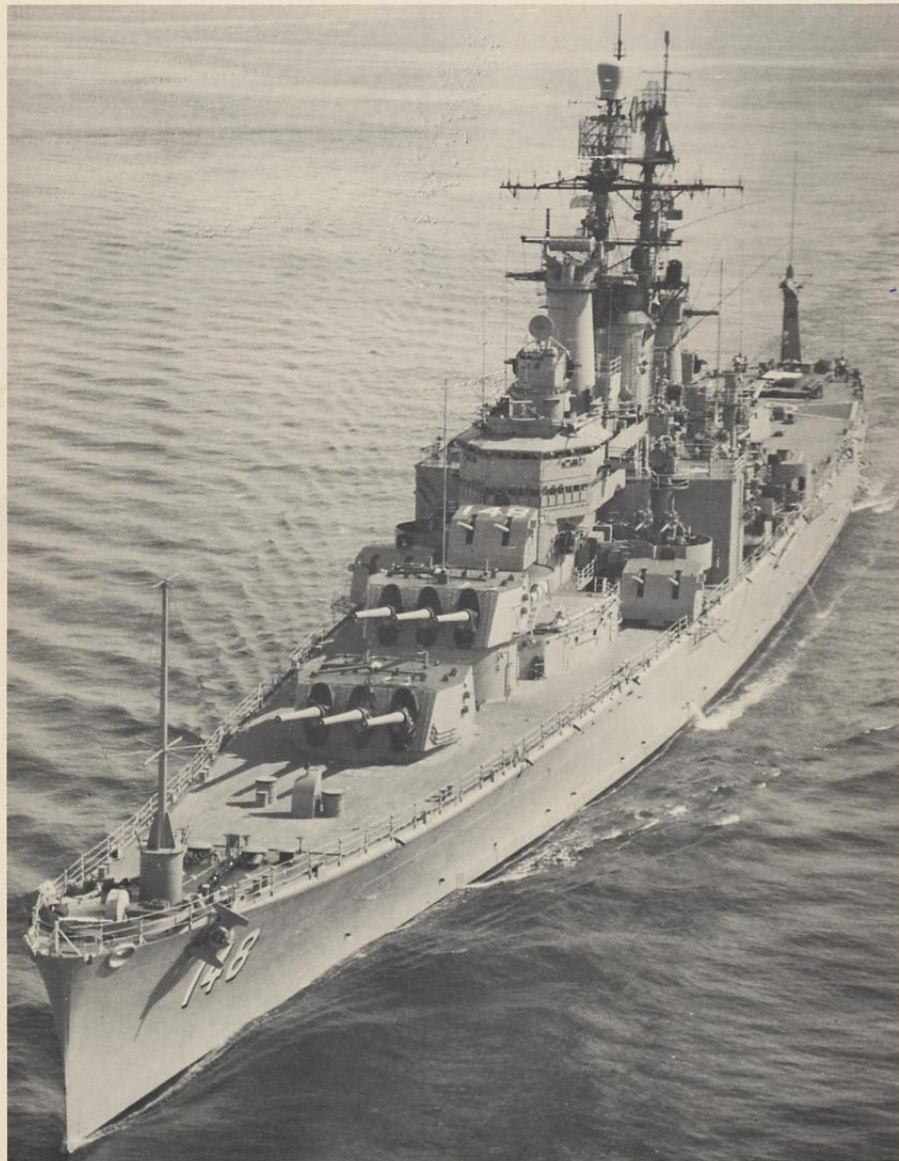
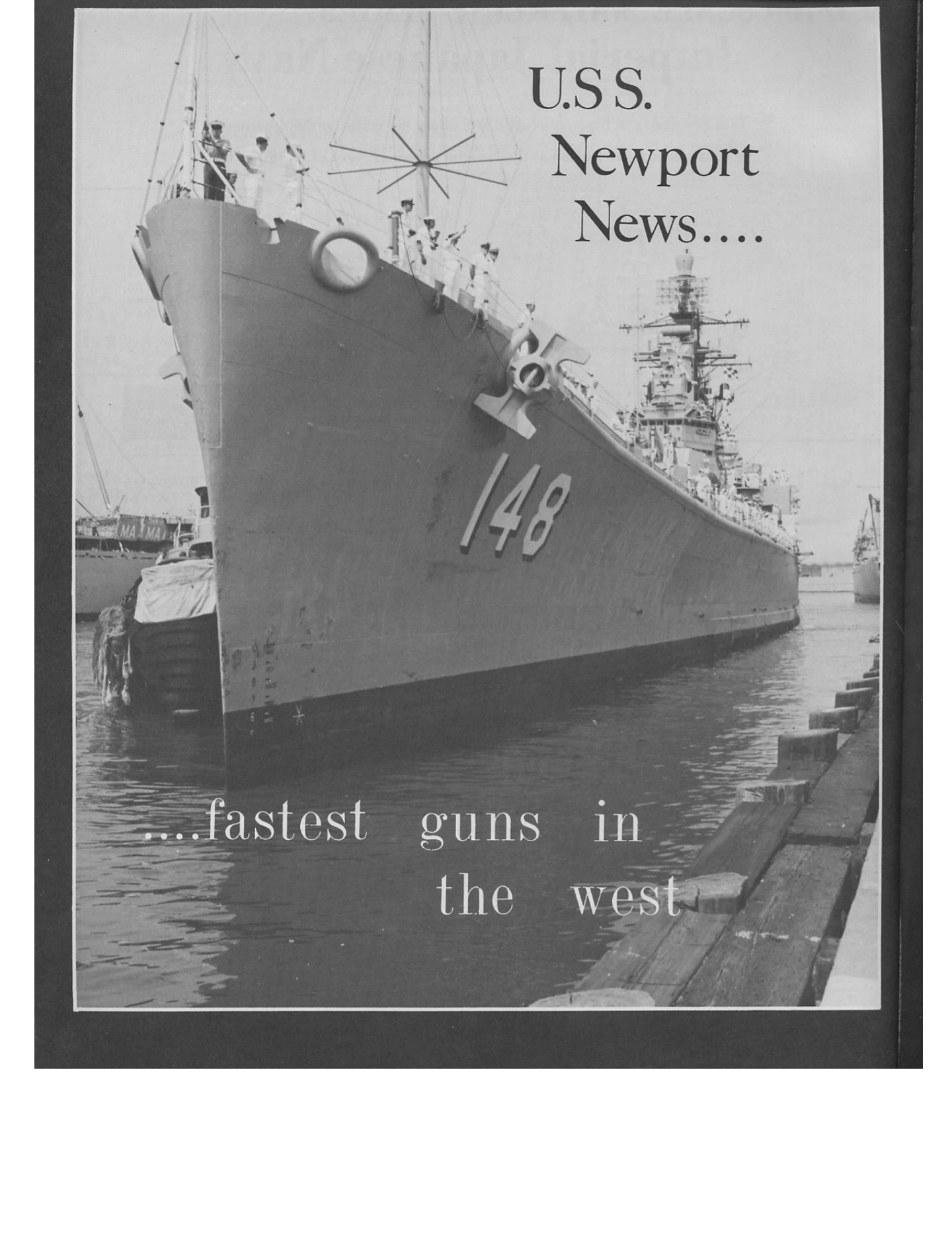


Warship
International

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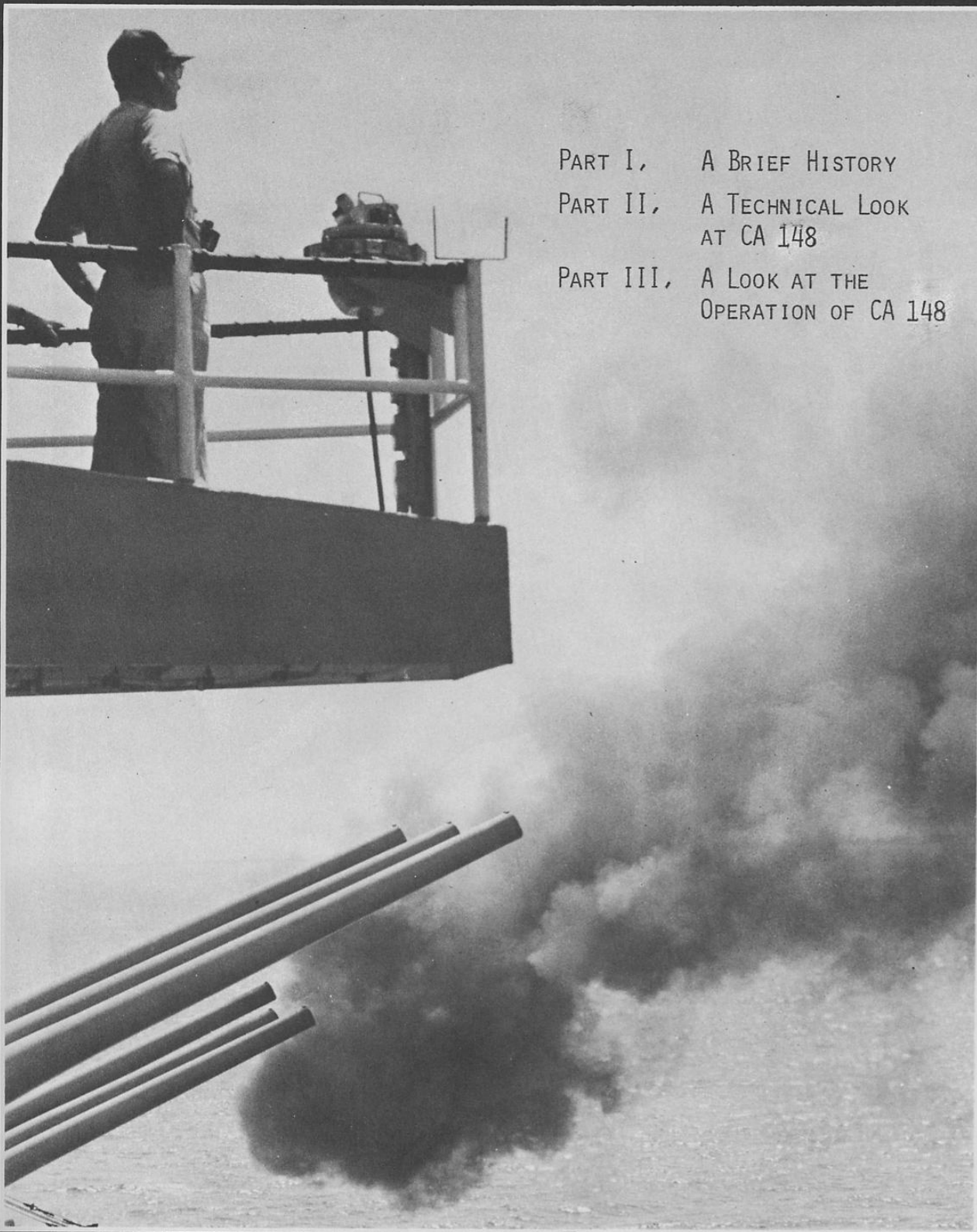
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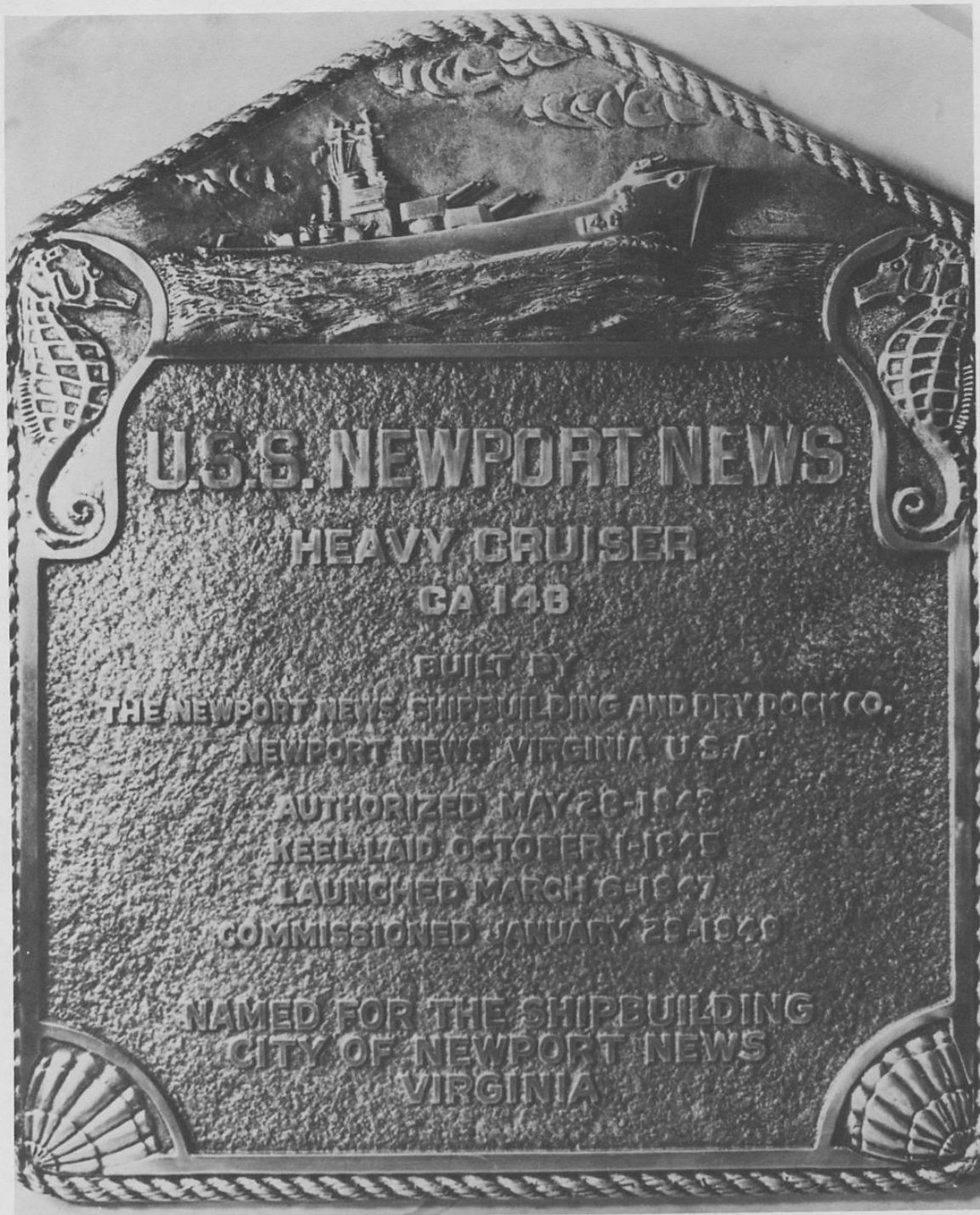


U.S.S.
Newport
News....

....fastest guns in
the west



PART I, A BRIEF HISTORY
PART II, A TECHNICAL LOOK
AT CA 148
PART III, A LOOK AT THE
OPERATION OF CA 148



U.S.S. NEWPORT NEWS

HEAVY CRUISER

CA 148

BUILT BY

THE NEWPORT NEWS SHIPBUILDING AND DRY DOCK CO.
NEWPORT NEWS, VIRGINIA, U.S.A.

AUTHORIZED MAY 28-1943

KEEL LAID OCTOBER 1-1945

LAUNCHED MARCH 6-1947

COMMISSIONED JANUARY 29-1949

NAMED FOR THE SHIPBUILDING
CITY OF NEWPORT NEWS
VIRGINIA

PART I

edited by Edward C. Fisher, Jr.

" *The hearts of old Navy hands must beat a little faster when they cross the harbor and see the U.S.S. NEWPORT NEWS. She is one of the last of her breed, an anachronistic reminder of the days when ships with big guns ruled the seas and proudly showed the flag on good will cruises round the world. Gone are the days when the cruiser was the navy's maid of all work, the symbol in distant ports of nation's strength and ability to maintain its rights anywhere on the high seas. Now that the battleship is gone the way of the ship-of-the-line, and the mantle of seapower has passed from the aircraft carrier to the nuclear powered missile submarine. But neither class of vessel can match the eye appeal of a ship carrying big guns. They were designed to awe, and awe they could and did when necessary. They could hit hard and travel far and fast. It was their long lean barrels that bespoke a nation's will. And while they no longer can match the destructive power of carrier-borne jets or a missile launched from the sea, it was guns that carried the flag to victory in battles from the Armada to Surigao Strait. When these guns went into decline, so did the ships that carried them. Electronics took over and today's men o'war carry a tangle of aerials in their fighting tops, helicopter's amidships, and missile launchers on the quarter decks. None of these modern marvels gives to a fighting ship that special arrogance that big guns did. Those ships are almost all gone, and soon the last of them will go out of commission and end up in a breaker's yard. But till that time comes for NEWPORT NEWS, men will respect this ship and relish a rare glimpse of her. All too soon the conventional cruiser will live only in the minds of old sailors and on the dry pages of history books.*"

The above quoted from China Morning Post, Friday March 28, 1969 "Last of the Leviathans".

Brief History

The keel of NEWPORT NEWS, 17th cruiser to be constructed by the Newport News Shipbuilding and Dry Dock Company of Newport News, Virginia, was laid on 1 October 1945 on slipway No. 11. Two years later on 6 March 1947 the heavy cruiser, named in honor of the shipbuilding city, was launched. She was commissioned on 29 January 1949.

NEWPORT NEWS has two sisters -- DES MOINES (CA-143) decommissioned 14 July 1961 and SALEM (CA-139) commissioned 30 January 1959. Nine other sisters were cancelled due to the close of the Second World War. They were designated CA-140, 141, 142, 143, 149, 150, 151, 152 and 153.

After commissioning NEWPORT NEWS proceeded to the Norfolk Naval Shipyard, Portsmouth, Virginia, for outfitting and preparation for her shakedown cruise. The ship reported to Commander in Chief, U.S. Atlantic Fleet, on 24 March 1949, and after the shakedown cruise was assigned to Commander Cruiser Force, U.S. Atlantic Fleet for further service.

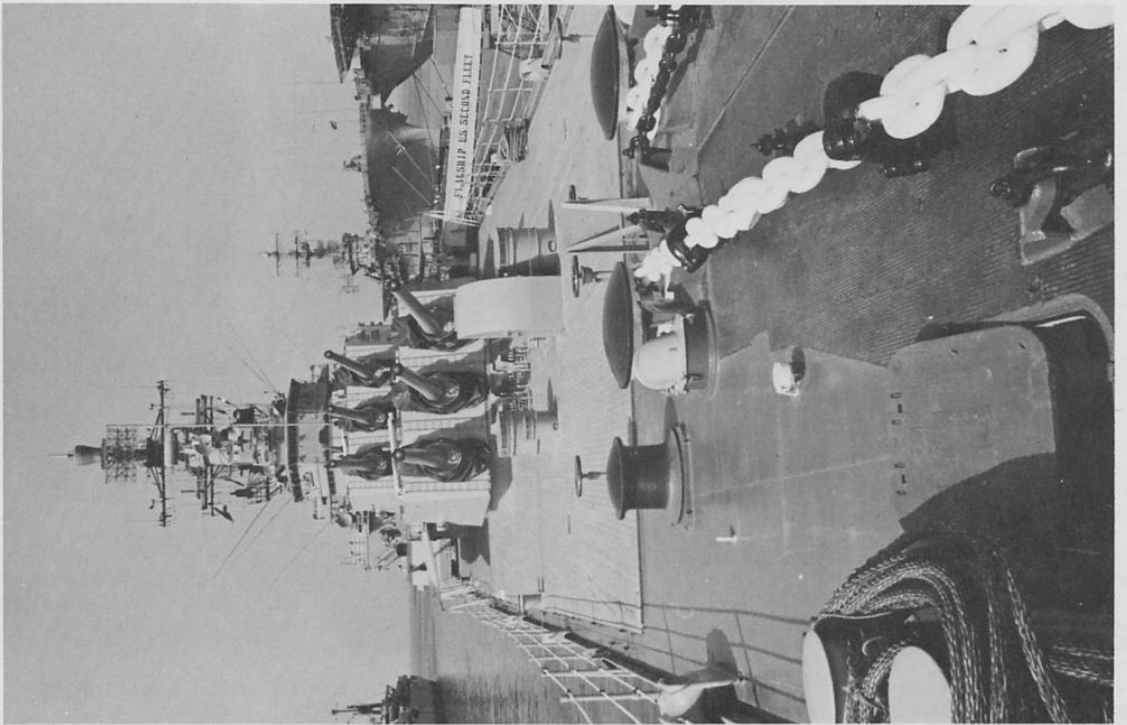
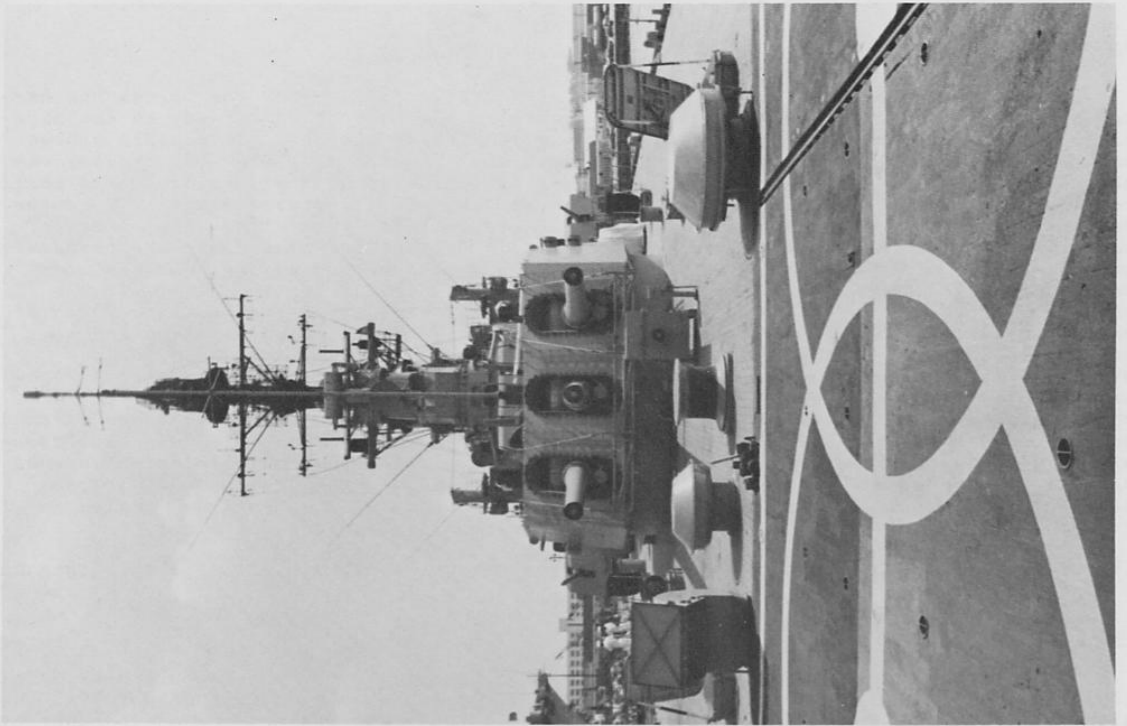
NEWPORT NEWS operated with the SECOND Fleet in the Atlantic until she joined the Mediterranean Fleet on 6 January 1950. During the following years NEWPORT NEWS spent half of her time in the "Med" and the Atlantic with the SIXTH and SECOND Fleets.

In August and early September of 1957, NEWPORT NEWS was on station in the eastern Mediterranean in order to be ready for any eventuality during the Syrian crisis of that time.

During the first five months of 1958, NEWPORT NEWS took part in the annual competitive gunnery exercises in the Caribbean and in another major amphibious exercise. In this gunnery exercise, NEWPORT NEWS won 18 "Es" including one gold "E", from the Task Force Commander. Later in the year, she received word that she had won the much coveted Green "E" for her performance of her Operations Department.

On January 29, 1959, NEWPORT NEWS celebrated the tenth anniversary of her commissioning. In those ten years, she had visited the countries of Greece, Italy, France, Spain, Germany, Denmark, Turkey, and Portugal, as well as Newfoundland, the Panama Canal Zone and the islands of Sardinia and Sicily. NEWPORT NEWS had served nine tours of duty with the SIXTH Fleet in the Mediterranean during this time.

The time from 1959 through 1962 NEWPORT NEWS sailed in the Atlantic visiting many ports both on the American and European side.



On October 22, 1962, NEWPORT NEWS suddenly left Norfolk on short notice leaving part of her crew behind on leave and liberty. That night the cruisermen listened to the President of the United States declare a quarantine on the island of Cuba. For the next month, acting as Flagship for SECOND Fleet, NEWPORT NEWS operated northeast of Cuba as a roaming back-up for the quarantine.

During 1963, NEWPORT NEWS visited the following countries while operating in the Atlantic: Canada, England, Germany, Sweden, Denmark, Norway and crossed the Arctic Circle in September.

In May 1964 NEWPORT NEWS returned for a short stay in Newport News, Virginia, where she was built and christened. Over 10,000 visitors toured the ship at this time.

In the early evening hours of 28 April 1965, all hands attached to NEWPORT NEWS were suddenly recalled from liberty. All leave cancelled due to the Dominican Republic trouble. NEWPORT NEWS left Norfolk and traveled south where she arrived on station and assumed the role of Flagship for Commander Joint Task Force 122.

NEWPORT NEWS entered the Norfolk Shipyard on 28 June 1965 to undergo a number of alterations designed to augment fighting capabilities.

During the year of 1965 and 1966 NEWPORT NEWS spent her time in the Atlantic visiting the Caribbean and Northern European countries.

Until September 5, 1967, NEWPORT NEWS sailed the Atlantic as SECOND Fleet Flagship. On this date she departed Norfolk, Virginia, for her first leg of the long journey to the Western Pacific waters off Viet Nam. Enroute to Viet Nam, USS NEWPORT NEWS transited the Panama Canal while crossing into the Pacific for the first time. Other ports visited were: Pearl Harbor, Hawaii; Guam; and Subic Bay, Philippines. On September 27, 1967 NEWPORT NEWS crossed the International Date Line for the first time and became Golden Dragons.

At 2300 hours on October 9, 1967, NEWPORT NEWS levelled her big guns inland and fired "in anger" for the first time in her 19 years of commissioned service. The ship was firing as a participant in "Operation Sea Dragon", the SEVENTH Fleet's efforts to stem the southerly flow of Communist war goods north of the Demilitarized Zone.

During her operations in the Pacific as part of Operation Sea Dragon, NEWPORT NEWS visited Far Eastern ports for the first time. Those visited by NEWPORT NEWS were: Hong Kong; Yokosuka, Japan; and Sasebo, Japan. After rest and relaxation along with up-keep periods in these foreign ports, NEWPORT NEWS returned to the Gulf of Tonkin for duty in support of the Marines off the DMZ or in the northern waters of the Gulf as Flagship for the Commander of Operation Sea Dragon.

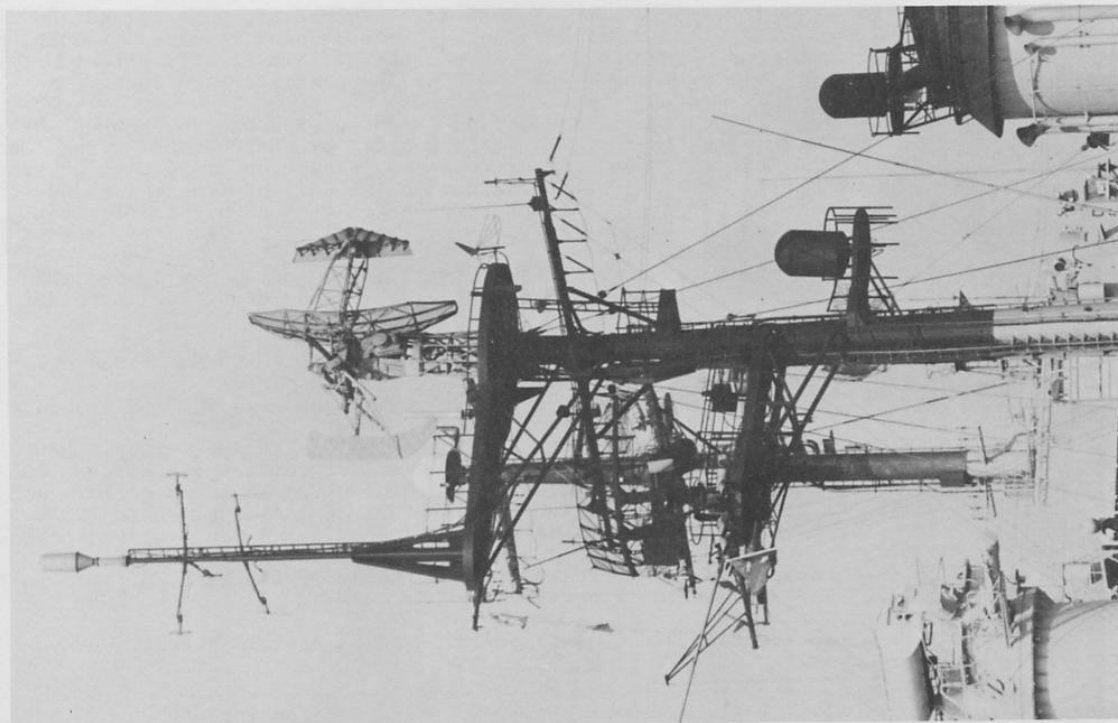
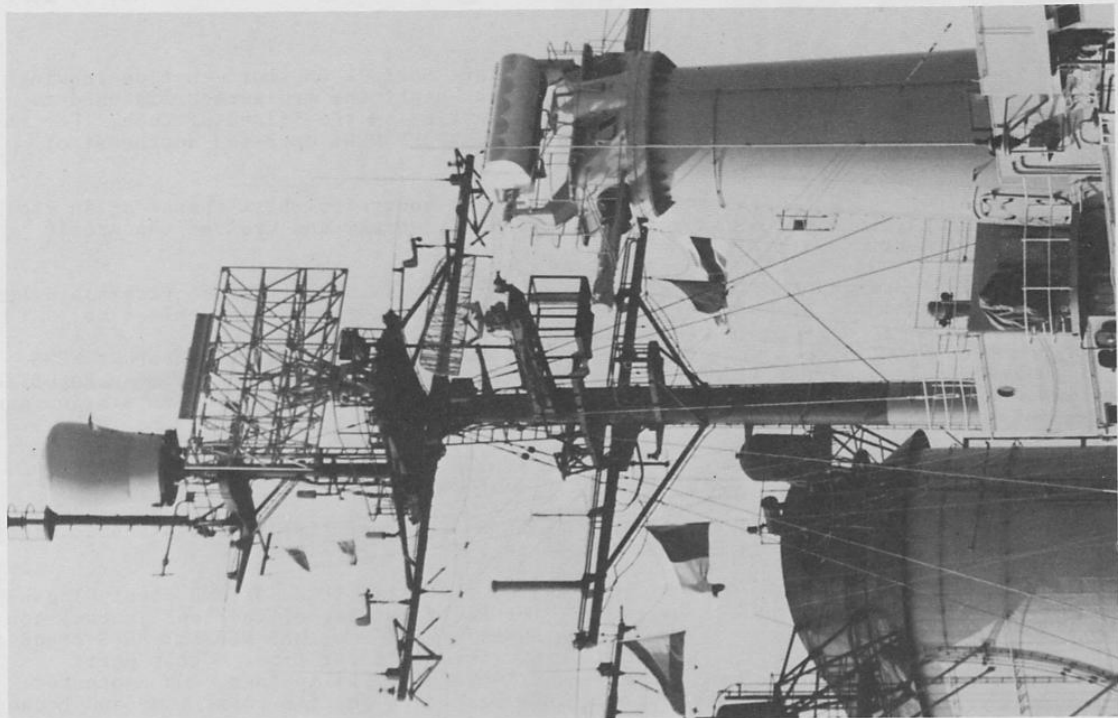
Departing Naval gunfire support off the Demilitarized Zone on 18 April 1968, NEWPORT NEWS completed her tour of duty, amounting to 226 days since departing Norfolk, Virginia.

During this period on the line off the coast of Viet Nam NEWPORT NEWS fired over 59,000 rounds of ammunition against the enemy in support of the Marines ashore and against the Communist supply routes in North Viet Nam while on Operation Sea Dragon.

Officially this first tour of duty lasted 2 October 1967 to 26 April 1968. NEWPORT NEWS's Second tour of duty in the War zone off Viet Nam was officially 18 December 1968 to 13 June 1969. NEWPORT NEWS underwent extensive overhaul of engines and boilers and was dry docked at the Naval Ship Yard, Portsmouth, Virginia 16 January 1970 to 19 June 1970. At the time of writing NEWPORT NEWS was engaged in her third tour in southeast Asia. During this deployment she experienced a severe explosion in one of her gun turrets, which is fully described in the following Department of the Navy, Office of Information, Press release dated October 6, 1972:

Following information is released regarding explosion in the USS NEWPORT NEWS (CA-148) on October 1, 1972:

Opposite page: Top: Aft, looking forward. Bottom: Forward, looking aft.



"The heavy cruiser, USS NEWPORT NEWS (CA-148), while conducting a gunfire support mission for Republic of Viet Nam troops in Military Region One, experienced an explosion in the middle barrel of the Number Two turret about 0100 Saigon Time on 1 October.

"Nineteen men were killed in the explosion, 1 died subsequently, and 36 were injured. One man, transferred to Danang, was subsequently transferred to Clark Air Force Base where he remains. His condition is improving. Twenty-eight men were transferred to the medical facilities aboard USS NEW ORLEANS (LPH-11) which was also off the VN coast. Those with minor injuries remained on board NEWPORT NEWS and were treated there.

"The ship was ordered to Subic Bay, Republic of the Philippines, for repairs. Following a memorial ceremony on the fantail on 3 October, the dead were transferred by helicopter to Clark Air Force Base for further transfer to Continental United States, at 0830 Philippine time.

"The ship arrived in Subic Bay on the morning of 3 October and moored at the naval magazine. Ammunition was removed from spaces in which work was to be done and the ship was moved to the Ship Repair Facility, Subic Bay, where it now remains. A determination has not yet been made as to the extent of repairs necessary.

"A scenario of the accident follows: The normal powder charge fired on the fourth round of a fire mission. Almost immediately the shell in the barrel exploded. A fire broke out in the turret and an external fireball was seen coming from the middle barrel. The extent of the fire in the turret is unknown since all 16 men in the Number Two turret were killed. The remaining three dead were not in the turret at the time of the explosion, but died from smoke inhalation. The entire forward portion of the ship was engulfed in smoke. Those who were moved from the ship for medical treatment all suffered from smoke inhalation.

"The officer heading up the Board of Investigation is Rear Admiral Phillip P. Cole, USN, Commander Task Force 73 and Commander Service Group 3. No determination has been made as to exactly what caused the explosion."

END

PART II, A TECHNICAL LOOK AT NEWPORT NEWS

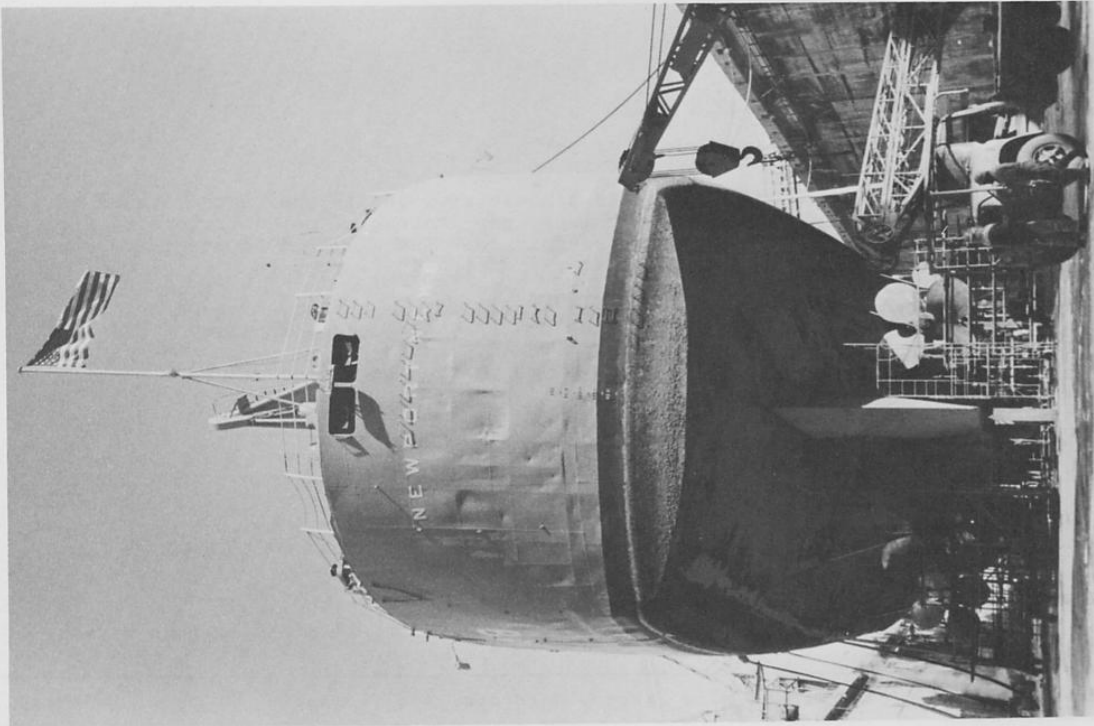
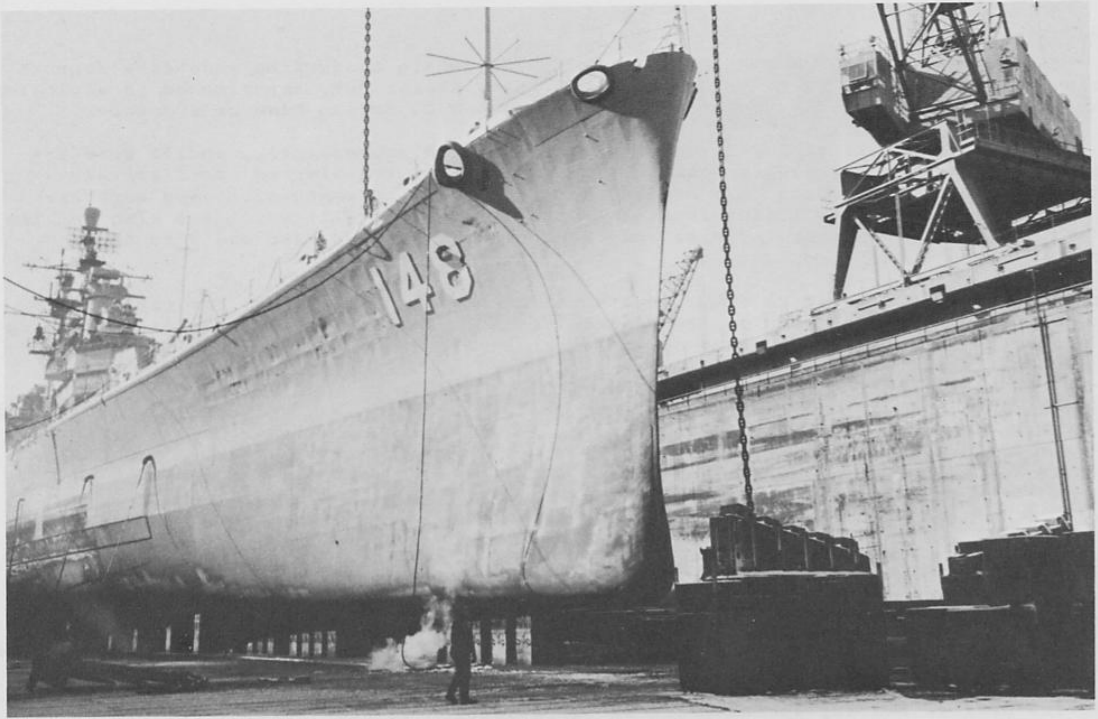
by Robert S. Egan and Edward C. Fisher, Jr.

The DES MOINES (CA-134) Class are the largest cruisers in the United States Navy. Costing \$28,550,000 each for hull and machinery per contract, they incorporated the latest improvements dictated by war time experience. The great advancement, of course, was the introduction of the fully automatic rapid fire 8"/55 gun.

When the DES MOINES (CA-134) Class is compared with the preceding OREGON CITY (CA-122) Class, the chief point that strikes one is the increase in size.

	CA122	CA134	Increase
Displacement, full load	17,000	21,500	4,500 tons
Displacement, standard	13,700	17,000	3,300 tons
LOA	673'6"	716'6"	43'
LBP	664'0"	700'0"	36'
Beam	71'0"	75'4"	4'4"
Draft	26'0"	26'0"	0
SHP	120,000	120,000	0
Max. Speed	33.0	33.0	0
Guns	9-8"/55	9-8"/55	
	12-5"/38	Automatic 12-5"/38 24-3"/50 in twin mounts	

Opposite page: Top: Forward main battery director, and foremast. Bottom: Mainmast.



	CA122	CA134	Increase
Guns continued:	52-40mm 20mm	12-20mm in single mounts	
Crew	1700	1860 (war time)	

It can be seen that the differences lie in the armament. The automatic loading, rapid fire 8" guns and the substitution of 3" for 40 mm anti aircraft guns explains much of the size increase. To allow automatic rapid loading the ammunition is one piece, the projectile and powder being combined, as was also done in the CL-144 Class, with their 6", explaining why that design was larger than the preceding light cruisers. The faster firing guns require more magazine space. By lengthening the hull too, it was possible to maintain the same speed for this much heavier ship. The type and size machinery was unchanged to allow rapid production from existing drawings. The arrangement of the machinery, however, was quite different. Instead of separate boiler and engine rooms, four machinery rooms were provided, each containing one boiler and one turbine set. This improved damage control by making four independent plants, thus lessening the impact if one of these spaces should be flooded.

The outline of the superstructure followed CA122, with one large stack, except for the forward superstructure which reverted to the CA68 concept with both 8" and 5" gun directors high up above the pilot house top. The 8" directors were given as much elevation as possible, the forward superstructure was as long as on the CA122, but being built up higher for its forward half, contained much more space, that which was not needed for command or communications uses was made into officers' cabins.

Aviation facilities duplicated CA122, with 2 catapults and 4 seaplanes aft, with an elevator and a large hangar built into the hull aft.

In peace time the complement is now listed as 94 officers and 1,306 enlisted men. Since her commissioning NEWPORT NEWS has undergone numerous changes. Almost immediately the 20 mm were removed. Besides radar changes, the following has been done: Catapults removed, boats installed aft but crane retained. The 3" twins removed port side between forward 8" director and foremast. New deck houses for fleet flag facilities built in. Superstructure extended outwards on both sides between forward 3" twin mounts and secondary battery directors. Two twin 3" mounts removed from forecastle. Antenna mounted on the bow. Aft twin 3" removed portside, and aft twin 3" portside of stack removed. Two "Zuni" anti-missile chaffroc installed in empty tubs. Only eight 3" (4 twin) mounts retained.

H.T. Lenton in his book American Battleships, Carriers and Cruisers has this to say about armor protection: Main belt 6 (ends)-8 (amid) inches, bulkheads 6 inches. Main deck 3 inches, lower deck 2 inches. Turrets 6 inches, barbettes 6 inches, secondary turrets 1-1 1/2 inches. Conning tower 8 inches.

PART III, A LOOK AT THE OPERATION OF U.S.S. NEWPORT NEWS

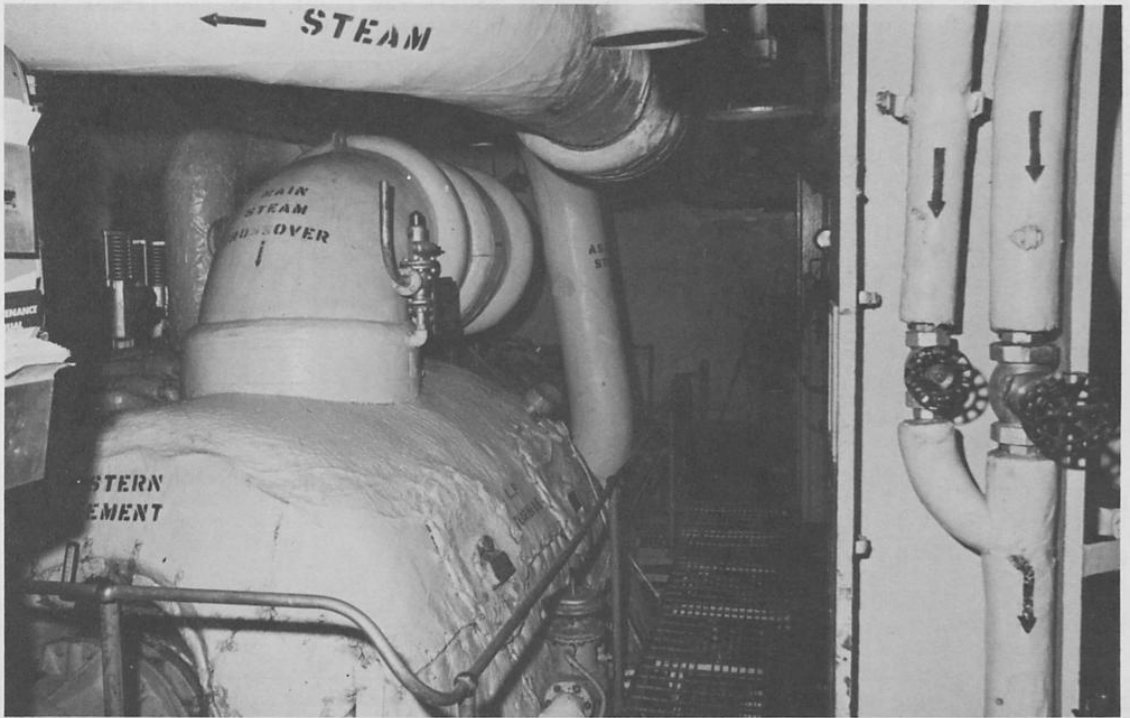
edited by E.C. Fisher, Jr. (based on materials provided by CA-148 P.A.O. from the Department Heads)

General Background

The following reports on the five departments - Operations, Weapons, Engineering, Supply and Communications - will show us a little about the equipment and man power duties aboard CA-148. From this approach a reader can easily see how complex a mass of machinery, equipment and fighting men it takes to operate a cruiser like NEWPORT NEWS.

It is felt that the greatest likelihood of possible combat events in the near future lies in continuation of the cold war and in limited war. In fact, NEWPORT NEWS

Opposite page: Top: In dry dock. Note under water hull details. Bottom: In dry dock. Note under water details.





has just returned from a theater of operations where it was effectively employed in just such a capacity as an instrument of a limited war. The United States, as a matter of policy, maintains its fleets on distant stations, thus, providing visible evidence of her power and interest. This policy is visible proof to the people of Asia, the Americas, Africa and the European countries that we are there as friends and truly interested parties. The success of such presence was clearly demonstrated in the Lebanon crisis of 1958, the Quemoy and Matsu crisis of the same year, the Cuban crisis of 1962 and, of course, naval operations in and off the coast of Vietnam in the present day.

In the limited war situation, NEWPORT NEWS has found her greatest potential in gunfire support for forces ashore and off-shore patrol and interdiction of enemy supply routes. Equally effective is NEWPORT NEWS' capability for anti-air warfare and anti-raider support of a carrier task group. By utilizing her extensive communications capabilities and her embarked flag facilities, NEWPORT NEWS is also able to act as a floating command post, directing joint Army, Air Force, Marine and Navy contingency operations. This role was executed successfully with Commander Second Fleet embarked during the Dominican Republic crisis of April and May of 1965 and again with Commander Cruiser-Destroyer Group, Seventh Fleet embarked during more recent deployment off Viet Nam.

The departmental presentations will cover the way in which each fulfills its role, and how they are equipped for it.

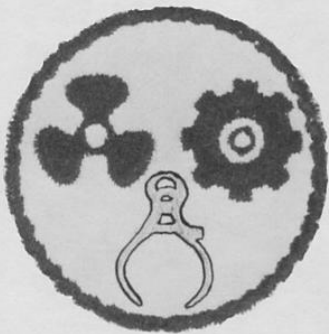
OPERATIONS DEPARTMENT

The Operations Department is often referred to as the eyes, ears, and voice of command. This description is used because Operations Department personnel operate and maintain all surface and air search radar equipment and man most of the voice radio circuits. Look-outs are also trained and supervised by the Operations Department to report and co-ordinate their observations with other stations throughout the ship.

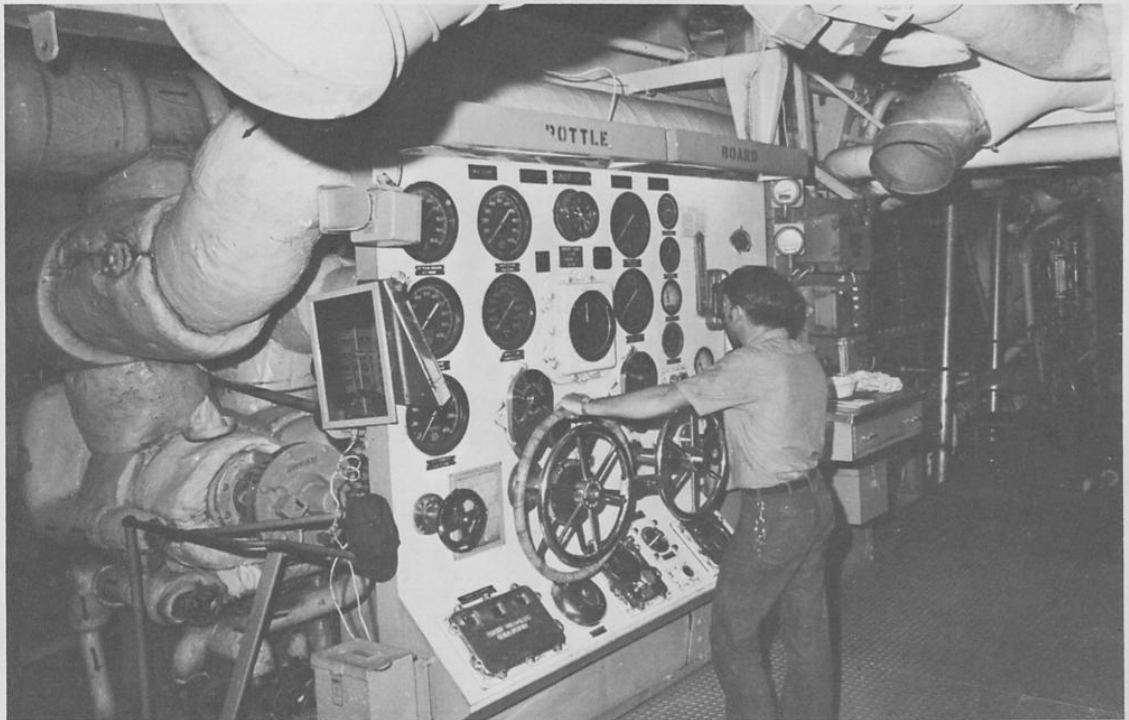
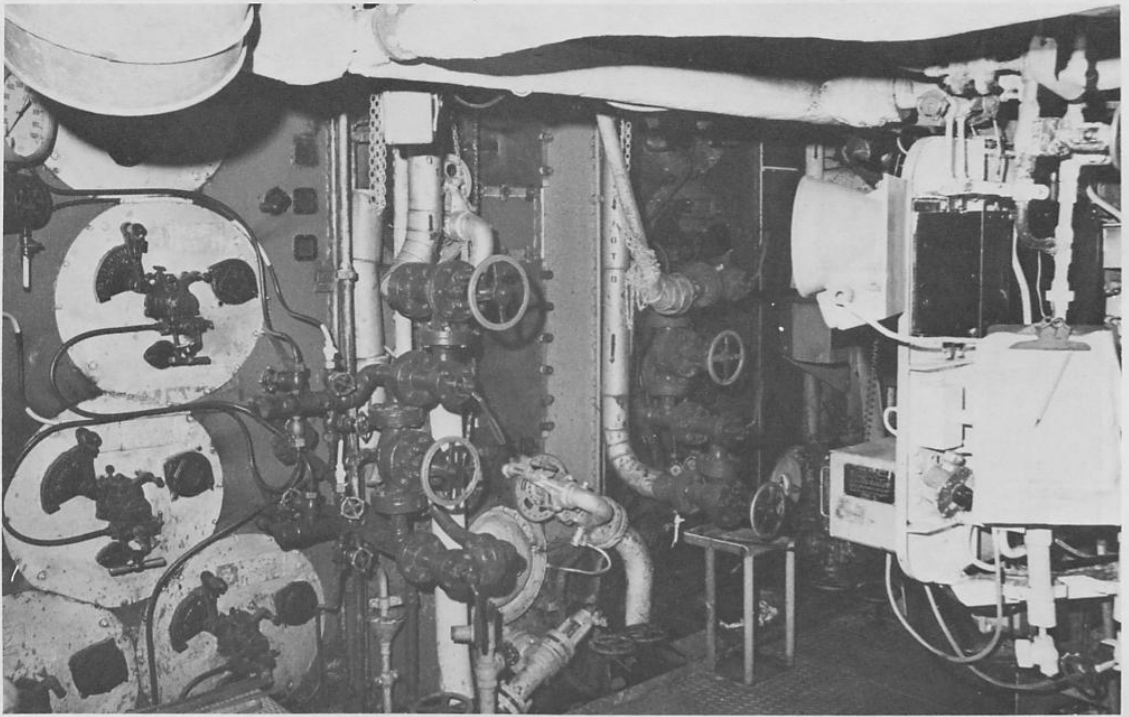
Specifically, the Operations Officer is responsible to the Commanding Officer for the following functions:

1. The conduct of surface and air, radar and visual, search including electronic countermeasures.
2. The control of assigned aircraft when airborne.
3. The collection and analysis of intelligence information.
4. The preparation of operations plans and schedules.
5. The maintenance and repair of all electronic equipment.
6. The collection and dissemination of aerological information.

In such a diverse organization as the Operations Department, it is probably best to first cover the radar equipment carried on board and second to show how the



Opposite page: Top: Interior engine room switchboard. Bottom: Engine room - main engine.





Department is organized to operate and maintain it.

During the past twenty years, the performance and use of search radar has passed the grandest dreams of its inventors. The NEWPORT NEWS has 4 search radars: the SPS-10, the SPS-6E, the SPS-29 and the SPS-8. The SPS-10 surface search radar gives very precise information on the range and bearing of objects on the surface of the ocean and of the land contours. It is not uncommon to detect large ships at ranges up to 30 miles. Once detected, ships can be accurately tracked by plotting, using successive ranges and bearings. A second use of the SPS-10 is radar navigation. By comparing the coastline contour on a chart with that shown on the radar screen the navigator is able to determine the ship's position when land is not visible. Whenever the navigator is plotting, the Operations Department radar navigation team is also plotting. The positions are constantly compared.

Raising one's sights above the surface to provide medium range detection of aircraft the SPS-6E is used. This radar gives accurate range and bearings out to about 150 miles. It may also be used to assist the navigator as it often detects high land masses as far out as 200 miles. The long range air radar is the SPS-29 with a maximum range of 250 miles. Detection of one small A-4 (SKYHAWK) attack aircraft at ranges in excess of 100 miles is not uncommon.

For altitude determination the ship has another air search radar called the SPS-8. It is much like the other radars except that the antenna may also be tilted in the vertical plane. It emits a narrow beam of energy to provide good altitude resolution. The SPS-8 has a detection capability of 150 miles and can measure altitude of aircraft up to 50,000 feet. These four radars constitute the bulk of the electronic locating equipment. However, to supplement them, there is a system which tells whether an aircraft is friend or foe (and tells a friendly which the ship is); a system whereby the radar presentation in a high flying Airborne Early Warning Aircraft can be displayed on the ship's own repeaters; electronic homing equipment which tells friendly aircraft their location from the ship; and additional electronic aids which permit the effective use of search radars through enemy efforts to degrade the ship capabilities and to help the ship combat some of the natural causes of radar interference problems.

The electronics officer, a LT, is responsible for the maintenance and repair of all electronics equipment. Frequent attendance at special schools and a vigorous on-board training program are required to keep the electronics technicians up to date with the growing families of new and complex electronics equipment. To enable the technicians to concentrate on repair, most of the preventative maintenance and care of the radars and radios is performed by the men who operate the equipment, and are thereby best acquainted with its day-in and day-out performance.



Opposite page: Top: Interior engine room boiler front. Bottom: Interior - engine room.



WEAPONS DEPARTMENT

The primary mission of the Weapons Department is to deliver accurate and precise gunfire offensively and defensively. To accomplish this, some 350 officers and men are assigned to the department. The ship is capable of delivering gunfire in support of inland combat forces as well as amphibious operations, providing air defense for itself and ships in company, defeating any enemy man-of-war now afloat and acting as a surface raider against enemy merchant shipping. To accomplish these capabilities the ship mounts 3 triple 8"/55 caliber rapid-fire turrets, 6 twin 5"/38 caliber dual-purpose mounts and 4 twin 3"/50 caliber rapid-fire mounts.

The 8"/55 caliber rapid fire MK-XVI gun is the main armament of the ship. It has a firing rate of 10 rounds per gun per minute, which is about four times faster than 8-inch guns found on earlier U.S. cruisers. This tremendous fire power, made possible through the use of semi-fixed ammunition as opposed to the older bag gun, allows the main battery to deliver up to fifteen tons of projectiles on a selected target every minute, at ranges in excess of 14 miles. The main battery is primarily used against land or surface targets, however, a maximum elevation of 41 degrees minimum is 5° elevation on the turrets gives it an anti-aircraft capability in addition to the primary mission. The nine guns, in three turrets, are the fastest firing major caliber guns in the world. The main battery is controlled either by or both of two MK-54 directors with a MK-13 radar which is able to track surface targets at ranges up to 40 miles.



The 5"/38 caliber gun is a dual purpose, (may be used against shore, surface or aircraft targets) semi-automatic gun with a maximum range of 9 miles. The rate of fire is dependent upon the proficiency of the crew, and averages about 17 rounds per minute per gun for a well trained crew for a battery firing rate of 200 rounds per minute. In addition to its use as a weapon of destruction, the 5" gun has the capability of firing illuminating projectiles which are used to light a target during hours of darkness. The 5" guns are primarily controlled by the MK-37 gunfire control system with a MK-25 radar which has a capability of tracking air targets up to 50 miles distance. There are four such fire control systems installed.



The 3"/50 rapid fire gun is a semi-automatic gun used primarily against air targets, although it does have the capability of firing against any surface/land targets in range. The rate of fire for the 3" gun is 45 rounds per minute per gun for a battery firing rate of 360 rounds per minute. The maximum range of the gun is 7 miles. This gun is primarily controlled by the MK-56 gun fire control system with a MK-35 radar which can track air targets up to a range of 15 miles. There are four such fire control systems installed.

Control of the guns may be shifted from one director to another and even from one type of director to another.

Opposite page: Top: Interior - pilot house in conning tower. Bottom: Open bridge from port.



For example, any of the 8" turrets may be controlled by any of 6 directors. This gives NEWPORT NEWS one of the most flexible armament systems ever taken to sea.

The biggest asset of NEWPORT NEWS in having this tremendous fire power potential is that she can be moved on short notice, intact, to nearly any point on the high seas or in territorial waters with relative ease and can remain there for an indefinite period of time. This fire power has recently been clearly demonstrated in Southeast Asia. In her first two Viet Nam deployments, NEWPORT NEWS scored a new record by firing almost 80,000 rounds of ammunition against the enemy.

Before any ship in the Navy can remain at sea for an indefinite period of time steps must be taken to permit the ship to receive fuel, provisions, ammunition, personnel, and spare parts while underway. These functions are performed by the deck hands of the Weapons Department. The ship is capable of receiving replenishments from other ships at four separate stations on each side of the ship, plus a highline for simultaneous transfer of personnel and light freight. This permits the ship to receive approximately 200 tons of freight and supplies per hour. NEWPORT NEWS is equipped to transfer or receive fuel from four different stations; two to port and two to starboard. It can refuel two ships at one time, delivering at the rate of 4,000 gallons per minute, with highline and freight transfers being accomplished at the same time. In addition the deck force maintains and operates 10 boats for use by liberty parties, as life boats, etc.

For administrative and battle purposes, the department is divided into ten divisions; The First, Third, Fourth and Seventh Divisions are composed of boatswain mates and seamen whose duties include general maintenance of most of the topside portion of the ship, all portions of seamanship (rigging for transfer of fuel/stores, operating the ship's boats, etc.) and manning the ship's guns during general quarters.

The Second, Fifth, and Sixth Divisions are made up of gunners mates and seamen who maintain, repair and man all installed gun armament.

The Marine Detachment, composed of some 37 Marines, is the heart of the ship's landing party and is responsible for the physical security of the ship.

The largest division in the department, Fox Division, is composed essentially of Fire Control Technicians whose responsibilities include the maintenance of all directors, fire control radars, plotting rooms and associated equipment. When Commander Second Fleet is aboard, the ship carries a helicopter and the personnel required for its maintenance and operations are assigned to the Weapons Department as Victor Division. A Drone Unit, a radio controlled gunnery target, is on occasion, assigned to the ship and these personnel are combined with the Victor Division and assigned to the Weapons Department for administration.

ENGINEERING DEPARTMENT

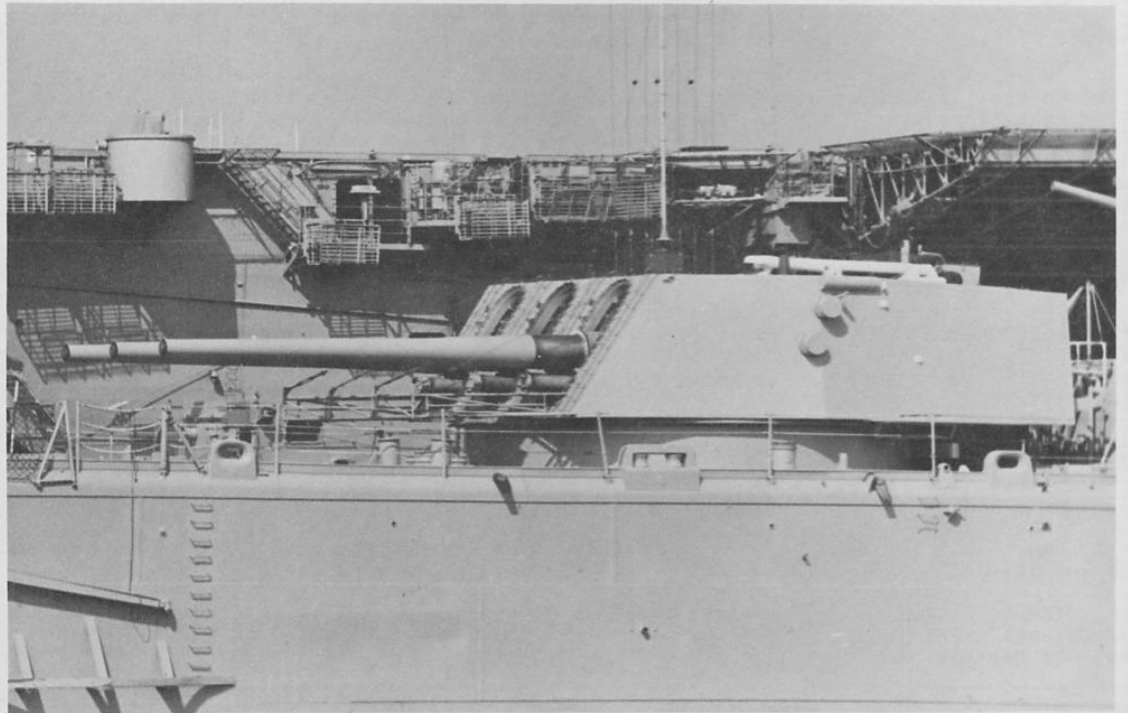
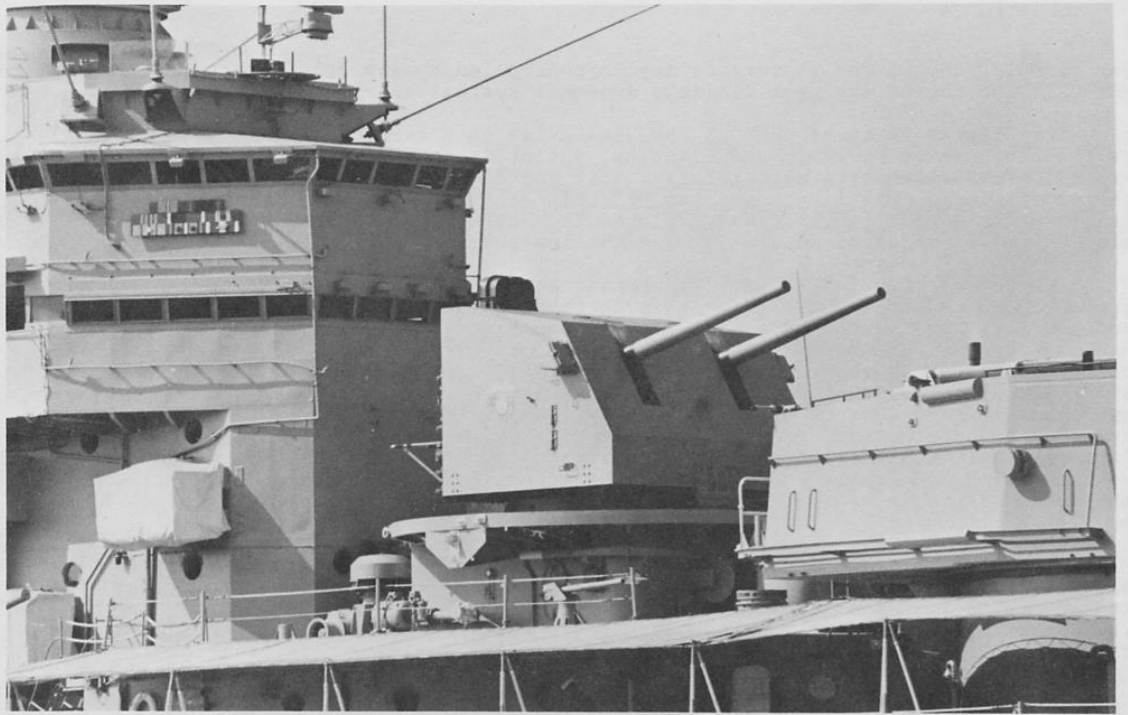
The engineers fit into the modern naval combatant ship complex by providing essential support to the offensive systems of the ship. A modern naval combatant "worth its salt" wouldn't be if it did not have radars, radios, guns or missiles - and the radars, radios, guns and missiles couldn't be without an engineering plant. Specifically, the vital jobs engineers have on the team are:

1. Maintain and control the main propulsion plant and all its associated auxiliaries.
2. Produce and/or provide all electric, water, heat, air-conditioning, construction and repair services required to keep the ship functional.
3. Control damage.

Now, examining the first job - "maintain and control the main propulsion plant and all of its associated auxiliaries".

The mobility of naval vessels has always been and always will be of the greatest importance. The naval engineering plant must provide this mobility; the NEWPORT NEWS must be capable of moving when required, and as fast as its missions demands; of

Opposite page: Top: Wardroom interior. Bottom: Galley



operating as far from its base of supplies as required by the tactical situation. Speed, cruising radius and dependability are the prime requisites.

Since the ability to move through the water is of greatest importance, a brief discussion of the steam propulsion plant is in order. The main components of the system are the boiler, turbine, condenser and deaerating feed tank. Steam is generated in the water filled boiler; it is carried to the turbines which turn the propellers. The steam exhausts from the low pressure turbine directly into the condenser, where it is cooled and condensed as it comes in contact with tubes carrying cool sea water. The condensed steam is then pumped to the deaerating feed tank where it is heated and deaerated and from there back to the boiler, completing one cycle.

All this equipment, plus supporting auxiliaries are located in the main propulsion spaces of the ship.

Some statistics of the NEWPORT NEWS' power plant will give some appreciation of its great size:

1. The four Babcock & Wilcox Type "M" Boilers and four General Electric steam turbines can produce 120,000 S.H.P.
2. Can drive the ship through the water at speeds in excess of 32 knots (37 mph).
3. Most economical speed is 11.5 knots - gives endurance of over 11,000 miles.
4. At 20 knots - endurance of 7800 miles.
5. At 30 knots - endurance of 3450 miles.
6. Can generate sufficient electric power to light a city of 40,000 people.
7. Can distill 60,000 gallons of fresh water daily.

Moving on to the engineer's second vital job, that is, to produce or provide all the services required to keep the ship functional - it is an understatement to simply say that this job is vast and complex, because it is in this area that engineers become involved with almost every operation and every single space on the entire ship.

The far reaching effects of this responsibility are easily understood when one looks at the systems maintained and operated, the services rendered, and the repair facilities manned.

The engineering plant must furnish power to operate the weapons, and furnish means of sustaining the men who man the ship. Electric generating plants furnish the electrical energy that operates the radar, radios, the training and elevating motors of the guns, the ammunition hoists, the primers that set off the gun's propelling charge, and deck equipment such as hoists, cranes, capstans, etc. The refrigeration plants cool and preserve the ship's food, and distilling plants convert sea water to boiler feed water and to potable water for drinking and cooking. Other services furnished by the Engineering Department include: air conditioning, compressed air, fire and flushing water, interior communications, the steering system, the ship's gyro, and operate and service boat engines.

For good measure, engineering throws in the following repair services which are absolutely essential if a ship is to be self-sufficient: machine shop, electric shop, metalsmith shop, pipe shop, carpenter shop, telephone shop, damage control shop, and boat repair shop.

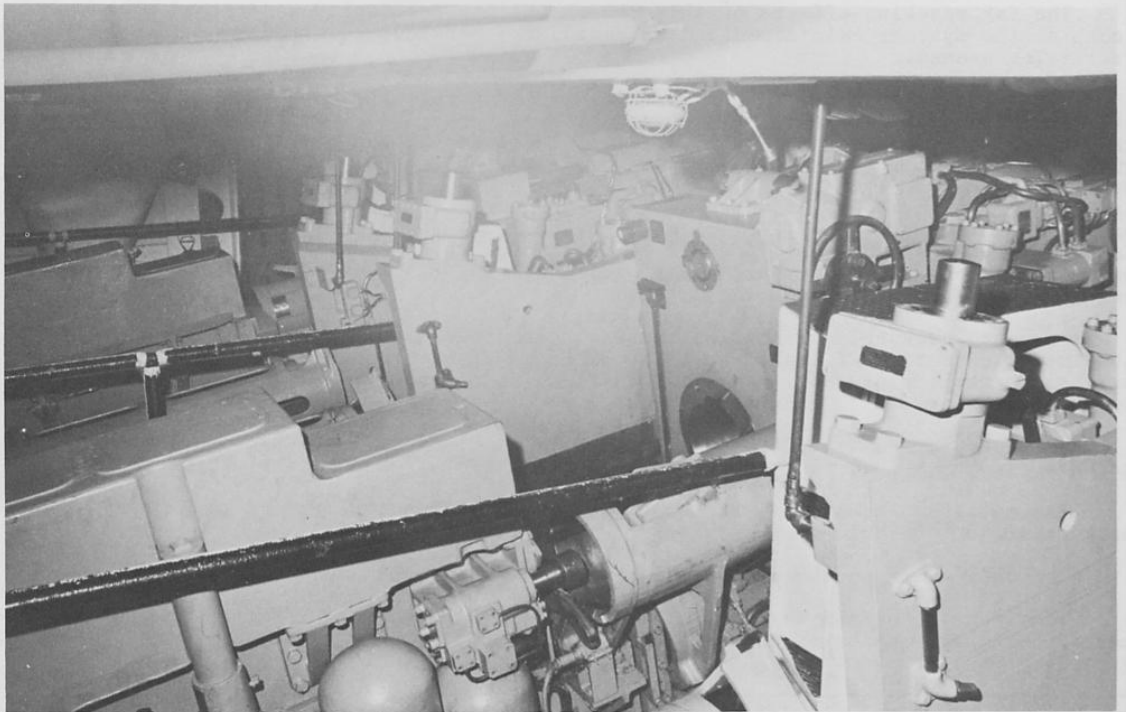
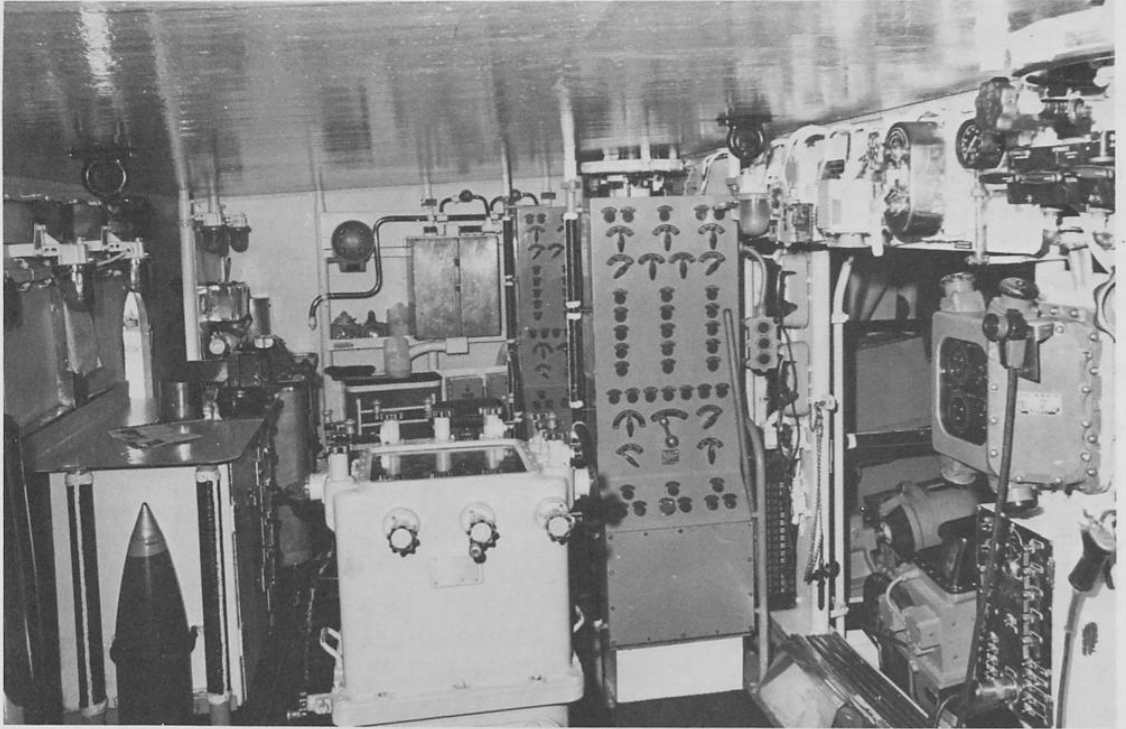
Engineering does a "whale of a business" in this area. The machine shop can make anything from a napkin ring to the most complex part of most of the machinery.

The metalsmith shop can make anything from a charcoal bar-b-cue to a heavy structural repair on the hull of the ship.

The only limit on the ability of the men is equipment and cost of material.

The last of Engineering's vital jobs is control of damage. Damage control is concerned not only with battle damage, but also non-battle damage such as fires, collision, grounding or explosion.

Opposite page: Top: Fwd. 5" gun and bridge. Bottom: Aft turret.



SUPPLY DEPARTMENT

The Supply Department is a staff organization and is responsible for ordering, storing, issuing and accounting for all general stores, electronic, ordnance, aviation and machinery repair parts, provisions, clothing and ships store stock. These include about 55,000 separate items. The objective is to keep on hand enough supplies to enable the ship to operate independently for at least 120 days. The Supply Department operates the crew's mess, ship's store, clothing store, soda fountain, laundry, dry cleaning plant, tailor shop, barber shops and many storerooms for the stowage of and issue of material necessary to keep the ship operating. It is responsible for preparation of the pay rolls and for paying the personnel, and payment of other bills for required services and supplies.

The Supply Department is divided into five functional components: The Stores Division, which is responsible for the ordering, stowing, issuing, and accounting for all technical repair parts and general stores.

The Subsistence Division, which is responsible for all food supplies as well as the preparation and service of food in the general mess.

The Sales and Service Division, which is responsible for the operation of the ship's store and related sales and services activities and the ordering, storage and sale of products connected with these retail outlets.

Disbursing which maintains the pay accounts of all personnel aboard and takes care of the collection, procurement and disbursement of all public funds required by the ship.

The Stewardsmen who are responsible for the preparation and service of food in the various private messes aboard ship, as well as the maintenance and cleanliness of the officer's living accommodations.

These Supply Department functions are performed by five officers and approximately 220 enlisted men.

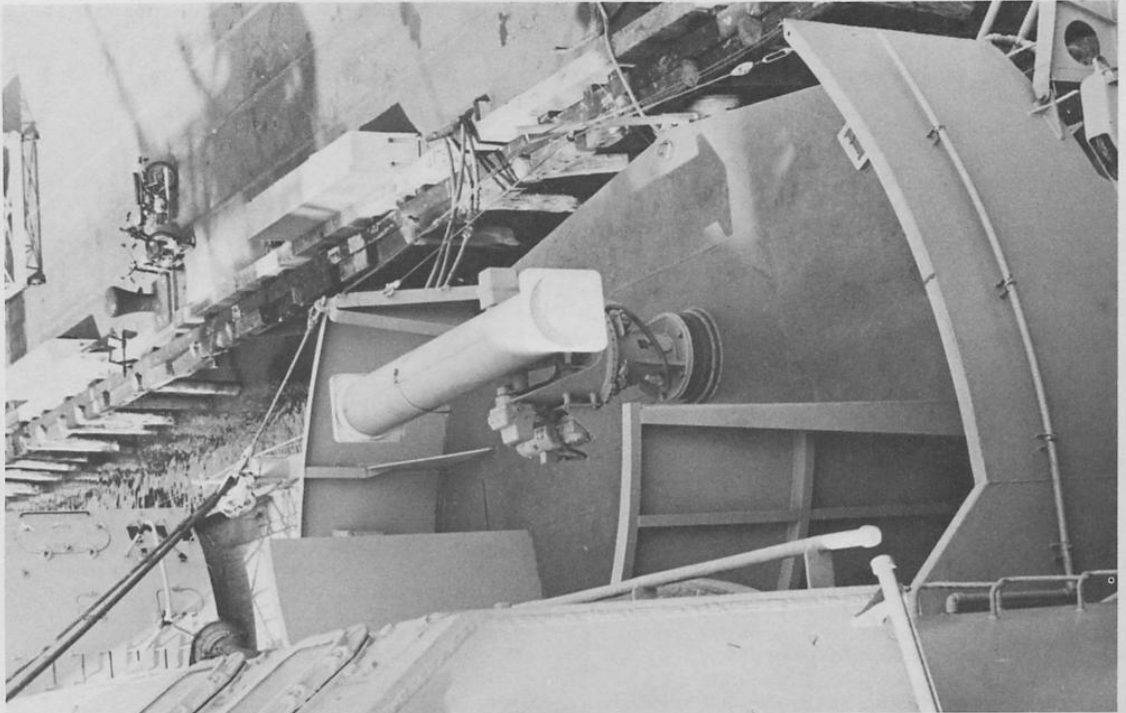
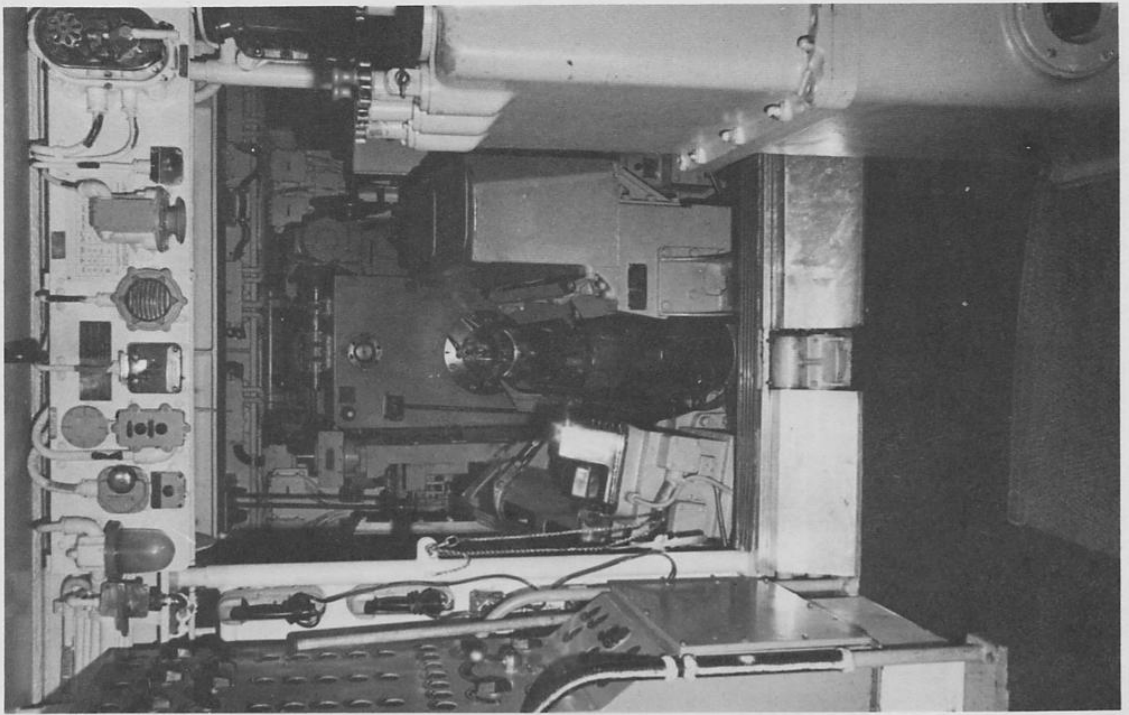
That, briefly is a summary of the functions of the Supply Department on board the NEWPORT NEWS.

COMMUNICATIONS DEPARTMENT

The Communications Officer is charged with the responsibility for all external communications, visual, as well as radio. NEWPORT NEWS is frequently on the move, operating in conjunction with other ships, its sister services, and many occasions armed forces of other countries. To accomplish these tasks, NEWPORT NEWS must speak to these forces. The voice of command is Communications. As the tempo and complicity of operations have increased over the years, so has the requirement for more rapid, more secure and more accurate communications. Although visual signals with flashing light and signal flags, semaphore and infra-red continue to play an important role in naval communications, the principle means of transmitting words from one command to another is radio. NEWPORT NEWS is equipped with the most modern transmitting, receiving, and teletype equipment available in the Navy today. Communication by voice, morse code, and teletype is accomplished by some 30 transmitters and 60 receivers which cover the entire radio frequency spectrum from a low 300 KHZ to the highest 400 MHZ. The teletype equipment is capable of handling enough words to fill more than 5 one thousand page novels in a 24-hour period. In fact, during her first deployment to WestPac, the Communications Department established a new high of 1,285 messages handled during one 24-hour radio day. This number also set a record for the Naval Communications Station in Cam Ranh Bay, South Viet Nam. The previous high had been established when Commander Second Fleet was embarked with a total number of 926 messages handled in one radio day. These messages may be transmitted or received in plain language or in a secure code system.

Not all the advances in naval communications have been made in radio alone. In order to accommodate this word-exchanging ability, new antenna systems are constantly

Opposite page: Top: Interior 8" turret. Bottom: 8" turret interior.

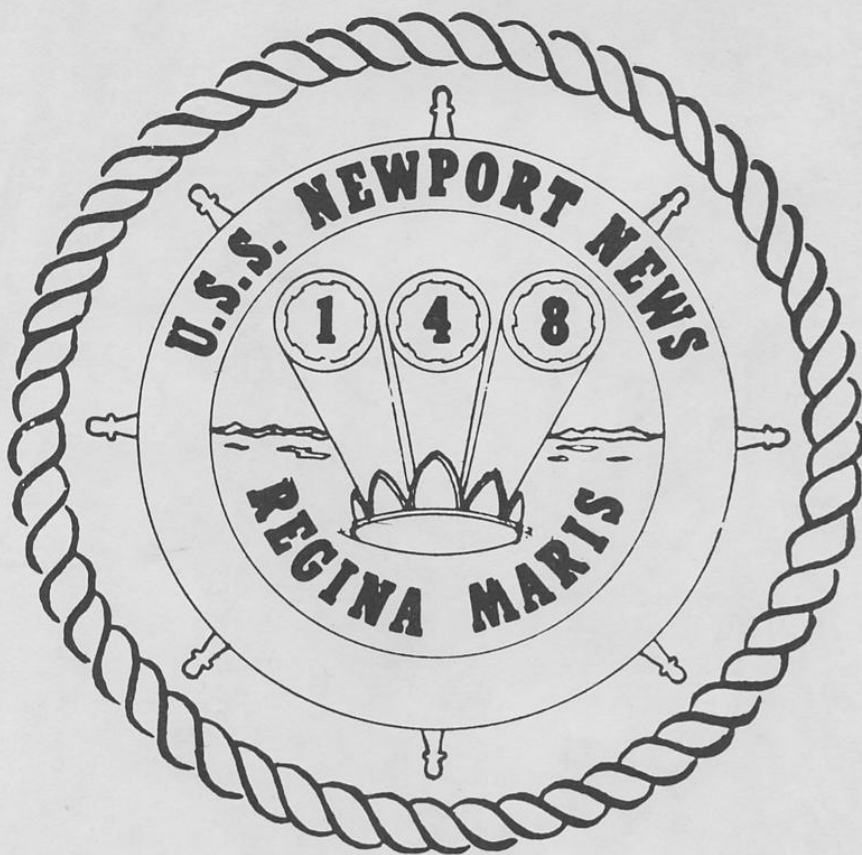


being designed and installed to transmit powerful signals efficiently, without mutual interference, and to receive the weakest signals as clearly as possible.

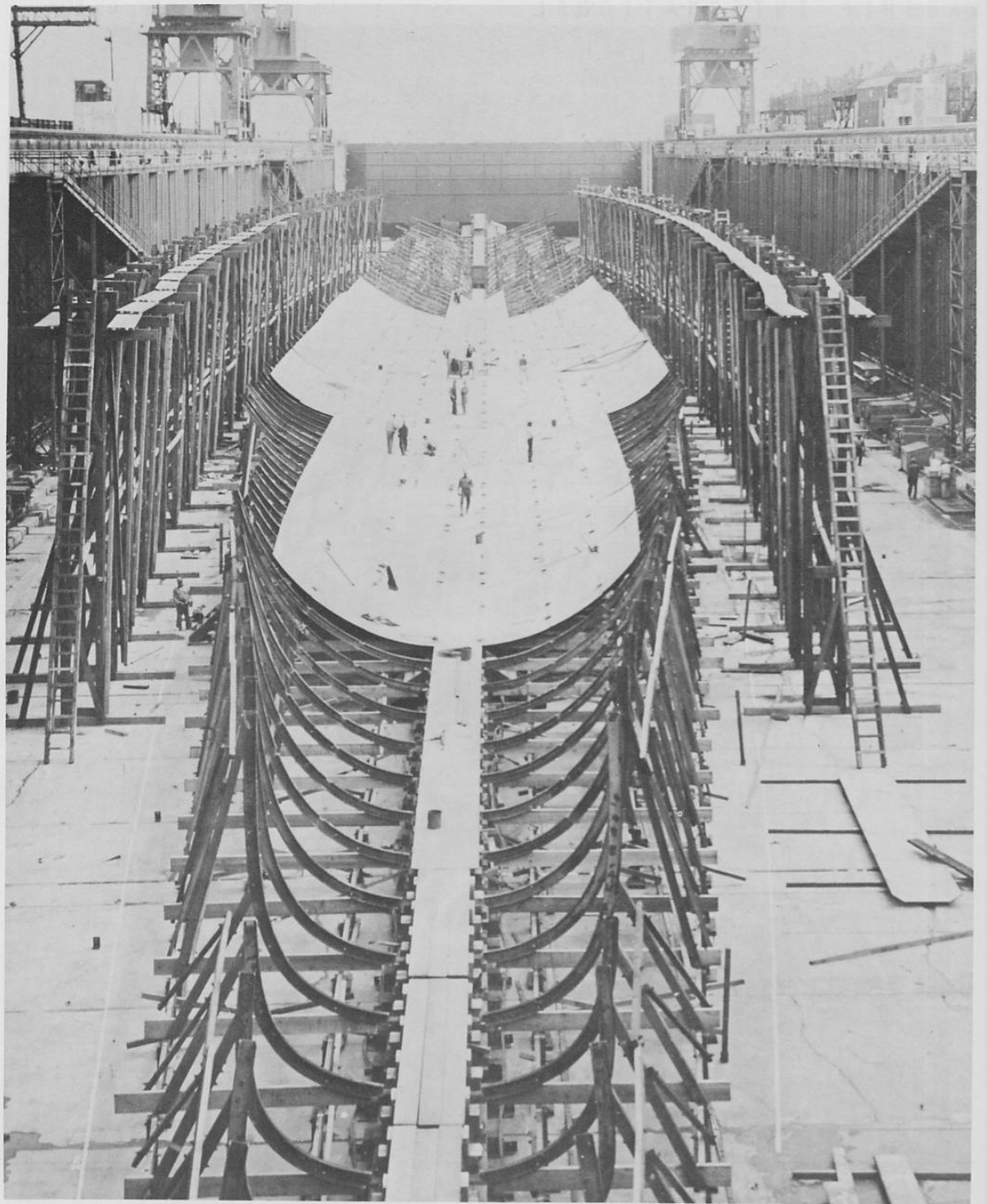
The Communications Office heads this group which is concerned with visual signalling, radio communications, and cryptography. Communications has in its department five officers and 87 enlisted men including six Chief Petty Officers. The enlisted rates assigned include signalmen, radiomen, and communications yeomen. Some of the radiomen have additional qualifications such as cryptography, cryptographic equipment repair and teletype repair.

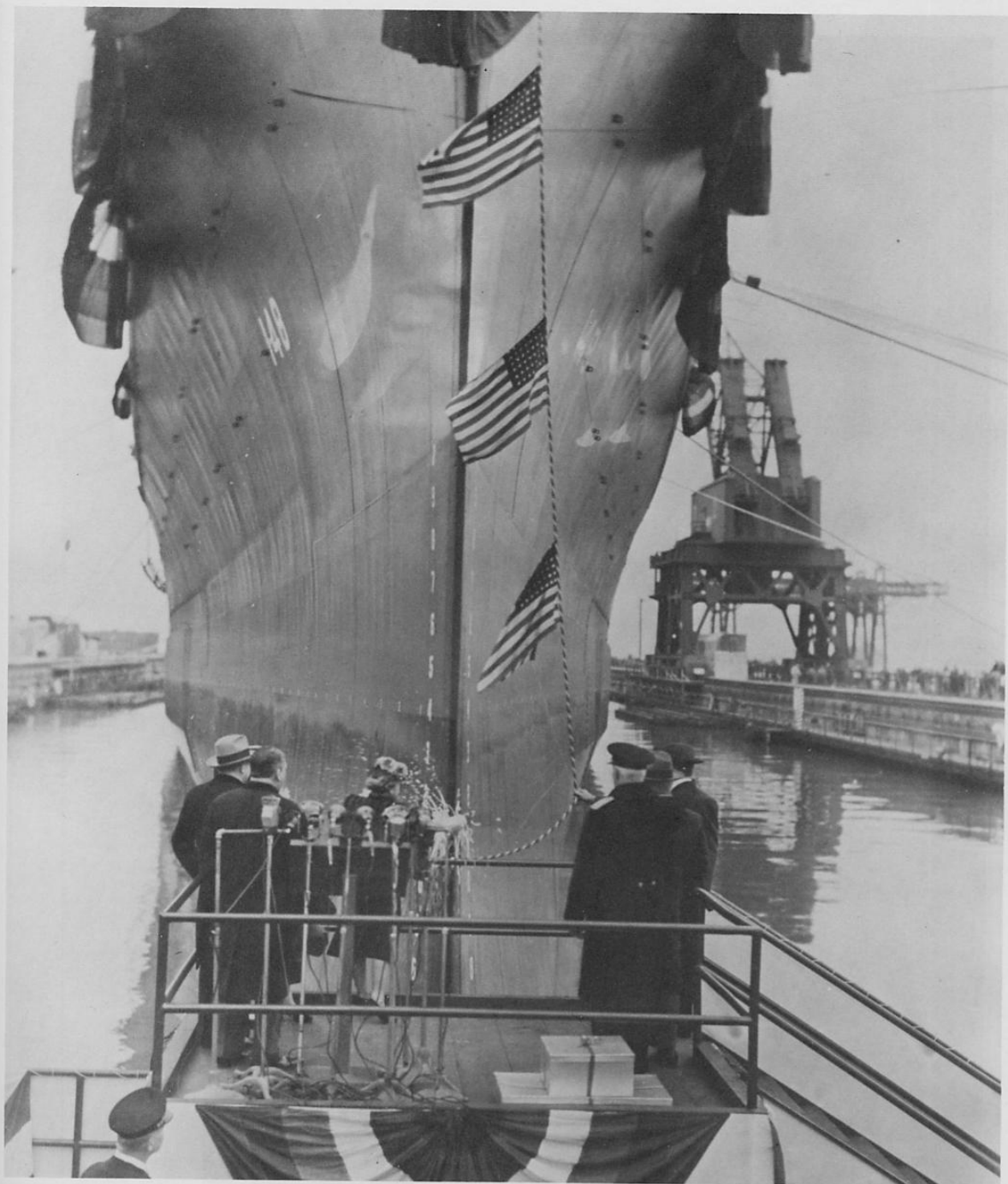
Editorial Note:

The Editor wishes to acknowledge the assistance of the following Navy personnel: Lt(jg) D. E. Tuininga, USNR and Lt(jg) J. F. Casey, USNR, both of NEWPORT NEWS Public Affairs Office. Also LCDR. K. W. Allison, USN, and Ms. Anna C. Urband of the Naval Office of Information.

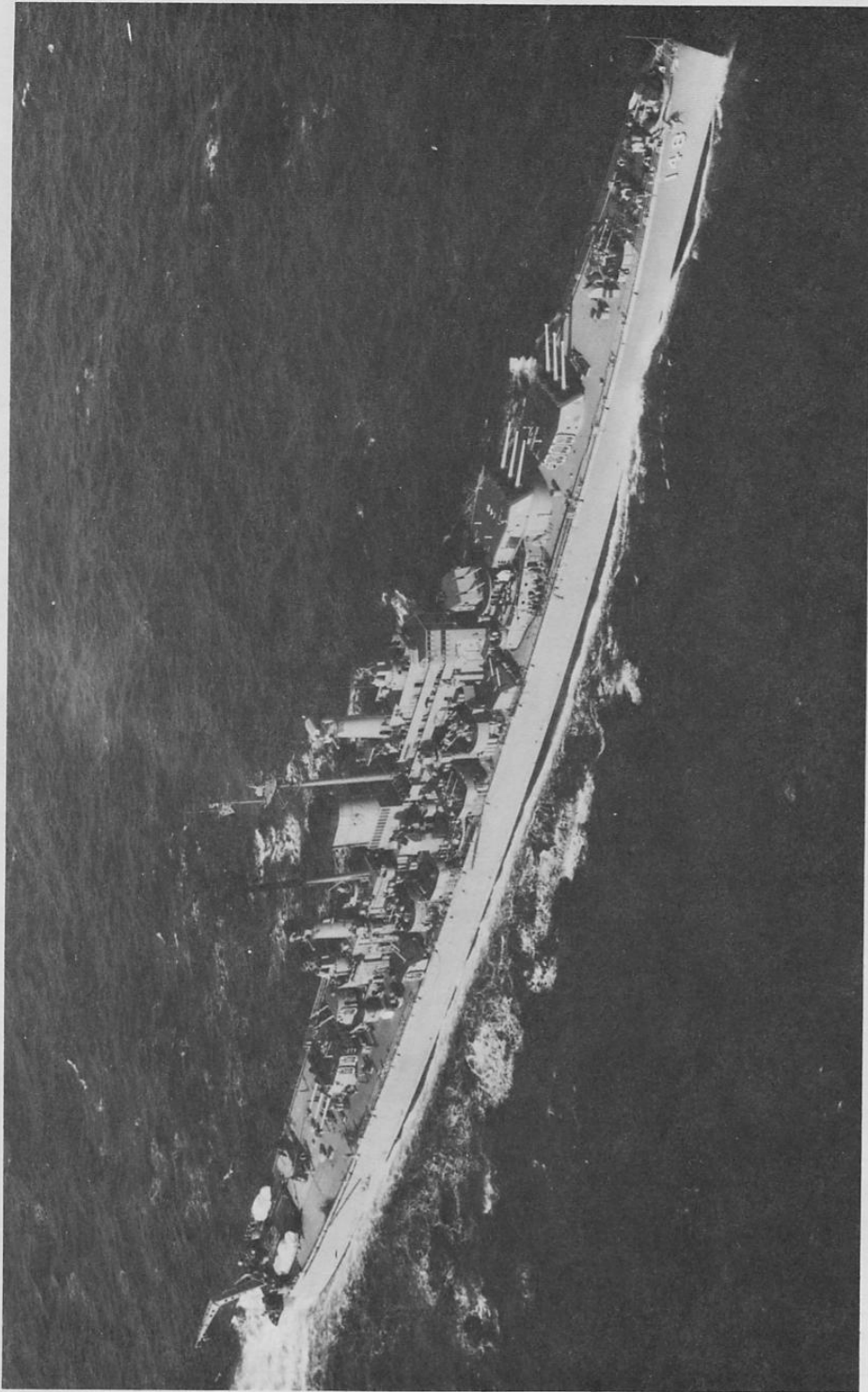


Opposite page: Top: Interior of 8" turret. Note open breech of the gun. Bottom: Port side Zuni rocket launcher.

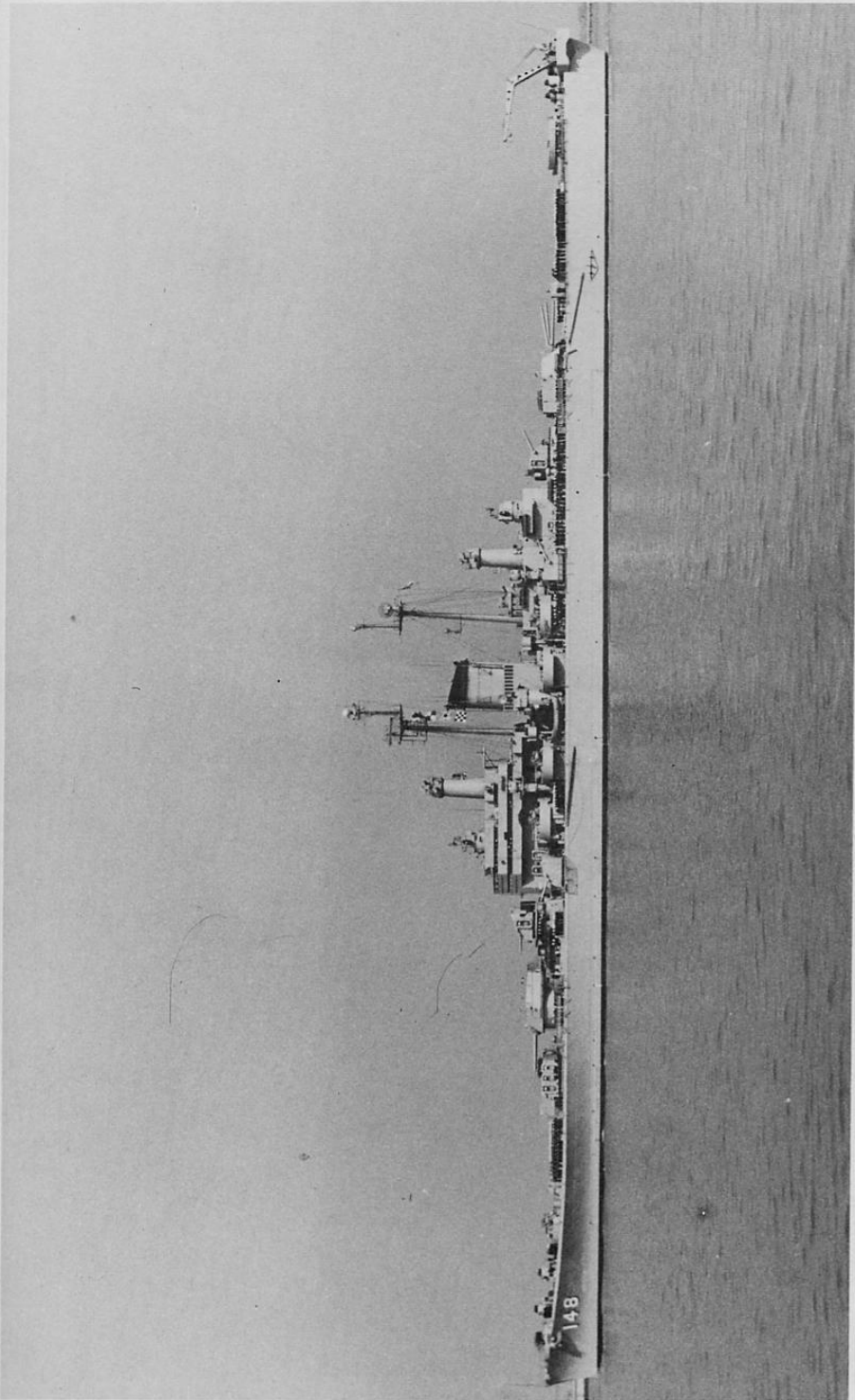




Opposite page: Laying the keel of NEWPORT NEWS. Official U.S.N. Photo. Above: Launching ceremonies of NEWPORT NEWS, March 6, 1947. Official U.S.N. Photo.



A good aerial view of CA-148, and basic original configuration with most AA armament embarked. Official U.S.N. photo. National Archives No. 80-G-442189.



377

U.S.S. NEWPORT NEWS shown here before modification. Official U.S.N. Photo. National Archives No. 80-G-399840.



U.S.S. NEWPORT NEWS shown here at Istanbul, Turkey, with the crew manning the rail.
Official U.S.N. Photo. National Archives No. 80-G-430647.

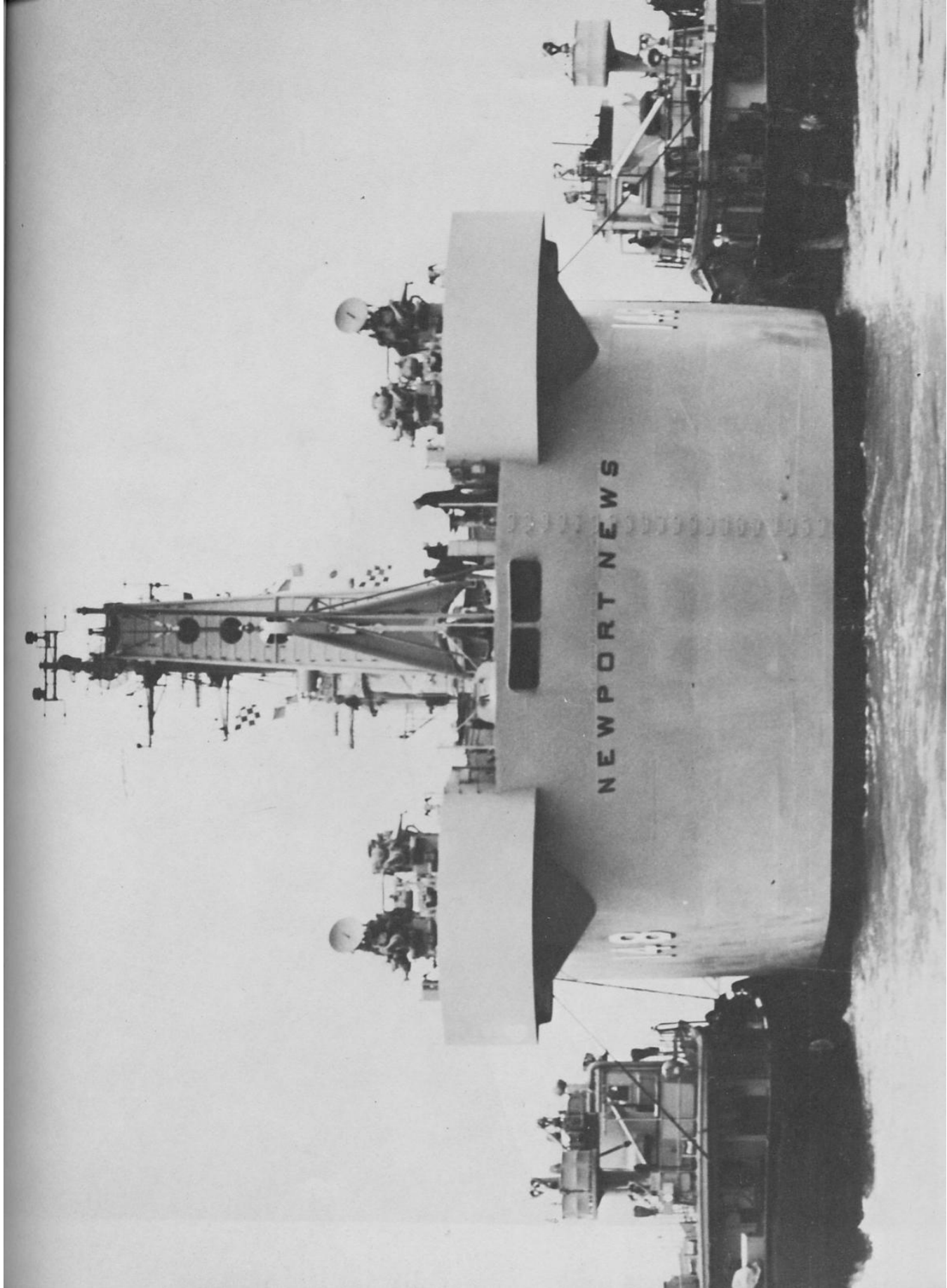


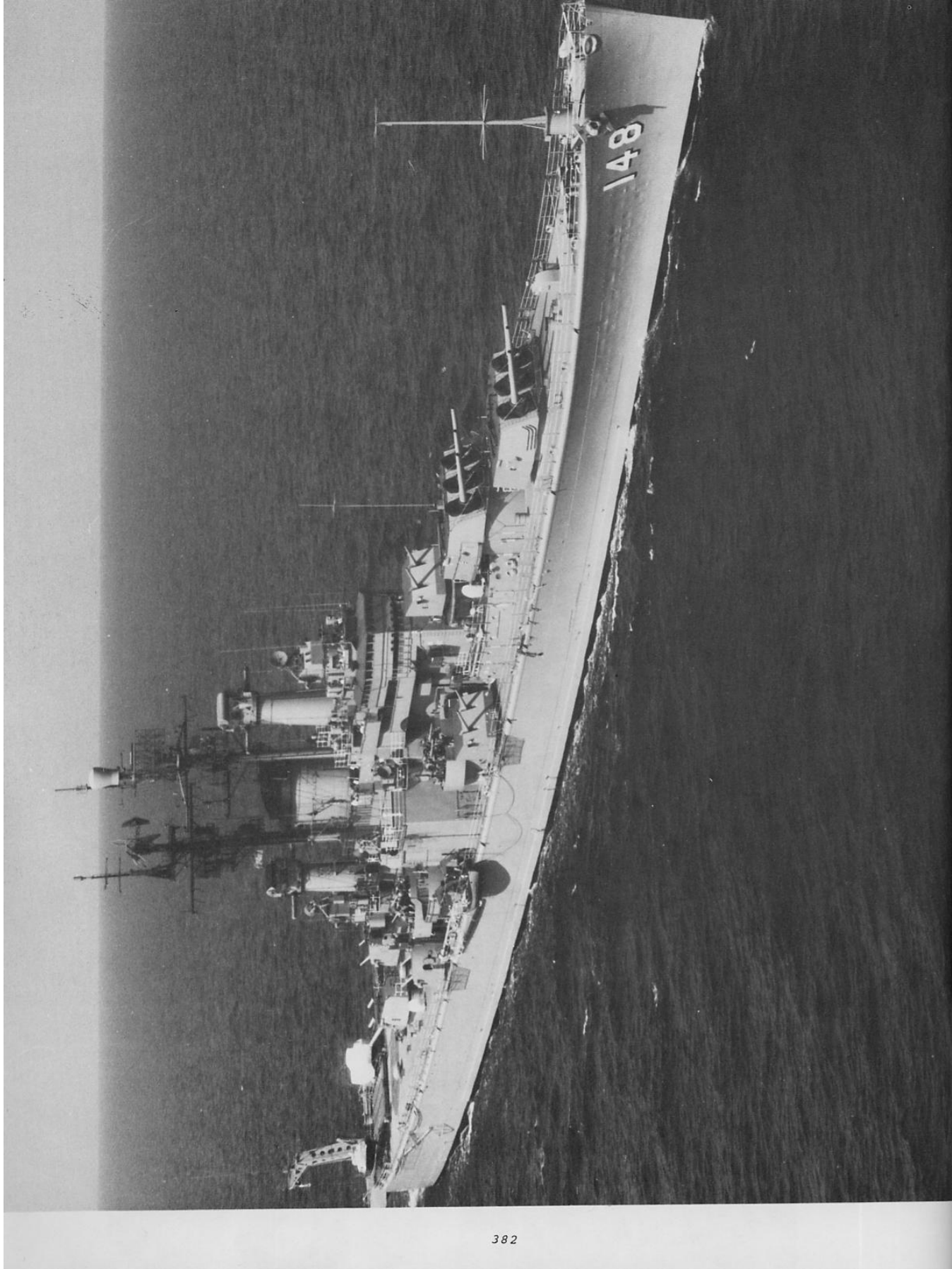
379

U.S.S. NEWPORT NEWS at anchor in Guantánamo Bay. Official U.S.N. Photo. National Archives No. 80-G-430598.



U.S.S. NEWPORT NEWS shown here in her basic original configuration. Note 3"/50's in forecastle gun tubs. Opposite page; A good stern view of CA-148. Note the two twin 3"/50's subsequently removed. Official U.S.N. Photos.



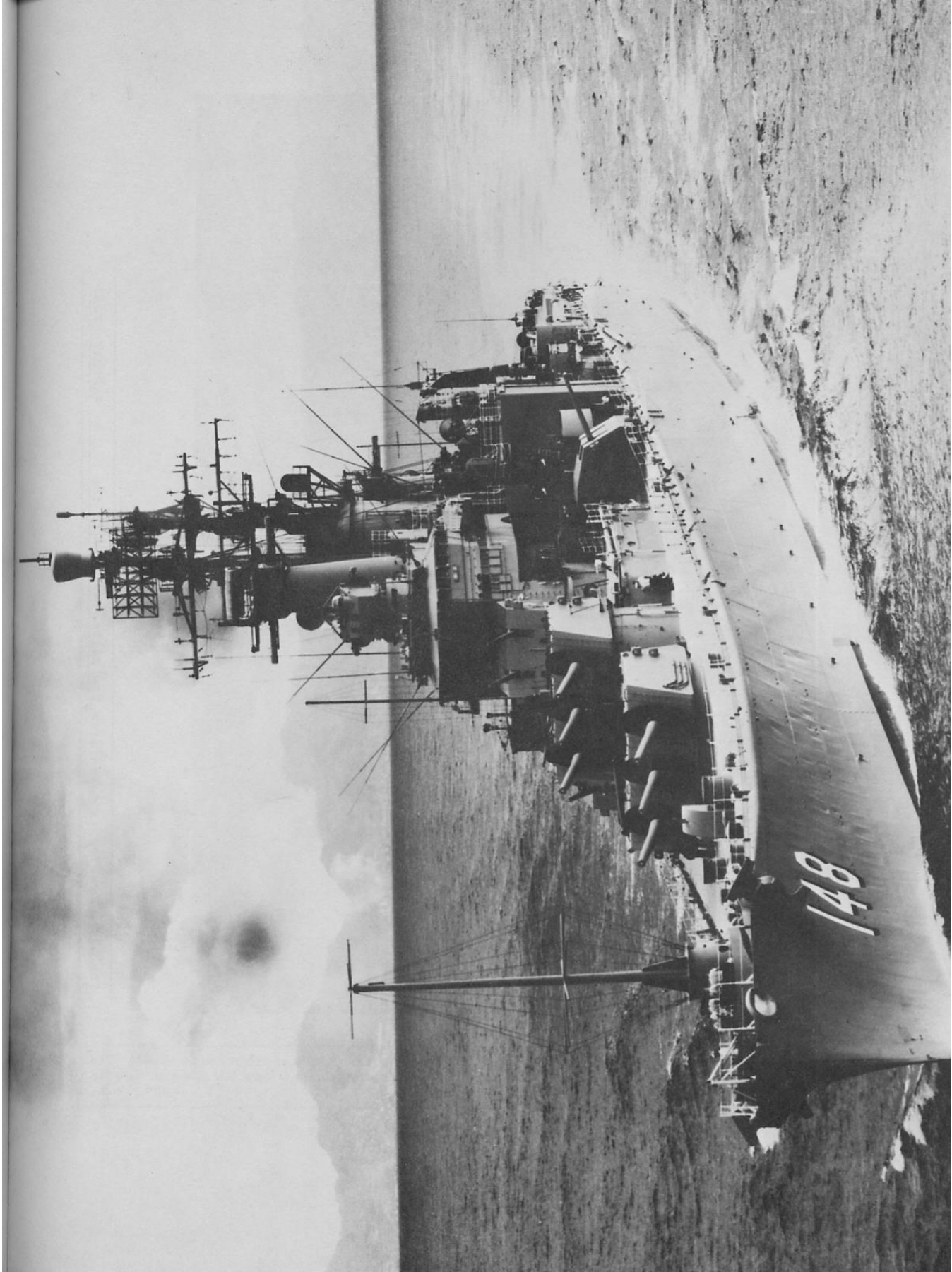


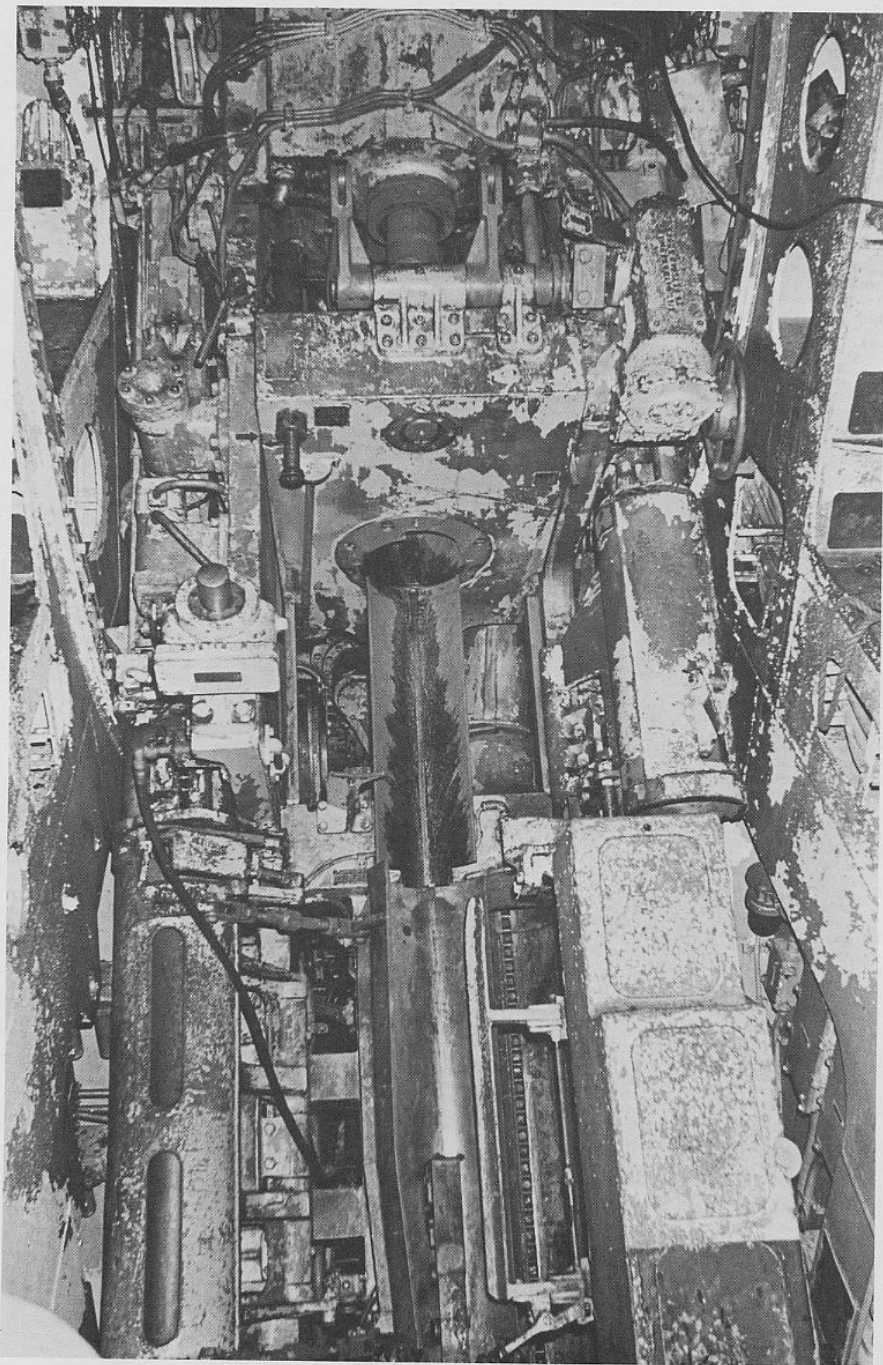


Opposite page: CA-148 after modification to flagship. Note extended superstructure, removal of various 3" guns and addition of antenna on forecastle. Official U.S.N. Photo. Above: The U.S.S. NEWPORT NEWS under way off the coast of Oahu, Hawaii, September 25, 1967. Official U.S.N. Photo.



Left: U.S.S. NEWPORT NEWS in action off Vietnam September 1967 to March 1968. Official U.S.N. Photo. Opposite page: U.S.S. NEWPORT NEWS shown here in 1969. Official U.S.N. Photo.





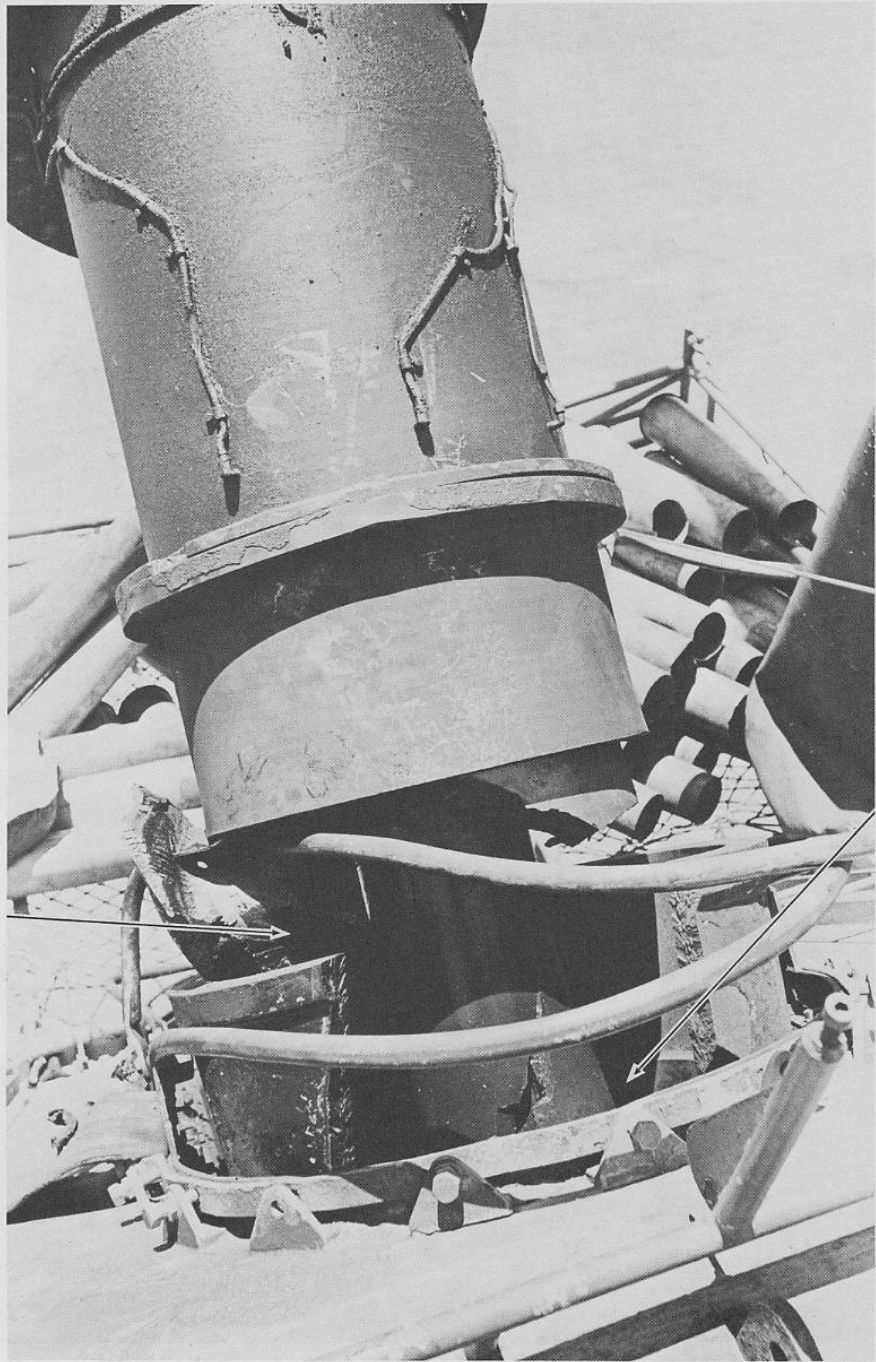
This photo taken October 3, 1972, shows the interior of the damaged turret, No. 2. Note the gun breech in the center of the photo. This is the point of the explosion. Official U.S.N. Photo.



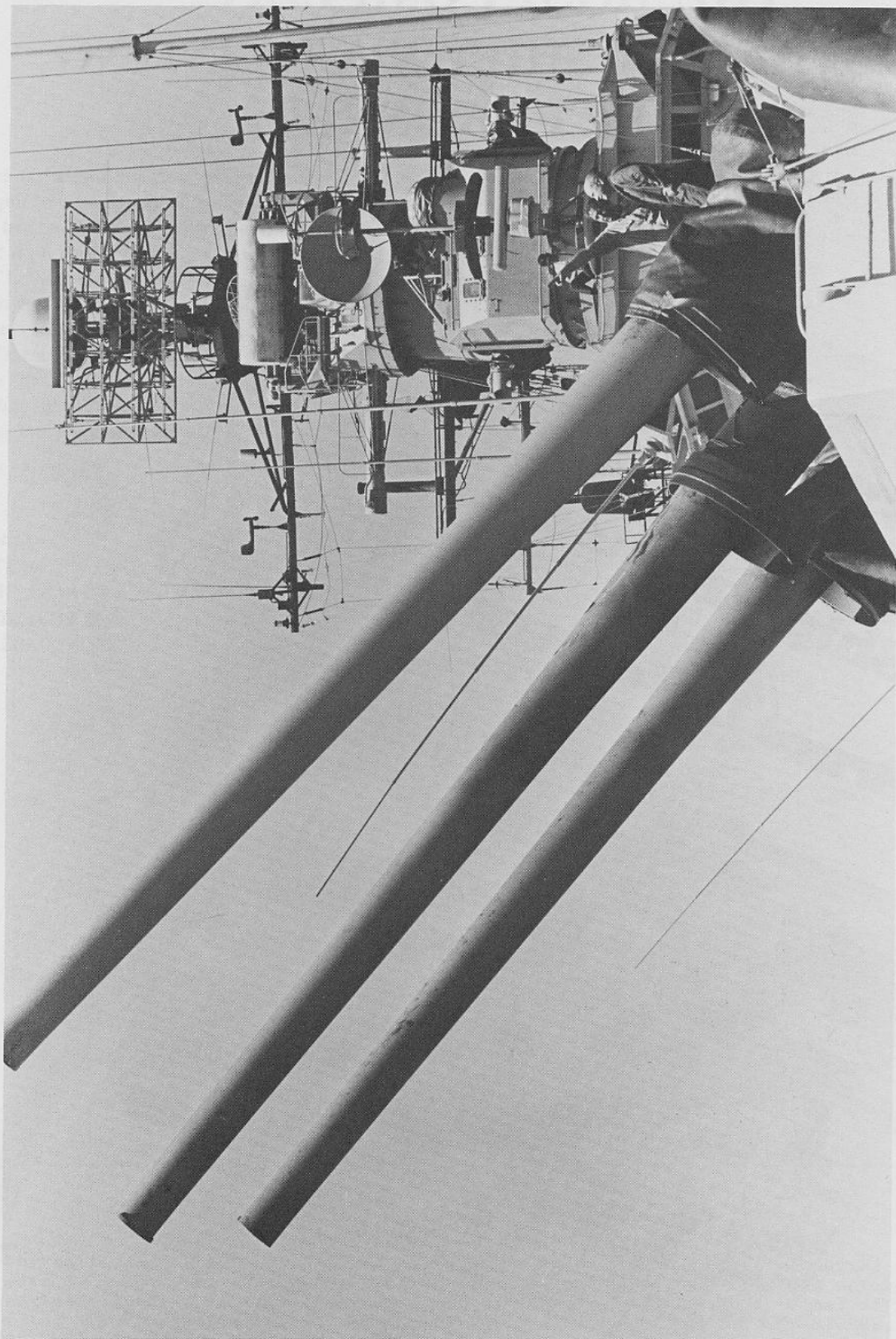
Photo taken October 3, 1972 showing the damaged center 8" gun. Official U.S.N. Photo.



Photo taken October 3, 1972 showing the "Basket" attached to the front of No. 2 turret. The "Basket" catches empty brass ejected from the turret. Official U.S.N. Photo.



A close-up view of the damaged 8" gun. Note that the barrel is completely detached from the turret and supported only by the liner. Official U.S.N. Photo.



An excellent view of the No. 2 turret and various radar antennas. Official U.S.N. Photo.