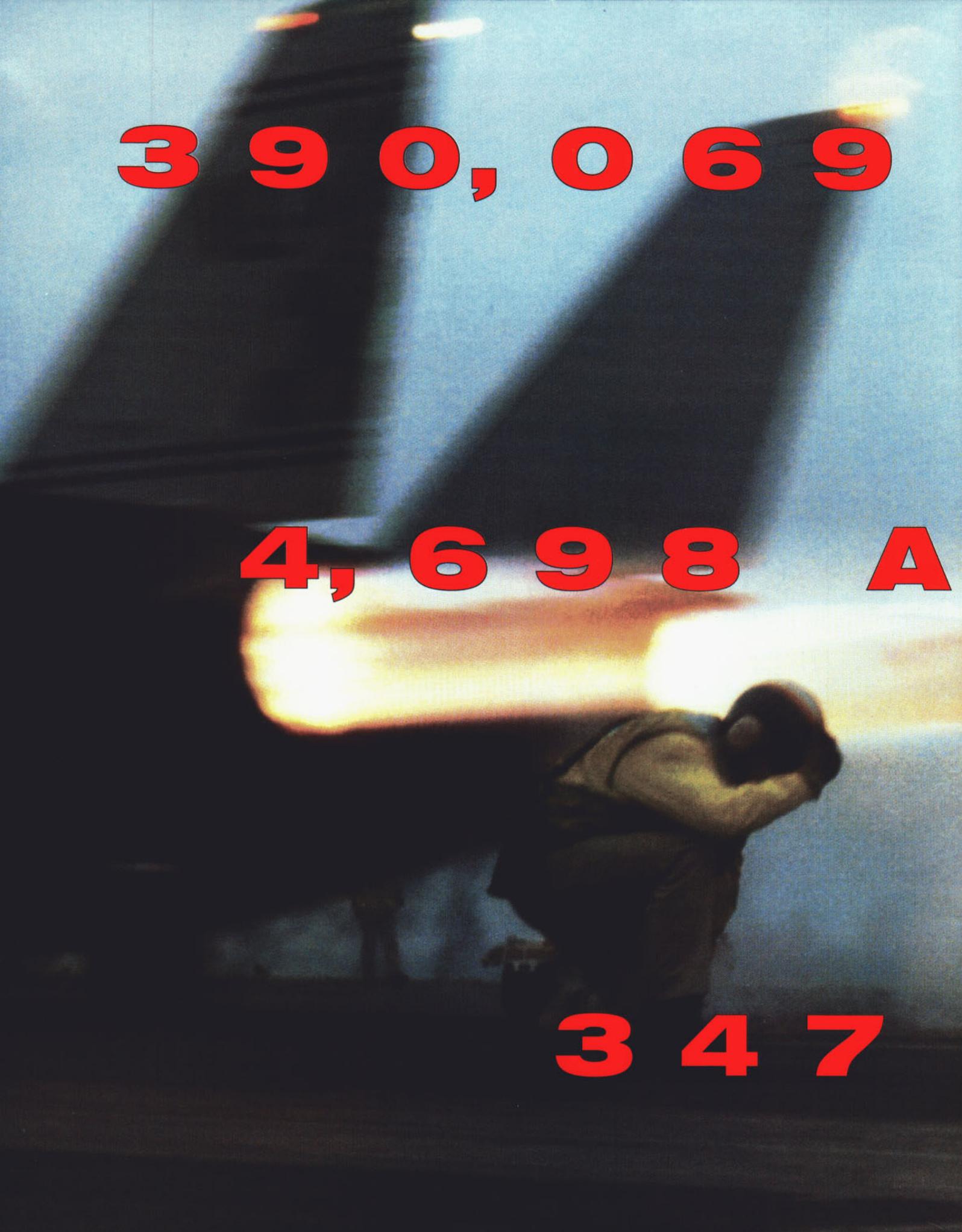
MAGAZINE OF THE U.S. NAVY

JANUARY 1998



FOR THE FLEET

OWNER'S AND OPERATOR'S MANUAL

A person wearing a white protective suit and hood is crouching in a dark, industrial environment. A bright, glowing light source, possibly a large pipe or machinery, is visible in the background, creating a strong contrast with the dark surroundings. The overall atmosphere is mysterious and industrial.

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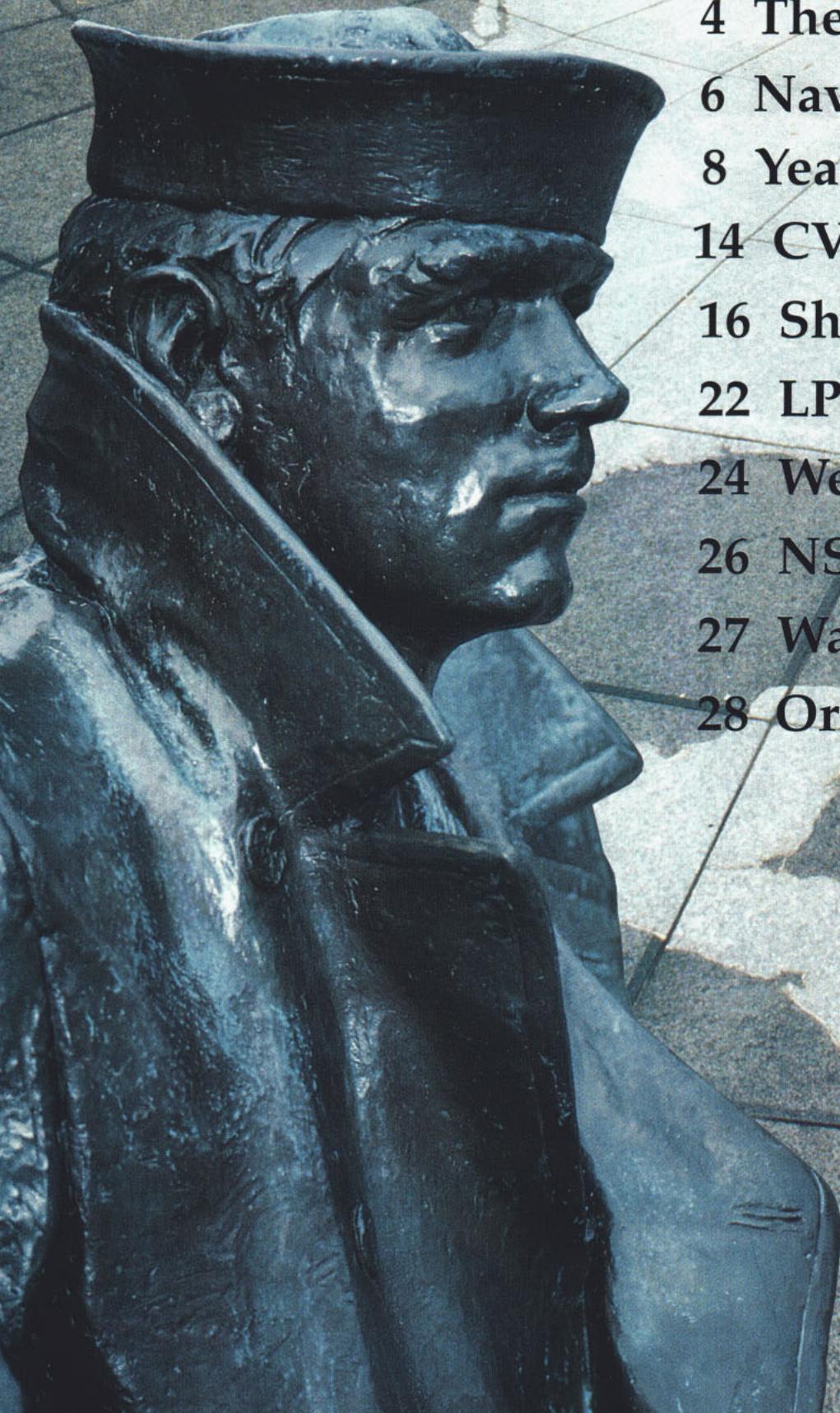
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SAILORS

AIRCRAFT

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Illustration courtesy of Newport News Shipbuilding



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Photo by PH1AN Jacob L. Hollingsworth



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Photo by PH2 Richard L. Soltau



Inside Front Cover

On board the aircraft carrier USS *Nimitz* (CVN 68), LT Michael Stone from Valley Center, Calif., completes signal instructions to launch an F-14 *Tomcat*. *Nimitz* and Carrier Air Wing 9 (CVW-9) are currently operating in the Arabian Gulf in support of Operation *Southern Watch*, enforcing the U.N. "No-Fly Zone" over Southern Iraq. (Photo by PH2 James Watson)

THE FLEET



Photo by Jason Dent

“A great nation must have a great Navy.”
- Theodore Roosevelt

Geography and world events have conspired to make the United States a sea power. Sitting astride two oceans and commanding one of the world’s most dynamic maritime economies, it is inevitable that America should count upon a strong naval force to ensure both our freedom and our livelihood. And for more than two centuries, the U. S. Navy has delivered on that promise. From the Barbary Coast in 1800 to the shores of Kuwait in 1990; from the Gulf of Mexico to the Persian Gulf — the Fleet has been there, protecting American honor, American interests and American lives. It is *still* there.

In this era of “chaotic peace,” where threats to national security are at once ambiguous and daunting, such forward presence is reassuring. Even at this writing, there are two carrier battle groups poised in the Persian Gulf to answer our nation’s call. *And they are ready.*

On the pages that follow you’ll get a snapshot of the Fleet today: its people, its ships and its aircraft. You will also journey into the future. You’ll see some of the new equipment our Sailors will train on, sail in and fight with. You’ll not only learn firsthand *who and what* the Fleet is, you’ll find out *where* that Fleet is heading: straight into the next century with a full head of steam.

Sailors

The Chief of Naval Operations calls Sailors the Fleet’s smartest weapon. A highly-trained, motivated team of active-duty and Reserve personnel entrusted to operate the most sophisticated equipment on earth, this team can project power anywhere at virtually a moment’s notice and then stay there. And it is a diverse team as well, representing every state, every faith and every face in America. Sailors



Photo by JOCs Gary Smith

are your next-door neighbors, the high school all-star athlete, the student council president. They are your schoolteachers, pharmacists and your dentists. No matter their background, no matter their hometowns, each one brings honor, courage and commitment to the task at hand. No matter how different one may be from the other, they are all woven together by the common thread of duty. They are Americans, and their diversity only makes the

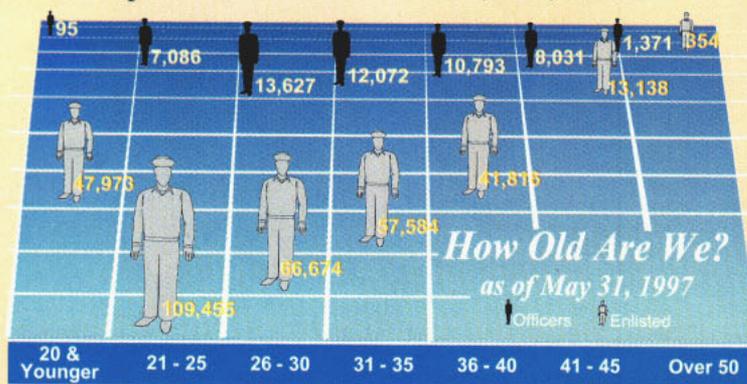


Photo by LTJG Marc Boyd

Fleet stronger. Imbued with a special trust, these young men and women are actively engaged in meaningful work around the globe right now, putting the skills and education they have received to good use. *And they are ready.*

“My goal is to give our people the tools they need to do what they have always done -- to go in harm’s way and prevail.”

**- Admiral Jay L. Johnson
Chief of Naval Operations**

Aircraft

Forward presence and dominance of both the sea and the littoral are simply not possible without control of the corresponding airspace. That’s where naval aviation comes in. In and of itself a unique team of people, aircraft and shore facilities, naval aviation provides maritime forces with incredible flexibility and rapid response. Our aircraft are multifaceted, capable of a broad range of missions and payloads. Indeed, they have become key elements in the Navy’s ability to achieve its operational and tactical objectives. Most Fleet ships have the capability to support air operations and all of them can be serviced by helicopters. The arsenal of aircraft in today’s Fleet is absolutely essential to success. And it’s getting better all the time.

The introduction of the new F/A-18E/F *Super Hornet* to the Fleet in 2000 will provide range/payload improvements, survivability enhancements, weapon bring-back improvements and critical growth capacity, all of which are required to keep the strike-fighter force lethal and viable well into the next century. Ultimately the single-seat version of the *Super Hornet* will replace older versions of the F/A-18, while the two-seat F/A-18F will replace

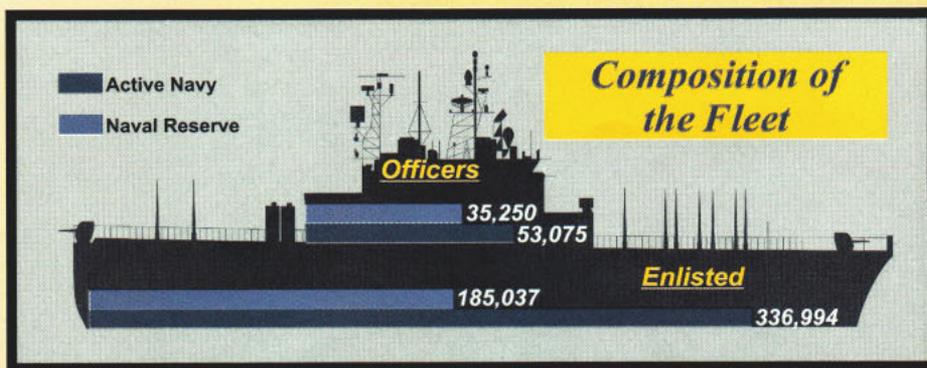
the F-14 *Tomcat*. In any case, it is proof positive that naval aviation will continue to have an important stake in maritime operations. Beyond the *Super Hornet*, the Navy is working with its sister services on the development of the Joint Strike Fighter (JSF). Essentially designed to complement the F/A-18E/F, the Fleet’s version of the JSF will be a stealthy, multi-role strike fighter, the first of which is expected to be delivered in 2008.

Today, there are hundreds of U.S. naval aircraft preparing to take off. Some are stationed at various land bases around the world, and some are unfolding their wings on the decks of our aircraft carriers. Wherever they are, wherever they are going, they are in the hands of the best pilots, the best aircrew and the best maintenance personnel in American military history. *And they are ready.*



carriers; DD 21, the next generation surface combatant; LPD 17, the gator of the future; and New Attack Submarine — providing undersea supremacy into the 21st century. These ships will be more than just specialized units, they will ensure dominance across the spectrum of naval warfare. One hundred years ago, people gazed in awe at a new class of British battleships known as the *Dreadnought*. Tomorrow, people will gaze in awe at our American warships.

But power and technology are only part of the equation. To be



Ships

The Fleet sails the most powerful, technologically-advanced warships in the world. No other Navy can put to sea with a force equal to that of the United States. Our nuclear-powered aircraft carriers, surface combatants and submarines give us a distinct tactical advantage in any environment against any threat. And looming on the horizon are platforms such as CVN 77 and CVX, the next generation aircraft

an effective tool of national policy, a navy must be ready, on station and alert. All the hardware in the world won’t make a difference if it isn’t smartly employed. As you read this, more than half of our Fleet is at sea, its readiness assured by the professionalism and dedication of its crews. Our ships may be the Fleet’s lifeblood, but our Sailors are its heart. *And they are ready.*

Welcome to this, the fifth installment of the All Hands Owner’s and Operator’s Manual.

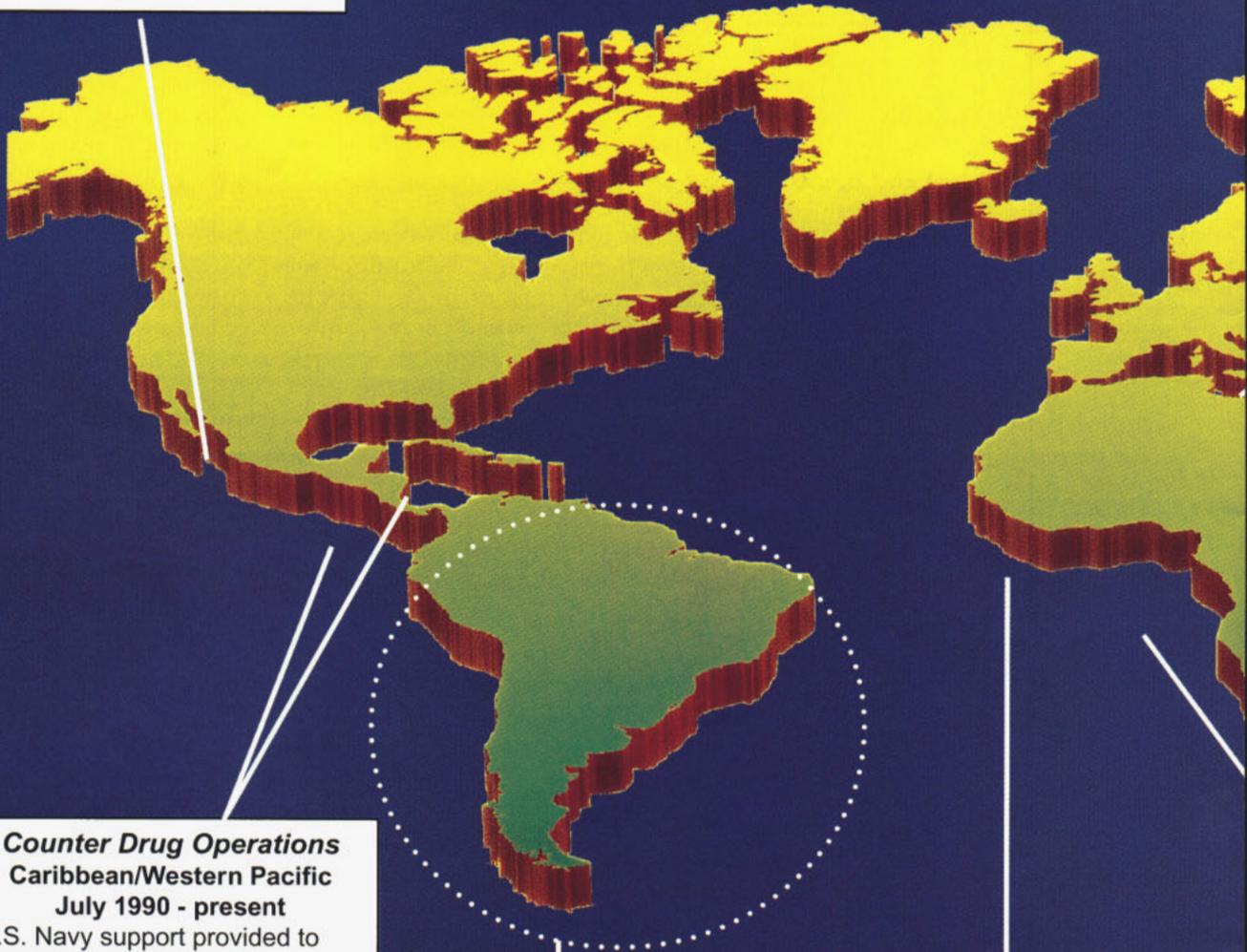
Forward ...From The Sea

Navy Operations

Exercise Kernel Blitz '97 **Southern California** **June-July 1997**

More than 12,000 Sailors, Marines and Reservists, 24 ships and a variety of Navy, Marine Corps, Army, Air National Guard and Coast Guard aircraft conducted amphibious operations along the California coast

A sampling of the U.S. Navy's worldwide presence



Counter Drug Operations **Caribbean/Western Pacific** **July 1990 - present**

U.S. Navy support provided to law enforcement agencies conducting counterdrug operations in the Western Hemisphere.

Exercise UNITAS '97 **Latin America** **July-November 1997**

U.S. Navy and Coast Guard ships joined with navies from 11 nations that circumnavigate Latin America and support regional stability.

Operation Noble Obelisk **Sierra Leone** **May-June 1997**

USS *Kearsarge* (LHD 3) and the 22nd Marine Expeditionary Unit conducted noncombatant evacuations of more than 1,200 American citizens and designated third-country nationals from Sierra Leone.

Exercise *BALTOPS '97*
Baltic Sea
June 1997

USS *Cape St. George* (CG 71), USS *Anzio* (CG 68) and USS *Estocin* (FFG 15) joined 47 other ships from 12 European nations in the largest Partnership for Peace exercise ever conducted.

Operation *Silver Wake*
Albania
March-June 1997

USS *Nassau* (LHA 4), USS *Pensacola* (LSD 38), USS *Nashville* (LPD 13) and elements of the 26th Marine Expeditionary Unit rescued 889 people, including 400 Americans, from continuing civil strife and provided additional security to the Embassy in the Albanian capital.

Operation *Southern Watch*
Arabian Gulf
August 1995 - present

Coalition enforcement of the no-fly zone in southern Iraq. Escalating tensions in November caused USS *George Washington* (CVN 73) carrier battle group to join USS *Nimitz* (CVN 68) in the Gulf.

Maritime Interception Ops
Arabian Gulf
August 1990 - present

U.S. Navy ships continue to enforce U.N. sanctions against Iraqi imports/exports.

Exercise *CARAT '97*
Southeast Asia
May 1997

Units of the 7th Fleet trained with the navies and marines from Malaysia, Brunei, Thailand and Singapore during *Cooperation Afloat Readiness and Training '97*.

Operation *Guardian Retrieval*
Zaire/Congo
May-August 1997

USS *Kearsarge* (LHD 3) and elements of the 22nd Marine Expeditionary Unit began their six-month deployment two weeks early to relieve USS *Nassau* (LHA 4) off the West African coast.

Exercise *Tandem Thrust '97*
Australia
March 1997

28,170 troops, 252 aircraft and 43 ships from the U.S. 7th Fleet and Australian Defense Force participated in carrier battle group and amphibious ready group operations, amphibious landings, live fire exercises, ground maneuvers and parachute landings.

Operation *Pacific Haven*
Guam

September 1996 - April 1997
6,600 Kurdish refugees began their lives in America via Operation *Pacific Haven*. Navy involvement included medical and dental specialists, Seabees, and logistic experts.

2000



Photo by PH2 Rebecca Kearns

▲ November 21 — On board the destroyer USS *Benfold* (DDG 65) operating in the Northern Persian Gulf, GMG1 Joe Brown, from Arlington, Texas, handles a 25mm chain gun while on watch. The ship, home ported in San Diego, was deployed with USS *Nimitz* (CVN 68) battle group under the U.S. Navy's 5th Fleet. *Benfold* was conducting Multinational Maritime Interception Operations as part of the U.N. sanctions against Iraq.

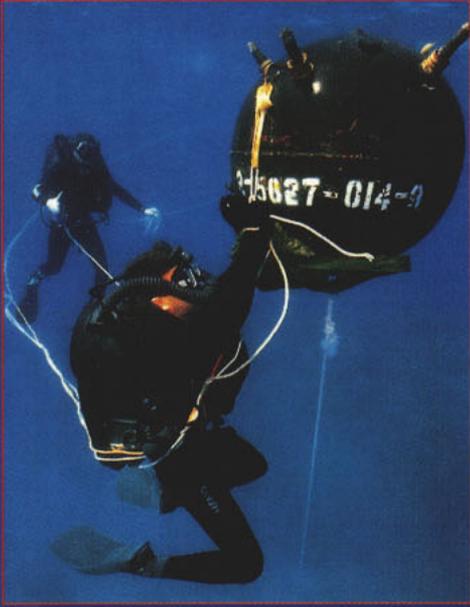


Photo by PH2 Andrew Mckaskle

▲ February 15 — AO1(DV) David Ahearn attaches an inert satchel charge to a training mine during exercises in waters off Naval Base Guantanamo Bay, Cuba.

▼ November 16 — On board the nuclear-powered aircraft carrier USS *Nimitz* (CVN 68), AC Buccie Cline from Humphrey, Ariz., monitors final control positions of pilots during aircraft recovery operations in the North Arabian Gulf. *Nimitz* and its embarked air wing were operating in the Gulf to enforce U.N. sanctions against Iraq.



Photo by PHAN Benjamin F. Story



Photo by PH1 Todd P. Cichonowicz

◀ July 28 — U.S. Navy SEALs exit a CH-53E *Sea Stallion* during a training exercise in Bosnia.

Photo by PHC John E. Gay



Photo by AR Adam Plantz



▲ January 18 — The U.S. Navy's newest Strike Fighter, the F/A-18E/F *Super Hornet*, makes a final approach to the flight deck of the aircraft carrier USS *John C. Stennis* (CVN 74), during the aircraft's initial sea trials.

◀ August 3 — Personnel man the underway main control watch aboard the Navy's newest nuclear-powered submarine *USS Seawolf* (SSN 21). *Seawolf* uses the latest technology in submarine warfare making it the fastest, most versatile submarine in the U.S. undersea arsenal. The boat was commissioned July 19, 1997.



◀ May 30 — A child clings to a U.S. Navy Sailor after a frightening first ride in a helicopter. She was among the first of 200 children evacuated to the Amphibious Assault Ship *USS Kearsarge* (LHD 3) from Freetown, Sierra Leone, during operation *Noble Obelisk*.

Photo by PH2 Wes Cheney



◀ August 6, Guam — U.S. Navy, Air Force, Coast Guard and civilian rescuers remove a survivor from the wreckage of Korean Airlines Flight 801.

Photo by PH3 Michael A. Meyers

◀ November 23 — The aircraft carrier *USS Nimitz* (CVN 68) (bottom) comes alongside the carrier *USS George Washington* (CVN 73) in the Arabian Gulf. With both carriers and their embarked air wings in the region, the United States had approximately 100 strike aircraft operating independently in the waters of the Arabian Gulf.

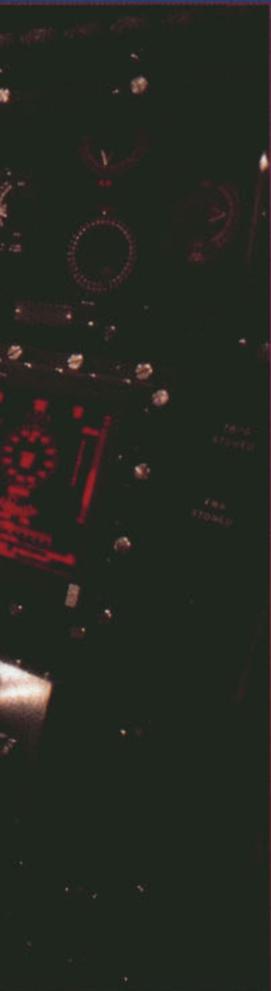


Photo by PH2 Robert Catalano

Photo by PHC John E. Gay



▲ July 20 — USS *Constitution*, “Old Ironsides,” is framed by a life ring aboard the destroyer USS *Ramage* (DDG 61). *Ramage* provided escort for the Navy’s oldest commissioned war ship while tugs aided in her transit to Marblehead, Mass. Commissioned Oct. 21, 1797, Old Ironsides set sail unassisted July 21 for the first time in 116 years.



Photo by PH2 Felix Garza Jr.

▲ March 23, San Diego — U.S. Navy and Chinese Sailors compare uniform insignias on board the frigate USS *Rentz* (FFG 46). This marks the first time Chinese warships have crossed the Pacific and visited the continental United States.

▼ June 29 — On board the nuclear-powered aircraft carrier USS *Nimitz* (CVN 68) in the Eastern Pacific Ocean, AS3 Susana Lomeli, of Pomona, Calif., performs a quick engine change on an AS32-21 tow tractor.



Photo by PH2 James Watson

▼ November 16 — The *Ticonderoga*-class cruiser USS *Normandy* (CG 60) (front), the nuclear-powered, fast-attack submarine USS *Annapolis* (SSN 760) (center) and the fast combat support ship USS *Seattle* (AOE 3) transitted the Suez Canal. All three U.S. ships were part of USS *George Washington's* (CVN 73) battle group which joined USS *Nimitz's* battle group already on station. Both will enforce U.N. sanctions against Iraq by patrolling the No-Fly Zone under Operation *Southern Watch*.



Photo by PHAN Jason Dent



Photo by PHAN Glenn Cook

◀ November 27 — ET3 Class David Fox (left) from Ukiah, Calif., and IC2 Jefferson Richardson from Knoxville, Tenn., enjoy a traditional Thanksgiving dinner on board the aircraft carrier USS *Nimitz* (CVN 68). *Nimitz* and its air wing were deployed to the Arabian Gulf in support of U.N. sanctions against Iraq under Operation *Southern Watch*.

CVN 77

CVN 77 is one of the Navy's newest platforms where the latest automation and technologies for design, manufacturing and support of aircraft carriers are being integrated. Several concepts, such as the one depicted here, are being considered. Here's a bird's-eye view of some of the key areas:

Concept of Operations (CONOPS) — Ensures total combat effectiveness, flight deck sortie rate and Joint Task Force (JTF) operation requirements.

Systems Engineering — Provides a strategy-to-task-to-technology approach to integrate total ship systems' engineering processes.

Life Cycle Cost (LCC) — Investigates all aspects of platform costs to ensuring best value in true construction through maintenance costs.

Automation — Increases manning efficiency and safety while reducing life cycle costs and modernizing the Fleet.

Combat Systems — Has new technologies and integrates ship and aircraft systems necessary for naval ships of the future.

Network Centric Warfare — Inserts information technology shipwide and ensures complete joint interoperability needs are met.

Aircraft Launch and Recovery Equipment (ALRE) — Investigates new technologies as they apply to the launch and recovery of aircraft.

Propulsion — Incorporates ship plant technologies with the latest innovation in performance, weight, volume and power generation.

Signatures — Concentrates on signature reduction design of the superstructure, hull and the island house.

Commercialization — Monitors the marketplace for the best commercial products, commercial-off-the-shelf (COTS) conversion and construction techniques.

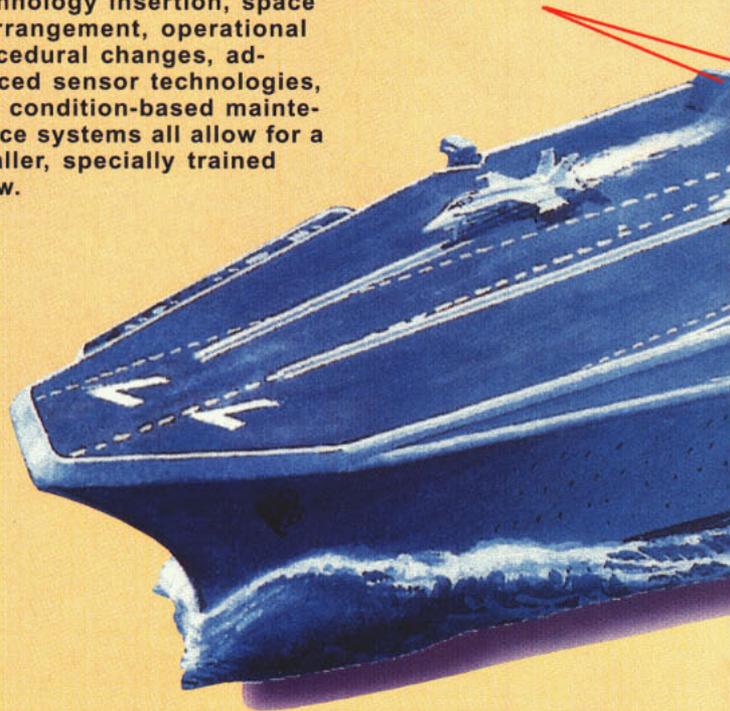
Artwork for this page and the front cover were provided by Newport News Shipbuilding.



Innovative ideas are being incorporated from the start in the design of CVN 77.

Manpower Reductions
Technology insertion, space rearrangement, operational procedural changes, advanced sensor technologies, and condition-based maintenance systems all allow for a smaller, specially trained crew.

Passive Jet Blast Deflector
Redesigns and new materials mean reduced maintenance cost.



Expanded Bandwidth
More onboard and offboard capability gives the ship a communications edge.

Zonal Electrical Distribution Systems
Isolate the potential for problems and minimize the effect on the rest of the ship.

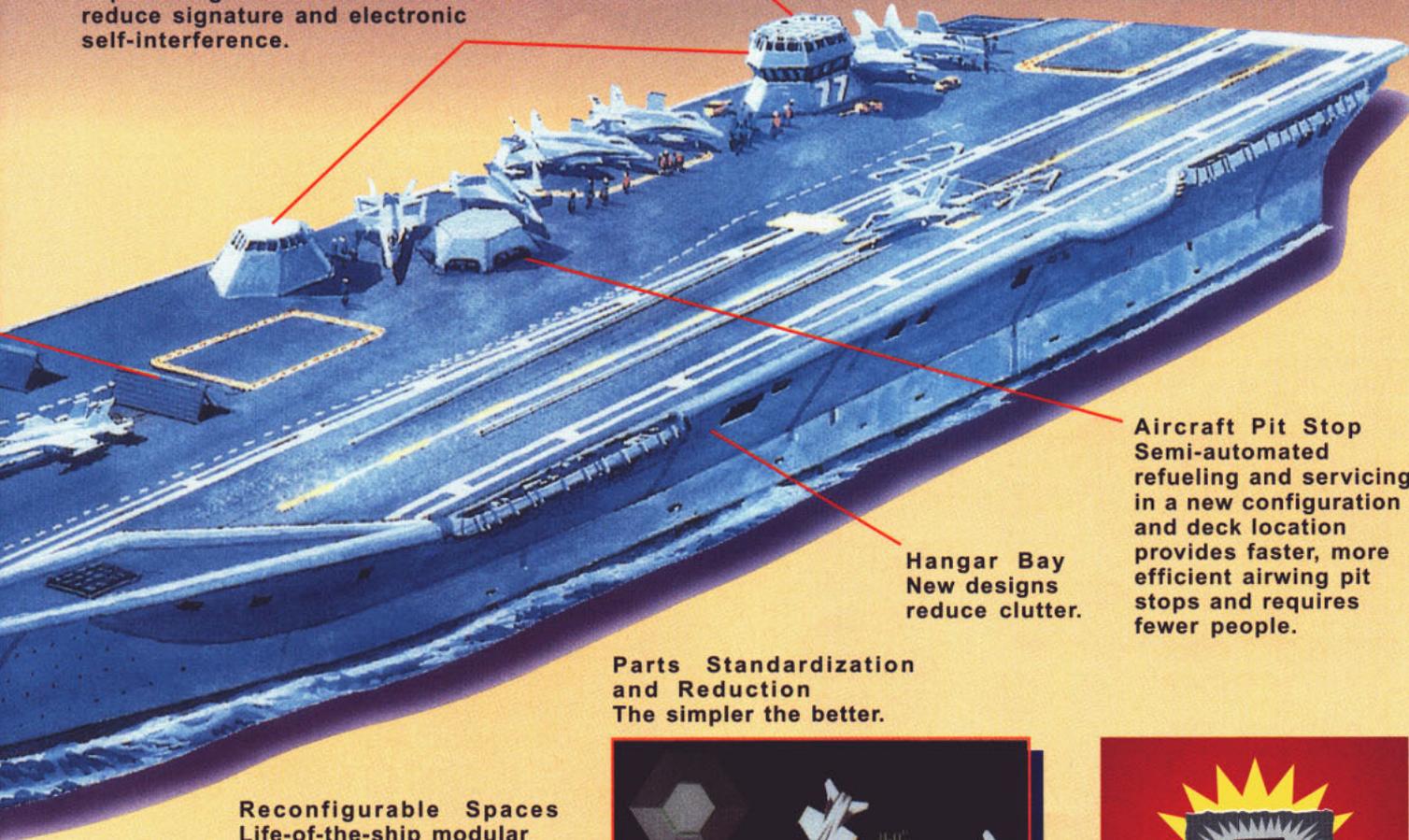
Innovative Thinking



Signature Reduction
Curved flight deck edges, enclosed antenna farms, smaller islands and internal aircraft elevators add up to maximum stealth.

CVN 77 will incorporate cost savings and automation, as well as stealth, perhaps in a more traditional single island design.

Island Designs
Improve flight deck access and reduce signature and electronic self-interference.



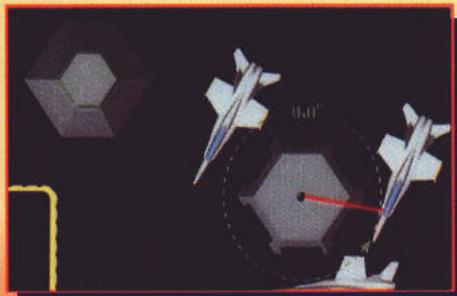
Aircraft Pit Stop
Semi-automated refueling and servicing in a new configuration and deck location provides faster, more efficient airwing pit stops and requires fewer people.

Hangar Bay
New designs reduce clutter.

Parts Standardization and Reduction
The simpler the better.

Reconfigurable Spaces
Life-of-the-ship modular construction designs provide flexibility and reduce cost.

Automation Insertion
Material movement devices, semi-autonomous, gravity compensated weapons handling devices, damage control automation systems and components will reduce the ship's crew and cost.



A more revolutionary design approach to CVN 77 would split aircraft and ship operation functions between two islands, incorporate a "pit stop" for aircraft and rearrange elevator placement.



Hotlink

To learn more about CVN 77 check out this web site:
http://www.nns.com/ten5a1_cvn_smart.htm



Photo by PH2 Matthew J. Magee

Aircraft Carriers

The aircraft carrier continues to be the centerpiece of the forces necessary for forward presence. Whenever there has been a crisis, the first question has been: "Where are the carriers?" Carriers support and operate aircraft that engage in attacks on airborne, afloat and ashore targets that threaten free use of the sea. They can respond to global crises in ways ranging from peacetime presence to full scale war. Together with their on board air wings, the carriers have vital roles across the full spectrum of conflict.



Nimitz-class

- USS *Nimitz* (CVN 68)
- USS *Dwight D. Eisenhower* (CVN 69)
- USS *Carl Vinson* (CVN 70)
- USS *Theodore Roosevelt* (CVN 71)
- USS *Abraham Lincoln* (CVN 72)
- USS *George Washington* (CVN 73)
- USS *John C. Stennis* (CVN 74)
- PCU *Harry S. Truman* (CVN 75)



John F. Kennedy-class

- USS *John F. Kennedy* (CV 67)



Enterprise-class

- USS *Enterprise* (CVN 65)



Kitty Hawk-class

- USS *Kitty Hawk* (CV 63)
- USS *Constellation* (CV 64)



Forrestal-class

- USS *Independence* (CV 62)



Photo by Robert Catalano

Cruisers

Modern U.S. Navy guided-missile cruisers perform primarily in a battle force role. These ships are multi-mission (anti-air, anti-surface, anti-submarine) surface combatants capable of supporting carrier battle groups, amphibious forces or of operating independently and as flagships of surface action groups.



Ticonderoga-class

- USS *Ticonderoga* (CG 47)
- USS *Yorktown* (CG 48)
- USS *Vincennes* (CG 49)
- USS *Valley Forge* (CG 50)
- USS *Thomas S. Gates* (CG 51)
- USS *Bunker Hill* (CG 52)
- USS *Mobile Bay* (CG 53)
- USS *Antietam* (CG 54)
- USS *Leyte Gulf* (CG 55)
- USS *San Jacinto* (CG 56)
- USS *Lake Champlain* (CG 57)
- USS *Philippine Sea* (CG 58)
- USS *Princeton* (CG 59)
- USS *Normandy* (CG 60)
- USS *Monterey* (CG 61)
- USS *Chancellorsville* (CG 62)
- USS *Cowpens* (CG 63)
- USS *Gettysburg* (CG 64)
- USS *Chosin* (CG 65)
- USS *Hue City* (CG 66)
- USS *Shiloh* (CG 67)
- USS *Anzio* (CG 68)
- USS *Vicksburg* (CG 69)
- USS *Lake Erie* (CG 70)
- USS *Cape St. George* (CG 71)
- USS *Vella Gulf* (CG 72)
- USS *Port Royal* (CG 73)



California-class

- USS *California* (CGN 36)
- USS *South Carolina* (CGN 37)

Frigates

Guided-missile frigates (FFG) bring an anti-air warfare (AW) capability to the table. Designed as cost-efficient surface combatants, the FFG 7 class is a robust platform, capable of withstanding considerable damage.



Oliver Hazard Perry-class

- USS *McInerney* (FFG 8)
- USS *Wadsworth* (FFG 9)
- USS *Clark* (FFG 11)
- USS *George Philip* (FFG 12)
- USS *Samuel Eliot Morison* (FFG 13)
- USS *Sides* (FFG 14)
- USS *Estocin* (FFG 15)
- USS *John A. Moore* (FFG 19)
- USS *Fahrión* (FFG 22)
- USS *Lewis B. Puller* (FFG 23)
- USS *Boone* (FFG 28)
- USS *Stephen W. Groves* (FFG 29)
- USS *Reid* (FFG 30)
- USS *Stark* (FFG 31)
- USS *John L. Hall* (FFG 32)
- USS *Jarrett* (FFG 33)
- USS *Aubrey Fitch* (FFG 34)
- USS *Underwood* (FFG 36)
- USS *Crommelin* (FFG 37)
- USS *Curtis* (FFG 38)
- USS *Doyle* (FFG 39)
- USS *Halyburton* (FFG 40)
- USS *McClusky* (FFG 41)
- USS *Klakring* (FFG 42)
- USS *Thach* (FFG 43)
- USS *Dewert* (FFG 45)
- USS *Rentz* (FFG 46)
- USS *Nicholas* (FFG 47)

5,500



Number of daily e-mail messages being sent by USS *Nimitz* crewmembers during current deployment to the Persian Gulf. Equates to one per crewmember per day.

Source: USS *Nimitz*

- USS *Vandegrift* (FFG 48)
- USS *Bradley* (FFG 49)
- USS *Taylor* (FFG 50)
- USS *Gary* (FFG 51)
- USS *Carr* (FFG 52)
- USS *Hawes* (FFG 53)
- USS *Ford* (FFG 54)
- USS *Elrod* (FFG 55)
- USS *Simpson* (FFG 56)
- USS *Reuben James* (FFG 57)
- USS *Samuel B. Roberts* (FFG 58)
- USS *Kauffman* (FFG 59)
- USS *Rodney M. Davis* (FFG 60)
- USS *Ingraham* (FFG 61)



U.S. Navy Photo

Amphibious Warfare Ships

Modern U.S. Navy amphibious assault ships are called upon to perform as primary landing ships for assault operations of Marine expeditionary units. In a secondary role, using AV-8B *Harrier* aircraft and anti-submarine warfare helicopters, these ships perform sea control and limited power projection missions.

Assault Ships

Transport and land assault forces ashore by use of Landing Craft Air Cushion (LCAC), conventional landing craft, and helicopters.



Wasp-class

USS *Wasp* (LHD 1)
 USS *Essex* (LHD 2)
 USS *Kearsarge* (LHD 3)
 USS *Boxer* (LHD 4)
 USS *Bataan* (LHD 5)

Under Construction

Bon Homme Richard (LHD 6)



Tarawa-class

USS *Tarawa* (LHA 1)
 USS *Saipan* (LHA 2)
 USS *Belleau Wood* (LHA 3)
 USS *Nassau* (LHA 4)
 USS *Peleliu* (LHA 5)



Iwo Jima-class

USS *Guam* (LPH 9)
 USS *New Orleans* (LPH 11)

Destroyers

Destroyers and guided-missile destroyers operate in support of carrier battle groups, surface action groups, amphibious groups and replenishment groups. Destroyers primarily perform anti-submarine warfare duty while guided-missile destroyers are multi-mission (anti-submarine, anti-air and anti-surface warfare) surface combatants.



Kidd-class

USS *Kidd* (DDG 993)
 USS *Callaghan* (DDG 994)
 USS *Scott* (DDG 995)
 USS *Chandler* (DDG 996)



Arleigh Burke-class

USS *Arleigh Burke* (DDG 51)
 USS *Barry* (DDG 52)
 USS *John Paul Jones* (DDG 53)
 USS *Curtis Wilbur* (DDG 54)
 USS *Stout* (DDG 55)
 USS *John S. McCain* (DDG 56)
 USS *Mitscher* (DDG 57)
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 USS *Gonzalez* (DDG 66)
 USS *Cole* (DDG 67)
 USS *The Sullivans* (DDG 68)
 USS *Milius* (DDG 69)
 USS *Hopper* (DDG 70)
 USS *Ross* (DDG 71)

Under Construction

Mahan (DDG 72)
Decatur (DDG 73)
McFaul (DDG 74)
Donald Cook (DDG 75)
Higgins (DDG 76)
O'Kane (DDG 77)
Porter (DDG 78)
Oscar Austin (DDG 79)
Roosevelt (DDG 80)
Winston Churchill (DDG 81)



Spruance-class

USS *Spruance* (DD 963)
 USS *Paul F. Foster* (DD 964)
 USS *Kinkaid* (DD 965)
 USS *Hewitt* (DD 966)
 USS *Elliot* (DD 967)
 USS *Arthur W. Radford* (DD 968)
 USS *Peterson* (DD 969)
 USS *Caron* (DD 970)
 USS *David R. Ray* (DD 971)
 USS *Oldendorf* (DD 972)
 USS *John Young* (DD 973)
 USS *Comte De Grasse* (DD 974)
 USS *O'Brien* (DD 975)
 USS *Merrill* (DD 976)
 USS *Briscoe* (DD 977)
 USS *Stump* (DD 978)
 USS *Conolly* (DD 979)
 USS *Moosbrugger* (DD 980)
 USS *John Hancock* (DD 981)
 USS *Nicholson* (DD 982)
 USS *John Rodgers* (DD 983)
 USS *Leftwich* (DD 984)
 USS *Cushing* (DD 985)
 USS *Harry W. Hill* (DD 986)
 USS *O'Bannon* (DD 987)
 USS *Thorn* (DD 988)
 USS *Deyo* (DD 989)
 USS *Ingersoll* (DD 990)
 USS *Fife* (DD 991)
 USS *Fletcher* (DD 992)
 USS *Hayler* (DD 997)



U.S. Navy Photo



Amphibious Command

Command ships provide communications and accommodations for fleet commanders and staff. Ships are equipped with air and surface radars, helicopters, chaff launchers an electronic warfare suite and helicopters capabilities. These ships were converted from amphibious warfare ships for employment as command ships.



Blue Ridge-class

USS *Blue Ridge* (LCC 19)
USS *Mount Whitney* (LCC 20)



LaSalle & Coronado-class

USS *La Salle* (AGF 3)
USS *Coronado* (AGF 11)



Photo by PH2 (NAC) Jeff Viano

Amphibious Transport Dock

Amphibious transport dock ships are used to transport and land Marines, their equipment and supplies by embarked landing craft or amphibious vehicles augmented by helicopters in amphibious assault.



Austin-class

USS *Austin* (LPD 4)
USS *Ogden* (LPD 5)
USS *Duluth* (LPD 6)
USS *Cleveland* (LPD 7)
USS *Dubuque* (LPD 8)
USS *Denver* (LPD 9)
USS *Juneau* (LPD 10)
USS *Shreveport* (LPD 12)
USS *Nashville* (LPD 13)

Under Construction

San Antonio (LPD 17) amphibious transport dock ship.

Dock Landing

Support amphibious operations on a hostile shore via Landing Craft Air Cushion (LCAC), conventional landing craft and helicopters.



Harpers Ferry-class

USS *Harpers Ferry* (LSD 49)
USS *Carter Hall* (LSD 50)
USS *Oak Hill* (LSD 51)

Under Construction

Pearl Harbor (LSD 52)



Whidbey Island-class

USS *Whidbey Island* (LSD 41)
USS *Germantown* (LSD 42)
USS *Fort McHenry* (LSD 43)
USS *Gunston Hall* (LSD 44)
USS *Comstock* (LSD 45)
USS *Tortuga* (LSD 46)
USS *Rushmore* (LSD 47)
USS *Ashland* (LSD 48)



Anchorage-class

USS *Anchorage* (LSD 36)
USS *Portland* (LSD 37)
USS *Pensacola* (LSD 38)
USS *Mount Vernon* (LSD 39)
USS *Fort Fisher* (LSD 40)

Tank Landing

Tank landing ships (LST) are used to transport and land tanks, amphibious vehicles and other rolling stock in amphibious assault. The two ships of this class, now assigned to the Naval Reserve Forces, are the only of this 20-ship class of LSTs remaining in the fleet.



Newport-class

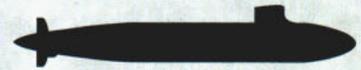
USS *Frederick* (LST 1184)
USS *La Moure County* (LST 1194)



Photo by Electric Boat Corp.

Attack Submarines

Attack submarines are designed to seek and destroy enemy submarines and surface ships. Their other missions range from intelligence collection and special forces delivery to antiship and strike warfare. It is a multimission vessel, capable of deploying to forward ocean areas to search out and destroy enemy submarines and surface ships and to fire missiles in support of other forces.

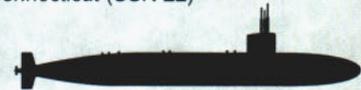


Seawolf-class

USS *Seawolf* (SSN 21)

Under Construction

Connecticut (SSN 22)



Los Angeles-class

USS *Los Angeles* (SSN 688)
USS *Philadelphia* (SSN 690)
USS *Memphis* (SSN 691)



USS *Indianapolis* (SSN 697)
USS *Bremerton* (SSN 698)
USS *Jacksonville* (SSN 699)
USS *Dallas* (SSN 700)
USS *La Jolla* (SSN 701)
USS *Phoenix* (SSN 702)
USS *Boston* (SSN 703)
USS *Baltimore* (SSN 704)
USS *City of Corpus Christi* (SSN 705)
USS *Albuquerque* (SSN 706)
USS *Portsmouth* (SSN 707)
USS *Minneapolis St. Paul* (SSN 708)
USS *Hyman G. Rickover* (SSN 709)
USS *Augusta* (SSN 710)
USS *San Francisco* (SSN 711)
USS *Atlanta* (SSN 712)
USS *Houston* (SSN 713)
USS *Norfolk* (SSN 714)
USS *Buffalo* (SSN 715)
USS *Salt Lake City* (SSN 716)
USS *Olympia* (SSN 717)
USS *Honolulu* (SSN 718)
USS *Providence* (SSN 719)
USS *Pittsburgh* (SSN 720)
USS *Chicago* (SSN 721)
USS *Key West* (SSN 722)
USS *Oklahoma City* (SSN 723)
USS *Louisville* (SSN 724)
USS *Helena* (SSN 725)
USS *Newport News* (SSN 750)
USS *San Juan* (SSN 751)
USS *Pasadena* (SSN 752)
USS *Albany* (SSN 753)

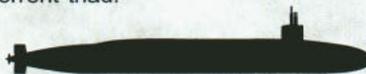
- USS *Topeka* (SSN 754)
- USS *Miami* (SSN 755)
- USS *Scranton* (SSN 756)
- USS *Alexandria* (SSN 757)
- USS *Asheville* (SSN 758)
- USS *Jefferson City* (SSN 759)
- USS *Annapolis* (SSN 760)
- USS *Springfield* (SSN 761)
- USS *Columbus* (SSN 762)
- USS *Santa Fe* (SSN 763)
- USS *Boise* (SSN 764)
- USS *Monpellier* (SSN 765)
- USS *Charlotte* (SSN 766)
- USS *Hampton* (SSN 767)
- USS *Hartford* (SSN 768)
- USS *Toledo* (SSN 769)



Photo by Michael J. Rinaldi

Ballistic Missile Submarines

Among the Navy's highest priority programs, ballistic missile submarines are the cornerstone of the national security policy, functioning as the most survivable and enduring leg of the strategic deterrent triad.



Ohio-class

- USS *Ohio* (SSBN 726)
- USS *Michigan* (SSBN 727)
- USS *Florida* (SSBN 728)
- USS *Georgia* (SSBN 729)
- USS *Henry M. Jackson* (SSBN 730)
- USS *Alabama* (SSBN 731)
- USS *Alaska* (SSBN 732)
- USS *Nevada* (SSBN 733)
- USS *Tennessee*, (SSBN 734)
- USS *Pennsylvania* (SSBN 735)
- USS *West Virginia* (SSBN 736)
- USS *Kentucky* (SSBN 737)
- USS *Maryland* (SSBN 738)
- USS *Nebraska* (SSBN 739)
- USS *Rhode Island* (SSBN 740)
- USS *Maine* (SSBN 741)
- USS *Wyoming* (SSBN 742)
- USS *Louisiana* (SSBN 743)

Tenders

Submarine tenders are the largest of the active auxiliaries. Their crews are made up mostly of technicians and repair personnel. The *L. Y. Spear*-class is designed and fitted to accommodate attack submarines and can service up to four submarines moored alongside simultaneously. The *Simon Lake*-class is configured especially to service ballistic missile submarines.



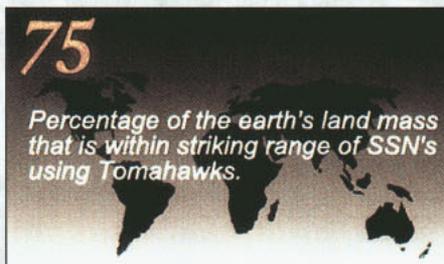
L. Y. Spear-class

- USS *Emory S. Land* (AS 39)
- USS *Frank Cable* (AS 40)
- USS *McKee* (AS 41)



Simon Lake-class

- USS *Simon Lake* (AS 33)



Mine Warfare Ships

In the early 1980s, the Navy began developing a new mine countermeasures (MCM) force that included two new classes of ships and minesweeping helicopters.



Inchon-class

- USS *Inchon* (MCS 12)

Mine Countermeasures

USS *Inchon* was converted to a command and control ship to support an embarked composite helicopter squadron of eight CH-53E and two SAR/spotter helicopters, and provide alongside support and services for up to four MCM/MHC ships.



Avenger-class

- USS *Avenger* (MCM 1)
- USS *Defender* (MCM 2)
- USS *Sentry* (MCM 3)
- USS *Champion* (MCM 4)
- USS *Guardian* (MCM 5)
- USS *Devastator* (MCM 6)
- USS *Patriot* (MCM 7)
- USS *Scout* (MCM 8)
- USS *Pioneer* (MCM 9)
- USS *Warrior* (MCM 10)
- USS *Gladiator* (MCM 11)
- USS *Ardent* (MCM 12)
- USS *Dextrous* (MCM 13)
- USS *Chief* (MCM 14)

Minehunters Coastal

Osprey-class (MHC 51) ships are mine hunter-killers capable of finding, classifying and destroying moored and bottom mines.



Osprey-class

- USS *Osprey* (MHC 51)
- USS *Heron* (MHC 52)
- USS *Pelican* (MHC 53)
- USS *Robin* (MHC 54)
- USS *Oriole* (MHC 55)
- USS *Kingfisher* (MHC 56)
- USS *Cormorant* (MHC 57)
- USS *Black Hawk* (MHC 58)
- USS *Falcon* (MHC 59)
- USS *Cardinal* (MHC 60)

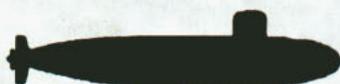
Under Construction

- Raven (MHC 61)
- Shrike (MHC 62)

- USS *Tucson* (SSN 770)
- USS *Columbia* (SSN 771)
- USS *Greeneville* (SSN 772)
- USS *Cheyenne* (SSN 773)

Narwhal-class

- USS *Narwhal* (SSN 671)



Sturgeon-class

- USS *Pogy* (SSN 647)
- USS *Sand Lance* (SSN 660)
- USS *Hawkbill* (SSN 666)
- USS *Pintado* (SSN 672)
- USS *Trepang* (SSN 674)
- USS *Billfish* (SSN 676)
- USS *Archerfish* (SSN 678)
- USS *William H. Bates* (SSN 680)
- USS *Batfish* (SSN 681)
- USS *Tunny* (SSN 682)
- USS *Parche* (SSN 683)
- USS *Cavalla* (SSN 684)
- USS *L. Mendel Rivers* (SSN 686)



Benjamin Franklin-class

- USS *Kamehameha* (SSN 642)
- USS *James K. Polk* (SSN 645)



Coastal Patrol

Primarily provides coastal protection and interdiction. Also provides Naval Special Warfare Support, including long-range SEAL insertion/extraction and tactical swimmer operations.



Cyclone-class

- USS *Cyclone* (PC 1)
- USS *Tempest* (PC 2)
- USS *Hurricane* (PC 3)
- USS *Monsoon* (PC 4)
- USS *Typhoon* (PC 5)
- USS *Sirocco* (PC 6)
- USS *Squall* (PC 7)
- USS *Zephyr* (PC 8)
- USS *Chinook* (PC 9)
- USS *Firebolt* (PC 10)
- USS *Whirlwind* (PC 11)
- USS *Thunderbolt* (PC 12)
- USS *Shamal* (PC 13)



Photo by PH2 Michael Degner

Landing Craft Air Cushion (LCAC)

Transporting weapons systems, equipment, cargo, and personnel of the assault elements of the Marine Air/Ground Task Force from both ship to shore and across the beach, the landing craft air cushion (LCAC) is a high-speed, over-the-beach fully-amphibious landing craft capable of carrying a 60- to 75-ton payload. The advantages of air-cushion landing craft are numerous and they can carry heavy payloads, such as an M-1 tank, at high speeds.

Fleet Support Ships

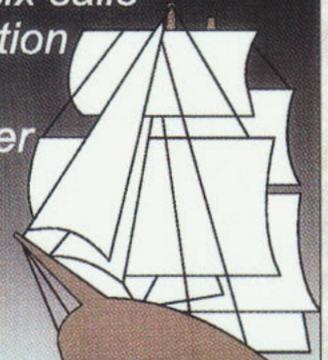
Provide repair, salvage and a variety of other types of support to the combatant fleet.

Rescue, Salvage & Towing

The mission of the rescue and salvage ships is four-fold: debauch stranded vessels, heavy

11,943

Total square footage of the six sails used to power USS *Constitution* 21 July 1997. The sails generated 169.88 horsepower or about the same amount as a moderately powered outboard engine



Source: USS *Constitution*

lift capability from ocean depths, towing of other vessels and manned diving operations. For rescue missions, these ships are equipped with fire monitors forward and amidships which can deliver either firefighting foam or sea water.



Safeguard-class

- USS *Safeguard* (ARS 50)
- USS *Grasp* (ARS 51)
- USS *Salvor* (ARS 52)
- USS *Grapple* (ARS 53)

Mobile Combat Logistics Force

Provide fuel, provisions and ammunition to combatant ships at sea via underway and vertical replenishment. These ships are an integral part of carrier battle groups as fuel, ammunition and stores reservoirs.

Fast Combat Support

The fast combat support ship (AOE) is the Navy's largest combat logistics ship. The AOE has the speed and armament to keep up with the carrier battle groups.



Sacramento & Supply-classes

Supply-class

- USS *Supply* (AOE 6)
- USS *Rainer* (AOE 7)
- USS *Arctic* (AOE 8)

Under Construction

- Bridge* (AOE 10)

Sacramento-class

- USS *Sacramento* (AOE 1)
- USS *Camden* (AOE 2)
- USS *Seattle* (AOE 3)
- USS *Detroit* (AOE 40)



PH3 Chris Vickers

Fleet Oiler

Transport bulk petroleum and lubricants from depots to underway battle group station ships, as well as combatants and support forces by along-side and vertical replenishment.



Cimarron-class

- USS *Cimarron* (AO 177)
- USS *Monongahela* (AO 178)
- USS *Merrimack* (AO 179)
- USS *Willamette* (AO 180)
- USS *Platte* (AO 186)

Ammunition

Ammunition ships keep the fleet supplied with ammunition and ordnance, independently or with other combat logistic ships. Ammunition is delivered by slings on ship-to-ship cables and by helicopters.



Kilauea-class

- USS *Santa Barbara* (AE 28)
- USS *Mount Hood* (AE 29)

Military Sealift Command

The Military Sealift Command (MSC) maintains a fleet of ships which provides a variety of unique support missions to the fleet and other military services. These ships are primarily crewed by civilians with a contingent of U.S. Navy personnel.

Missile Range Instrumentation

USNS *Observation Island* operates worldwide, monitoring foreign missile tests for the Air Force Intelligence command. This ship carries the Air Force's *Cobra Judy* phased-array radar.



USNS *Observation Island* (T-AGM 23)

Ammunition

Ammunition ships keep the fleet supplied with ammunition and ordnance, independently or with other combat logistic ships. Ammunition is delivered by slings on ship-to-ship cables, and by helicopters.



Kilauea-class

- USNS *Kilauea* (T-AE 26)
- USNS *Butte* (T-AE 27)
- USNS *Flint* (T-AE 32)
- USNS *Shasta* (T-AE 33)
- USNS *Mount Baker* (T-AE 34)
- USNS *Kiska* (T-AE 35)

Combat Stores

Combat Stores Ships are capable of underway replenishment using tensioned cargo rigs and UH-46 *Sea Knight* helicopters. Combat Stores Ships carry refrigerated stores, dry provisions, technical spares, general stores, fleet freight and mail.



Photo by JO2 Todd Stevens



Mars-class

- USNS *Mars* (T-AFS 1)
- USNS *Niagara Falls* (T-AFS 3)
- USNS *Concord* (T-AFS 5)
- USNS *San Diego* (T-AFS 6)
- USNS *San Jose* (T-AFS 7)
- USNS *Sirius* (T-AFS 8)
- USNS *Spica* (T-AFS 9)
- USNS *Saturn* (T-AFS 10)



Photo by PH2 Felix Garcia Jr.

Hospital Ships

The hospital ships (T-AH) provide emergency, on-site surgical and medical care to U.S. deployed forces in wartime or a contingency. The two hospital ships are part of the Military Sealift Command's Strategic Sealift Force. Each ship contains 1,000 hospital beds, 12 operating rooms, radiological services, medical laboratories, an optometry lab, a pharmacy and two oxygen producing plants.



Mercy-class

- USNS *Mercy* (T-AH 19)
- USNS *Comfort* (T-AH 20)

Cable Repair

The Cable Repair Ship performs maintenance on the Sound Surveillance System (SOSUS), a network of strategically placed sonar sensors that provide early warning of submarines.



USNS *Zeus* (T-ARC 7)

Fast Sealift

Fast Sealift Ships feature a roll-on/roll-off (RO/RO) capability, specializing in the transport of wheeled or tracked vehicles. Stern ramps allow quick discharge of vehicles to a pier or dock.



Algo-class

- USNS *Algo* (T-AKR 287)
- USNS *Bellatrix* (T-AKR 288)
- USNS *Denebola* (T-AKR 289)
- USNS *Pollux* (T-AKR 290)
- USNS *Altair* (T-AKR 291)
- USNS *Regulus* (T-AKR 292)
- USNS *Capella* (T-AKR 293)
- USNS *Antares* (T-AKR 294)
- USNS *Shughart* (T-AKR 295)
- USNS *Gordon* (T-AKR 296)
- USNS *Yano* (T-AKR 297)
- USNS *Gilliland* (T-AKR 298)

Oceanographic Ships

Designed specifically for oceanographic survey operations for the U.S. Navy. These ships operate under the control of the Oceanographer of the Navy and technical control is provided by the Naval Oceanographic Office. These ships have precision control and maneuverability options, including bow propulsion units, which also can be used for station keeping.



Silas Bent-class

- USNS *Silas Bent* (T-AGS 26)
- USNS *Kane* (T-AGS 27)
- USNS *Waters* (T-AGS 45)
- USNS *John McDonnell* (T-AGS 51)
- USNS *Littlehales* (T-AGS 52)
- USNS *Pathfinder* (T-AGS 60)
- USNS *Sumner* (T-AGS 61)
- USNS *Bowditch* (T-AGS 62)
- USNS *Henson* (T-AGS 63)

Fleet Oilers

Fleet oilers operate as a unit of an underway replenishment group, replenishing petroleum products and ordnance to the fleet at sea during underway replenishments (UNREPS).



Henry J. Kaiser-class

- USNS *Henry J. Kaiser* (T-AO 187)
- USNS *Walter S. Diehl* (T-AO 193)
- USNS *John Ericsson* (T-AO 194)
- USNS *Leroy Grumman* (T-AO 195)
- USNS *Kanawha* (T-AO 196)
- USNS *Pecos* (T-AO 197)
- USNS *Big Horn* (T-AO 198)
- USNS *Tippecanoe* (T-AO 199)
- USNS *Guadalupe* (T-AO 200)
- USNS *Patuxent* (T-AO 201)
- USNS *Yukon* (T-AO 202)
- USNS *Laramie* (T-AO 203)
- USNS *Rappahannock* (T-AO 204)

LPD 17

The bottom line for any amphibious ship is the transport, landing and support of Marine Corps expeditionary forces.

How successful these ships are in fulfilling this mission and adapting to an ever-changing world can be determined by design.

The LPD 17 program incorporates the full-range of ship design expertise and goes one step beyond. "Design for Ownership" is a basic precept for the new ship class. This philosophy means involving the Navy and Marine Corps operators, maintainers and trainers in the design process from the very start. What's to be gained? A significant increase in quality and cost efficiency for one. For another, familiarization and acceptance is greater when a ship joins the fleet because the process has been going on for years. The more familiar the ship, the greater the chances are to fully realize its potential.

Christened *San Antonio*, the first of 12 LPD 17-class ships, is expected to be delivered to the Navy in 2002. As the numbers increase, this class will replace 41 ships of the LPD 4, LSD 36, LKA 113 and LST 1179-classes. To accomplish this, the new ships must be truly multipurpose and capable of supporting the evolving role of the Marine Corps into the 21st century.

Statistics:

Length: 684 ft.

Beam: 105 ft.

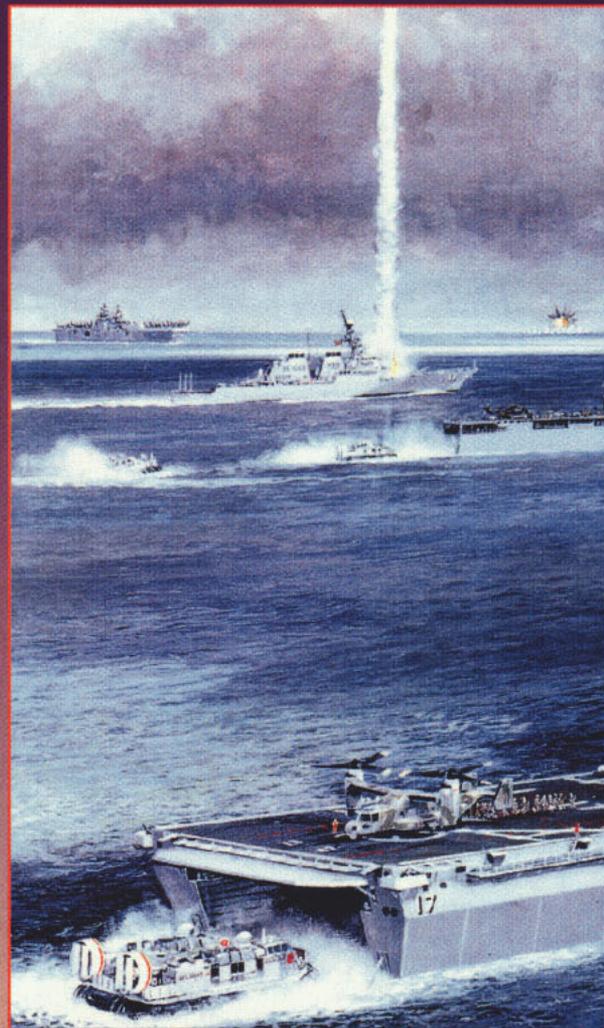
Draft: 23.0 ft.

Displacement: 25,300 tons

Speed: 22+ knots

Builder: Avondale Industries, Inc., Bath Iron Works, General Dynamics, Hughes Aircraft Co. and Intergraph Corp.

Cost: About \$641 million



Designed as a multipurpose ship, LPD 17 will be capable of supporting the ever-changing role of the Marine Corps in the 21st century.

21st Century Gator



Art courtesy of Avondale Industries



Warfare Capability: Meets all stated operational requirements.

Mission Flexibility: Readily adaptable to the full range of Navy-Marine Corps, Joint Service and NATO expeditionary warfare missions.

Technical Adaptability: Designed for rapid, affordable performance upgrades throughout the life of the ship.

Supportability: Reliable, maintainable and affordable throughout the life of the ship.



Hot link

To learn more about LPD 17 check out this web site:
<http://lpd17.nswc.navy.mil/lpd17/index.html>

Air-to-Air Missiles



U.S. Navy photo

▲ An F/A-18 *Hornet* aircraft fires the *Sidewinder* missile.

Sidewinder

Primary mission: All-weather, heat-seeking, short-range, dogfight missile; can be used day or night; and hones in on the engine exhaust of target aircraft. **Dimensions:** length – 9 ft., 4.2 in.; diameter – 5 in.; weight – 188 lbs. **Range:** 10,000 to 20,000 yards. **Payload:** annular blast fragmentation; weight – 20.8 lbs.

Sparrow

Primary mission: Highly maneuverable, radar-guided missile, with all-weather capability; can attack high-performance aircraft and missiles from any direction. **Dimensions:** length – 12 ft.; diameter – 8 in.; weight – 510 lbs. **Range:** more than 30 nautical miles. **Payload:** blast fragment, high explosive.

Phoenix

Primary mission: All-weather, long-range missile, carried in clusters, up to six missiles on the F-14; provides near simultaneous launch against multiple air targets. **Dimensions:** length – 13 ft.; diameter – 15 in.; weight – 989 lbs. **Range:** more than 104 nautical miles. **Payload:** proximity fuse, high-explosive; weight – 135 lbs.

AMRAAM

Primary mission: All-weather, radar-guided beyond-visual range missile; provides launch and leave capability and multiple target engagement capability. **Dimensions:** length – 11 ft., 9 in.; diameter – 7 in.; weight – 300 lbs. **Range:** 39 nautical miles. **Payload:** blast high explosive.

Cruise Missiles



U.S. Navy photo

▲ Aviation ordnancemen prepare to load *Sparrow* air-to-air missiles.

Harpoon

Primary mission: All-weather, over-the-horizon, anti-ship missile; capable of being launched from surface ships, submarines or from aircraft to destroy surface combatants, submarines or other shipping. **Dimensions:** length – 15 ft., surface/submarine launched; 12 ft., 7 in. air launched; diameter – missile body, 13.5 in., **Payload:** 500 lbs. high explosive, blast penetrator.

Tomahawk Cruise Missile

Primary mission: Long-range, subsonic cruise missile; conventionally armed for anti-surface warfare; conventionally or nuclear-armed in land attack versions. **Dimensions:** length – 18 ft., 3 in.; diameter – 20.4 in. **Payload:** 1,000 lb. conventional submunitions dispenser with combined effect bomblets. Nuclear – W-80 warhead.

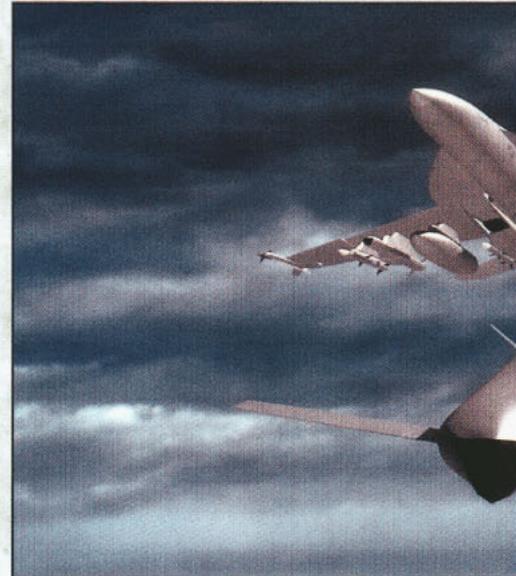
Fleet Ballistic Missiles

Trident II (D-5)

Primary mission: Subsurface to surface strategic nuclear deterrence. **Dimensions:** length – 44 ft.; diameter – 83 in.; weight – 126,000 lbs. **Range:** more than 6,000 nautical miles. **Payload:** Thermonuclear MIRV (Multiple Independent Re-entry Vehicle); Multiple Re-entry Vehicle (MRV) warhead.

Trident I (C-4)

Primary mission: Subsurface to surface strategic nuclear deterrence. **Dimensions:** length – 34 ft.; diameter – 74 in.; weight – 73,000 lbs. **Range:** 4,000 nautical miles. **Payload:** Thermonuclear MIRV with maneuverable warhead.



▲ An artist's conception of the *SLAM-ER* being released from the *Super Hornet* aircraft.

SLAM-ER (Stand Off Land Attack Missile Expanded Response)

Primary mission: All-weather, intermediate-range with precision strike capability against land targets and ships in port, capable of being launched from land or from aircraft. **Dimensions:** length – 14ft. diameter – 13.5 in; weight – 1464 lbs. **Range:** more than 100 nautical miles. **Payload:** 500 lbs high explosive, blast fragmentation.



U.S. Navy photo

▲ A submarine launches a *Trident* missile.

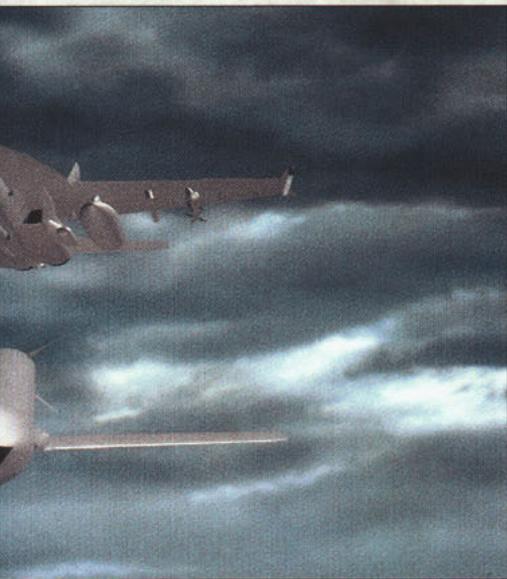
Air-to-Ground Missiles

HARM Missile

Primary mission: High-speed, anti-radiation missile; designed to seek out and destroy enemy radar-equipped air defense systems. **Dimensions:** length – 13 ft., 7 in., diameter – 10 in., weight – 798 lbs. **Range:** approximately 80 nautical miles. **Payload:** blast fragmentation.

Shrike Anti-radar Missile

Primary mission: The AGM-45 *Shrike* is designed to home in on anti-aircraft radars. **Dimensions:** length – 10 ft., diameter – 8 in.; weight – 390 lbs. **Range:** delivered by fighter aircraft, employs solid-fueled rocket. **Payload:** explosive blast warhead.



Artist's conception provided by Boeing Corp.

Surface-to-Air Missiles

Standard Missile Family

Primary mission: Engage and intercept aircraft, anti-ship missiles and surface ships. SM-1 MR, SM-2 MR **Dimensions:** length – 14 ft., 7 in.; diameter – 13.5 in.; weight – SM-1, 1,100 lbs.; SM-2, 1,380 lbs. **Payload:** proximity fuse, high explosive. SM-2 ER **Dimensions:** length – 26.2 ft.; diameter – 13.5 in.; weight – 2,980 lbs. **Payload:** proximity fuse, high explosive.

IR Maverick Missile

Primary mission: Forward fired, infra-red-guided weapon; designed for day/night

sea warfare and land interdiction.

Dimensions: length – 8 ft. 2 in.; diameter – 12 in.; wing span – 2 ft., 4 in.; weight 675 lbs. **Range:** 12 nautical miles. **Payload:** 300 lb. penetrating/blast warhead.

Naval Guns

MK 15 Phalanx Close-in Weapons System (CIWS)

Primary mission: Fast-reaction, rapid-fire 20-millimeter gun system; provides defense against anti-ship missiles and hostile air targets at short range. **Dimensions:** weight – 12,500 lbs.; magazine capacity – 1,500 rounds of 20 mm ammunition. **Features:** Fires 3,000 - 4,500 rounds per minute.

MK 75, 76mm/.62 Caliber Gun System

Primary mission: Provides frigates and other combatants with a fast-reaction, light-weight gun; counters aircraft, cruise missiles and surface ships. **Features:** an enclosed naval gun mount, single barrel, remote-controlled, rapid-fire capability.

5-inch/.54 Caliber Lightweight Gun

Primary mission: Fires at a rate of 16 to 20 rounds per minute; provides surface combatants with accurate naval gunfire against fast, highly maneuverable surface targets, air threats and shore targets.

Torpedoes

MK 48 and MK 48 Advanced Capability (AdCap) Torpedo

Primary mission: Subsurface to subsurface and subsurface to surface. **Dimensions:** length – 19 ft.; diameter – 21 in.; weight – 3,520 lbs., (MK 48 AdCap – 3,695 lbs.). **Range:** 23 miles; depth – more than 1,200 ft. **Guidance:** wire-guided active and/or passive homing. **Payload:** 650 lbs. high-explosive warhead.

MK 50 Torpedo

Primary mission: Surface and air to sub-surface. **Dimensions:** length – 9.5 ft.; diameter – 12.75 in.; weight – 800 lbs. **Guidance:** active/passive acoustic homing.

MK 46 Torpedo

Primary mission: Launched from surface combatant torpedo tubes, ASROC missile and fixed and rotary wing aircraft. **Dimensions:** length – 8.5 ft.; diameter – 12.75 in., weight – 508 lbs. **Guidance:** 2 different modes – active or passive/active homing. **Payload:** 98 lbs. of PBXN-103 high explosive.



U.S. Navy photo

▲ Aviation ordnancemen prepare to hang an AGM-65 *Maverick* missile on an F-14 *Tomcat* staged on board USS *Carl Vinson* (CVN 70).



U.S. Navy photo

▲ FC3 Sean Staruch uploads ammunition into an MK15 *Phalanx* Close-In Weapon System aboard USS *George Washington* (CVN 73).



U.S. Navy photo

▲ MK 46 torpedo.

NSSN A Future

Representing a revolution in cost-effective design and construction techniques and mission flexibility, the new attack submarine (NSSN) will provide the U.S. Navy with the capabilities it requires to maintain the nation's undersea supremacy well into the 21st century.

The NSSN will satisfy the full spectrum of open ocean as well as regional and near-land missions. Equipped to wage multidimensional warfare, these submarines will be key to America's sea power and national defense with their stealth, lethality and unlimited endurance.

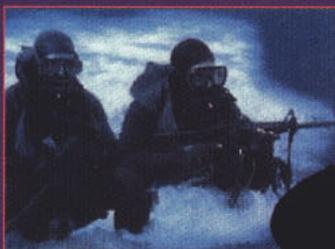
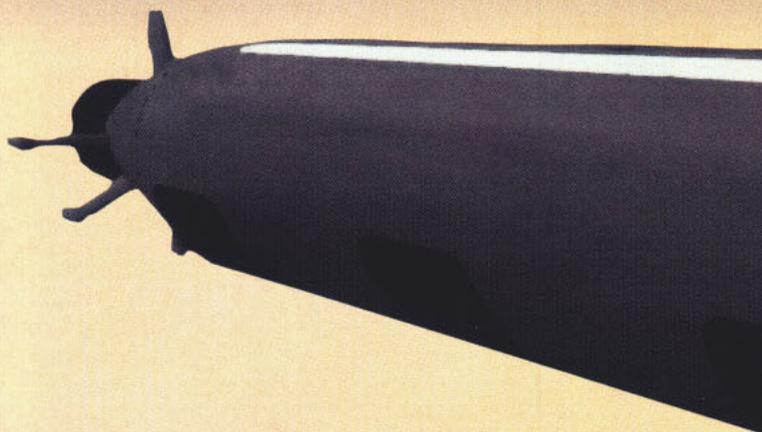
Now under design and scheduled for a 1998 construction start, NSSN is being optimized for maximum technological and operational flexibility. When the lead ship of the class joins the Navy's fleet in 2004, it will reflect the uncompromising quest to engineer the proper balance between advanced technologies and affordability.

Statistics:

Displacement:	7,800 tons
Length:	377 feet
Beam:	34 feet
Speed:	More than 25 knots
Depth:	More than 800 feet
Payload:	38 weapons, including Vertical Launching System and Special Operations Forces
Weapon Launch:	4 21-inch torpedo tubes, 12 Vertical Launching System tubes
Weapons:	<i>Tomahawk</i> land-attack missiles, <i>MK 48 Advanced Capability</i> torpedoes, advanced mobile mines and unmanned underwater vehicles.

Intelligence, Surveillance, Reconnaissance

NSSN has superior covert, non-provocative capabilities. Onboard imaging, acoustic and electronics sensor systems, unmanned vehicles and other off-board systems can continuously monitor the battlespace, allowing quick response to adversaries' moves.



Special Operations

NSSN will support the full spectrum of special operations missions — search and rescue, intelligence collection, sabotage and diversionary attacks; directing air strikes and other clandestine missions that demand a stealthy team of elite forces.

Warfare Pins and Badges



Naval Astronaut



Naval Astronaut
(NFO)



Naval Aviator



Dirigible Pilot



Naval Aviation Observer and
Flight Meteorologist



Naval Flight
Surgeon



Naval Flight Nurse



Naval Flight Officer



Aviation Experimental
Psychologist and Aviation
Physiologist



Enlisted Aviation
Warfare Specialist



Naval Aviation
Supply Corps



Aircrew



Marine Combat
Aircrew



Special Warfare



Special
Operations



Surface Warfare (officer)



Enlisted Surface
Warfare Specialist



Surface Warfare
Nurse Corps



Surface Warfare
Medical Corps



Surface Warfare
Dental Corps



Surface Warfare
Medical Service Corps



Surface Supply Corps



Submarine (officer)



Submarine (enlisted)



Submarine Medical



Submarine Engineering
Duty



Submarine Supply



Submarine Combat
Patrol



SSBN Deterrent Patrol
(20 patrols)



SSBN Deterrent Patrol
(12 patrols)



Seabee Combat Warfare
Specialist (officer)



Seabee Combat Warfare
Specialist (enlisted)



Naval Parachutist



Basic Parachutist



Naval Reserve



**NAVY AND MARINE
CORPS OVERSEAS
SERVICE RIBBON**



**NAVY RECRUITING SERVICE
RIBBON**



**ARMED FORCES RESERVE
MEDAL**



NAVAL RESERVE MEDAL



**PHILIPPINE
PRESIDENTIAL UNIT
CITATION**



**REPUBLIC OF KOREA
PRESIDENTIAL UNIT
CITATION**



**REPUBLIC OF VIETNAM
PRESIDENTIAL UNIT
CITATION**



**REPUBLIC OF VIETNAM
GALLANTRY CROSS
UNIT CITATION**



**REPUBLIC OF VIETNAM
CIVIL ACTIONS UNIT
CITATION**



**UNITED NATIONS
SERVICE MEDAL**



**UNITED NATIONS
MEDAL**



**MULTINATIONAL FORCE
AND OBSERVERS MEDAL**



**INTER-AMERICAN
DEFENSE BOARD MEDAL**



**REPUBLIC OF VIETNAM
CAMPAIGN MEDAL**



**KUWAIT LIBERATION MEDAL
(Kingdom of Saudi Arabia)**



**KUWAIT LIBERATION MEDAL
(KUWAIT)**



**EXPERT RIFLEMAN
MEDAL**



**EXPERT PISTOL SHOT
MEDAL**

DEVICES



GOLD STAR

Denotes each subsequent award of the same Navy decoration.



SILVER STAR

Worn in the same manner as the gold star, in lieu of five gold stars.



BRONZE SERVICE STAR

Represents participation in campaigns or operations, multiple qualification or an additional award to any of the various ribbons on which it is authorized. Also worn to denote first award of the single mission Air Medal after Nov. 22, 1989.



SILVER SERVICE STAR

Worn in the same manner as the bronze star, in lieu of five bronze service stars.



BRONZE OAK LEAF CLUSTER

Represents second and subsequent entitlements of awards.



SILVER OAK LEAF CLUSTER

Worn for the sixth, 11th or in lieu of five bronze oak leaf cluster.



WINTERED OVER

WINTERED OVER
For wintering over on the Antarctic continent, a clasp for Antarctica Service Medal, suspension ribbon and a disc for the service ribbon of bronze for first winter, gold for second winter, silver for third winter.



"V" DEVICE

Authorized for acts or service involving direct participation in combat operations.



HOURLASS

Issued for each succeeding award of the Armed Forces Reserve Medal.



"O" DEVICE

U.S. Coast Guard device denoting performance under operational conditions.



EUROPE AND ASIA CLASPS

Worn on the suspension ribbon of the Navy Occupation Service Medal.



"E" DEVICE

Worn on the Expert Rifleman and Expert Pistol Shot awards.



BRONZE "S"

Denotes Sharpshooter qualification.



"M" DEVICE

Denotes Naval Reserve mobilization in support of certain operations.



STRIKE/FLIGHT DEVICE

Bronze arabic numeral denotes the total number of strike/flight awards of the Air Medal earned subsequent to April 9, 1962.



FLEET MARINE FORCE COMBAT OPERATIONS INSIGNIA

For Navy personnel attached to fleet Marine force units participating in combat operations.



"E" WREATH

Denotes 4 or more Battle "E" awards.



"3/16" PALM

Worn on the Republic of Vietnam Gallantry Cross Unit Citation and Republic of Vietnam Civil Actions Unit Citation ribbons.

The above display represents the correct order of precedence for ribbons most likely to be worn today on the Navy uniform. Devices worn on these ribbons must be worn in a specific manner and are used to denote additional awards or participation in a specific event. For additional information about the proper order of display, placement of devices or about ribbons not shown, refer to SECNAVINST 1650.1F and U.S. Navy Uniform Regulation (NAVPERS 1566.5G).

Warfare Pins and Badges



Integrated Undersea Surveillance System (officer)



Integrated Undersea Surveillance System (enlisted)



Master Explosive Ordnance Disposal



Senior Explosive Ordnance Disposal



Explosive Ordnance Disposal



Diving (officer)



Diving (medical)



Master Diver



Diver (medical technician)



First Class Diver



Second Class Diver



Scuba Diver



Deep Submergence (officer)



Deep Submergence (enlisted)



Presidential Service Badge



Vice Presidential Service Badge



Office of the Secretary of Defense



Joint Chiefs of Staff



Recruiting Command



Recruiting Command for Excellence



Recruiter



Career Counselor



Recruit Company Commander



Command-at-Sea



Command Ashore



Officer in Charge (Small Craft)



Petty Officer in Charge (Small Craft)



Craftmaster



Master Chief Petty Officer of the Navy



Force Master Chief Petty Officer



Fleet Master Chief Petty Officer



Master Chief Petty Officer of the Command



Senior Chief Petty Officer of the Command



Chief Petty Officer of the Command



U.S. Navy Police (officer)



U.S. Navy Security



U.S. Navy Corrections



U.S. Navy Police (enlisted)



U.S. Navy Guard



U.S. Navy Master-at-Arms

re With Options

*The Next Generation ...
designed today!*

NSSN meets America's requirement for multimission, flexible, combat-ready warships that can "walk softly and carry a big stick" well into the 21st century.



Modular Design

NSSN's equipment modules are constructed and tested off-hull. Each module's "independence" facilitates technology insertion into follow-on ships as well as technology upgrades later in the ship's life.



Hot link

To learn more about NSSN check out this web site:
<http://www.chinfo.navy.mil/navpalib/cno/n87/nssn.html>

Navy Enlisted Ratings



AB

Aviation Boatswain's Mate
(used at pay grade E-9)

ABE (Launch and Recovery Equipment)

ABF (Fuels)

ABH (Aircraft Handling)



AG

Aerographer's Mate



AC

Air Traffic Controller



AS

Aviation Storekeeper



AD

Aviation Machinist's Mate
(Compressed with AM to become AFCM at pay grade E-9)



AM

Aviation Structural Mechanic

(used at pay grade E-8 only)

(Compressed with AD to become AFCM at pay grade E-9)

AME (Safety Equipment)

AMH (Hydraulics)

AMS (Structures)



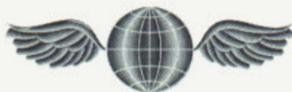
AS

Aviation Support Equipment Technician



AO

Aviation Ordnanceman



AE

Aviation Electrician's Mate
(Compressed with AT to become AVCM at pay grade E-9)



AT

Aviation Electronics Technician
(Compressed with AE to become AVCM at pay grade E-9)



Photo by JO1 Rodney Furry

▲ Signal flags are just one method SM1(AW) Phillip D. Avery can use to communicate between ships at sea. Signalmen maintain lookouts and must be proficient in visual communication to ensure the safety of the ship and crew.

8,738

Look, no cavities!

Number of Sailors and Marines who visit one of Navy Dentistry's 226 clinics worldwide each day.

Source: BUMED



AW
Aviation Warfare Systems
Operator



BM
Boatswain's Mate



CE
Construction Electrician
(becomes UCCM at
pay grade E-9)



DC
Damage Controlman



AZ
Aviation Maintenance
Administrationman



BU
Builder
(becomes CUCM at
pay grade E-9)



CM
Construction Mechanic
(becomes EQCM at
pay grade E-9)



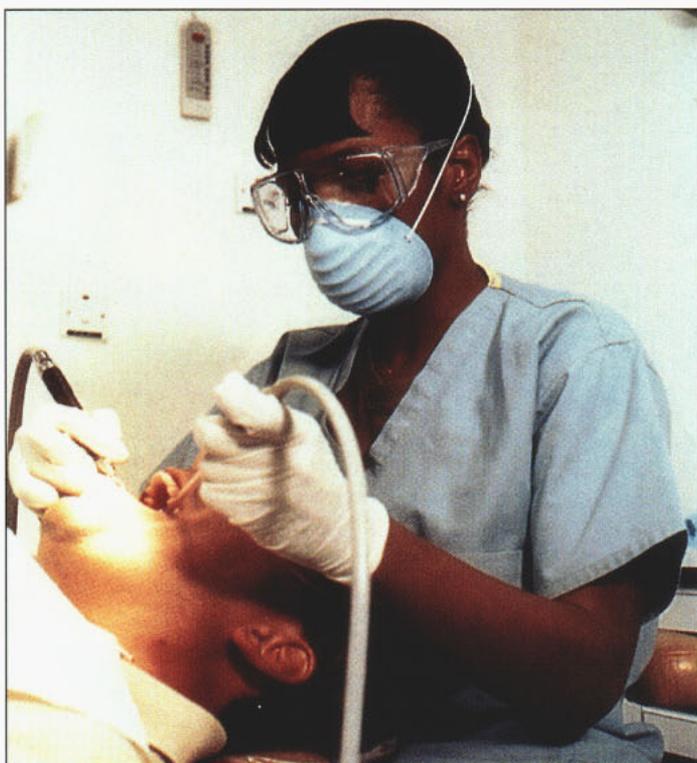
DK
Disbursing Clerk



CT
Cryptologic Technician
CTA (Administrative)
CTI (Interpretive)
CTM (Maintenance)
CTO (Communications)
CTR (Collection)
CTT (Technical)



DM
Illustrator Draftsman



U.S. Navy photo

▲ Dental technicians like DT3 Kimberly S. Combs of Shreveport, La., assist dentists with patient care, perform as X-ray technicians, make and fit dental prosthetics and work in clinical laboratories.

► The name says it all for machinist's mates. Like MM1(SS) John S. Hakala, Sailors in this rating are responsible for the operation of the various engines, compressors and air conditioning equipment aboard ship.



Photo by JO1 Rodney Furry

Navy Enlisted Ratings

1.2 Million

Number of eggs served for breakfast aboard USS John F. Kennedy during a recent six month deployment.



Source: USS John F. Kennedy



FC
Fire Controlman

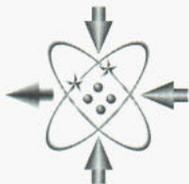


GM
Gunner's Mate
(used at pay grade E-7 and above)
GMG (Guns)
GMM (Missiles)



FT
Fire Control Technician

▼ Food preparation is what mess management specialists, like MS2(SS) Ronald R. Sturtz, are best known for. But they must also know how to manage the entire operation of a Navy dining facility or bachelor quarters.



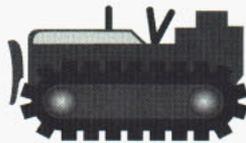
DS
Data Systems Technician



EN
Engineman



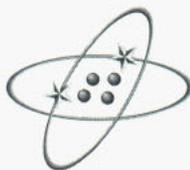
DT
Dental Technician



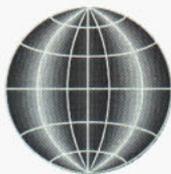
EO
Equipment Operator
(becomes EQCM at pay grade E-9)



EA
Engineering Aide
(becomes CUCM at pay grade E-9)



ET
Electronics Technician



EM
Electrician's Mate



EW
Electronic Warfare Technician



Photo by JO1 Rodney Furry



Photo by AM Joe Hendricks



IM
Instrumentman



JO
Journalist



LI
Lithographer



GS
Gas Turbine System
Technician
(used at pay grade
E-8 and E-9)

▲ GMGSN Harmony Wright of Grand Junction, Colo., inspects an M-14 rifle on board USS *Barry* (DDG 52). Gunner's mates are responsible for operating, maintaining and repairing the Navy's guns and guided-missile launching systems.

● Maintaining, testing and replacing aircraft engines are the duties of the aviation machinist's mate. AD3 Zandy Marsh of Wichita Falls, Texas, works on a J52P8C engine while deployed aboard USS *Enterprise* (CVN 65).



HM
Hospital Corpsman



IC
Interior Communications
Electrician



HT
Hull Maintenance
Technician



IS
Intelligence Specialist

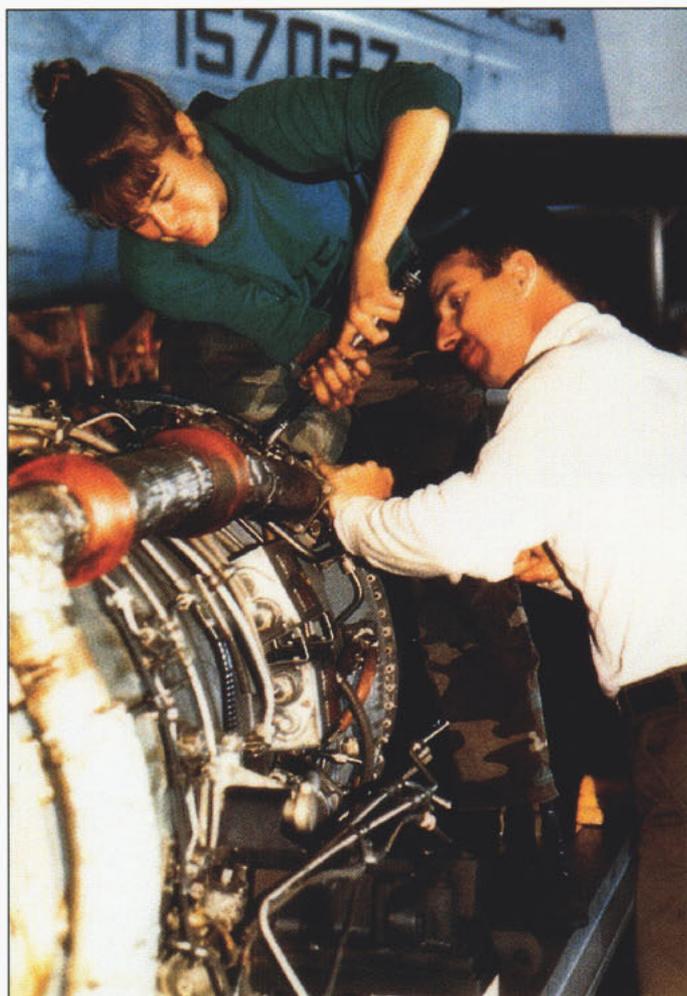
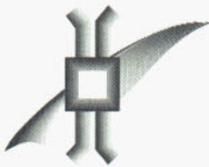


Photo by PH2 Matt Hostetler

Navy Enlisted Ratings



LN
Legalman



MR
Machinery Repairman



Photo by AN Colin R. Koestler

▲ AMH3 Marco A. Reyes works on the hydraulic lines of an S-3B *Viking* aircraft. Aviation structural mechanics are trained in the maintenance and repair of aircraft exteriors, landing gear, hydraulic systems and safety equipment.



MA
Master-at Arms



MM
Machinist's Mate



MN
Mineman



MS
Mess Management Specialist

Do You Know...

Anyone with the desire to be a Fleet Sailor?

Call 1-800-USA-NAVY



MT
Missile Technician



NC
Navy Counselor



MU
Musician



OM
Opticalman

● A torpedoman's mate does much more than maintain torpedo systems. As weapons experts they are called upon for other duties. TM2 Melton L. Ford of Greenville, Miss., takes over a .50-caliber gun mount aboard USS *Enterprise* (CVN 65).

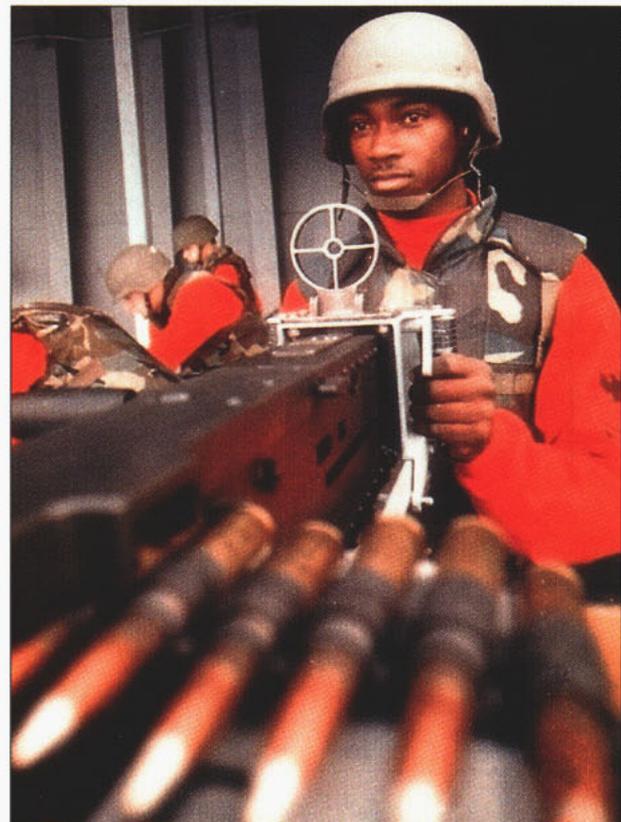


Photo by PH3 Oscar Espinoza



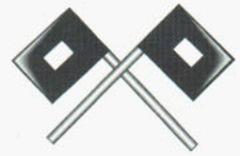
OS
Operation's Specialist



RM
Radioman



SH
Ship's Serviceman



SM
Signalman



PC
Postal Clerk



PH
Photographer's Mate



PN
Personnelman



PR
Aircrew Survival
Equipmentman



Photo by PH2 John K. Sokolowski

▲ Aviation electronics technicians are responsible for troubleshooting, maintaining and repairing many electronic systems aboard high-tech naval aircraft. Here, AT3 Gabrielle Hickman of Fighter Squadron (VF) 101, gives the thumbs-up during launch operations aboard USS *George Washington* (CVN 73).



ST
Sonar Technician
STG (Surface)
STS (Submarine)



SW
Steelworker
*(becomes CUCM at
pay grade E-9)*



TM
Torpedoman's Mate



UT
Utilitiesman
*(becomes UCCM at
pay grade E-9)*



QM
Quartermaster



RP
Religious Program
Specialist



SK
Storekeeper



YN
Yeoman

Super Hornet

The *Super Hornet* is an all-weather, day and night, multimission strike fighter that is harder to find, harder to hit, and harder to disable.

Both the single-seat E and two-seat F models offer longer range, greater endurance, more payload-carrying capability, more powerful engines, increased carrier bring-back capability, enhanced survivability and a renewed potential for future growth.

The first production F/A-18E/F *Super Hornets* will enter service with the U.S. Navy in 1999. The first operational squadron of *Super Hornets* will be ready for deployment in 2001.

Statistics:

Primary Function: Multirole attack and fighter aircraft

Contractor: The Boeing Company

Unit Cost: \$35 million

Propulsion: Two F414-GE-400 turbofan engines

Thrust: 22,000 pounds (9,977 kg) static thrust per engine

Length: 60.3 feet (18.5 meters)

Height: 16 feet (4.87 meters)

Maximum Take Off Gross Weight: 66,000 pounds (29,932 kg)

Wingspan: 44.9 feet (13.68 meters)

Ceiling: 50,000+ feet

Speed: Mach 1.8+

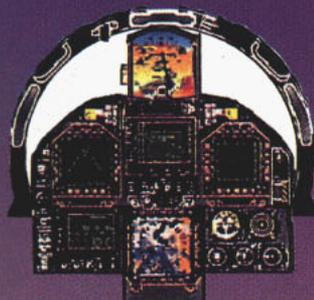
Crew: E model - One; F model - Two

Armament: One 20mm MK-61A1 *Vulcan* cannon

External payload: AIM 9 *Sidewinder*, AIM 7 *Sparrow*, AIM-120 *AMRAAM*, *Harpoon*, *HARM*, *Shrike*, *SLAM*, *SLAM-ER*, *Walleye*, *Maverick* missiles; Joint Stand-Off Weapon (JSOW); Joint Direct Attack Munition (JDAM); various general purpose bombs, mines and rockets.

First Flight: December 1995

First Carrier Landing: January 1997

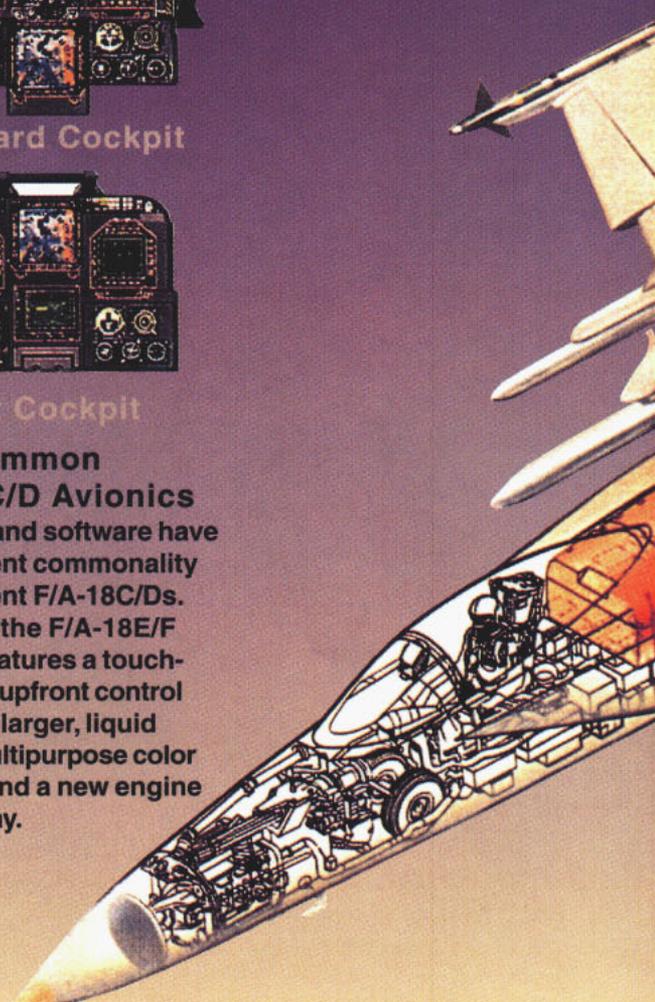


Forward Cockpit



Aft Cockpit

90% Common F/A-18C/D Avionics
Avionics and software have a 90 percent commonality with current F/A-18C/Ds. However, the F/A-18E/F cockpit features a touch-sensitive, upfront control display; a larger, liquid crystal multipurpose color display; and a new engine fuel display.



34 in. Fuselage Extension

The fuselage is slightly longer — the result of a 34-inch extension.



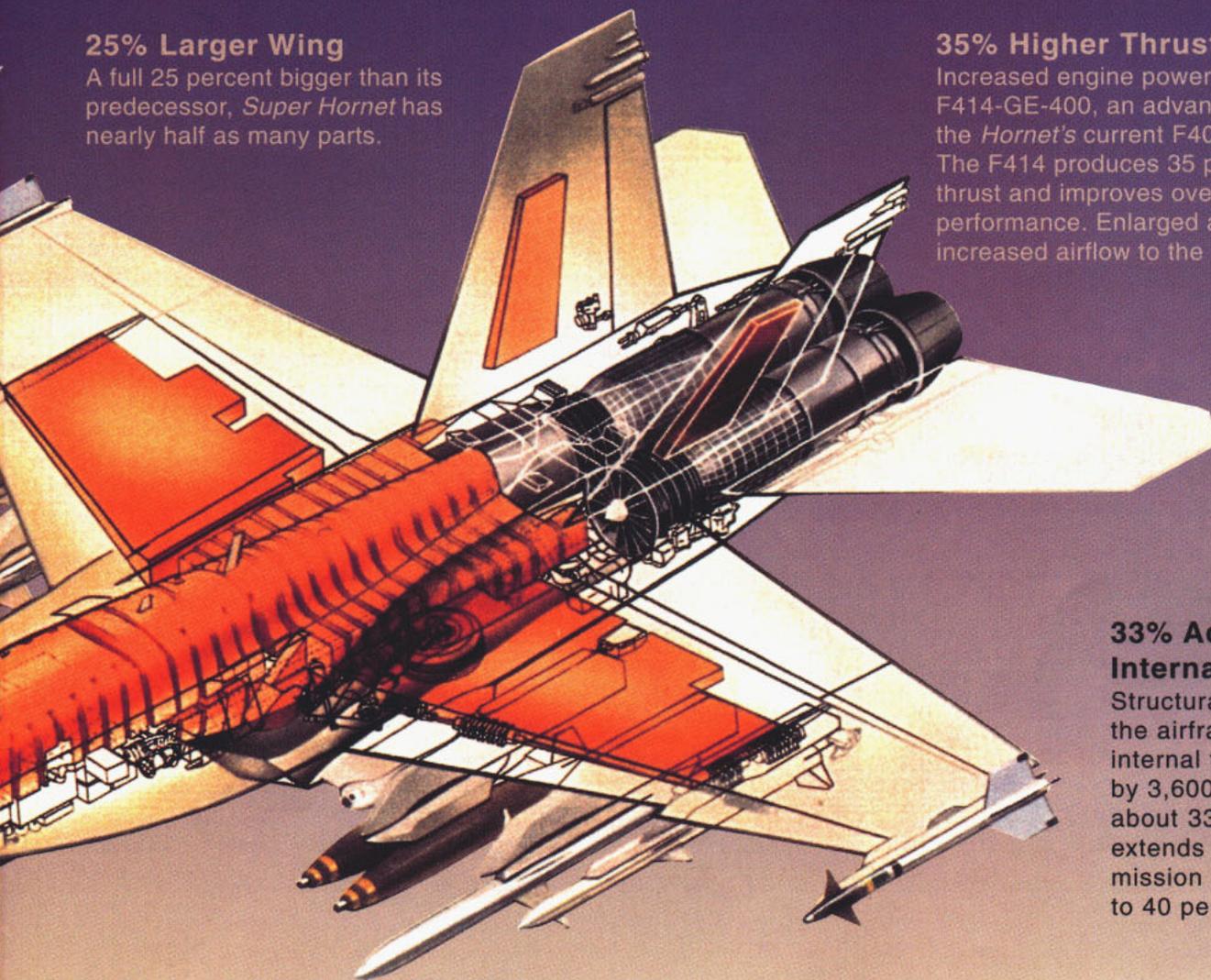
Flying into the future

25% Larger Wing

A full 25 percent bigger than its predecessor, *Super Hornet* has nearly half as many parts.

35% Higher Thrust Engines

Increased engine power comes from the F414-GE-400, an advanced derivative of the *Hornet's* current F404 engine family. The F414 produces 35 percent more thrust and improves overall mission performance. Enlarged air inlets provide increased airflow to the engines.



33% Additional Internal Fuel

Structural changes to the airframe increase internal fuel capacity by 3,600 pounds, or about 33 percent. This extends the *Hornet's* mission radius by up to 40 percent.

Two Additional Multi-Mission Weapons Stations

Super Hornet has two additional weapons stations, bringing the total to 11. For aircraft carrier operations, about three times more payload can be brought back to the ship.



Photos & art courtesy of
McDonnell Aircraft &
Missile Systems



Hot Link

To learn more about the *Super Hornet* check out this web site: <http://www.navy.mil/navpalib/aircraft/fa18/shornet.html>



Fighters, Bombers & Tactical Aircraft

F/A-18 Hornet

The F/A-18 *Hornet*, an all-weather aircraft, is used as an attack aircraft as well as a fighter. In its fighter mode, the F/A-18 is used primarily as a fighter escort and for fleet air defense; in its attack mode, it is used for force projection, interdiction and close and deep air support.



Wingspan: 37 ft., 6 inches
 Length: 56 ft.
 Height: 15 ft., 3.5 in.
 Speed: Mach 1.8+
 Range: 2,073 miles
 Armament: 20mm M-61A1 *Vulcan* cannon; *Sparrow III* missile (fighter); *Sidewinder* missile (fighter); Guided /conventional air-to-ground ordnance (attack); *Harpoon* & *HARM* missiles
 Crew: 1 (A, C & E); 2 (B, D & F)

VF A-83 Rampagers
 VF A-86 Sidewinders
 VF A-87 Golden Warriors
 VF A-94 Mighty Shrikes
 VF A-97 Warhawks
 VF A-105 Gunslingers
 VF A-106 Gladiators
 VF A-113 Stingers
 VF A-115 Eagles
 VF A-131 Wildcats
 VF A-132 Privateers
 VF A-136 Knighthawks
 VF A-137 Kestrels
 VF A-146 Blue Diamonds
 VF A-147 Argonauts
 VF A-151 Fighting Vigilantes
 VF A-192 World Famous Golden Dragons
 VF A-195 Dambusters
 VF A-203 Blue Dolphins
 VF A-204 River Rattlers

Marine Corps squadrons

VMFA-112 Cowboys
 VMFA-115 Silver Eagles
 VMFA-122 Crusaders

VMFA-321 Hells Angels
 VMFA-323 Death Rattlers
 VMFA-332 Moonlighters

F-14 Tomcat

The F-14 *Tomcat* is a supersonic, twin-engine, variable sweep wing, fighter designed to attack and destroy enemy aircraft at night and in all weather conditions. The F-14 can track up to 24 targets simultaneously with its advance weapons control system and attack six with *Phoenix* AIM-54A missile while continuing to scan the airspace.



Wingspan: 64 ft. (unswept);
 38 ft. (swept)
 Length: 61 ft., 8 inches
 Height: 16 ft.
 Speed: Mach 2+
 Range: 2,300 miles
 Armament: AIM-54s, AIM-7s and AIM-9s
 Air-to-ground ordnance;
 20mm M-61A1 *Vulcan* cannon
 Crew: 2

VF-2 Bounty Hunters
 VF-11 Red Rippers
 VF-14 Tophatters
 VF-31 Tomcatters
 VF-32 Swordsmen
 VF-41 Black Aces
 VF-101 Grim Reapers
 VF-102 Diamondbacks
 VF-103 Jolly Rogers
 VF-143 Puking Dogs
 VF-154 Black Knights
 VF-201 Hunters
 VF-211 Checkmates
 VF-213 Black Lions

Photo by PH3 Williams J. Kipp Jr.



Navy squadrons

VFA-15 Valions
 VFA-22 Fighting Redcocks
 VFA-25 Fist of the Fleet
 VFA-27 Royal Maces
 VFA-37 Bulls
 VFA-81 Sunliners
 VFA-82 Marauders

VMFA-124 Whisling Death
 VMFA-134 The Smoke
 VMFA-142 Flying Gators
 VMFA-212 Lancers
 VMFA-232 Red Devils
 VMFA-251 Thunderbolts
 VMFA-312 Checker Boards
 VMFA-314 Black Knights

EA-6B Prowler

The EA-6B *Prowler* provides an umbrella of protection over strike aircraft and ships by jamming enemy radar, electronic data links and communications. It is a twin-engine, mid-wing aircraft designed for carrier and advanced base operations. The *Prowler* is a fully integrated electronic warfare system combining long-range, all-weather capabilities with advanced electronic countermeasures.



Photo by PH3 Joe Hendricks



Wingspan: 53 ft.
 Length: 59 ft., 10 inches
 Height: 16 ft., 3 inches
 Speed: 610 mph
 Range: 1,099 miles
 Armament: *HARM* missiles
 Crew: 4

Navy squadrons

- VAQ-129 Vikings
- VAQ-130 Zappers
- VAQ-131 Lancers
- VAQ-132 Scorpions
- VAQ-133 Wizards
- VAQ-134 Garudas
- VAQ-135 Black Ravens
- VAQ-136 Gauntlets
- VAQ-137 Rooks
- VAQ-138 Yellowjackets
- VAQ-139 Cougars
- VAQ-140 Patriots
- VAQ-141 Shadowhawks
- VAQ-142 Gray Wolves
- VAQ-209 Star Warriors

Marine Corps squadrons

- VMAQ-1 Banshees
- VMAQ-2 Panthers
- VMAQ-3 Moondogs
- VMAQ-4 Seahawks

S-3B Viking

The S-3B *Viking* is a jet aircraft used in the detection and attack of submarines and as an armed scout in the anti-surface role. Extremely versatile, the *Viking* is also equipped for tanking, mining and limited electronic surveillance. S-3B's high speed computer system processes information generated by acoustic and non-acoustic target sensor systems.



Wingspan: 68 ft., 8 inches
 Length: 53 ft., 4 inches
 Height: 22 ft., 9 inches
 Speed: 518 mph
 Range: 2,645 miles
 Armament: *Harpoon* missiles; rockets; mines; torpedoes; depth charges

Crew: 4

- VS-21 Fighting Redtails
- VS-22 Checkmates
- VS-24 Scouts
- VS-29 Dragonfires
- VS-30 Diamond Cutters
- VS-31 Top Cats
- VS-32 Maulers
- VS-33 Screwbirds
- VS-35 Blue Wolves
- VS-38 Red Griffins
- VS-41 Shamrocks

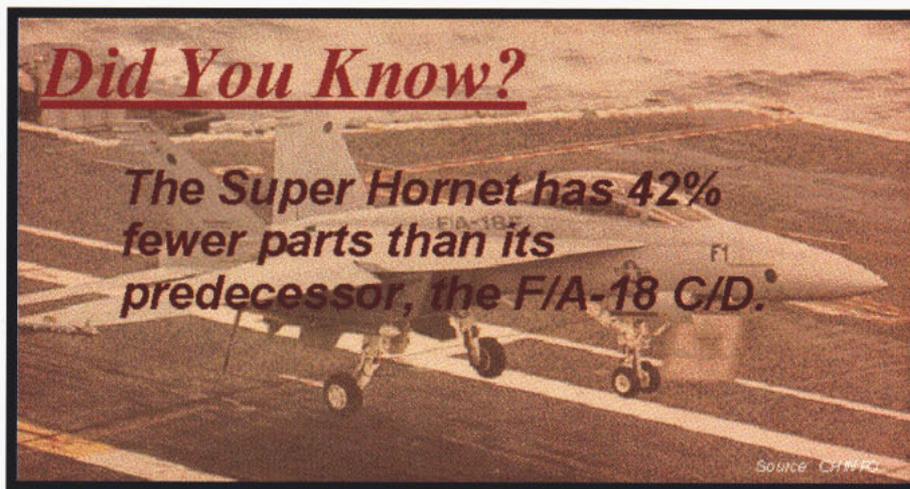
P-3C Orion

The P-3C *Orion* is a land-based, long range anti-submarine warfare (ASW) patrol aircraft. Using sonobuoys and magnetic anomaly detection equipment, the P-3C detects, identifies and destroys enemy submarines.



Wingspan: 99 ft., 8 in.
 Length: 116 ft., 10 in.
 Height: 33 ft., 8 inches
 Speed: 473 mph
 Range: 2,383 miles
 Armament: *Harpoon* missile; MK-46 torpedoes; mines, depth charges; sonobuoys
 Crew: 4

- VP-1 Screaming Eagles
- VP-4 Skinny Dragons
- VP-5 Mad Foxes
- VP-8 Tigers
- VP-9 Golden Eagles
- VP-10 Red Lancers
- VP-16 War Eagles
- VP-26 Tridents
- VP-30 Pro's Nest
- VP-40 Fighting Marlin
- VP-45 Pelicans
- VP-46 Grey Knights
- VP-47 Golden Swordsmen
- VP-62 Broad Arrows
- VP-64 The Condors
- VP-65 Tridents
- VP-66 The Liberty Bells
- VP-69 Totems
- VP-91 Black Cats
- VP-92 Minutemen
- VP-94 Crawfishers





Command & Control Aircraft

E-2C Hawkeye

The E-2C *Hawkeye* is the Navy's all-weather, carrier-based tactical warning and control system aircraft. It provides airborne early warning and command and control functions for the carrier battle group. Additional missions include surface surveillance coordination, strike and interceptor control, search and rescue guidance and communications relay.



Wingspan: 80 ft., 7 in.
 Length: 57 ft., 6 in.
 Height: 18 ft., 4 in.
 Speed: 389 mph
 Range: 1,500 + miles
 Armament: None
 Crew: 5

- VAW-77 Night Wolves
- VAW-78 Fighting Escargot
- VAW-112 Golden Hawks
- VAW-113 Black Eagles
- VAW-115 Liberty Bells
- VAW-116 Sun Kings
- VAW-117 Wallbangers
- VAW-120 Greyhawks



Photo by PH3 Chris Vickers

- VAW-121 Bluetails
- VAW-123 Screwtops
- VAW-124 Bear Aces
- VAW-125 Tigertails
- VAW-126 Seahawks

E-6A Mercury

The E-6A *Mercury* provides secure, survivable, jam resistant strategic communications relay for fleet ballistic missile submarines. It performs the Navy's TACAMO ("Take Charge and Move Out") mission of linking ballistic missile forces with national command authority during time of crisis.



Wingspan: 148 ft., 4 inches
 Length: 152 ft., 11 inches
 Height: 42 ft., 5 inches
 Speed: 610 mph
 Range: 6,700 miles
 Armament: None
 Crew: 14

- VQ-3 Ironman
- VQ-4 Shadows

Transport Aircraft

C-9B Skytrain

The C-9B *Skytrain* is used for fleet logistics support, intratheater airlift and airlifting Naval Reservists to and from training sites.



Wingspan: 93 ft., 3 in.
 Length: 119 ft., 3 in.
 Height: 27 ft., 5 in.
 Speed: 565 mph
 Range: 2,000 miles
 Armament: None
 Crew: 8

- VR-46 Eagles
- VR-52 The Taskmasters
- VR-56 Globemasters
- VR-57 Conquistadores
- VR-58 Sunseekers
- VR-59 Lonestar Express

C-130 Hercules

The C-130 *Hercules*, a four-engine turboprop aircraft, is the workhorse of the military services. Besides hauling people and cargo, it plays a variety of other roles including gun-ships, weather watchers, tankers, fire-fighters and aerial ambulances.



16 Million

Number of spectators who watched the Blue Angels perform in 1997. This is about fifteen times the population of Dallas, Texas.



Source: Blue Angels



Wingspan: 132 ft., 7 inches
 Length: 97 ft., 9 inches
 Height: 38 ft., 3 inches
 Speed: 374 mph
 Range: 2,350 miles w/ max. payload; 5,200 empty

Armament: None; can be fitted with 7.62mm mini-guns, 20mm *Vulcan* cannons, 40mm *Bofors* cannons and 105mm *Howitzer*
 Crew: 5

- VR-54 Revelers
- VR-55 Minutemen
- VR-62 Nor'easters



C-2A Greyhound

The C-2A *Greyhound* provides critical logistics support to aircraft carriers. Its primary mission is carrier on-board delivery. Powered by two T-6 turboprop engines, it can deliver a payload of up to 10,000 lbs.





U.S. Navy photo

Blue Angels 1998 Schedule

March

- 14 NAF El Centro, Calif.
- 21-22 Davis-Monthan AFB,
Tucson, Ariz.
- 28-29 NAS Kingsville, Texas

April

- 4-5 MCAS Beaufort, S.C.
- 18-19 Barksdale AFB, Bossier
City, La.
- 25-26 NAS Norfolk

May

- 2-3 Ft. Lauderdale, Fla.
- 9-10 Chattanooga, Tenn.
- 16-17 Andrews AFB, Camp
Springs, Md.
- 20 U.S. Naval Academy,
Annapolis, Md.
- 24 NAS Meridian, Miss.
- 30-31 NAS/Joint Reserve Base
Fort Worth, Texas



2,000 Number of autograph pens the Blue Angels go through in a typical year. Source: Bob Perloff

June

- 6-7 Coney Island, N.Y.
- 13-14 Eau Claire, Wis.
- 20-21 Grissom AFRB, Ind.
- 27-28 Niagara Falls, N.Y.

July

- 4-5 Traverse City, Mich.
- 11 Pensacola Beach, Fla.
- 18-19 Dayton, Ohio
- 25-26 Latrobe, Pa.

August

- 1-2 Hanscom AFB, Bedford, Mass.
- 8-9 Seattle
- 14-16 MCAS Miramar, Calif.
- 22-23 Chicago
- 29-30 Offutt AFB, Neb.

September

- 5-7 Chesterfield, Mo.
- 12-13 Halifax, Nova Scotia
- 19-20 Warner Robins AFB, Ga.
- 26-27 Reading, Pa.

October

- 3-4 Stockton, Calif.
- 10-11 San Francisco
- 17-18 Houston
- 24-25 NAS Jacksonville, Fla.
- 31 NAS/Joint Reserve Base
New Orleans

November

- 1 NAS New Orleans
- 6-7 NAS Pensacola, Fla.



U.S. Navy photo

Training Aircraft

T-45A Goshawk

The T-45A *Goshawk* is used for intermediate and advanced portions of the Navy pilot training program for jet carrier aviation and tactical strike missions.



Wingspan: 80 ft., 7 inches
 Length: 56 ft., 10 inches
 Height: 15 ft., 11 inches
 Speed: 357 mph
 Range: 1,796 miles
 Armament: None
 Crew: 4

VRC-30 Providers
 VRC-40 Rawhides

Wingspan: 30 ft., 10 inches
 Length: 39 ft., 4 inches
 Height: 14 ft.
 Speed: 620 mph
 Range: 1150 miles
 Armament: None
 Crew: 2 (instructor, student)

VT-21 Redhawks
 VT-22 Golden Eagles



Helicopters

SH-60 Seahawk

The SH-60 *Seahawk* is a twin-engine helicopter used for anti-submarine warfare, search and rescue, drug interdiction, anti-ship warfare, cargo lift and special operations. It is an air platform based aboard cruisers, destroyers and frigates.

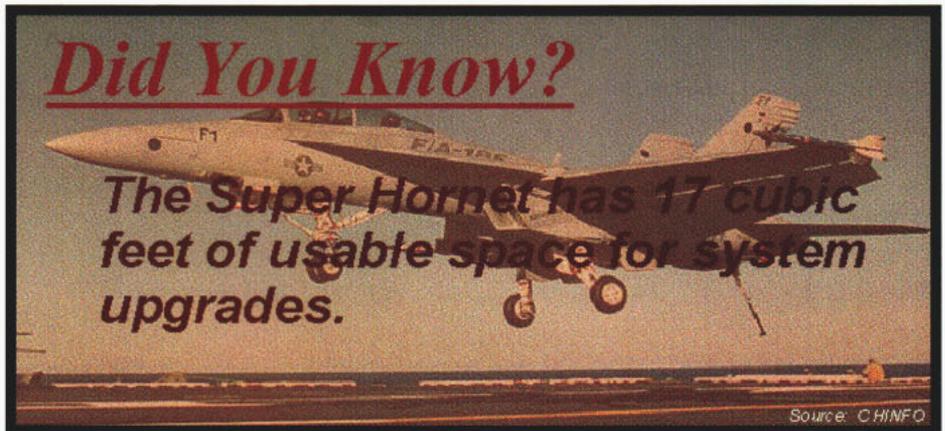


Length: 64 ft., 10 in.
 Height: 17 ft.
 Speed: 144 mph
 Range: 380+ miles
 Armament: 2 MK-46 torpedoes
 Crew: 3

- HS-2 Golden Falcons
- HS-3 Tridents
- HS-4 Black Knights
- HS-5 Nightdippers
- HS-6 Indians
- HS-7 Shamrocks
- HS-8 Eight-balls
- HS-10 War Hogs
- HS-11 Dragonslayers
- HS-14 Chargers
- HS-15 Red Lions
- HSC-4 Red Wolves
- HSC-5 Firehawks
- HSL-37 Easy Riders
- HSL-40 Airwolves
- HSL-41 Seahawks
- HSL-42 Proud Warriors
- HSL-43 Battle Cats
- HSL-44 Swamp Fox
- HSL-45 Wolfpack
- HSL-46 Grandmasters
- HSL-47 Saberhawks
- HSL-48 Vipers
- HSL-51 Warlords

CH-46 Sea Knight

The CH-46D *Sea Knight* is used by the Navy for shipboard delivery of cargo and personnel. Additional tasks such as combat support, search and rescue, aeromedic evacuation of casualties may be assigned.



Length: 46 ft.
 Height: 17 ft.
 Speed: 165 mph
 Range: 132+ miles
 Armament: None
 Crew: 4

- HMM-365 Blue Knights
- HMM-764 Moonlighters
- HMT-204 White Knights

Navy squadrons

- HC-3 Pack-Rats
- HC-5 Providers
- HC-6 Chargers
- HC-8 Dragon Whales
- HC-11 Gunbearers

Marine Corps squadrons

- HMM-161 Greyhawks
- HMM-162 Golden Eagles
- HMM-163 Ridgerunners
- HMM-164 Knightriders
- HMM-165 White Knights
- HMM-166 Sea Elks
- HMM-261 Raging Bulls
- HMM-263 Thunder Eagles
- HMM-264 Black Knights
- HMM-266 Fighting Griffins
- HMM-268 Red Dragons
- HMM-364 Purple Foxes

CH-53 Sea Stallion

The CH-53 *Sea Stallion* transports personnel, supplies and equipment in support of amphibious and shore operations. Other variants of CH-53 are the RH-53P and the MH53E, which are used for mine counter-measures.



Length: 67 ft., 5 in.
 Height: 24 ft., 11 in.
 Speed: 184 mph
 Range: 665 miles
 Armament: None
 Crew: 3

Navy squadron

- HC-4 Black Stallions



Photo by PH2 James E. Perkins

PH3 Williams J. Kipp, Jr.



H-3H Sea King

The H-3H is a twin engine, all-weather helicopter used to detect, classify, track and destroy enemy submarines. It also provides logistic support and search and rescue capability. The UH-3H and VH-3 are configured for combat support roles.



Length: 54 ft., 9 in.
 Height: 17 ft.
 Speed: 136 mph
 Range: 623 miles
 Armament: Two MK-46 torpedoes
 Crew: 4

HC-2 Fleet Angels
 HC-85 Golden Gators
 HS-75 Emerald Knights

SH-2G Seasprite

The SH-2G *Seasprite* is a ship-based helicopter with anti-submarine, anti-surface threat capability, including over-the-horizon targeting. It extends and increases ship-board sensor and weapon capabilities against several types of enemy threats.

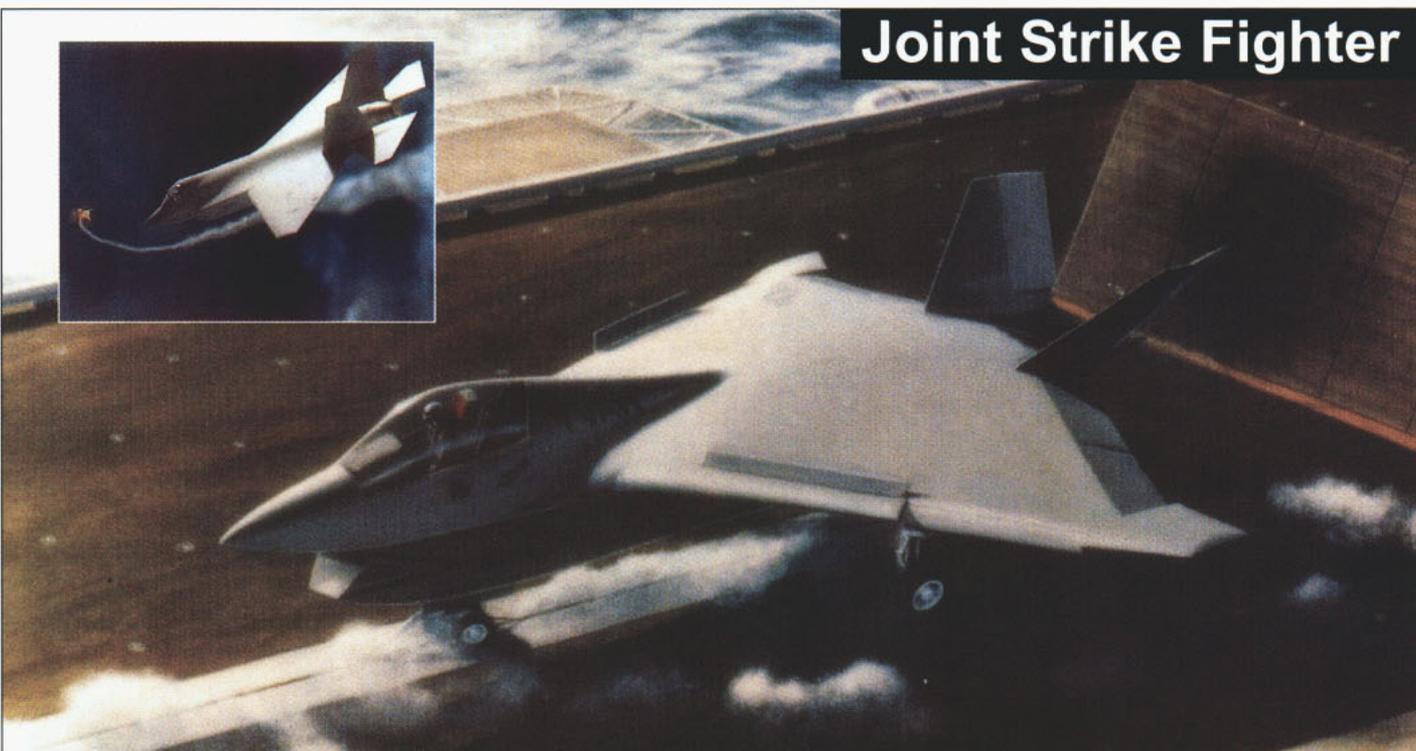


Length: 52 ft., 9 in.
 Height: 15 ft.
 Speed: 172.5 mph
 Range: 391 miles
 Armament: Two MK-46/MK-50 torpedoes
 Crew: 3

HSL-84 Thunderbolts
 HSL-94 Titans

Marine Corps squadrons

HMH-361 Flying Tigers
 HMH-362 Ugly Angels
 HMH-363 Red Lions
 HMH-461 Iron Horses
 HMH-462 Heavy Haulers
 HMH-464 Condors
 HMH-465 War Horses
 HMH-466 Wolfpack
 HMH-772 Hustlers
 HMT-301 Windwalkers
 HMT 302 Phoenix
 HMT 303 Atlas



Joint Strike Fighter

Artist conceptions: provided by Boeing and Lockheed Martin (inset)

The carrier-based version of the JSF will provide first-day-of-the-war survivable strike capability, combined with outstanding low-speed flight handling characteristics. JSF will have a stronger internal structure, landing gear and arresting hook design for catapult launch and arrested landing.

- 24,000-pound class empty weight
- 36-foot wing span with no wing fold
- Internal & external payload capability
- Multirole supersonic aircraft

DD 21 A New

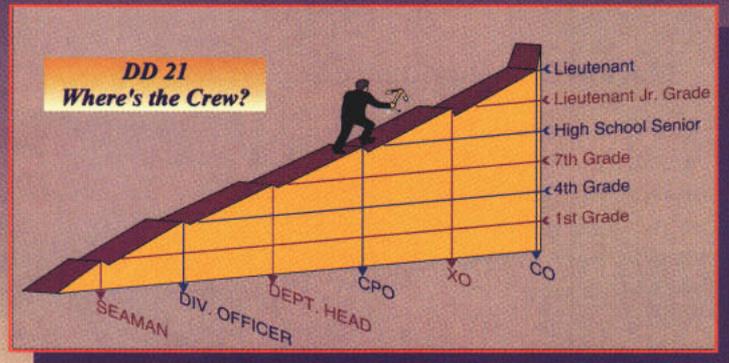
DD 21 is a ship being designed to conquer the technological challenges of the 21st century. Design characteristics such as submarine-like survivability and a significantly reduced radar signature, achieved through a fully integrated topside design, will significantly expand the mission of the surface combatant.

Like today's *Arleigh Burke*-class guided-missile destroyers, DD 21 will be a multi-mission ship, capable of providing forward presence and deterrence, and operating as a vital part of naval, joint and combined maritime forces to gain battlespace dominance in littoral operations. But unlike today's destroyers, DD 21's primary mission will be land attack support for ground forces. Armed with 5-inch/62 extended range guided munitions and 155mm *Howitzers*, the ship will provide naval gunfire support up to 100 miles inland. A land attack missile system will extend support between 100 and 200 miles. Tactical *Tomahawk* missiles will be able to reach targets from 200 to 1,600 nautical miles.

DD 21 will have the most advanced undersea warfare combat systems ever installed on a surface combatant. The ship's hangar will house attack helicopters as well as a system of unmanned aerial vehicles (UAV). In concert with other ships, DD 21 will contribute surveillance and force to establish and maintain local air superiority.

The DD 21 program emphasizes more than just improved offensive and defensive capabilities. Because DD 21's design will incorporate only the most advanced systems and materials on the market today, ships of the class can remain battle-ready with minimal maintenance and greatly reduced manpower. The current target manning requirement for DD 21 is 95 crewmembers.

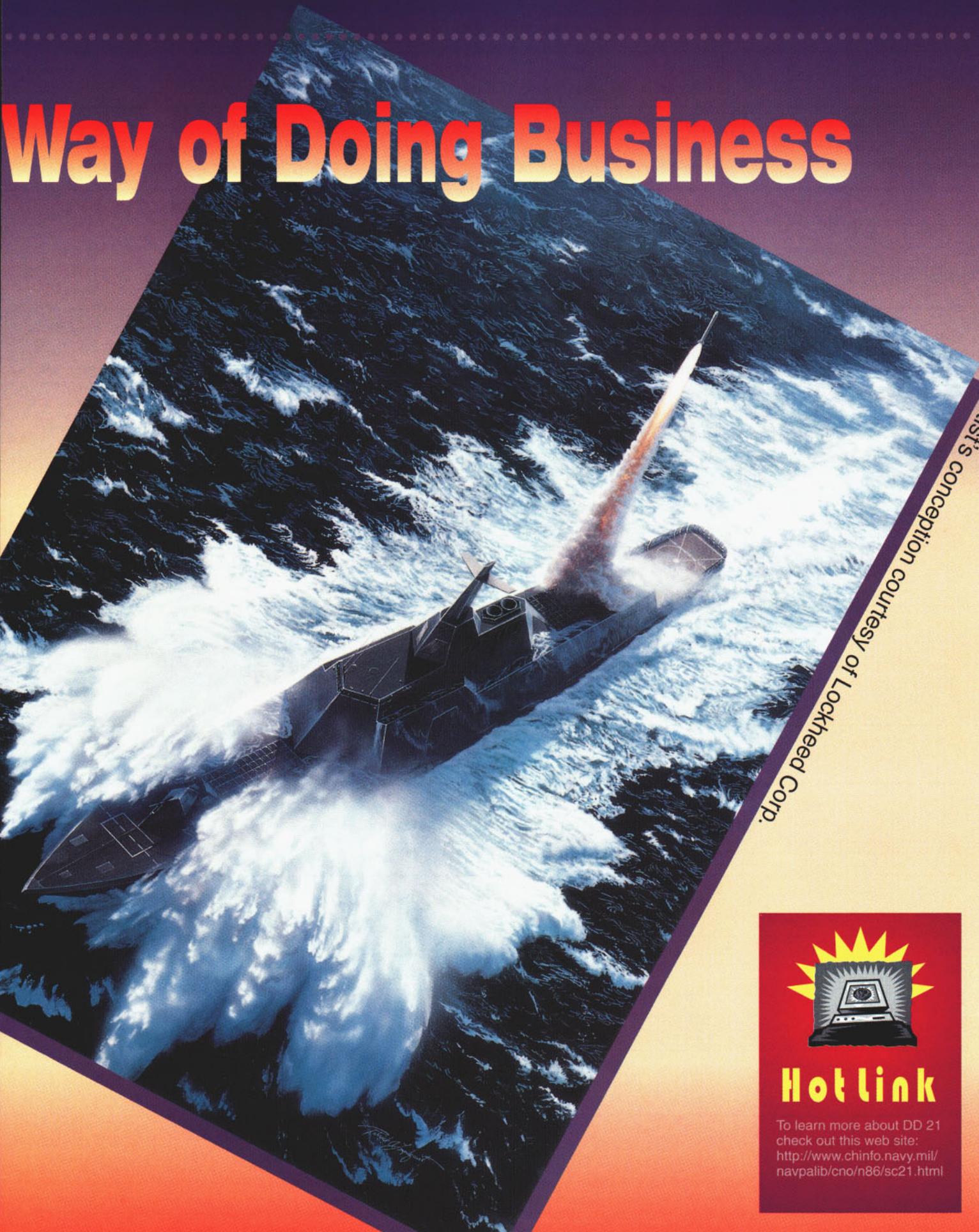
DD 21 will be a smart ship, manned with an elite crew, ready to further the Navy's mission of "Forward ...From the Sea."



"Our 21st century surface force is being reshaped to give us broader capability to influence events ashore."

Admiral Jay L. Johnson
Chief of Naval Operations

Way of Doing Business



Artist's conception courtesy of Lockheed Corp.



Hot link

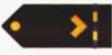
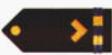
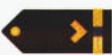
To learn more about DD 21
check out this web site:
[http://www.chinfo.navy.mil/
navpalib/cno/n86/sc21.html](http://www.chinfo.navy.mil/navpalib/cno/n86/sc21.html)

Navy Ranks & Rates

Rank Insignia of Navy Commissioned Officers (O)

Pay Grade/Rank	Hat, shoulder, collar	Shoulder boards	Sleeve
O-1 Ensign	gold 		
O-2 Lieutenant Junior Grade	silver 		
O-3 Lieutenant	silver 		
O-4 Lieutenant Commander	gold 		
O-5 Commander	silver 		
O-6 Captain	silver 		
O-7 Rear Admiral (Lower Half)	silver 		
O-8 Rear Admiral (Upper Half)	silver 		
O-9 Vice Admiral	silver 		
O-10 Admiral	silver 		
O-11 Fleet Admiral	silver 		

Rank Insignia of Navy Warrant Officer (W)

Pay Grade/Rank	Hat, shoulder, collar	Shoulder boards	Sleeve
W-1 Chief Warrant Officer			
W2 Chief Warrant Officer			
W-3 Chief Warrant Officer			
W-4 Chief Warrant Officer			

Rate Insignia of Navy Enlisted People (E)

Pay Grade/Rate	Hat and collar	Sleeve
E-1 Seaman Recruit		
E-2 Seaman Apprentice		
E-3 Seaman		
E-4 Petty Officer Third Class		
E-5 Petty Officer Second Class		
E-6 Petty Officer First Class		
E-7 Chief Petty Officer		
E-8 Senior Chief Petty Officer		
E-9 Master Chief Petty Officer		
E-9 Master Chief Petty Officer Of The Navy		

Line /Staff / Warrant Officer Corps Devices

								
Line	Supply Corps	Medical Corps	Nurse Corps	Medical Service Corps	Dental Corps	Judge Advocate General Corps	Law Community	
								
Christian Chaplain	Jewish Chaplain	Civil Engineer	Ship's Clerk	Diving Officer	Ordnance Technician	Cryptologic Technician	Repair Technician	Security Technician
								
Boatswain	Data Processing Technician	Engineering/ Nuclear Power Technician	Aerographer	Air Traffic Control Technician	Aviation Boatswain	Aviation Electronics Technician	Aviation Ordnance Technician	

* Device for Explosive Ordnance Disposal not pictured

** Device for Muslim Chaplain still under review

ALL HANDS FY98 Monthly Basic Pay Chart

Cumulative Years of Service

Pay Grade	Under 2	Over 2	Over 3	Over 4	Over 6	Over 8	Over 10	Over 12	Over 14	Over 16	Over 18	Over 20	Over 22	Over 24	Over 26
Enlisted Members															
E-9	As a senior enlisted advisor of a military service, E-9 basic pay is \$4325.10.														
E-8	0.00	0.00	0.00	0.00	0.00	2328.90	2396.10	2458.80	2522.70	2589.60	2648.40	2713.50	2873.10	3000.90	3193.50
E-7	1626.30	1755.60	1820.10	1884.30	1948.50	2010.60	2074.80	2139.60	2236.20	2299.80	2363.40	2394.30	2555.10	2628.30	2873.10
E-6	1398.90	1524.90	1588.20	1655.70	1718.10	1779.90	1845.30	1940.10	2001.30	2065.80	2097.00	2097.00	2097.00	2097.00	2097.00
E-5	1227.60	1336.20	1401.00	1462.20	1558.20	1621.80	1685.70	1748.10	1779.90	1779.90	1779.90	1779.90	1779.90	1779.90	1779.90
E-4	1144.80	1209.30	1280.40	1379.10	1433.70	1433.70	1433.70	1433.70	1433.70	1433.70	1433.70	1433.70	1433.70	1433.70	1433.70
E-3	1079.10	1137.90	1183.20	1230.30	1230.30	1230.30	1230.30	1230.30	1230.30	1230.30	1230.30	1230.30	1230.30	1230.30	1230.30
E-2	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30	1038.30
E-1	926.10														
E-1 <4	856.80														
Midn	558.04														
Warrant Officers															
W-4	2387.40	2561.70	2561.70	2619.90	2739.30	2859.90	2979.90	3188.10	3336.30	3453.60	3546.00	3660.30	3782.70	3900.60	4077.60
W-3	2169.90	2353.80	2253.80	2384.10	2412.00	2588.40	2739.30	2828.70	2918.40	3005.70	3099.00	3219.90	3336.30	3336.30	3453.60
W-2	1900.50	2056.20	2056.20	2115.90	2231.70	2353.80	2443.20	2532.60	2619.90	2712.00	2801.10	2889.00	3005.70	3005.70	3005.70
Commissioned Officers															
O-10	7566.30	7832.40	7832.40	7832.40	7832.40	8133.00	8133.00	8583.60	8583.60	9197.70	9197.70	9813.60*	9813.60*	9813.60*	10424.00*
O-9	6705.60	6881.40	7028.10	7028.10	7028.10	7206.60	7206.60	7506.60	7506.60	8133.00	8133.00	8583.60	8583.60	8583.60	9197.70
O-8	6073.50	6255.90	6404.10	6404.10	6404.10	6881.40	6881.40	7206.60	7206.60	7506.60	7832.40	8133.00	8333.70	8333.70	8333.70
O-7	5046.60	5389.80	5389.80	5389.80	5631.60	5631.60	5958.00	5958.00	6255.90	6881.40	7354.80	7354.80	7354.80	7354.80	7354.80
O-6	3740.40	4109.40	4379.10	4379.10	4379.10	4379.10	4379.10	4379.10	4527.90	5243.70	5511.30	5631.60	5958.00	6159.30	6461.70
O-5	2991.90	3512.70	3755.70	3755.70	3755.70	3755.70	3868.80	4077.60	4350.90	4676.70	4944.30	5094.60	5272.50	5272.50	5272.50
O-4	2521.50	3070.80	3275.40	3275.40	3336.30	3483.30	3721.20	3930.30	4109.40	4290.30	4407.90	4407.90	4407.90	4407.90	4407.90
O-3	2343.30	2619.90	2801.10	3099.00	3247.50	3363.60	3546.00	3721.20	3812.40	3812.40	3812.40	3812.40	3812.40	3812.40	3812.40
O-2	2043.60	2231.70	2681.10	2771.40	2828.70	2828.70	2828.70	2828.70	2828.70	2828.70	2828.70	2828.70	2828.70	2828.70	2828.70
O-1	1774.20	1846.50	2231.70	2231.70	2231.70	2231.70	2231.70	2231.70	2231.70	2231.70	2231.70	2231.70	2231.70	2231.70	2231.70

* Maximum amount that can be paid is \$9225.

Officers With More Than Four Years Active Duty as Enlisted or Warrant

O-3E	0.00	0.00	0.00	3099.00	3247.50	3363.60	3546.00	3721.20	3868.80	3868.80	3868.80	3868.80	3868.80	3868.80	3868.80
O-2E	0.00	0.00	0.00	2771.40	2828.70	2918.40	3070.80	3188.10	3275.40	3275.40	3275.40	3275.40	3275.40	3275.40	3275.40
O-1E	0.00	0.00	0.00	2231.70	2384.10	2471.70	2561.70	2650.50	2771.40	2771.40	2771.40	2771.40	2771.40	2771.40	2771.40

NOTE: The Basic Allowance for Quarters is being replaced by a new basic allowance for housing (BAH). The new BAH amounts will be published in an upcoming issue.

Aviation Career Incentive Pay

Phase I		Phase II	
Years of Aviation Service	Monthly Amount	Years of Service as an Officer	Monthly Amount
2 or less	\$125	Over 18	\$585
Over 2	\$156	Over 20	\$495
Over 3	\$188	Over 22	\$385
Over 4	\$206	Over 25	\$250
Over 6	\$650		

Hazardous Duty Incentive Pay

E-7 to E-9	\$200	W-1	\$150
E-6	\$175	O-7 to O-10	\$150
E-5	\$150	O-5 to O-6	\$250
E-4	\$150	O-4	\$225
E-1 to E-3	\$150	O-3	\$175
W-4 to W-5	\$250	O-2	\$150
W-3	\$175	O-1	\$150
W-2	\$150		

Monthly Submarine Pay Chart

Pay Grade	2 or less	Over 2	Over 3	Over 4	Over 6	Over 8	Over 10	Over 12	Over 14	Over 16	Over 18	Over 20	Over 22	Over 24	Over 26
Enlisted Members															
E-9	225.00	225.00	225.00	270.00	295.00	310.00	315.00	330.00	345.00	355.00	355.00	355.00	355.00	355.00	355.00
E-8	225.00	225.00	225.00	250.00	270.00	295.00	310.00	315.00	330.00	330.00	345.00	345.00	345.00	345.00	345.00
E-7	225.00	225.00	225.00	250.00	255.00	265.00	275.00	295.00	310.00						
E-6	155.00	170.00	175.00	215.00	230.00	245.00	255.00	265.00							
E-5	140.00	155.00	155.00	175.00	190.00	195.00									
E-4	80.00	90.00	100.00	170.00	175.00										
E-3	80.00	90.00	100.00	170.00	175.00	90.00									
E-2	75.00	90.00													
E-1	75.00														
Warrant Officer															
W-2 to W-4	235.00	310.00	310.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00
Commissioned Officers															
O-8 to O-10	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00
O-7	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	540.00	535.00	535.00	410.00	410.00	355.00
O-6	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00
O-5	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00
O-4	365.00	365.00	365.00	405.00	595.00										
O-3	355.00	365.00	365.00	390.00	595.00										
O-2	235.00	235.00	235.00	235.00	235.00	235.00	355.00								
O-1	175.00	175.00	175.00	175.00	175.00	175.00	355.00								

Monthly Career Sea Pay Chart

Pay Grade	1 or less	Over 1	Over 2	Over 3	Over 4	Over 5	Over 6	Over 7	Over 8	Over 9	Over 10	Over 11	Over 12	Over 13	Over 14	Over 16	Over 18	Over 20	
Enlisted Members																			
E-9	100.00	100.00	120.00	175.00	190.00	350.00	350.00	375.00	390.00	400.00	400.00	410.00	420.00	450.00	475.00	520.00			
E-8	100.00	100.00	120.00	175.00	190.00	350.00	350.00	375.00	390.00	400.00	400.00	410.00	420.00	450.00	475.00	500.00	520.00		
E-7	100.00	100.00	120.00	175.00	190.00	350.00	350.00	375.00	390.00	400.00	400.00	410.00	420.00	450.00	475.00	500.00			
E-6	100.00	100.00	120.00	150.00	170.00	315.00	325.00	350.00	350.00	365.00	365.00	365.00	380.00	395.00	410.00	425.00	450.00		
E-5	50.00	60.00	120.00	150.00	170.00	315.00	325.00	350.00											
E-4	50.00	60.00	120.00	150.00	160.00														
Warrant Officers																			
W-4	150.00	150.00	150.00	150.00	170.00	290.00	310.00	310.00	310.00	310.00	350.00	375.00	400.00	400.00	450.00	450.00	500.00		
W-3	150.00	150.00	150.00	150.00	170.00	270.00	280.00	285.00	290.00	310.00	350.00	375.00	400.00	400.00	425.00	425.00	450.00		
W-2	150.00	150.00	150.00	150.00	170.00	260.00	265.00	265.00	270.00	310.00	340.00	340.00	375.00	375.00	400.00				
Commissioned Officers																			
O-6		225.00	230.00	230.00	240.00	255.00	265.00	280.00	290.00	300.00	310.00	310.00	325.00	340.00	355.00	380.00			
O-5		225.00	225.00	225.00	225.00	230.00	245.00	250.00	260.00	265.00	265.00	265.00	265.00	285.00	300.00	315.00	340.00		
O-4		185.00	190.00	200.00	205.00	215.00	220.00	220.00	225.00	225.00	240.00	240.00	270.00	280.00	290.00	300.00			
O-3		150.00	160.00	185.00	190.00	195.00	205.00	215.00	225.00	225.00	240.00	240.00	260.00	270.00	280.00	290.00			
O-2		150.00	160.00	185.00	190.00	195.00	205.00	215.00	225.00	225.00	240.00	240.00	250.00	260.00	270.00	280.00			
O-1		150.00	160.00	185.00	190.00	195.00	205.00	215.00	225.00	225.00	240.00	240.00	250.00	260.00	270.00	280.00			

Proposed 1998 Basic Allowance for Subsistence

Enlisted (Daily) Rations in kind not available

<4mos. \$7.73
All Other \$8.38

On leave or authorized to mess separately

<4mos. \$6.86
All Other \$7.43

Emergency conditions

<4mos. \$10.26
All Other \$11.10

Officers \$155.70 a month

If receiving rations in kind, partial BAS is \$31 per day.

Network Centric Warfare

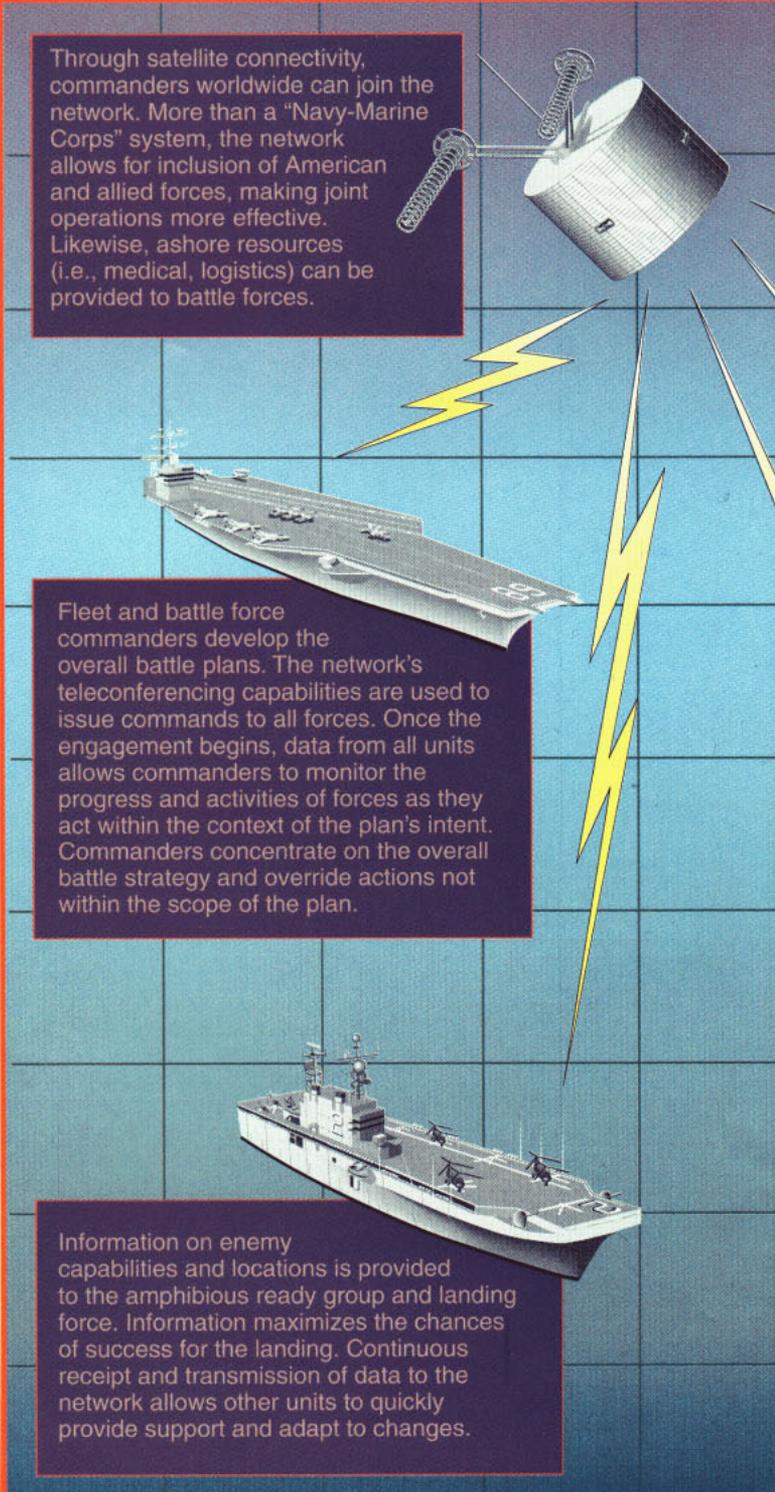
Command, Control, Communications, Computers and Intelligence (C4I) network paves way to the future

As a stand-alone computer user, you strive to get the most out of your machine — more memory, more storage, and faster processing speed all make your computer “platform” a better tool to get the job done. In a local area network environment, the emphasis shifts to making the network faster, stronger and more capable. While it’s important to make sure each individual computer maintains minimum requirements, overall performance is dictated by the network.

Network Centric Warfare, an information network, will use the advances in communication and computing technology to connect widely dispersed and diverse forces into an effective and coordinated team. But the “revolution” is not just about hardware and software, it’s about awareness. Our forces will have a significant information advantage. No longer dependent on information being “passed along,” units can act on changing situations as they happen to exploit weaknesses and counter enemy strategies to accomplish the overall mission. This “speed of command,” a fundamental change in the way the Armed Forces operate, is the cornerstone of this new doctrine.

VADM Arthur K. Cebrowski, director of Space Information Warfare Command and Control, is setting the pace for the Navy’s move to *Network Centric Warfare*. “This revolution in military affairs is driven by the seismic upheaval in information technology that is causing a tidal wave of change throughout society.”

The Navy and Marine Corps will continue to invest in fully-capable ships, aircraft and equipment. But the design of these platforms will center on which part each one plays in the “grid.” It’s a new way of doing business in a changing world.



Through satellite connectivity, commanders worldwide can join the network. More than a “Navy-Marine Corps” system, the network allows for inclusion of American and allied forces, making joint operations more effective. Likewise, ashore resources (i.e., medical, logistics) can be provided to battle forces.

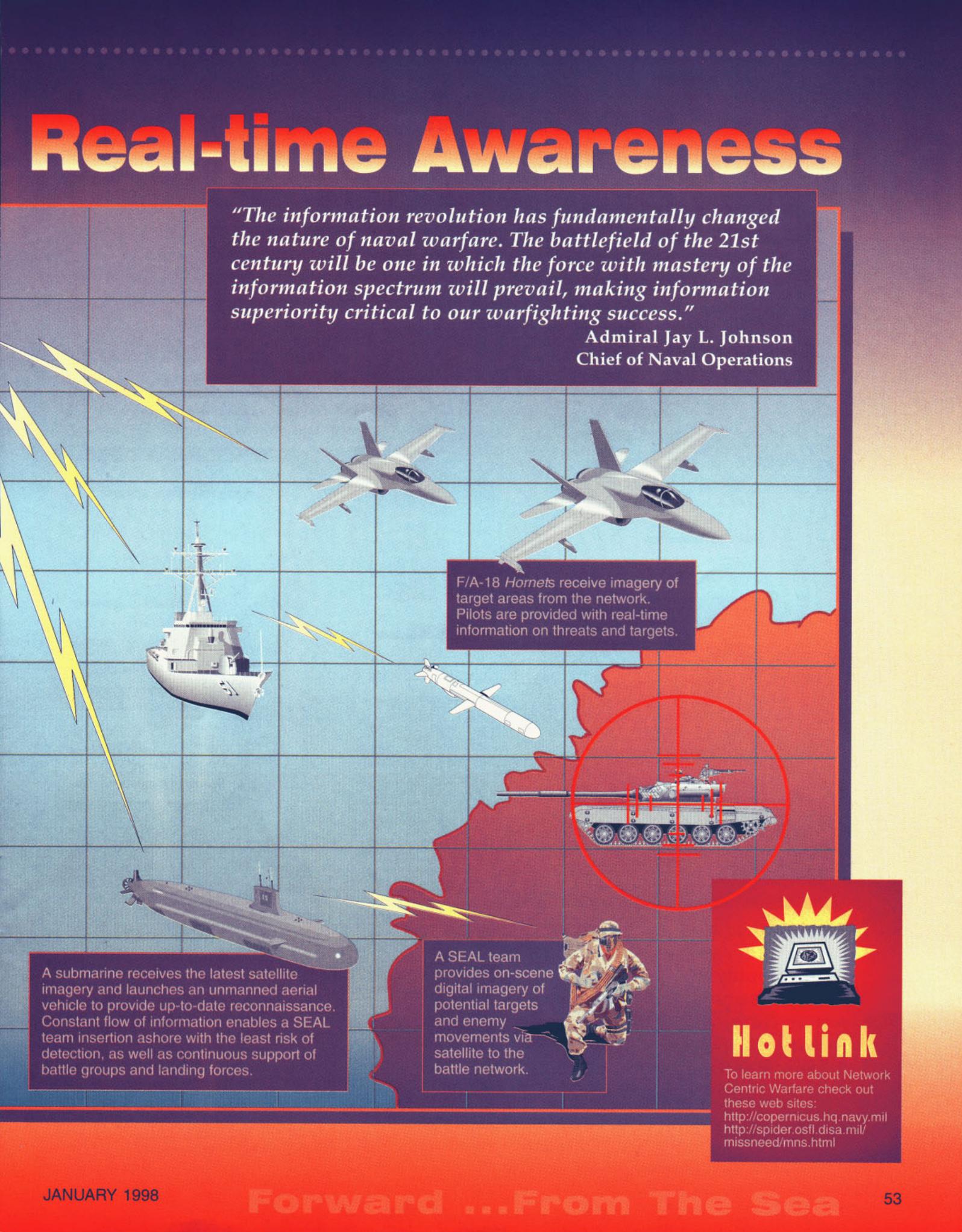
Fleet and battle force commanders develop the overall battle plans. The network’s teleconferencing capabilities are used to issue commands to all forces. Once the engagement begins, data from all units allows commanders to monitor the progress and activities of forces as they act within the context of the plan’s intent. Commanders concentrate on the overall battle strategy and override actions not within the scope of the plan.

Information on enemy capabilities and locations is provided to the amphibious ready group and landing force. Information maximizes the chances of success for the landing. Continuous receipt and transmission of data to the network allows other units to quickly provide support and adapt to changes.

Real-time Awareness

"The information revolution has fundamentally changed the nature of naval warfare. The battlefield of the 21st century will be one in which the force with mastery of the information spectrum will prevail, making information superiority critical to our warfighting success."

Admiral Jay L. Johnson
Chief of Naval Operations



F/A-18 Hornets receive imagery of target areas from the network. Pilots are provided with real-time information on threats and targets.

A submarine receives the latest satellite imagery and launches an unmanned aerial vehicle to provide up-to-date reconnaissance. Constant flow of information enables a SEAL team insertion ashore with the least risk of detection, as well as continuous support of battle groups and landing forces.

A SEAL team provides on-scene digital imagery of potential targets and enemy movements via satellite to the battle network.



Hotlink

To learn more about Network Centric Warfare check out these web sites:
<http://copernicus.hq.navy.mil>
<http://spider.osfl.disa.mil/missneed/mns.html>

Snapshot



Facts and Figures

Total Ships:	347
Ships Underway:	180 (52%)
Ships Deployed:	107
Total Personnel:	610,356
Active Duty:	390,069
Reserve:	220,287
8 Exercises/Operations ongoing	
Port Visits to 13 countries	

Note: As of Nov. 17, 1997

of

THE FLEET




 USS *Guam* (LPH 9)/24th MEU(SOC)
 Exercise *Nobile Shirley* 97-2
 Mediterranean Sea


 USS *Nimitz* (CVN 68)/Air Wing 9
 Operation *Southern Watch*
 Arabian Gulf


 USS *Independence* (CV 62)/Air Wing 5
 Inport Yokosuka/Atsugi, Japan


 Maritime Interception Operations
 Arabian Gulf


 Exercise *Neon Falcon* '98
 Arabian Gulf


 USS *Belleau Wood* (LHA 3)
 Port Visit Okinawa


 USS *Peleliu* (LHA 5)/13th MEU(SOC)
 Ops, Arabian Sea


 USS *George Washington* (CVN 73)/Air Wing 1
 In transit to Arabian Gulf

Key

	Carrier Battle Group		Destroyers
	LHAs, LHDs and LPHs		Guided-missile cruisers



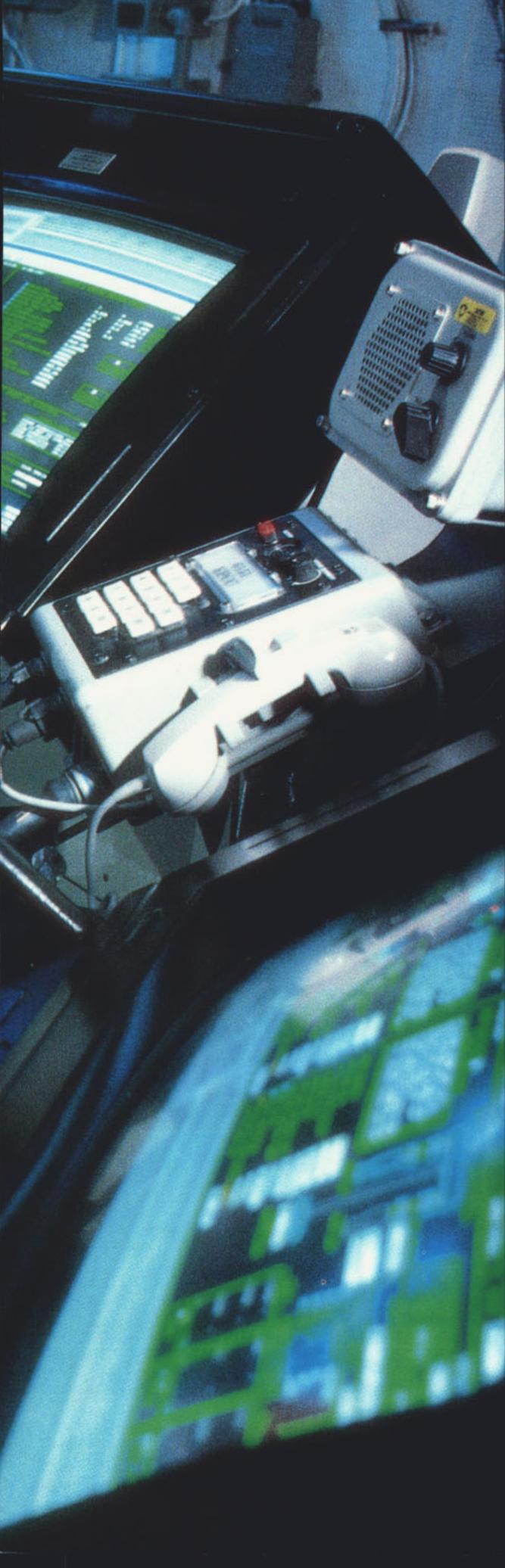


Photo by PH1 Jim Hampshire

Sailors: The Real Smart Weapons

The Fleet is heading into the 21st century with a vision of highly trained Sailors operating some of the most advanced technology imaginable. You can be part of that vision. We want men and women who are not afraid of new challenges to continue serving their country. Education, adventure and experience are as close as a visit to your Command Career Information Team or a call to 1-800-FOR-NAVY. See how far your career can take you. Meet with a member of the Team today.

Navy ... Let the journey continue.

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Question?

*Forward deployed ...
Fully engaged*



**The
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Navy

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