

DECLASSIFIED

WAR DEPARTMENT
FM 30-50

NAVY DEPARTMENT
NAVAER
00-80V-57

**RECOGNITION
PICTORIAL MANUAL
OF NAVAL VESSELS**

RESTRICTED

DECLASSIFIED

WAR DEPARTMENT,
Washington 25, D. C., 15 September 1943.

1. FM 30-50, Recognition Pictorial Manual of Naval Vessels, is published for the information and guidance of all concerned.
2. This manual supersedes FM 30-50, 11 October 1941; FM 30-51, 29 December 1941; FM 30-53, 7 March 1942; FM 30-55, 19 June 1941; and FM 30-58, 29 December 1941.
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By order of the Secretary of War:

G. C. MARSHALL,
Chief of Staff.

Official:

J. A. ULIO,
Major General,
The Adjutant General.

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(For explanation of symbols see FM 21-6.)

BUREAU OF AERONAUTICS
NAVY DEPARTMENT • WASHINGTON, D. C.
15 SEPTEMBER 1943

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INSERT

THE contents of Recognition Pictorial Manual of Naval Vessels FM 30-50 NavAer 00-80V-57 represents warship coverage available from the Division of Naval Intelligence, Identification and Characteristics Section at the time of its printing. Although the coverage is not complete and in some cases lacking (British), further delay in its issuance would be more detrimental than the temporary lack of coverage.

Plates on the remainder of the British Navy are being processed at this time by the Division of Naval Intelligence. As soon as they are made available, they will be printed as a supplement to this manual and distributed in the same manner as this volume, for insertion.

Washington, D. C.
September 15, 1943

THE basic principle of Surface Vessel recognition as with aircraft is familiarity with the *total form* of the object observed. The true character of a ship is not determined by a single feature or features but by the familiarity we may have with the total mass of the hull and superstructure, when viewed from great distances.

As in aircraft recognition, the salient recognition characteristics are shown in their simplest form by silhouettes. If this silhouette is further simplified into its basic masses, we obtain a silhouette where the minor details have disappeared, leaving only the real recognition features. It should be noted, however, that in one important respect ship silhouettes differ from those of aircraft. With planes, all three views are of nearly equal importance for correct identification, but in ship recognition, the use of the beam, or side view silhouette, is by far the most important. If the beam silhouette is thoroughly known, the ship can be recognized from either the surface or the air. This can be proven by examining any group of aerial views of ships.

Preceding each group of vessels of each nation represented in this manual is a chart of these simplified silhouettes representing a vessel of each class. These are arranged at the same scale for ease of comparison with each other and with other ships in the same class in other navies. Large instructional charts of these simplified silhouettes are being prepared and will be distributed in the near future.

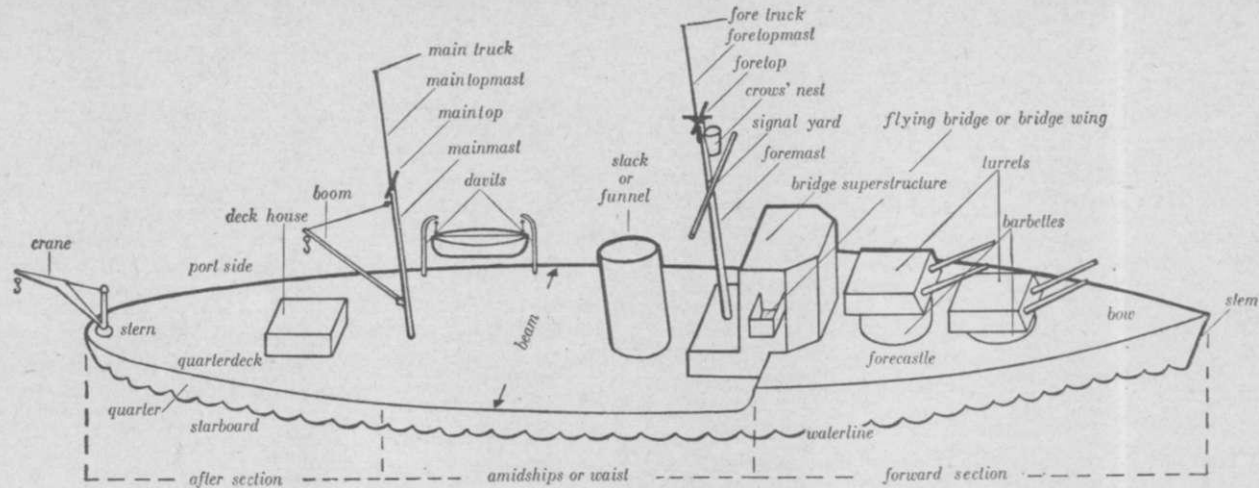
The present manual will serve as a text book in recognition courses inasmuch as it will have material, readily available, within a single cover, on all ships on the present operational list.

Sets of scale models of surface craft are available on request for supplementary instruction from the Bureau of Aeronautics for the Navy, and from the A. A. F. Training Aids Division, New York City, for the Army Air Forces. These are useful for detail examination and for various forms of realistic display on surfaces simulating water under varying light conditions, such as study of fleet maneuvers. The models are particularly valuable since they may be displayed at any angle and may be viewed from above to illustrate views of ships or groups of ships.

Motion pictures are available for a limited number of subjects and serve further to assist in recognition training.

Training in recognition of surface craft follows the same general pattern as in aircraft recognition. The principal value of the flash meter as a teaching device is that it forces the student to grasp total form as opposed to detail. It has already been indicated that this recognition of total mass is as essential for surface craft as for aircraft. Therefore, exposures of slides should be as brief as is consistent with the progress of the group being taught. While, in general, exposures will probably be at the one or one-half second rate, successful work on surface craft images has been reported at speeds up to $\frac{1}{8}$ of a second.

TERMINOLOGY



NOTE: Terms later defined in the text of this section have been omitted in the following list.

ABAFT.. behind; toward stern from.

ABEAM.. at right angles to the keel.

AMIDSHIPS.. the middle portion of a vessel.

ARMOR.. steel plating designed to defeat shells, bombs, or underwater explosion.

ARMOR BELT.. band of armor extending along a ship's sides above and below water-line.

ATHWART.. across; from side to side; transversely.

BEAM.. extreme width of ship.

BILGE.. curved part of ship's hull where sides and flat bottom meet.

BLISTER.. a bulge built into a ship's side as a protection against torpedoes.

BOOM.. a free-swinging spar used to secure boats or to handle cargo, boats or aircraft.

BREAK.. the point at which upper decks are discontinued.

BRIDGE.. raised forward platform from which ship is conned and navigated.

BULKHEAD.. transverse or longitudinal partitions subdividing the interior of a ship.

BULWARKS.. light plating or wooden extension of ship's sides above upper deck.

CASEMATE.. armored gun mount built into the sides or superstructure of a ship.

CLASS.. vessels of the same type built to a common basic design.

COMBINED OPERATIONS.. joint operations conducted by nonhomogeneous forces or forces of different services and/or nationalities.

COMPANIONWAY.. hatchway providing access from one deck to another.

COMPARTMENTATION.. subdivision of a ship's hull by means of transverse and/or longitudinal bulkheads.

CONNING TOWER.. armored ship control station. In submarines, the main deck structure.

TERMINOLOGY

COUNTER__ side of a vessel's quarter.

COWL__ a smoke baffle located on top of a funnel; opening of a ventilator.

DAMAGE CONTROL__ comprehensive term for all means of mitigating or offsetting effects of damage aboard ship.

DEPTH CHARGE__ explosive device projected or dropped from air or surface craft; detonated at predetermined depths by a hydrostatic mechanism.

DISPLACEMENT__ the weight of water displaced by a ship.

FANTAIL__ after section of the main deck.

FORE__ That part of a ship lying between bow and midship section.

FORE AND AFT__ lengthwise of a ship.

FORECASTLE__ deck; a forward upper deck extending to bow.

FREEBOARD__ height of a ship's sides from waterline to a weather deck.

FLYING BRIDGE__ a light self-supporting structure extending from side of ship's bridge.

GUN HOUSE__ a lightly protected, rotating mount for guns of lesser calibre.

GUN SHIELD__ any protection for gun crews which does not completely enclose mount.

GUNWALE__ upper edge of a vessel's or boat's side.

HALYARDS__ light lines used in hoisting signals, flags, etc.

HATCH__ opening in a deck.

HAWSE PIPES__ tubes leading anchor chains from deck down and forward through bow plating.

HELM__ the mechanism for operating the ship's rudder.

HULL__ main body of a vessel exclusive of elements of superstructure.

ISLAND__ a free-standing section of a ship's superstructure. On aircraft carriers, the ship's superstructure.

KEEL__ center line strength member running fore and aft along the bottom of a ship.

KNOT__ a unit of speed, equalling one nautical mile (6,080.20 feet) per hour.

LIST__ transverse inclination of a vessel.

MAIN BATTERY__ the heaviest calibre gun armament carried by a naval vessel.

MAIN DECK__ a ship's highest continuous deck.

MINE__ a device containing high explosive charge, free-floating or anchored at fixed depth, or resting on bottom: detonated by contact, or by electrical or magnetic impulse.

MULTIPLE MAST__ an exposed mast having one or more supporting elements.

PEAK (fore and aft)__ compartment at the extreme bow or stern of vessel below decks—usually a tank.

PORT__ left hand side of a vessel when looking towards bow; an opening.

QUARTER__ that portion of a vessel's side near the stern.

QUARTER DECK__ part of upper deck reserved for officers; also the deck near the stern.

RADIO DIRECTION FINDER__ device for determining direction of source of radio impulses.

RAKE__ fore and aft inclination from vertical.

RANGEFINDER__ optical instrument for determining distance to a target or other object.

RECIPROCATING ENGINE__ a steam actuated piston engine as distinguished from a turbine.

RIGGING__ collective term for ropes and chains employed to support masts, yards, and booms of vessel.

SECONDARY BATTERY__ the gun armament next in calibre to main battery.

SHEER__ longitudinal upward or downward curvature of deck or gunwale.

SHEER LINE__ line formed by intersection of deck and sides of a ship.

SPLINTER SCREEN__ light armor shields for protection of crew.

STACK__ exposed uptake from ship's boilers; funnel.

STARBOARD__ the right hand side of a vessel when looking towards bow.

STEM__ extreme forward line of bow.

STERN POST__ the main vertical post in the stern frame upon which the rudder is hung.

SUPERSTRUCTURE__ any structure built above a ship's hull.

TASK FORCE__ a naval force organized to carry out a specific mission.

TURRET__ a rotating mount enclosed by armor for guns of large calibre.

TWIN TURRET__ a turret housing two guns.

TYPE__ all vessels built or converted for the same purpose.

WEATHER DECK__ any deck exposed to weather.

WELL__ a lateral opening in a ship's hull or superstructure.

ATTRIBUTES OF FIGHTING SHIPS

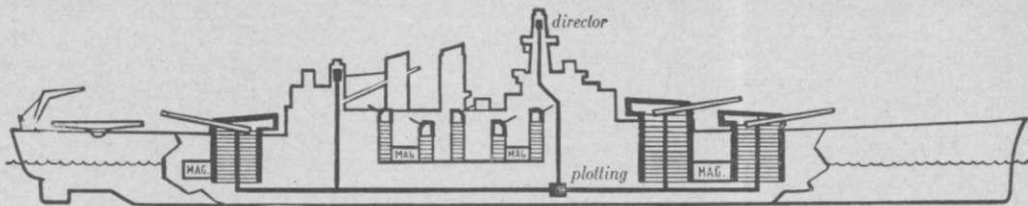
A ship, to be classed as a *fighting ship*, must be capable of inflicting damage and of sustaining or avoiding damage. She must possess sufficient speed and maneuverability to execute her mission and the capacity to proceed independently to a scene of action. The *type* of a warship is determined by the degree to which each of these qualities has been stressed in her design.

ARMAMENT

Capacity to "dish it out" is a primary attribute of fighting ships. Ships may be designed to inflict damage by *shells* from their guns, *torpedoes* from their tubes, *bombs* from aircraft they may carry, or by *depth charges* or *mines*. Battleships and cruisers are essentially *gun* ships,

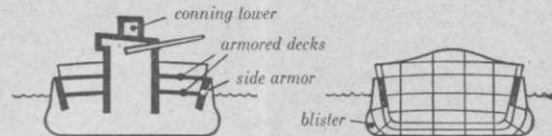
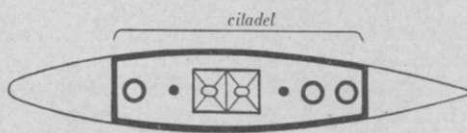
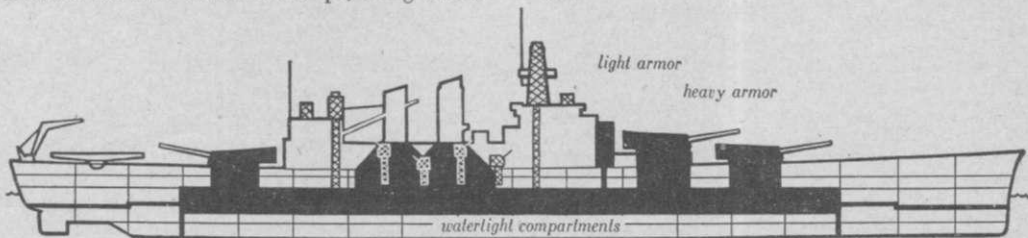
PROTECTION

A fighting ship must also be able to "take it." A ship may be designed to absorb punishment, to mitigate its effect, or to avoid it. She may be provided with *armor*: heavy steel plate around vital parts to defeat shells, bombs, and torpedoes. Her hull will be subdivided into separate spaces, or provided with bulges or blisters, to confine the effects of flooding and explosion. This is called *compartmentation*. *Damage control* systems consisting of provisions for counterflooding, fire fighting, etc., are developed in varying degree in all types. Speed and



although they carry other weapons. Carriers, minelayers, and torpedo boats are designed for special attack functions, with guns provided largely for defense, while destroyers and submarines are dual armament ships, using either

guns or torpedoes. Larger types carry secondary batteries, primarily intended for defense against destroyers or submarines, or, if "dual purpose," for protection from attack from the air.



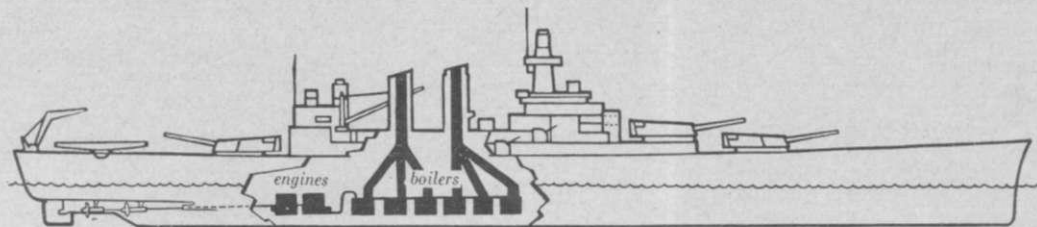
maneuverability in themselves constitute factors of protection in smaller types in which armament and protection have been sacrificed for these

qualities, while submarines depend for protection largely on their ability to make themselves invisible by submerging.

MOBILITY

Most fighting ships are propelled by high-pressure steam boilers and geared turbine engines, although Diesel or reciprocating engines are sometimes used in smaller types. Diesels are used in submarines when operating on the surface, electric storage battery motors when submerged.

Since a large proportion of total displacement and space is allotted to armament and protection in the design of battleships, these ships do not attain the high speeds of many smaller combat



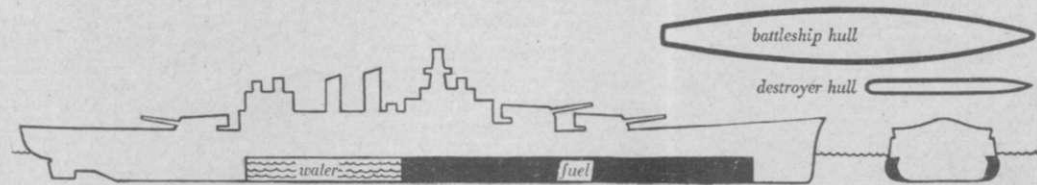
units. Carriers are designed for speed, with corresponding sacrifice of armor. Cruisers' speed will range from 30 knots, which will permit a heavy cruiser to operate with the fleet and outrun

most battleships, to speeds of over 40 knots in lighter types. Speed is essential to a destroyer's functions and new types are capable of attaining or bettering that of any cruiser.

SEA KEEPING

Without the capacity to reach a scene of operations, execute a mission, and return to a base, even the fastest and most powerful fighting ship would be of little value.

To bring an enemy to action is the battleship's primary function, and these ships must carry crews and provisions necessary to take them into battle with enough shells and fuel and food aboard to permit them to fight and return. Since cruisers are often required to perform independent missions at great distances, *sea keeping* capacity is a vital consideration in their design. Carriers must also be designed to accommodate provision for extended operations and fuel for their aircraft. Destroyers, as they



often operate with battle fleets or in convoy, must also carry provisions for such work, subject to limitations of size, while submarines are required to remain in enemy waters for extended periods. It will, therefore, be seen that *sea keeping* is a very important factor in the design of all more important types of fighting ships.

The bulky hull of the battleship (above) reflects capacity to accommodate provision for sea repair and for storage of immense quantities of fuel, water, food, ships stores, and lubricating oil, while the proportions of destroyer hulls indicate limitations in sea-keeping capacity inherent in their type.

TYPE DESIGNATIONS U. S. NAVAL VESSELS

PRINCIPAL COMBATANT TYPES

BB BATTLESHIP
CB LARGE CRUISER
CV AIRCRAFT CARRIER
CVL AIRCRAFT CARRIER (light)
CVE AIRCRAFT CARRIER (escort)
CA HEAVY CRUISER
CL LIGHT CRUISER
DD DESTROYER
DE DESTROYER ESCORT VESSEL
SS SUBMARINE
SM MINELAYING SUBMARINE

MINOR COMBATANT TYPES

CM MINELAYER
DM LIGHT MINELAYER
DMS HIGH-SPEED MINESWEEPER
AM MINESWEEPER
AN NET-LAYING SHIP
PF FRIGATE
PE EAGLE BOAT
PG GUNBOAT
PC SUBMARINE CHASER
PCE PATROL CRAFT ESCORT
PCS SUBMARINE CHASER (136')
SC SUBMARINE CHASER (110')
PT PTC MOTOR TORPEDO BOAT
PY YACHT

NAVAL AUXILIARIES

Tenders

AD DESTROYER TENDER
AH HOSPITAL SHIP
AS SUBMARINE TENDER
ASR SUBMARINE RESCUE VESSEL
AR REPAIR SHIP
ARB BATTLE DAMAGE REPAIR SHIP

ARG INTERNAL COMBUSTION ENGINE REPAIR SHIP
ARH HULL REPAIR SHIP
ARL LANDING CRAFT REPAIR SHIP
ARS SALVAGE VESSEL
AV SEAPLANE TENDER
AVD DESTROYER SEAPLANE TENDER
AVP SMALL SEAPLANE TENDER
AGP MOTOR TORPEDO BOAT TENDER

CARGO AND FUEL SHIPS

AE AMMUNITION SHIP
AF PROVISION STORESHIP
AK CARGO SHIP
AKA ATTACK CARGO SHIP
AKS STORES ISSUE SHIP
AO OILER
AOG GASOLINE TANKER

TRANSPORTS

AP TROOP TRANSPORT
APA ATTACK TRANSPORT
APD HIGH-SPEED TRANSPORT
APH WOUNDED EVACUATION TRANSPORT
APM MECHANIZED ARTILLERY TRANSPORT
APR RESCUE TRANSPORT
APV AIRCRAFT TRANSPORT
AGC OPERATIONS AND COMMAND HEADQUARTERS SHIP

LANDING CRAFT

LCC CONTROL LANDING CRAFT
LCI INFANTRY LANDING CRAFT
LCT TANK LANDING CRAFT
LSO DOCK LANDING SHIP

LST TANK LANDING SHIP
LCM MECHANIZED EQUIPMENT LANDING CRAFT
LCV VEHICLE LANDING CRAFT
LCS SUPPORT LANDING CRAFT
LCP PERSONNEL LANDING CRAFT
LVT TRACKED LANDING CRAFT
LCR RUBBER LANDING CRAFT

NAVAL AUXILIARIES

Base Craft

AB CRANE SHIP
ABD ADVANCE BASE DOCK
ABSO ADVANCE BASE SECTIONAL DOCK
AFD MOBILE FLOATING DOCK
APL BARRACKS SHIP
APC COASTAL TRANSPORT
ARDC CONCRETE REPAIR DOCK
ARD FLOATING DRYDOCK
AT OCEAN-GOING TUG
ATR RESCUE TUG
AVR AIRCRAFT RESCUE VESSEL
AMB HARBOR MINESWEEPER

Miscellaneous

AG MISCELLANEOUS AUXILIARIES
AGS SURVEYING SHIP
IX UNCLASSIFIED

DISTRICT CRAFT

YAG MISCELLANEOUS DISTRICT AUXILIARIES
YMS MOTOR MINESWEEPER
YMT MOTOR TUG
YN NET TENDER
YNG GATE TENDER
YP DISTRICT PATROL VESSEL
YT HARBOR TUG
CMC COASTAL MINESWEEPER

Barges

YCD FUELING BARGE
YO FUEL-OIL BARGE
YOS OIL STORAGE BARGE
YPK PONTOON STORAGE BARGE
YS STEVEDORING BARGE
YSR SLUDGE REMOVAL BARGE
YTT TORPEDO TESTING BARGE
YW WATER BARGE

LIGHTERS

YA ASH LIGHTER
YC OPEN LIGHTER
YCK OPEN CARGO LIGHTER
YCV AIRCRAFT TRANSPORT LIGHTER
YF COVERED LIGHTER
YFT TORPEDO TRANSPORT LIGHTER
YG GARBAGE LIGHTER
YLA OPEN LANDING LIGHTER

MISCELLANEOUS

YCF CAR FLOATS
YD FLOATING DERRICK
YDG DEGAUSSING VESSEL
YDT DIVING TENDER
YE AMMUNITION TENDER
YFB FERRY BOAT
YED FLOATING DRYDOCK
YHB HOUSEBOAT
YHT HEATING SCOW
YM DREDGE
YPD FLOATING PILE DRIVER
YR FLOATING WORKSHOP
YRDH DRY DOCK WORKSHOP—HULL
YSD SEAPLANE WRECK DERRICK
YSP SALVAGE PONTOON



U. S.

UNITED STATES NAVAL VESSELS



**SIMPLIFIED
SILHOUETTES**



BATTLESHIPS-BB

HEAVY CRUISERS-CA



IOWA



SOUTH DAKOTA CLASS



NEVADA



NORTHAMPTON CLASS



NORTH CAROLINA CLASS



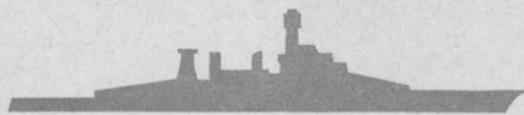
PENNSYLVANIA



NEW ORLEANS CLASS



TENNESSEE



COLORADO CLASS



PORTLAND CLASS



NEW MEXICO CLASS



NEW YORK CLASS



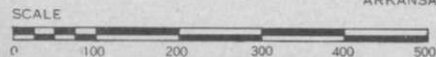
PENSACOLA CLASS



ARKANSAS



WICHITA



BALTIMORE CLASS

AIRCRAFT CARRIERS CV-CVL-CVE



SARATOGA—CV



ESSEX CLASS—CV



ENTERPRISE—CV



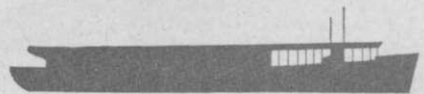
RANGER—CV



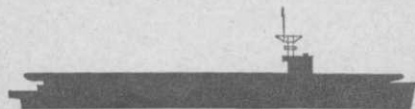
INDEPENDENCE CLASS—CVL



BOGUE, SANGAMON, PRINCE WILLIAM CLASSES—CVE



LONG ISLAND—CVE



CASABLANCA—CVE



CHARGER—CVE

DESTROYERS—DD



MAHAN-DUNLAP CLASSES



GRIDLEY-BAGLEY CLASSES



BENHAM-SIMS CLASSES



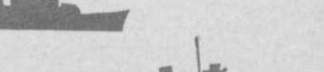
BENSON-LIVERMORE CLASSES



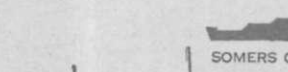
FLETCHER CLASS



PORTER CLASS



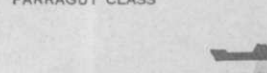
SOMERS CLASS



FARRAGUT CLASS



FLETCHER (CATAPULT) CLASS



FLUSH DECK TYPE



DE-1



DE-51

LIGHT CRUISERS—CL



ATLANTA CLASS



OMAHA CLASS



ST. LOUIS

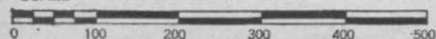


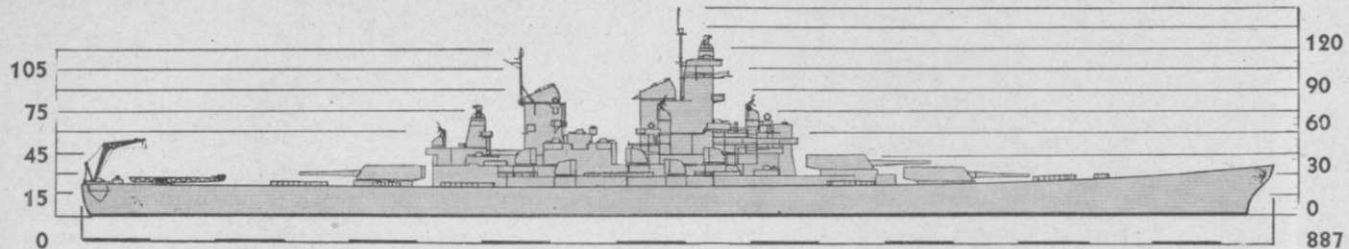
BROOKLYN CLASS



CLEVELAND CLASS

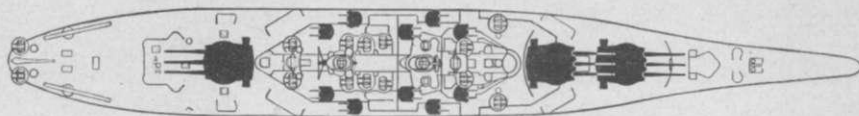
SCALE





Ships in Class:
BB 61 IOWA

Observer's note: Resembles—
NORTH CAROLINA
Class (BB U. S.)

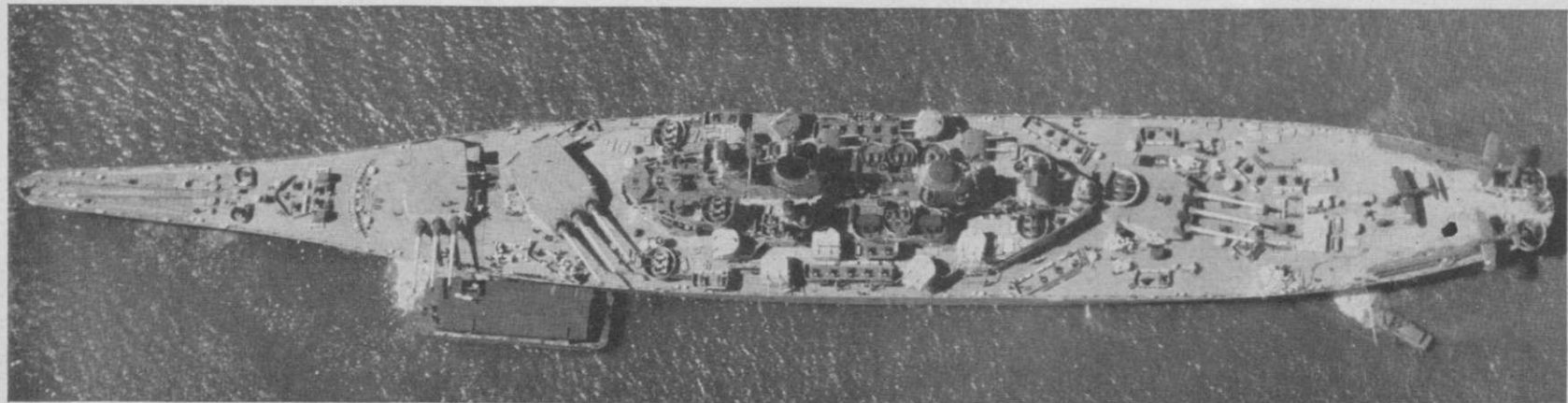


BB 61—Photo 4/7/43

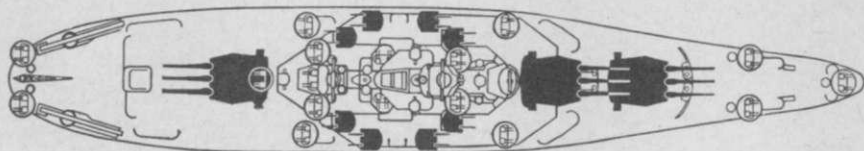
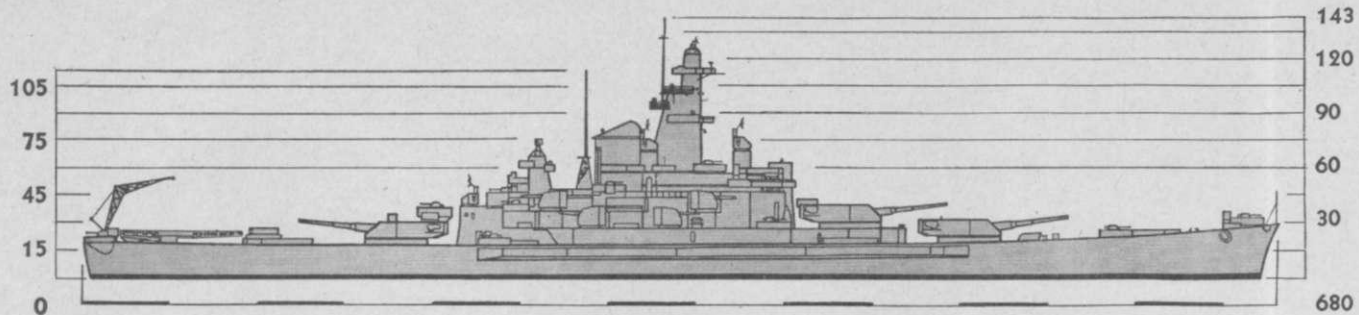
BB 61



BB 61—Photo 4/7/43



BB 61—Photo 4/7/43



Ships in Class:
 BB 57 SOUTH DAKOTA
 BB 58 INDIANA
 BB 59 MASSACHUSETTS
 BB 60 ALABAMA

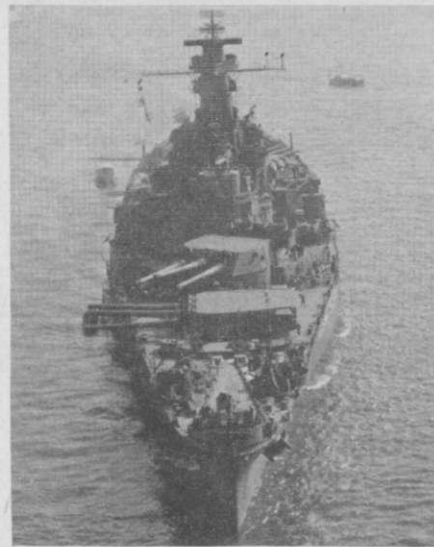
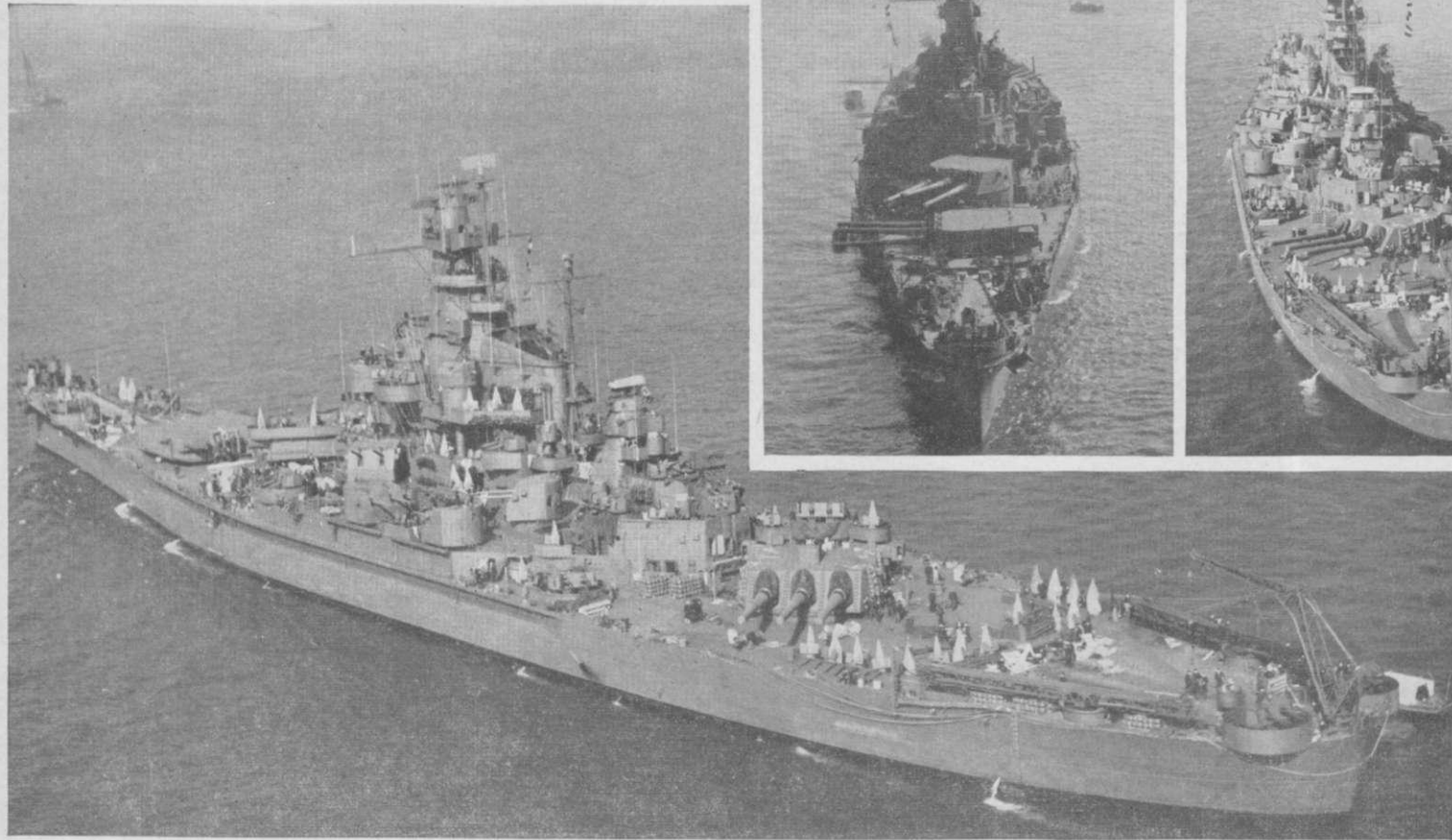
Observer's note: Resembles—
 TIRPITZ (BB Ger.)
 GNEISENAU (BB Ger.)
 N. CAROLINA (BB U. S.)

Note: 8 twin secondary mounts
 (compare other ships of class)

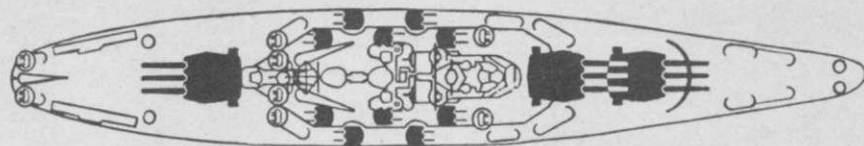
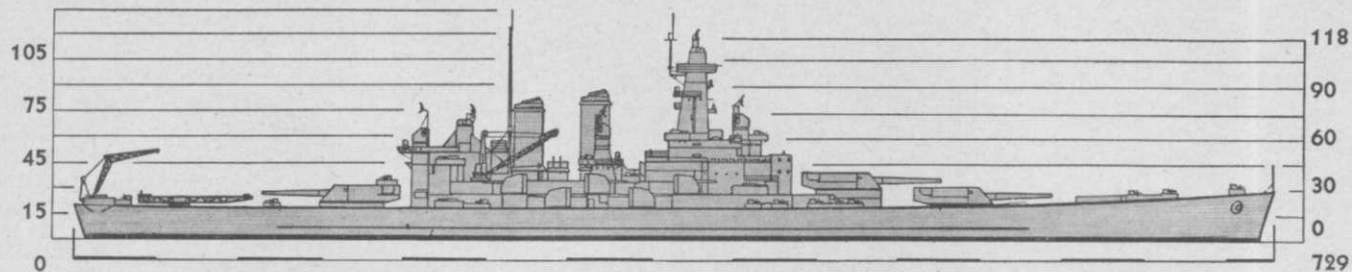


BB 57—Photo 2/23/43

BB 57



BB 57—All photographs 2/23/43



Ships in Class:
 BB 55 NORTH CAROLINA
 BB 56 WASHINGTON
 Observer's note: Resembles—
 LITTORIO Cl. (BB It.)
 DORIA Cl. (BB It.)
 SOUTH DAKOTA Cl. (BB
 U. S.)
 IOWA Cl. (BB U. S.)

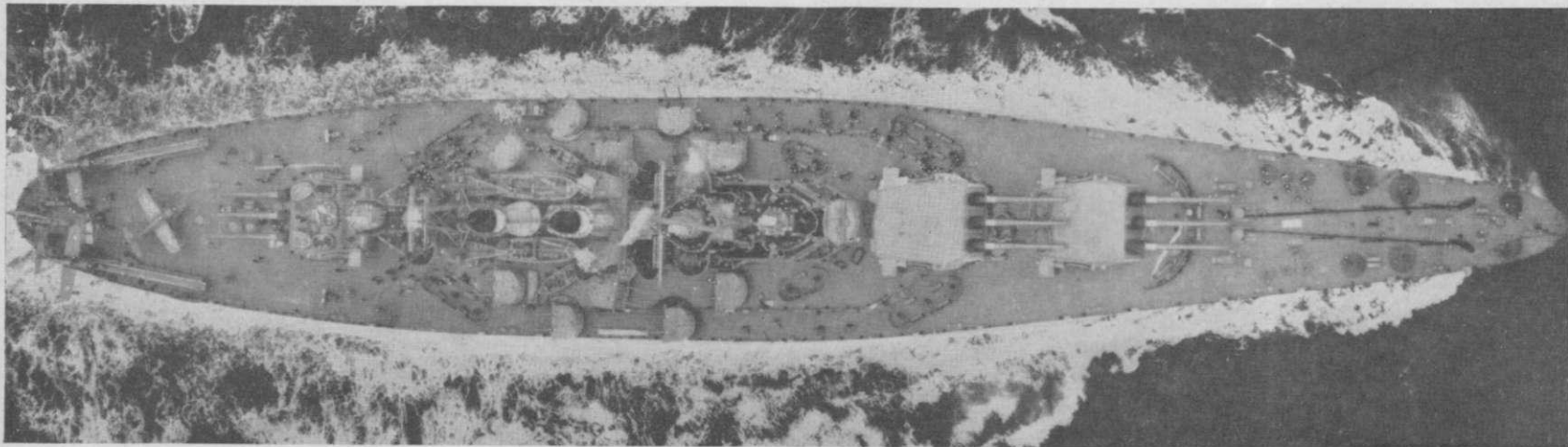
Note: Boat cranes removed. AA
 armament increased.



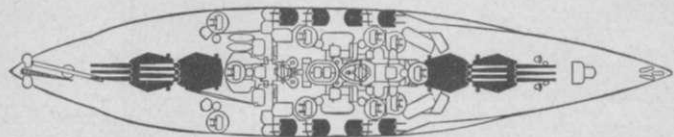
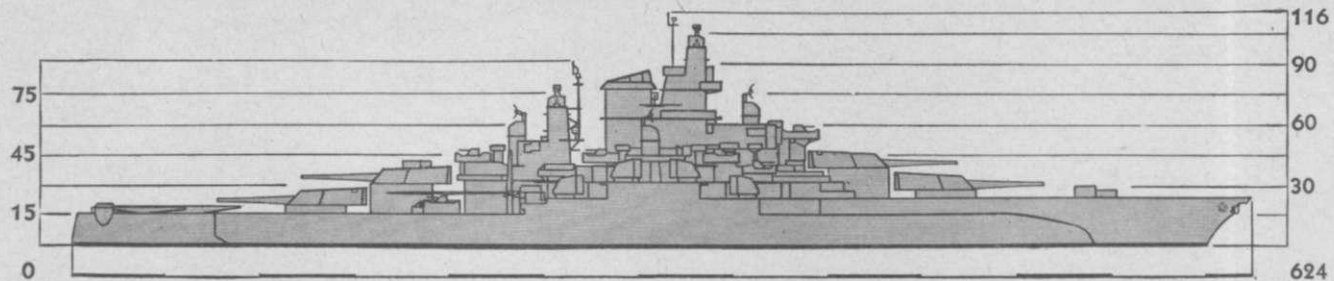
BB 55—Photo 6/4/42



BB 55—Photo 11/16/42



BB 55—Photo 6/4/42



Ships in Class:
BB 43 TENNESSEE
BB 44 CALIFORNIA

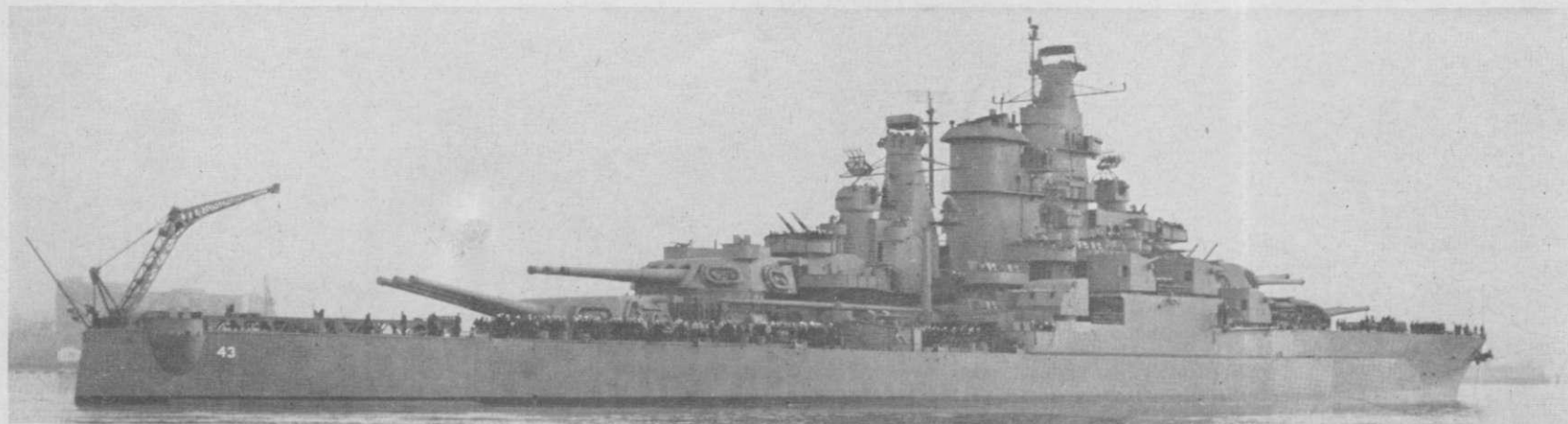
Observer's note: Like others, modernized to simulate South Dakota Class. Main armament remains distinguishing feature.



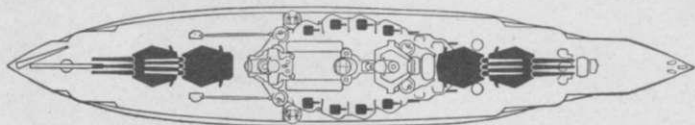
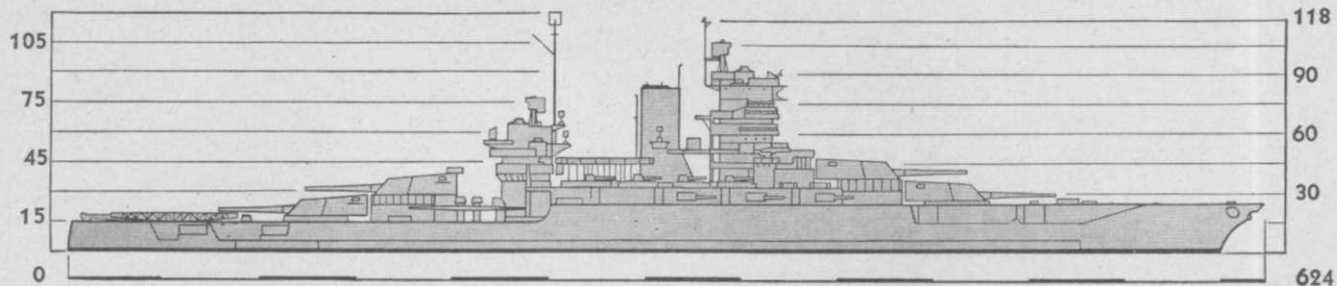
BB 43—Photo 5/8/43



BB 43—Photo 5/8/43



BB 43—Photo 5/8/43



Ships in Class:
BB 40 NEW MEXICO
BB 41 MISSISSIPPI
BB 42 IDAHO

Observer's note: Resembles—
NAGATO Cl. (BB Jap.)
PENNSYLVANIA (BB U. S.)

Note: Compare bridge and anti-aircraft platform (abaft stack) with those of the IDAHO.

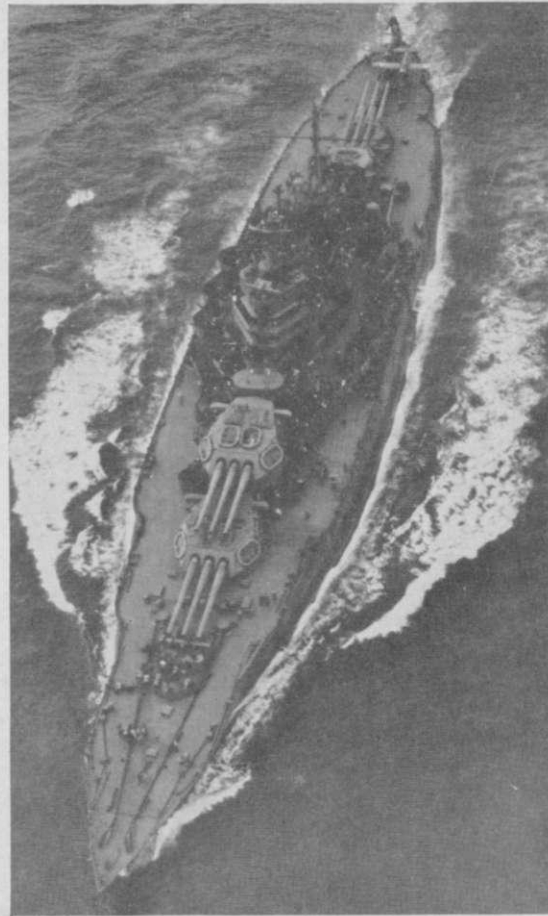


BB 40—Photo 12/1/42

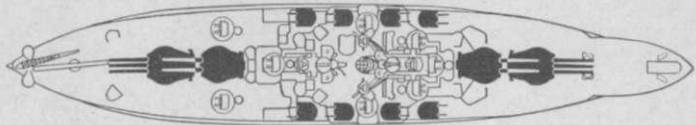
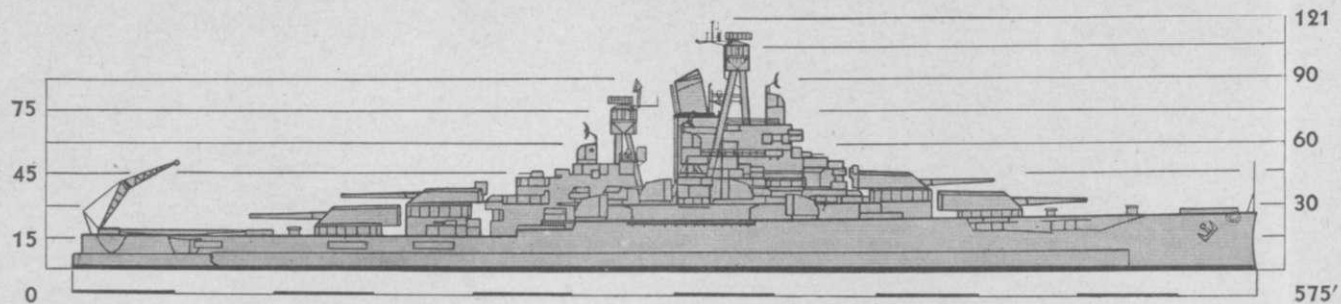
BB 40



BB 40—Photo 12/4/42



BB 40—Photo 12/4/42

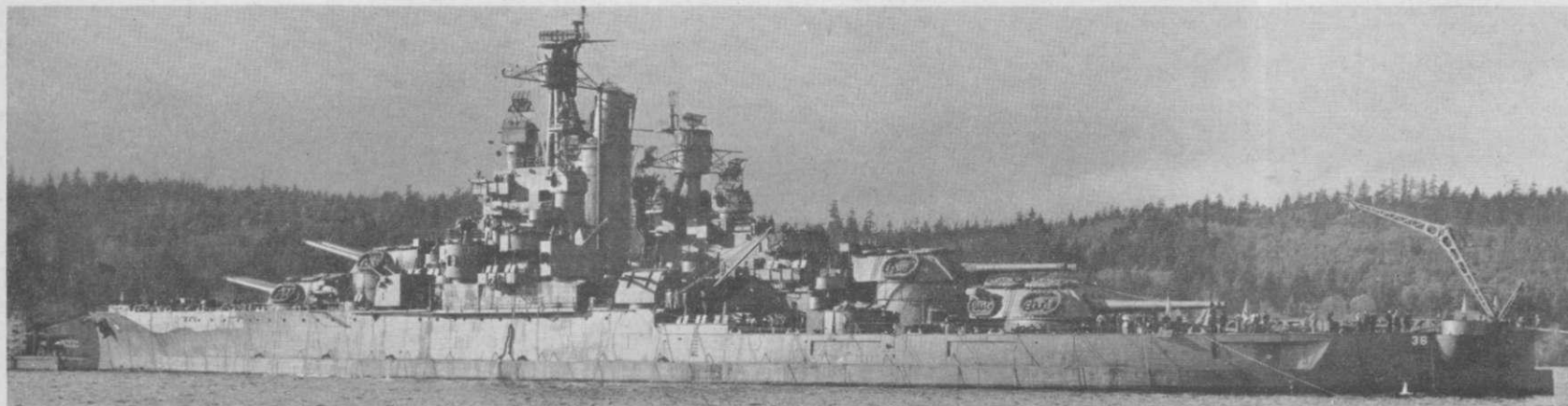


Ships in Class:
BB 36 NEVADA

Observer's Note: Slight resemblance
to SOUTH DAKOTA Class when
seen at a distance.



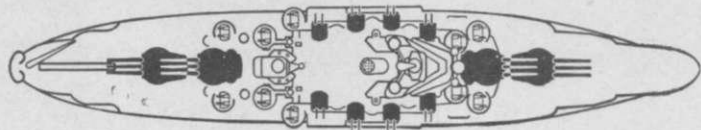
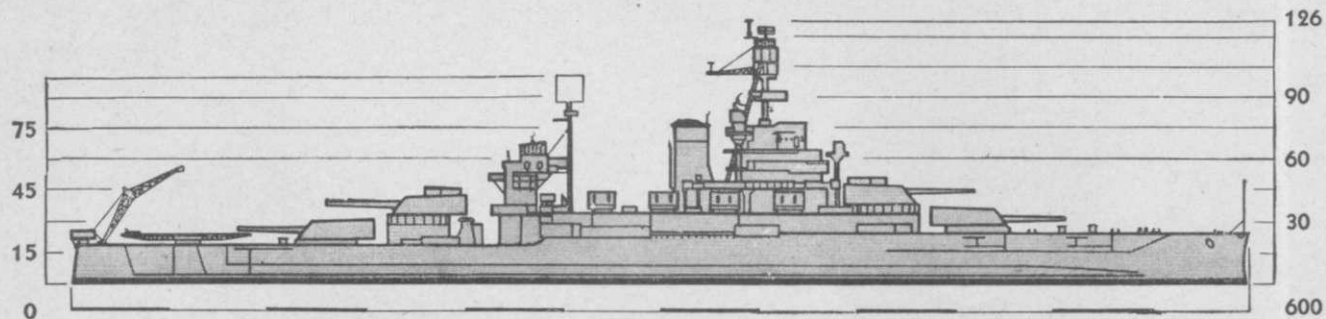
BB 36—Photo 12/15/42



BB 36—Photo 12/15/42



BB 36—Photo 12/14/42



Ships in Class:
BB 38 PENNSYLVANIA

Observer's note: Resembles—
ROYAL SOVEREIGN Cl. (BB Br.)
NAGATO Cl. (BB Jap.)
NEW MEXICO Cl. (BB U. S.)

Note: Resemblances to the above
are more apparent in quartering
views.

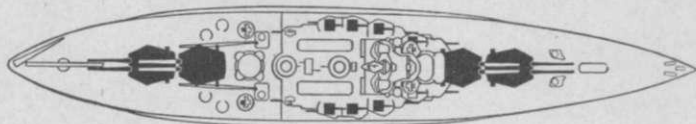
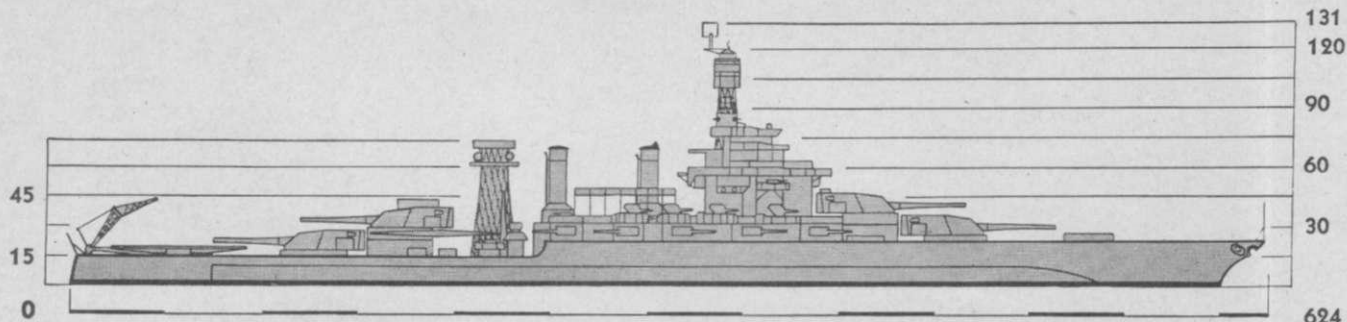




BB 38—Photo 2/5/43



BB 38—Photo 2/1/43



Ships in Class:
 BB 45 COLORADO
 BB 46 MARYLAND

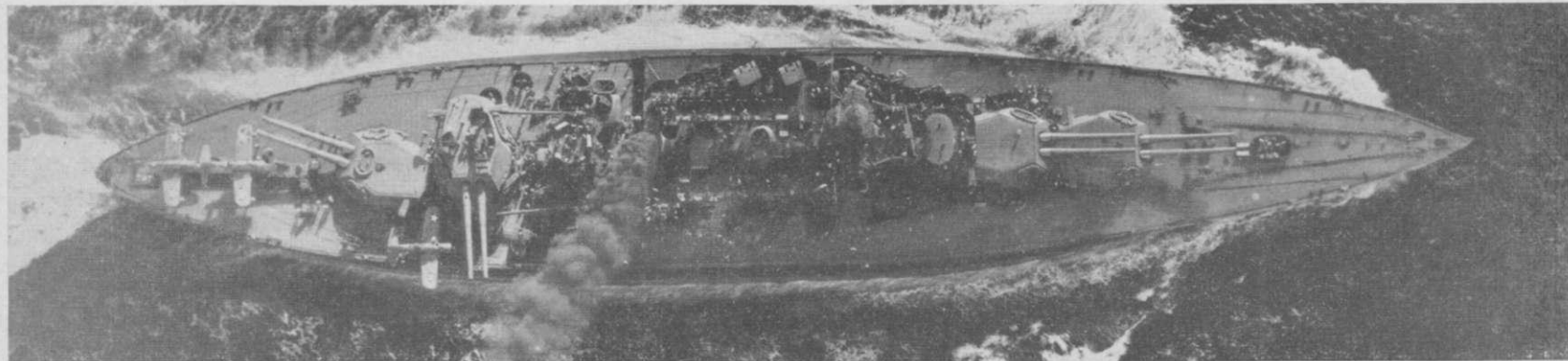
Observer's note: Resembles own class only. Similar to MARYLAND. WEST VIRGINIA differs radically.



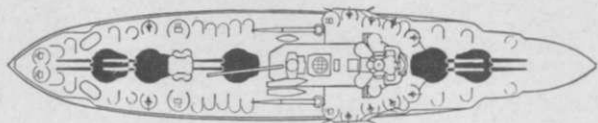
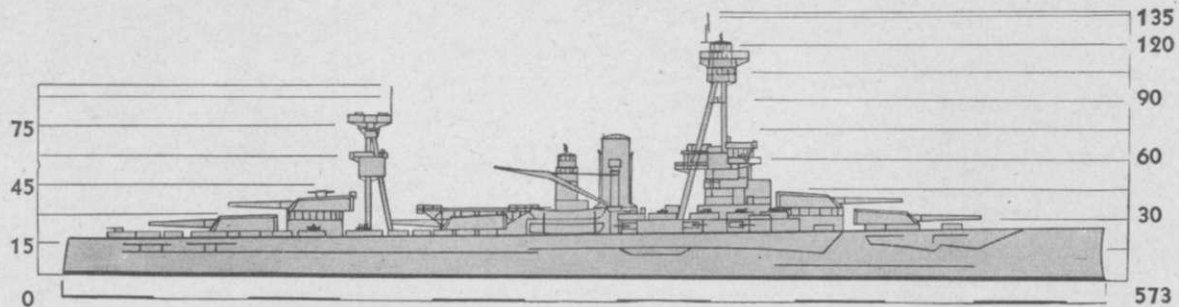
BB 45—Photo 11/8/42



BB 45—Photo 11/8/42



BB 45—Photo 11/8/42



Ships in Class:

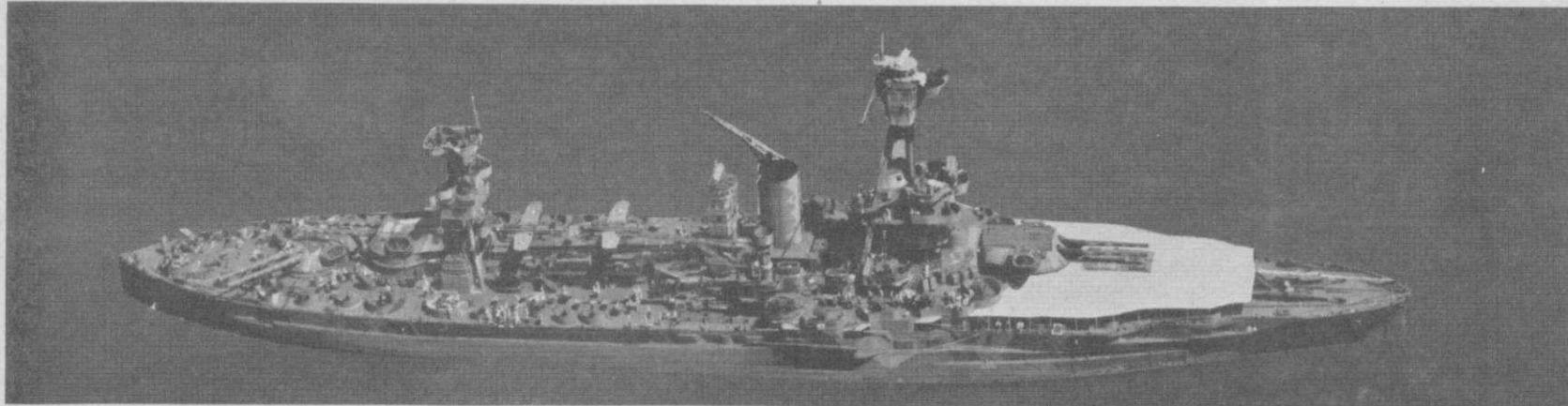
BB 34 NEW YORK

BB 35 TEXAS

Observer's note: Resembles—
WYOMING (AG 17 U. S.)
ARKANSAS (BB U. S.)



BB 34—Photo 8/12/42



BB 34—Photo 8/12/42



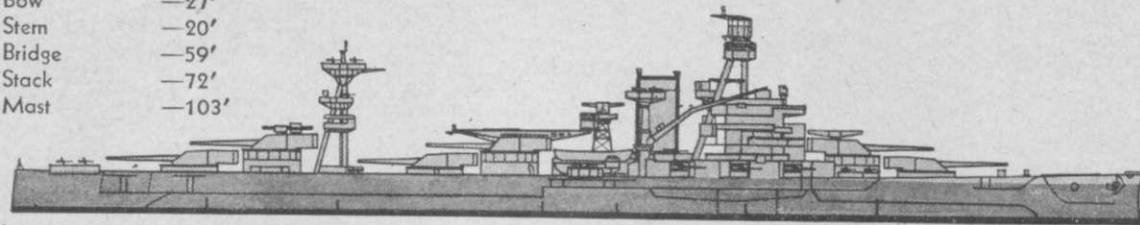
BB 34—Photo 8/11/42

ONI 54-R • RESTRICTED

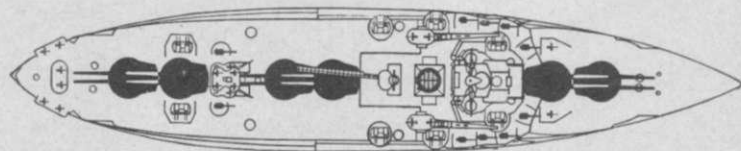
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-60V-57

Supplement 4-8-4-43

Bow	—27'
Stem	—20'
Bridge	—59'
Stack	—72'
Mast	—103'



Length o. a. —554'



1-2-43 ▼

ARKANSAS—BB 33

Division of Naval Intelligence—Identification and Characteristics Section

Ships in Class:

ARKANSAS—BB 33

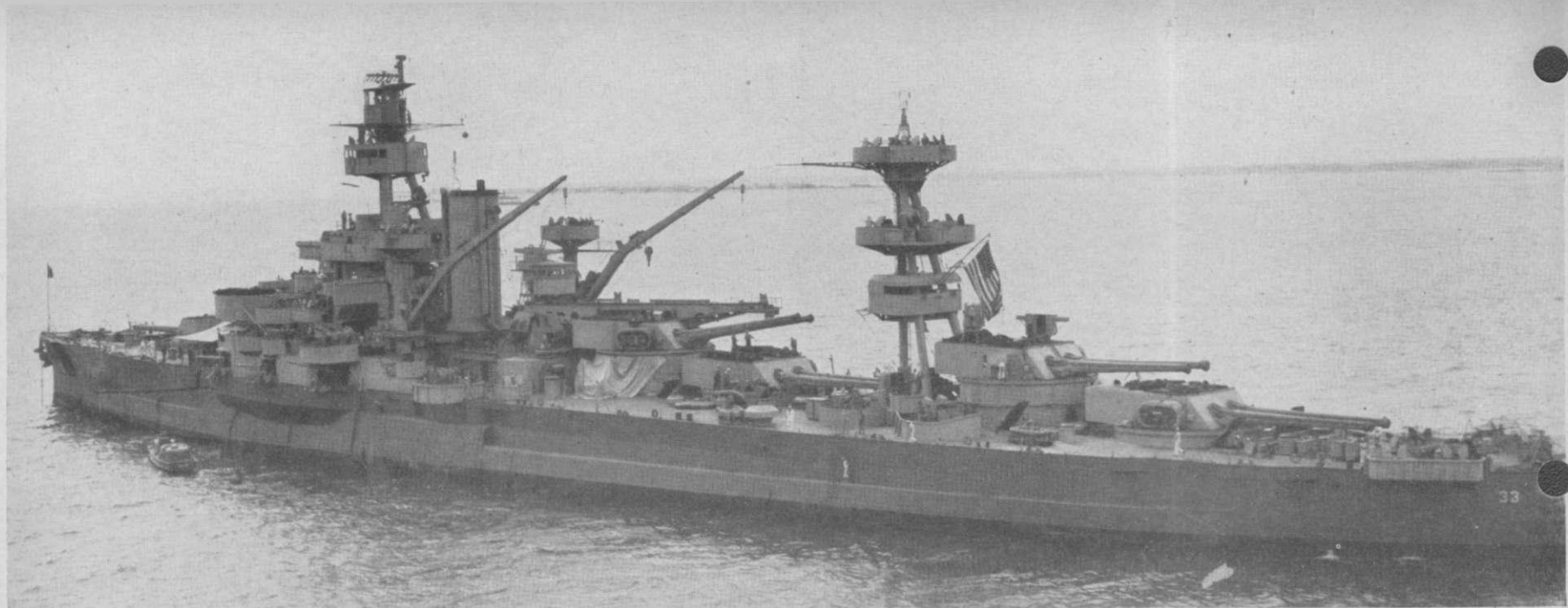
WYOMING—AG 17

Last unit of eight dreadnaughts completed in 1912. Rebuilt 1925-27, modernized in 1942. WYOMING (silhouette), partially demilitarized, serves as a Gunnery Training Ship.

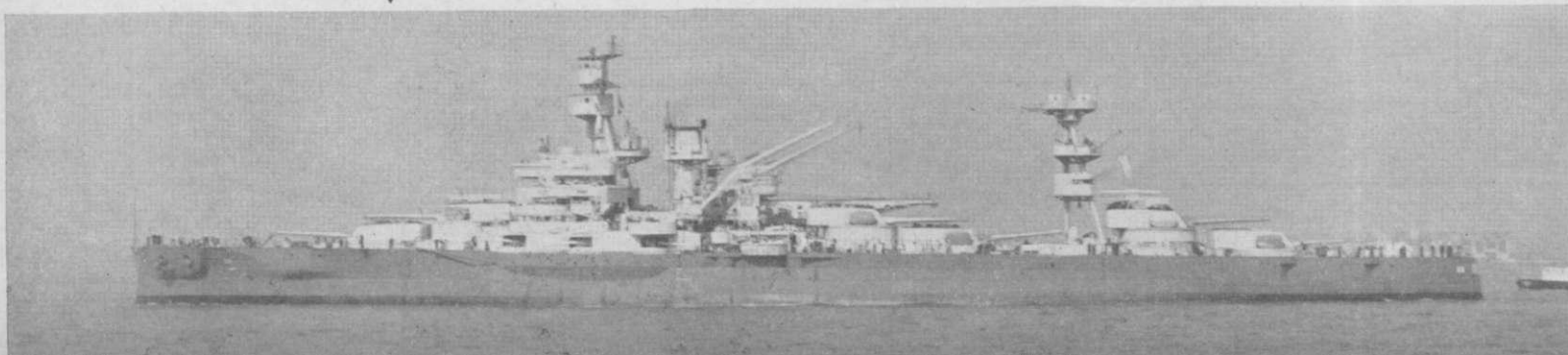
Observer's Note:

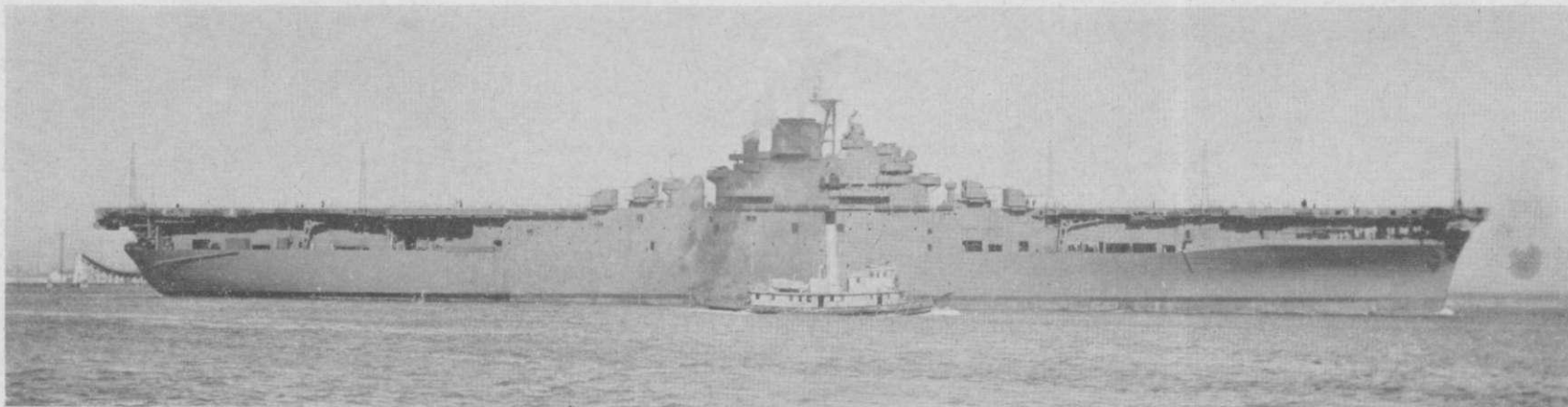
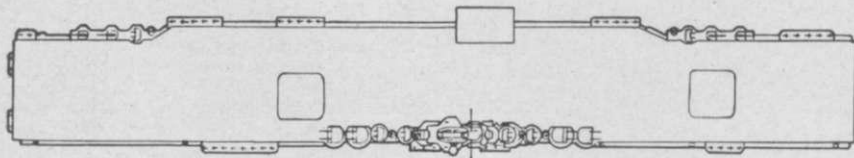
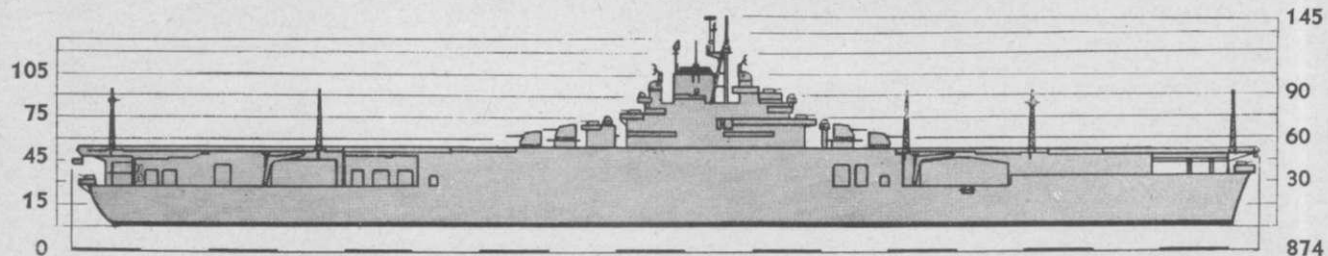
- 2-A-2-2 main battery disposition (Japan's ISE Class similar)
- Low, widely spaced tripod masts (WYOMING retains original cage foremast)
- Catapult on No. 3 turret, flanked by prominent cranes.





ARKANSAS 7-1-43 ▲
6-27-42 ▼

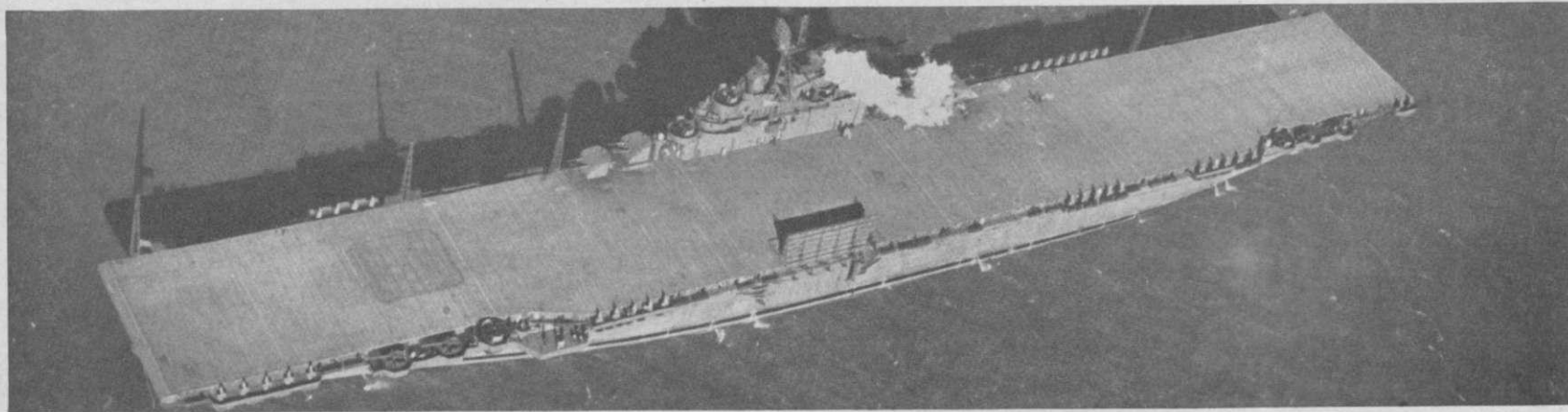




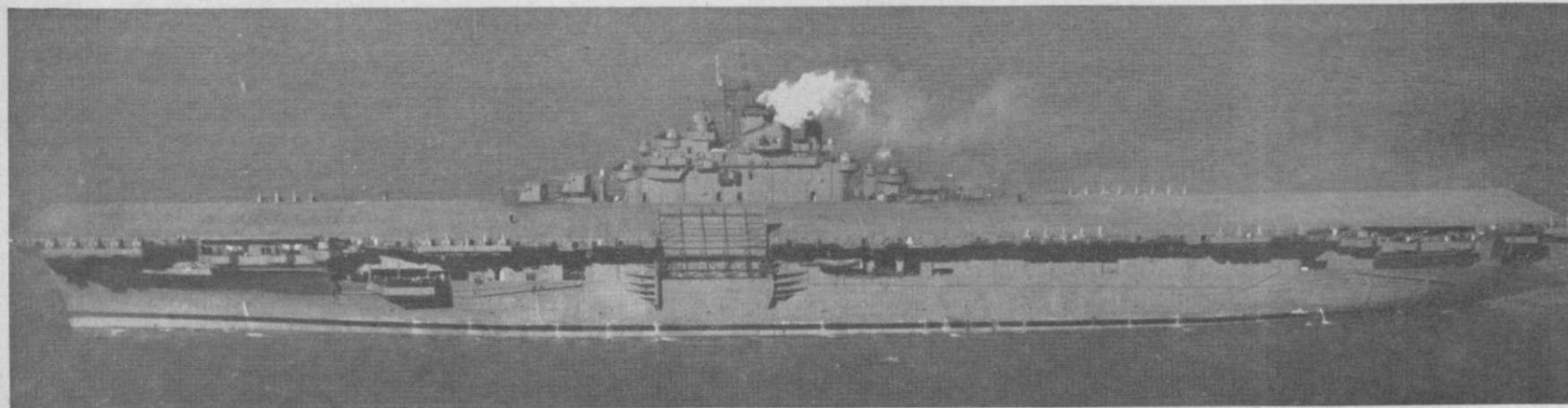
Ships in Class:
CV 9 ESSEX
CV 10 YORKTOWN
CV 16 LEXINGTON
CV 17 BUNKER HILL

Observer's note: Resembles—
ENTERPRISE (CV U. S.)
ILLUSTRIOUS Class (CV BR.)

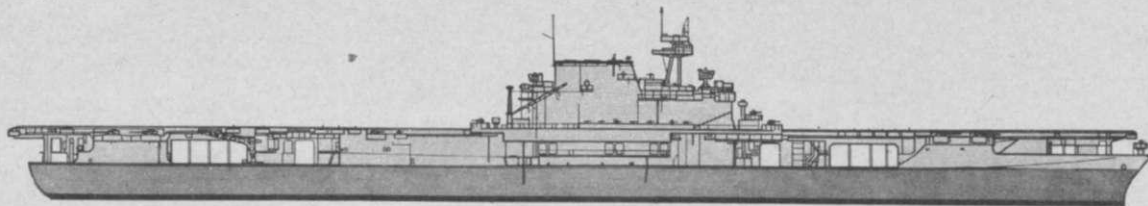
CV 9



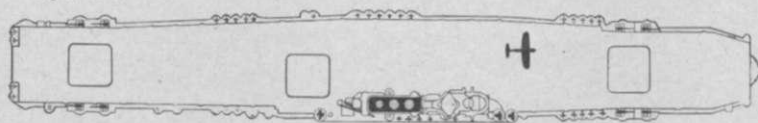
CV 9—Photo 2/1/43



CV 9—Photo 2/1/43



Length o. a. —825



Height above w. l.

Deck	—55'
Bridge	—86'
Stack	—103'
Mast	—143'

Designed as an enlarged, speedier RANGER, this ship was authorized under the N. R. A. and completed in 1938. Resembles the new ESSEX design.

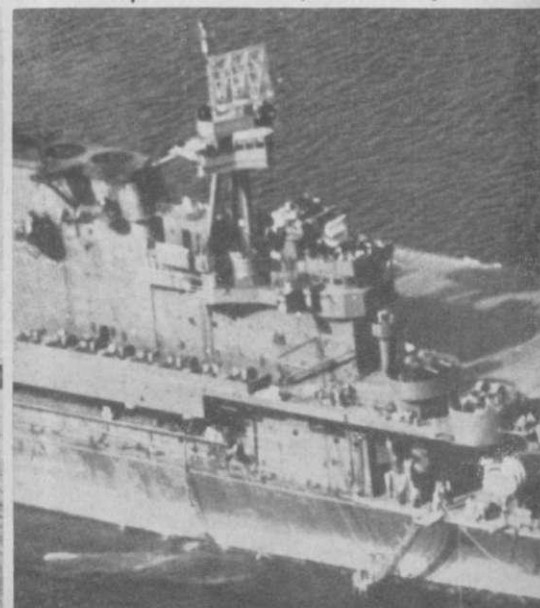
Observer's Note:

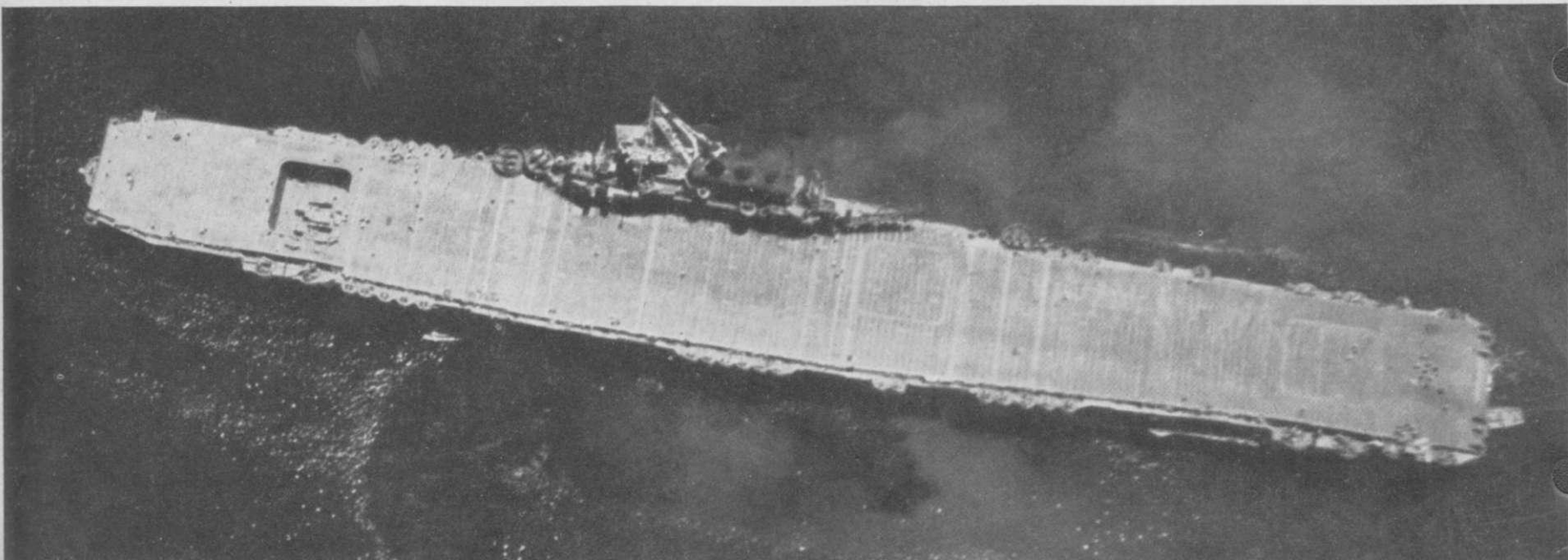
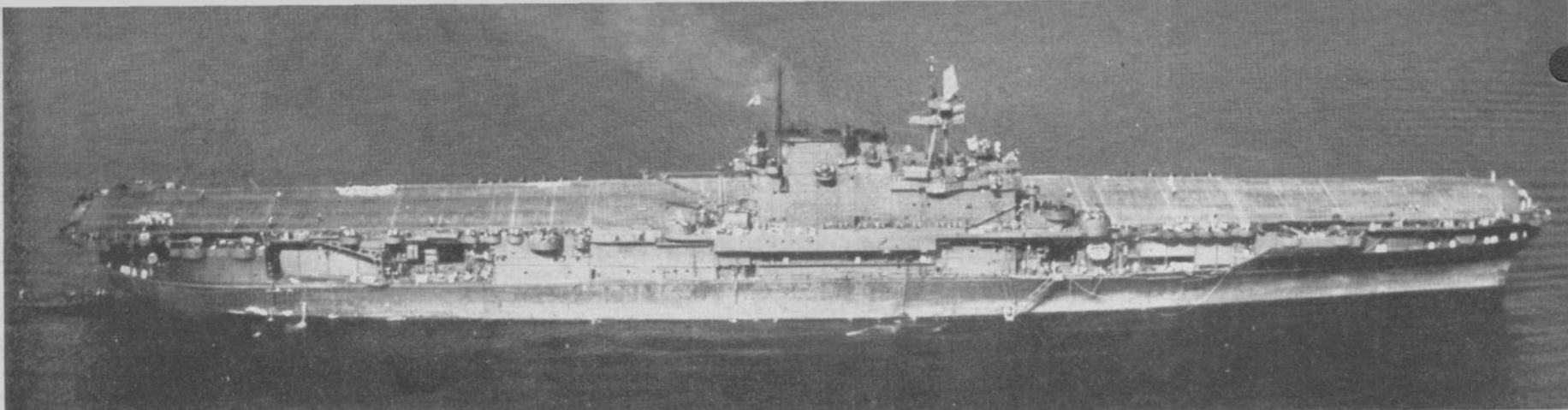
- Long, low island superstructure combined with heavy stack.
- Light tripod foremast with stick mainmast stepped abaft stack.
- Full-length flight deck, broken freeboard.

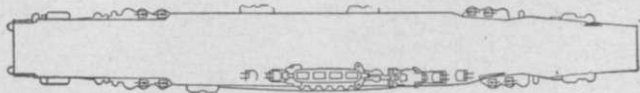
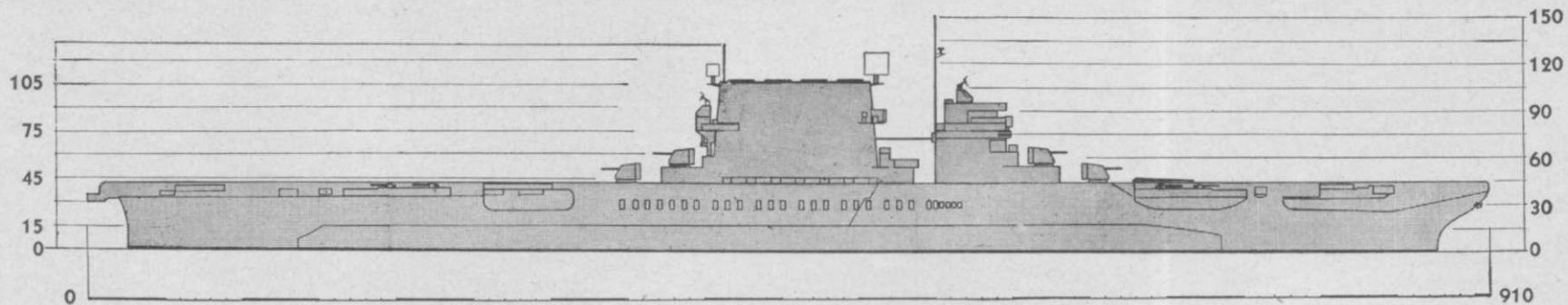
▼ 6-7-43

▼ 6-7-43

▼ 11-10-42 (Also full length views)

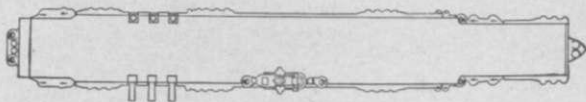
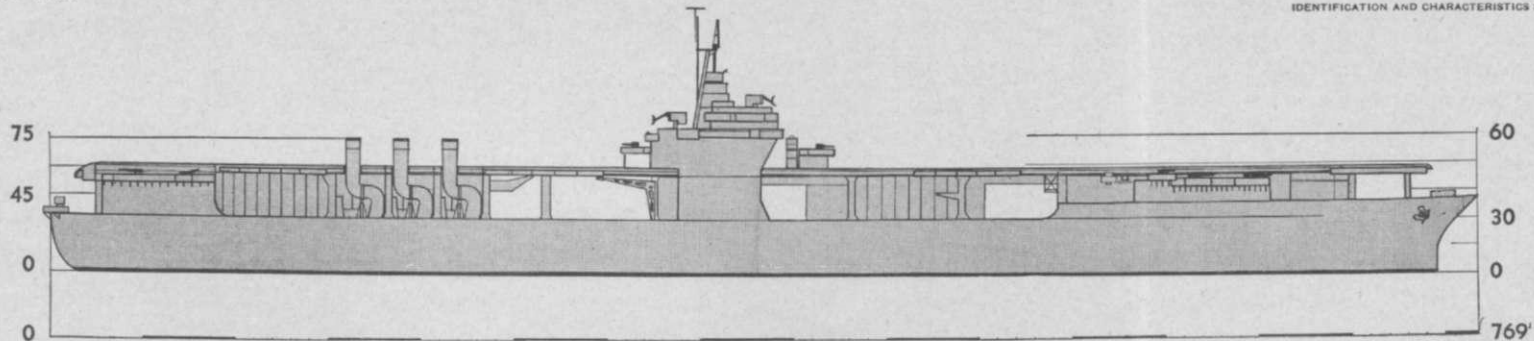




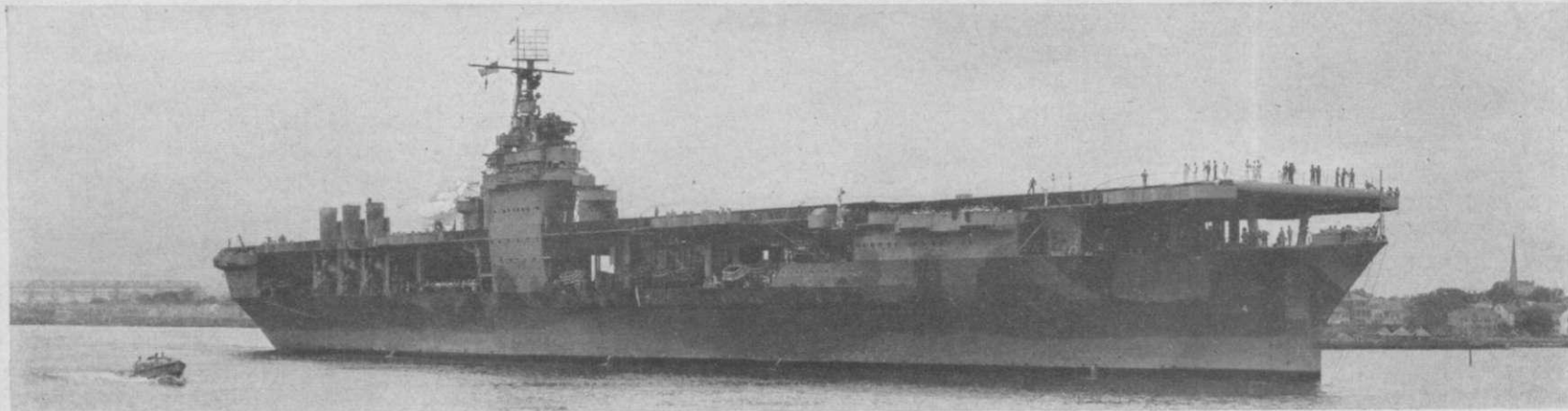


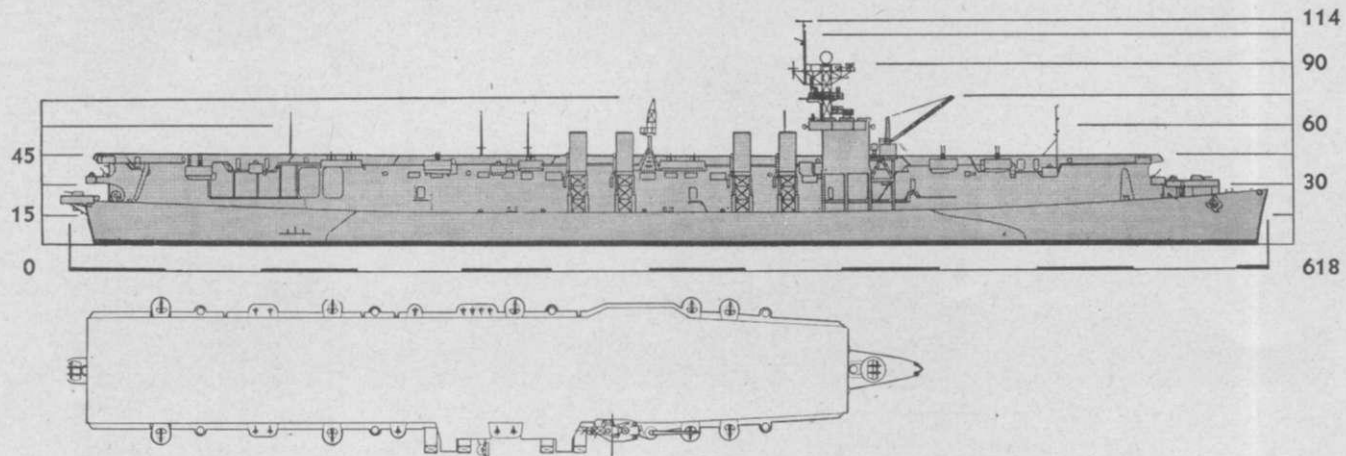
SARATOGA—9/3/42





RANGER—8/18/42



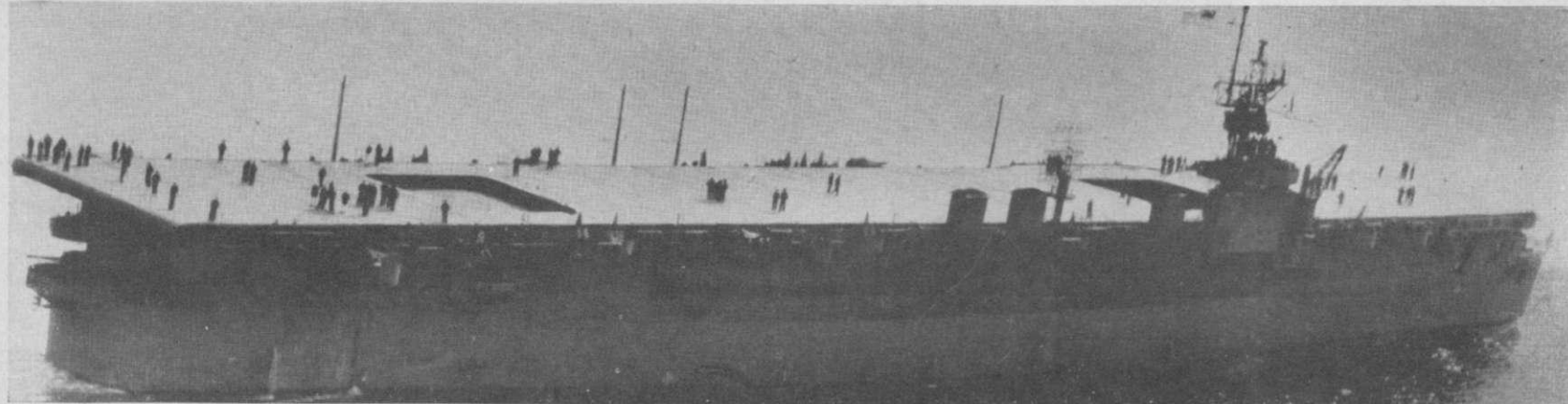


Ships in Class:
CV 22 INDEPENDENCE
CV 23 PRINCETON
CV 24 BELLEAU WOOD
CV 25 COWPENS

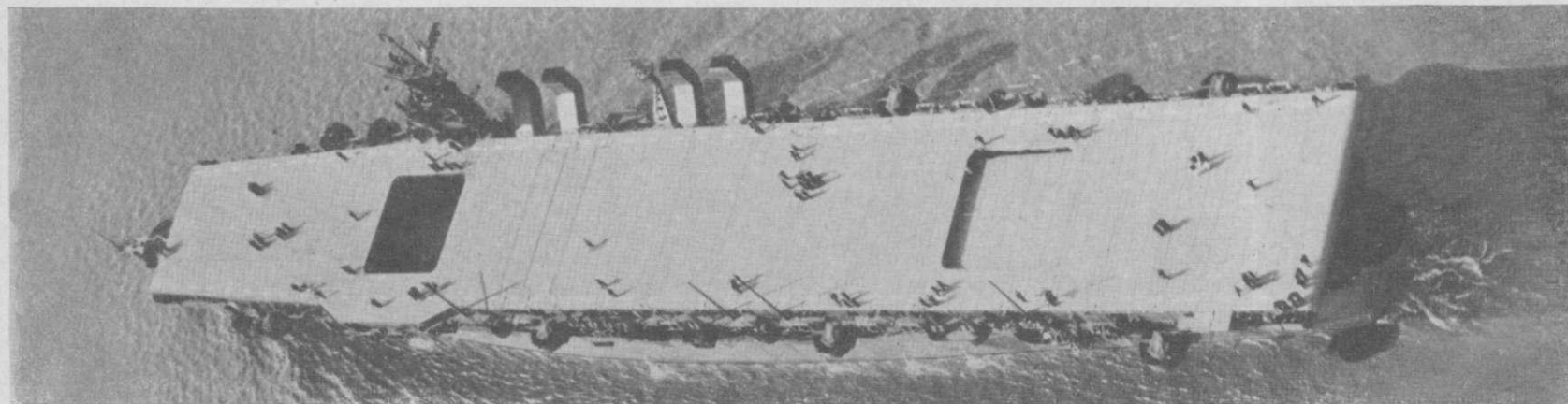
Observer's note: Slight resemblance to RANGER (CV U.S.)
Adjacent deck plan shows new authorized changes to Class such as—flight deck extensions over stacks and 40 mm. quads, bow and stern.



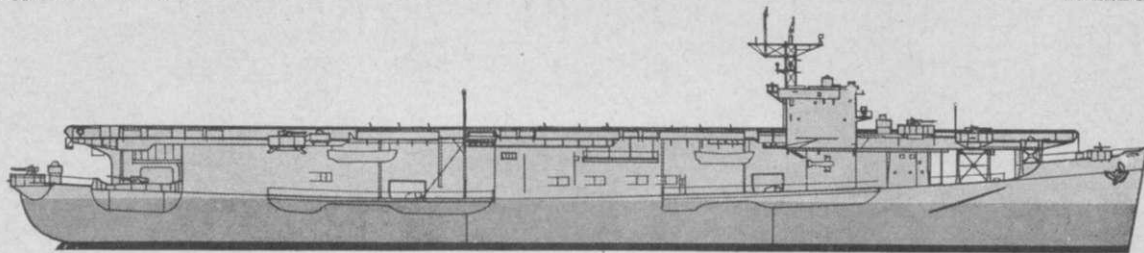
CV 22—Photo 3/12/43



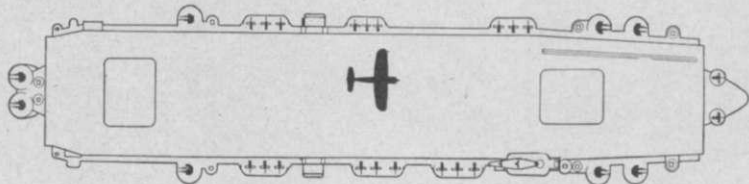
CV 22—Photo 3/12/43



CV 22—Photo 3/12/43



Length o. a. —494'



Height above w. l.

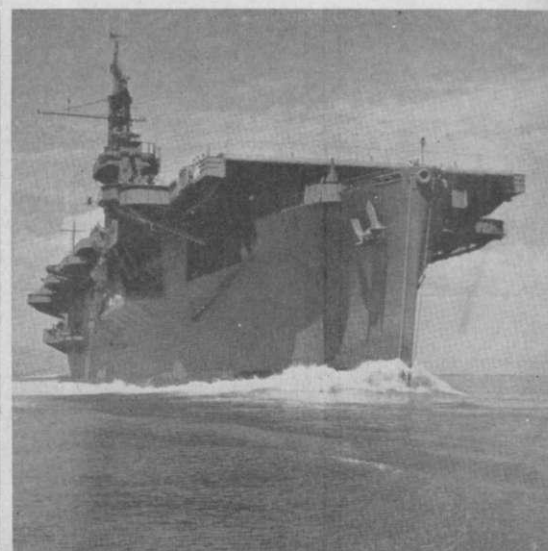
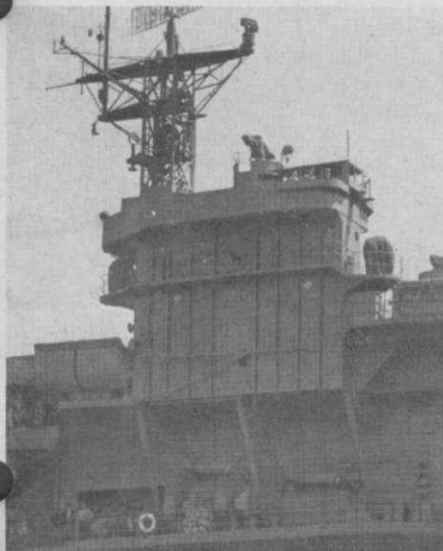
Bridge	—73'
Deck	—54'
Mast	—90'

Converted from C-3 cargo hulls, these ships represent an improved CHARGER type. Often called "Baby Carriers", or by the British (who have sister ships) "Woolworth Carriers". Although divided into two classes there are no apparent appearance variations.

Observer's Note:

- Hull enclosed to flight deck.
- Standard CVE box bridge topped by trestle mast.
- Distinguished from other classes by presence of hull sponsons.

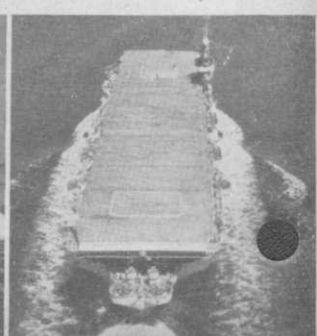
6-24-42 ▼





▲ USS BARNES, photographed 7-1-43, while ferrying a load of Thunderbolts and dismantled Lightnings.

CROATAN photographed 5-20-43. ▼

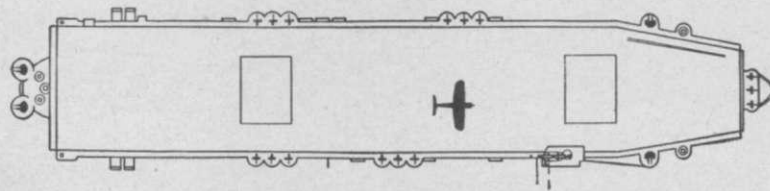
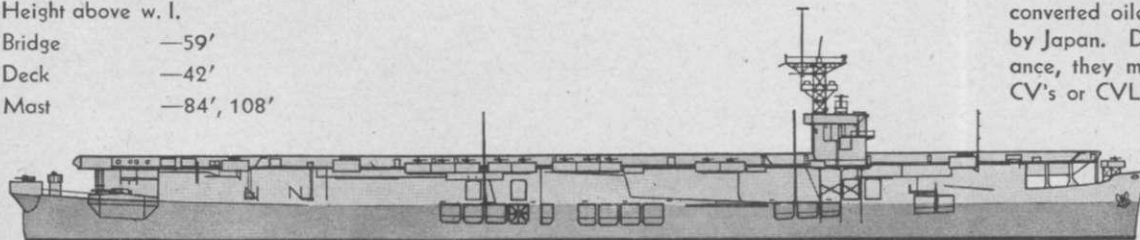


Height above w. l.

Bridge —59'

Deck —42'

Mast —84', 108'



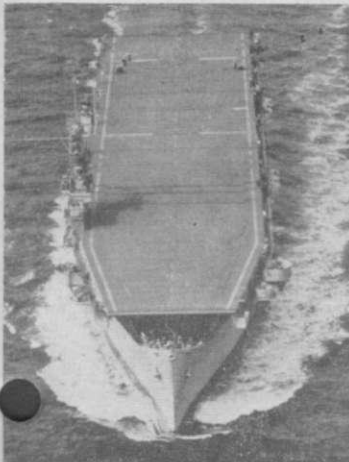
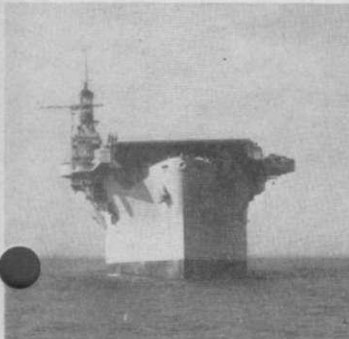
The largest type of CVE, these ships are converted oilers, an expediency also used by Japan. Due to their elongated appearance, they may easily be confused with CV's or CVL's.

Observer's Note:

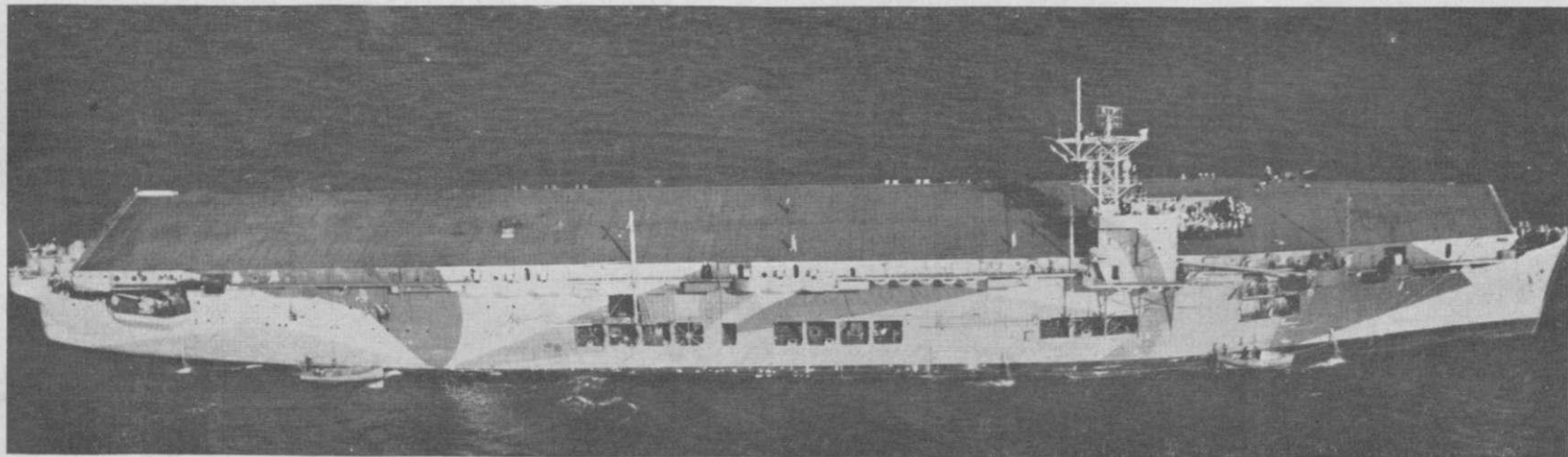
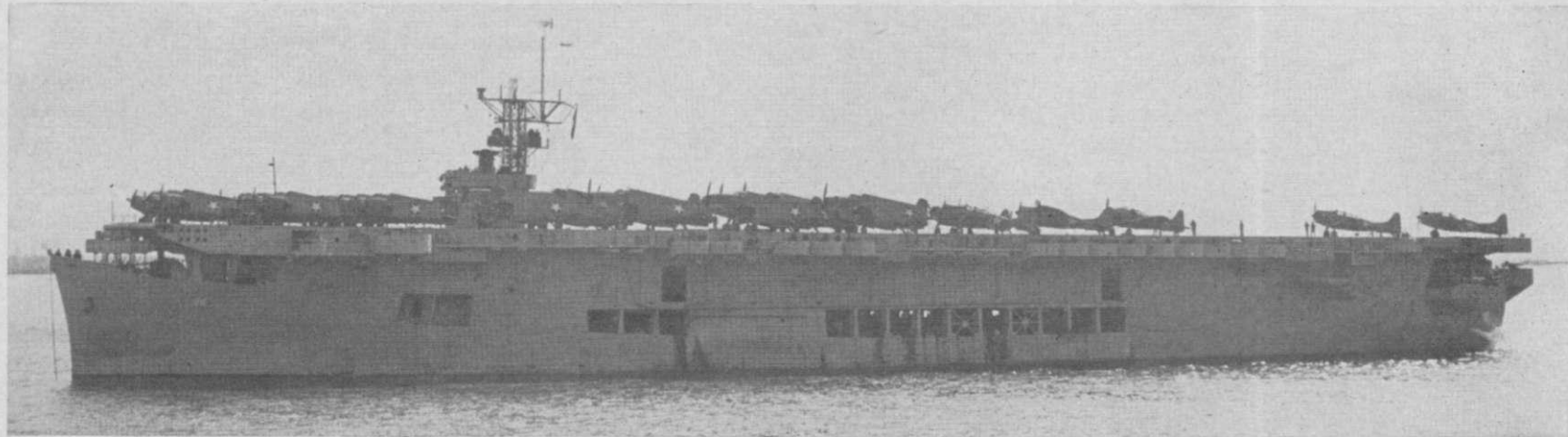
- Hull enclosed to flight deck, with numerous rectangular openings in freeboard.
- Standard CVE box bridge and trestle mast.

Length o. a.—553'

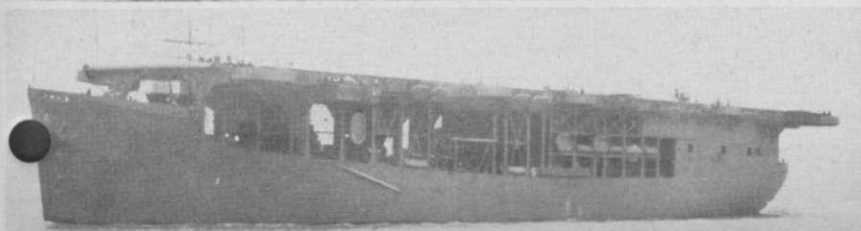
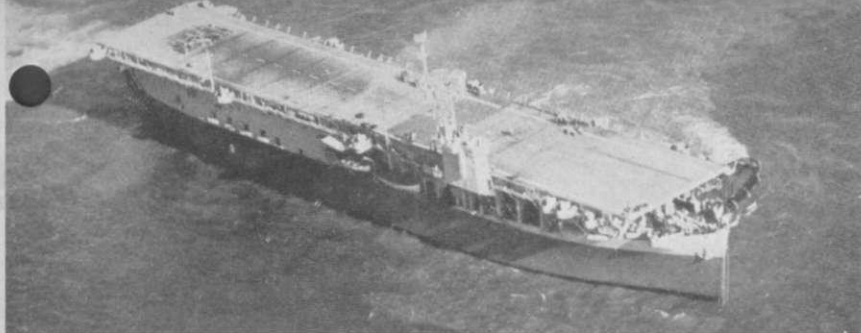
9-19-42



▼ SANGAMON, 9-11-42. Note TBF's, SBD's on flight deck.



▲ Camouflaged SANTEE 9-27-42.



CHARGER—CVE 30

Division of Naval Intelligence—Identification and Characteristics Section
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

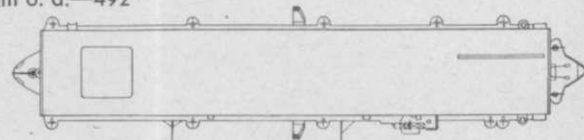
The first conversions of this war, these ships were developments of the LANGLEY design (the "old covered wagon"). Identical with the CHARGER is the British ARCHER Class CVE.

Observer's Note:

- Freighter hull, enclosed to flight deck aft, open forward.
- Trestle mast on LONG ISLAND tops box bridge on CHARGER.
- Note CHARGER is the only CVE without a raised forecastle.

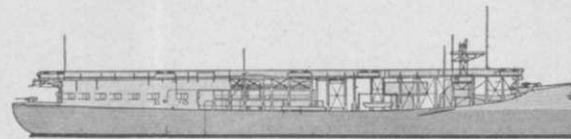


Length o. a.—492'

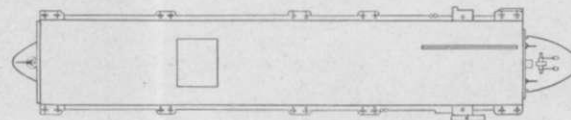


Height above w. l. Bridge—69' Deck—52' Mast—88'

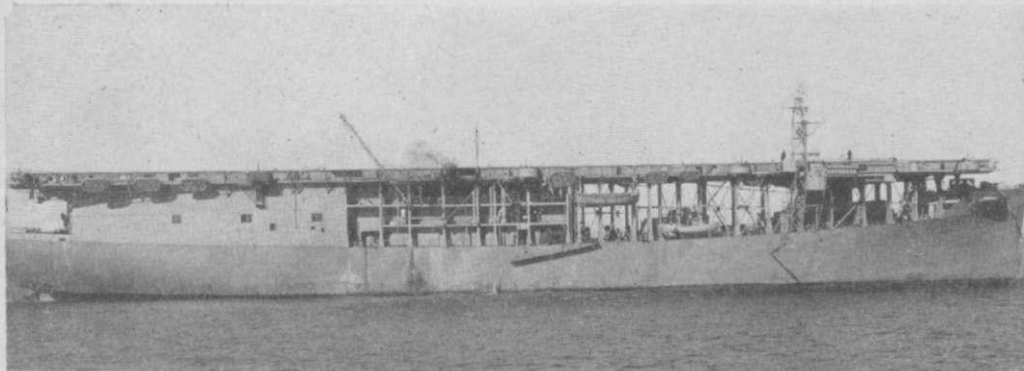
LONG ISLAND—CVE 1



Length o. a.—492'

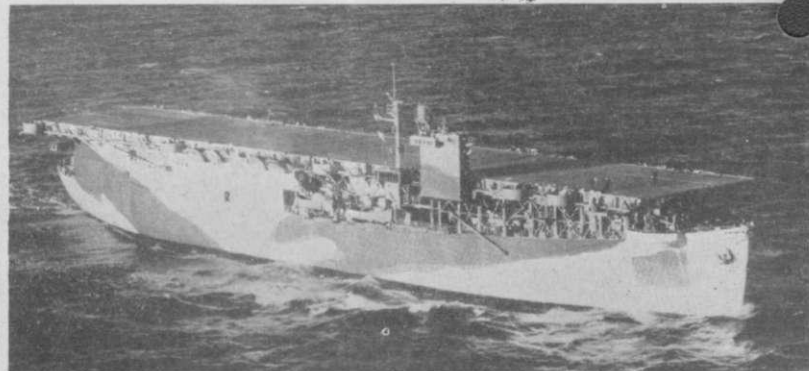


Height above w. l. Deck—58' Mast—69'



▲ British sister ship to the LONG ISLAND, HMS ARCHER, 12-41.

All photographs of the LONG ISLAND, 12-19-42; of CHARGER, ▼ 9-24-42.



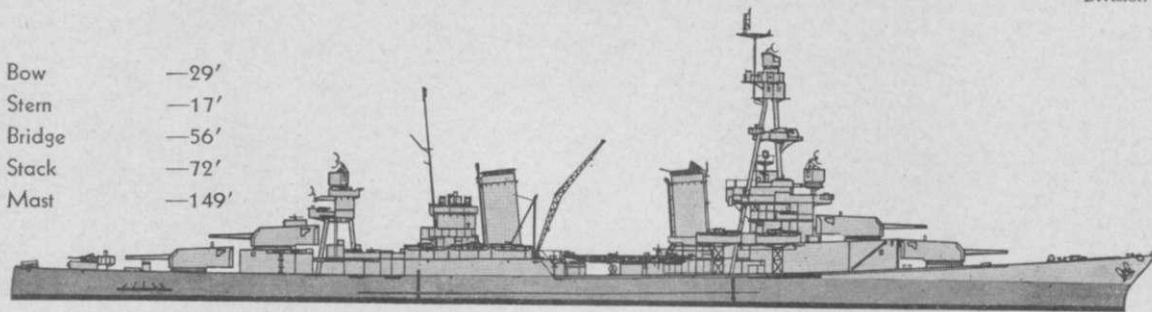
▲ HMS BITER is similar to the CHARGER.



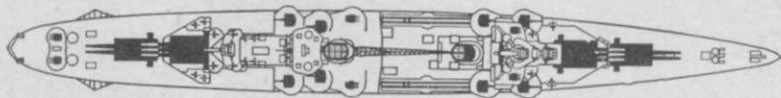
PENSACOLA Class—CA 24, 25

Division of Naval Intelligence—Identification and Characteristics Section

Bow —29'
 Stern —17'
 Bridge —56'
 Stack —72'
 Mast —149'



Length o. a.—585'



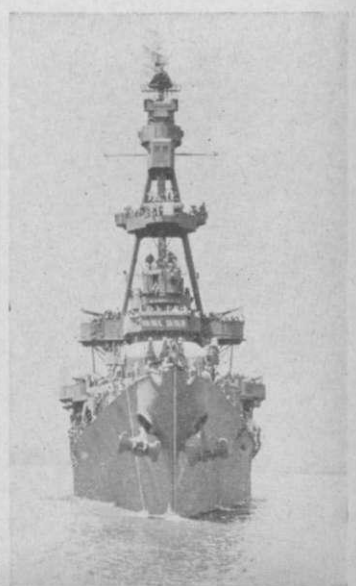
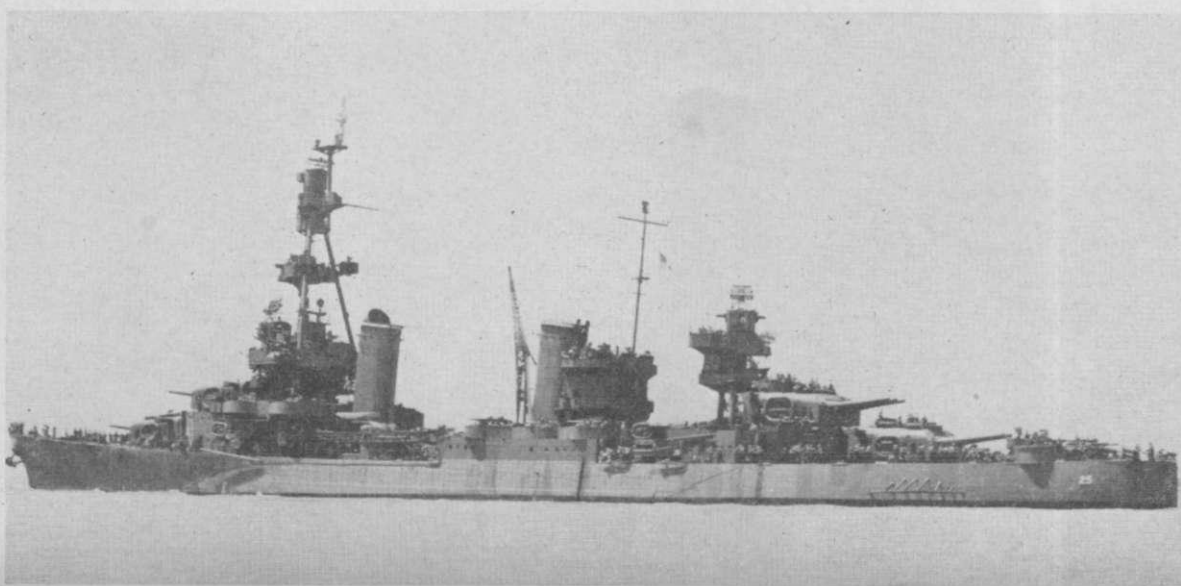
Ships in Class:

PENSACOLA —CA 24
 SALT LAKE CITY—CA 25

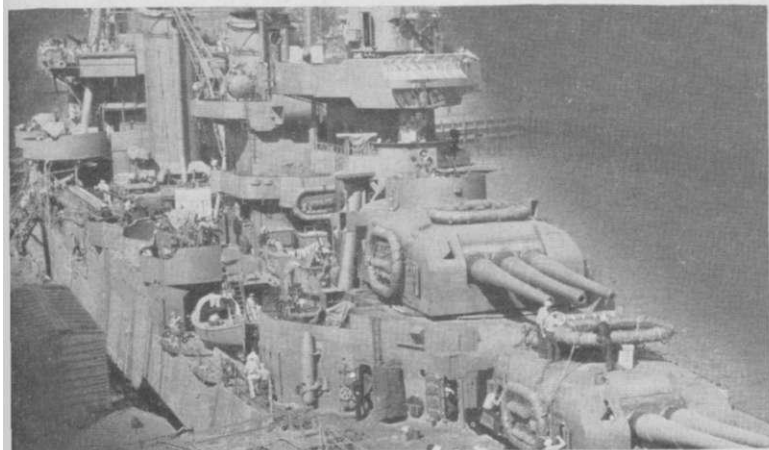
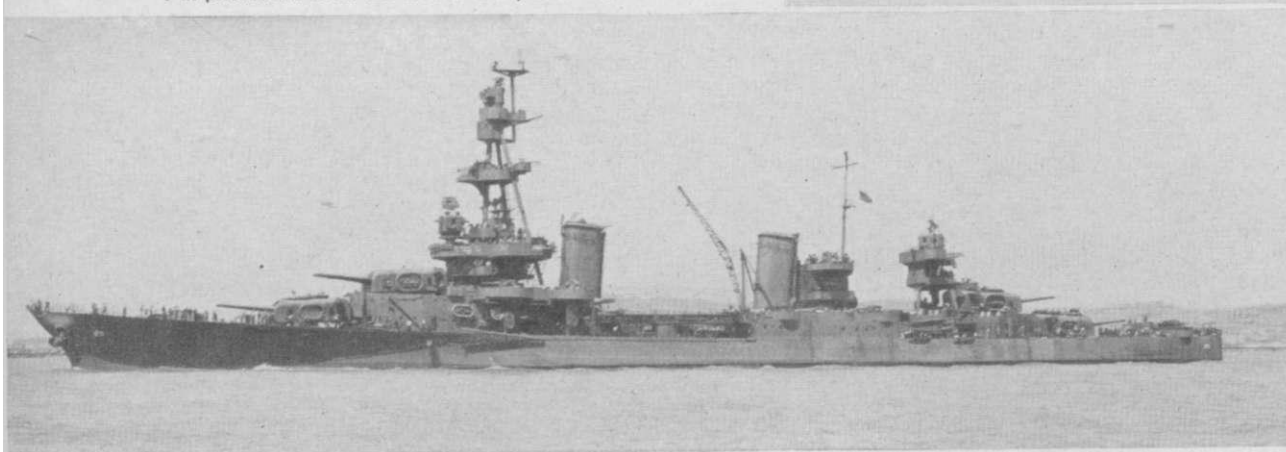
The first of our modern heavy cruisers, these ships were modified in the subsequent NORTHAMPTON-PORTLAND designs.

Observer's Note:

- 2-A-2 main battery disposition (triples over twins).
- Tall tripod foremast, pole mainmast, plus a tripod control tower aft.
- Two heavy, widely separated raking stacks.
- Flush hull, catapults amidships.

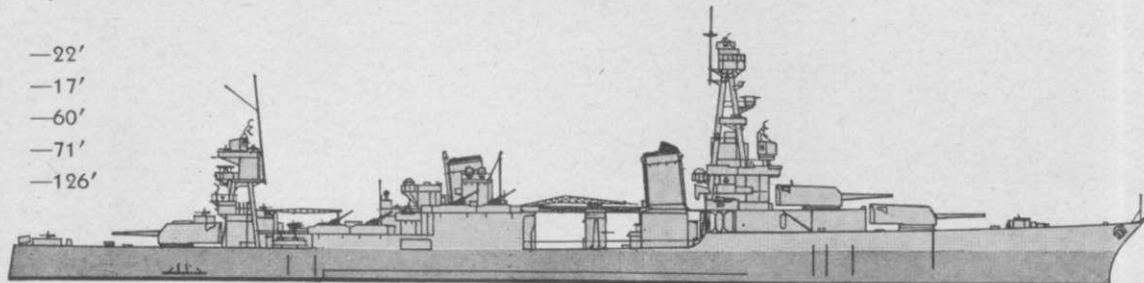


All photos are of SALT LAKE CITY, 5-10-43.

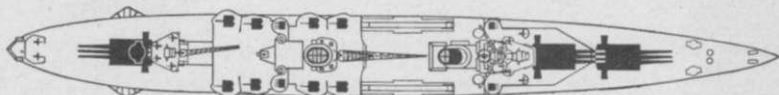


Supplement 4—8-4-43

Bow —22'
 Stern —17'
 Bridge —60'
 Stack —71'
 Mast —126'



Length o. a.—600'



Ships in Class:

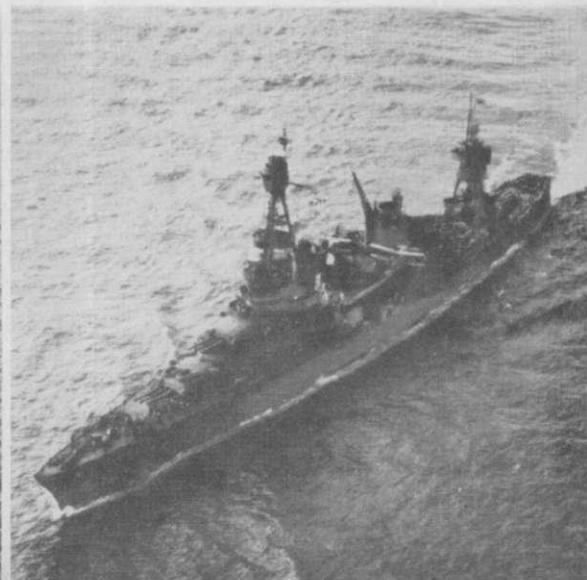
CHESTER —CA 27
 LOUISVILLE—CA 28
 AUGUSTA —CA 31

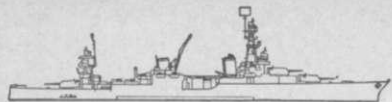
Completed in 1930-31, these cruisers were all fitted as Flagships. Ships are of the same basic design as the PENSACOLA and PORTLAND Classes.

Observer's Note:

- Cruiser hull, deck line broken at catapult in AUGUSTA, at foremast in other units.
- Tall tripod foremast, heavy tripod mainmast.
- Two short, raking, combined stacks.

▼ LOUISVILLE, 11-42.





Classed separately, the AUGUSTA varies from the NORTHAMPTON in position of hull break and minor superstructure details.

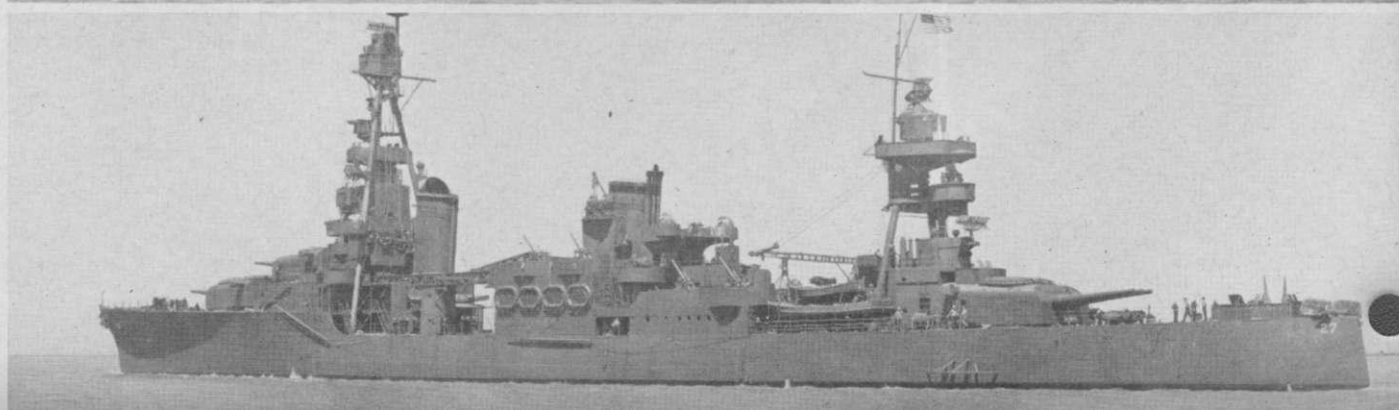
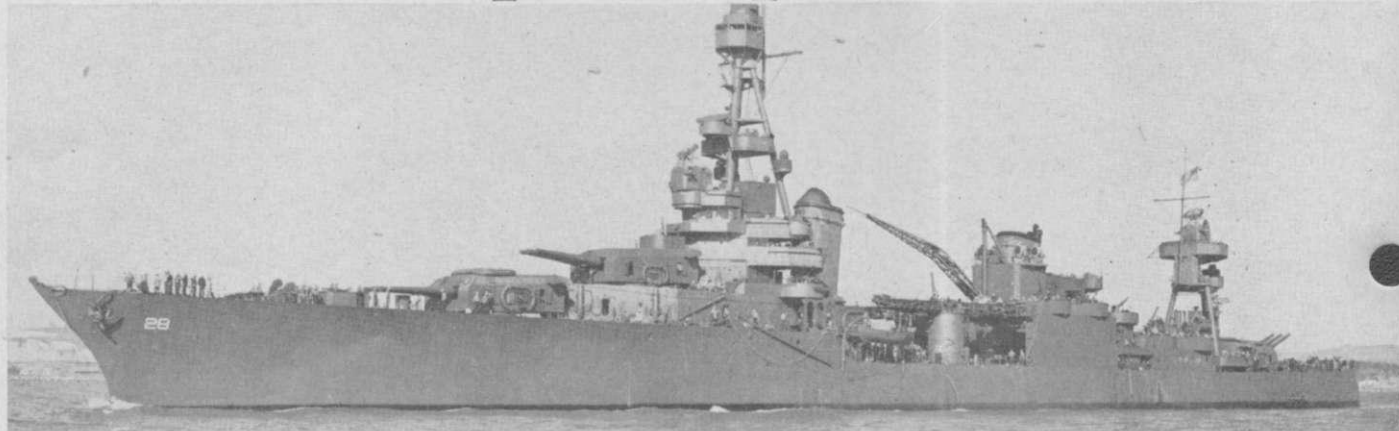
▼ CHESTER, 8-42

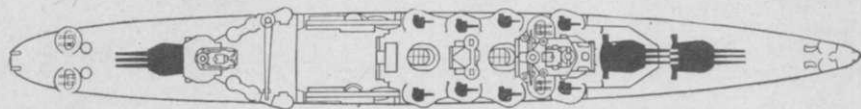
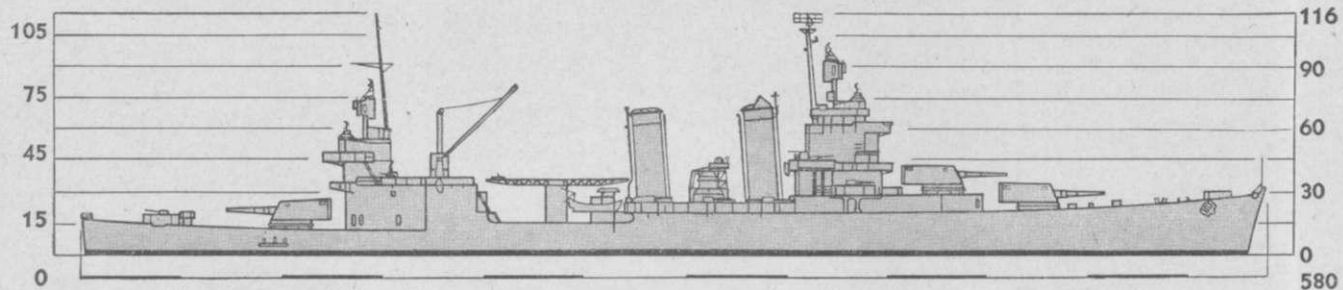


▲ AUGUSTA, 5-43 ▲



CA 28, 11-42 CA 27, 8-42 ▼

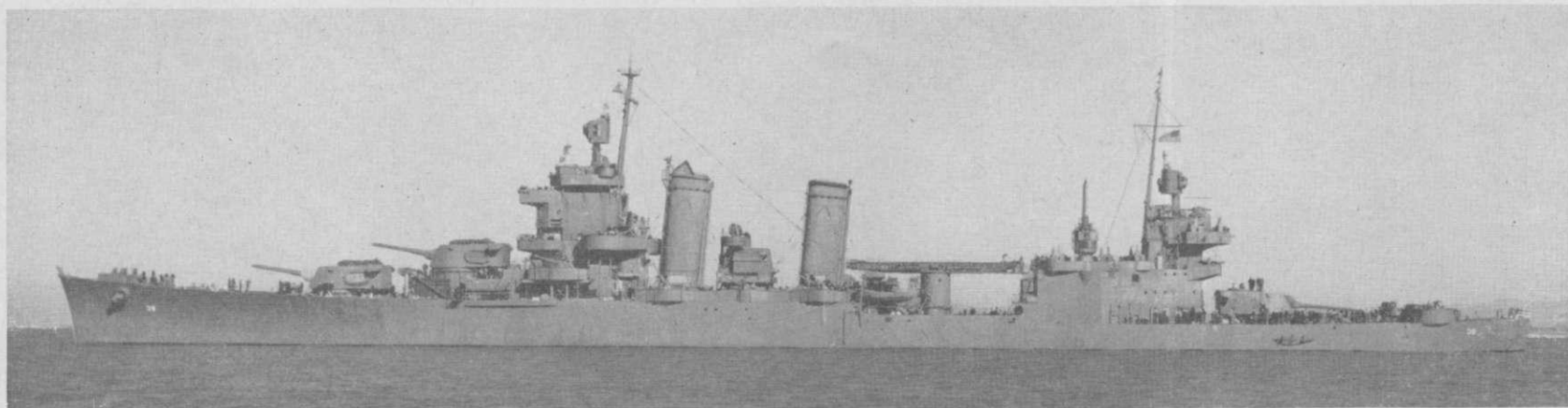




Ships in Class:

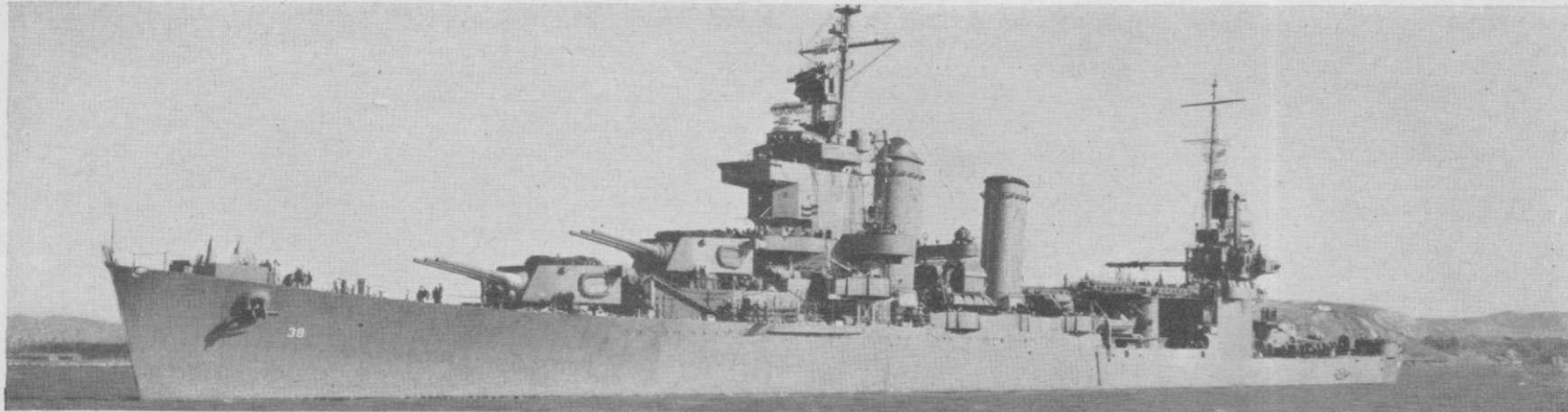
- CA 32 NEW ORLEANS
- CA 36 MINNEAPOLIS
- CA 37 TUSCALOOSA
- CA 38 SAN FRANCISCO

Observer's note: Resembles—
WICHITA (CA U. S.)
BROOKLYN Class (CL U. S.)
PHOENIX Class (CL U. S.)
KOLN Class (CL Ger.)



CA 38—Photo 2/15/43

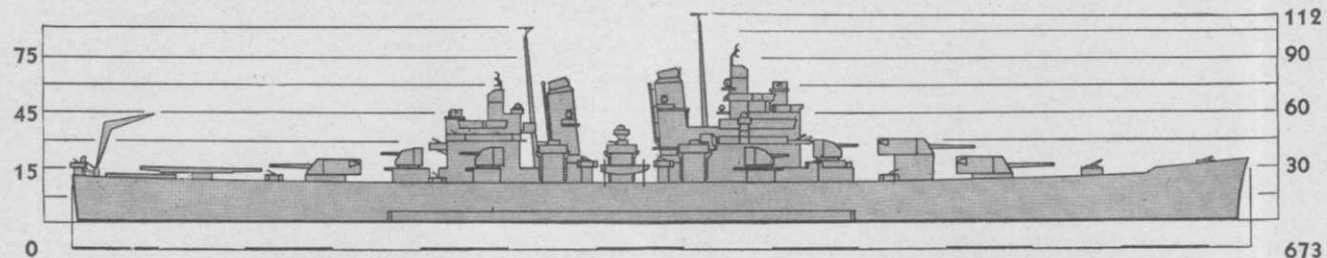
CA 38



CA 38—Photo 2/15/43

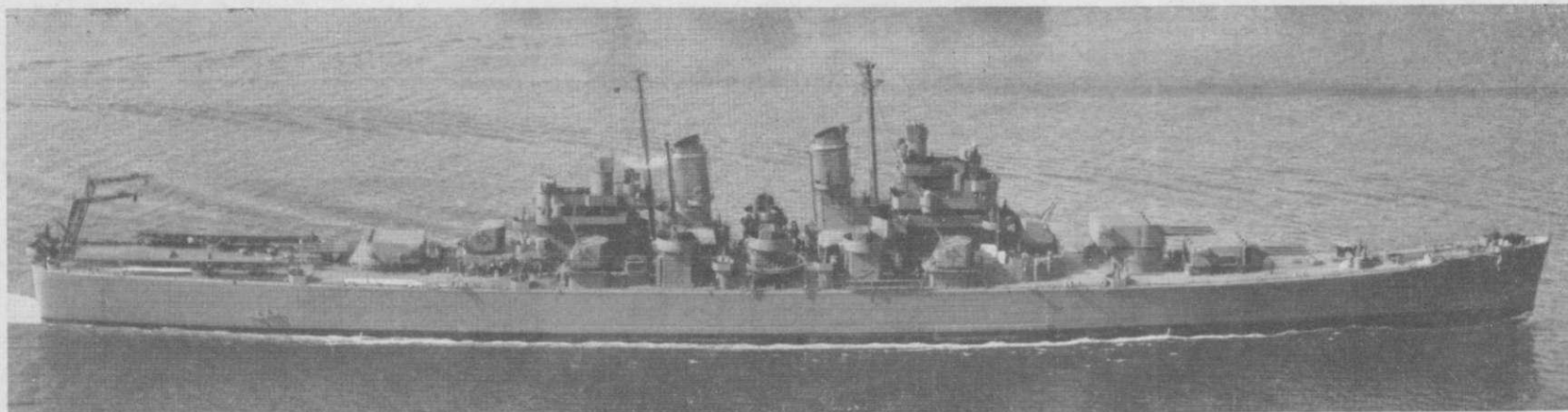
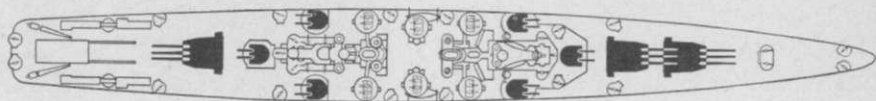


CA 38—Photo 2/28/43



Ships in Class:
CA 68 BALTIMORE
CA 69 BOSTON

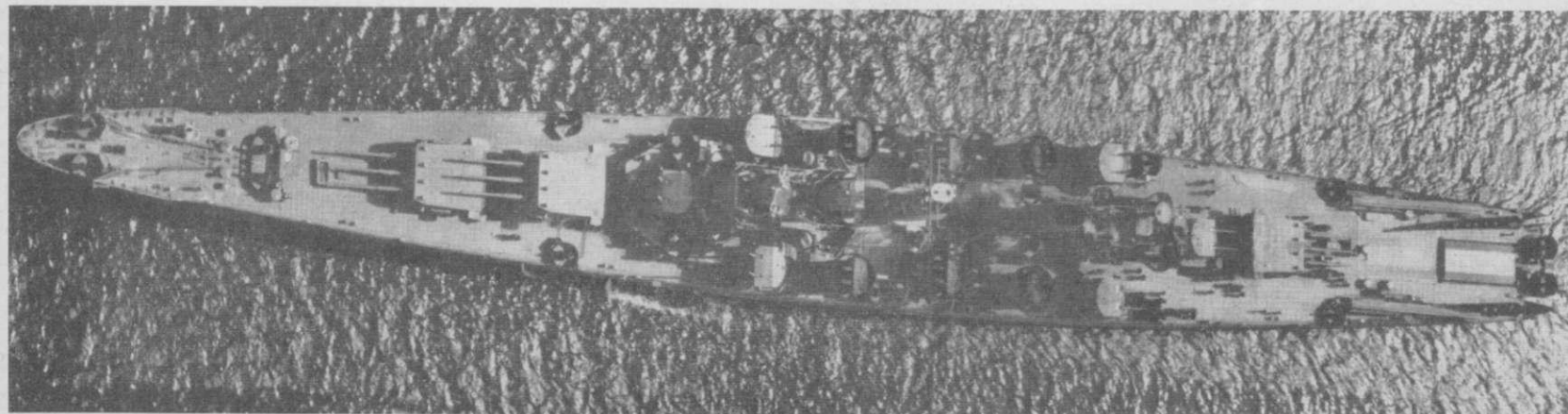
Observers' note: Resembles—
ST. LOUIS Class (CL U. S.)
ATLANTA Class (CL U. S.)
CLEVELAND Class (CL U. S.)



CA 68—Photo 4/15/43

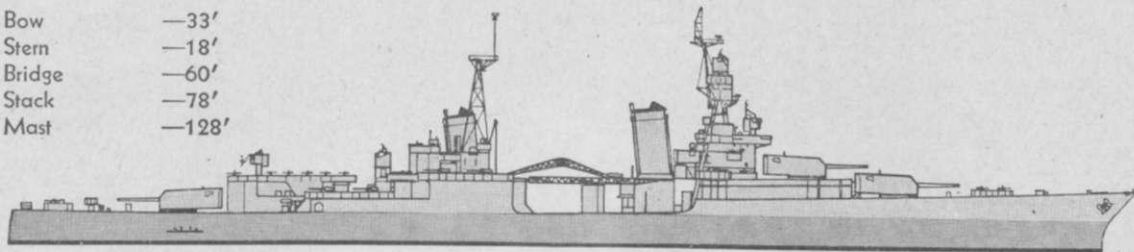


CA 68—Photo 4/15/43

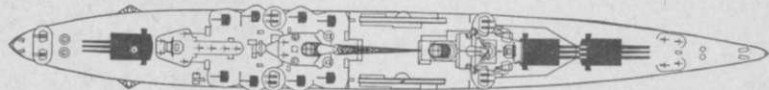


CA 68—Photo 4/15/43

Bow —33'
 Stern —18'
 Bridge —60'
 Stack —78'
 Mast —128'



Length o. a.—610'



Ships in Class:

PORTLAND —CA 33

INDIANAPOLIS—CA 35

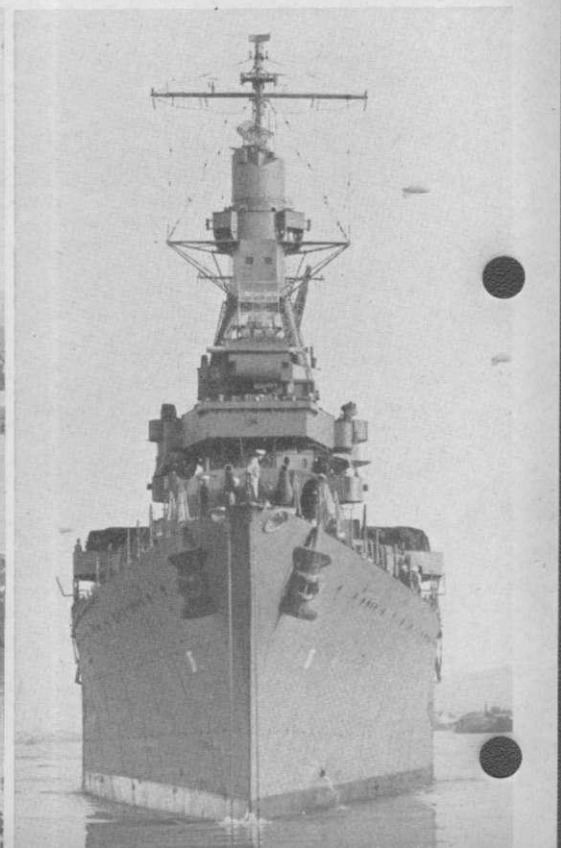
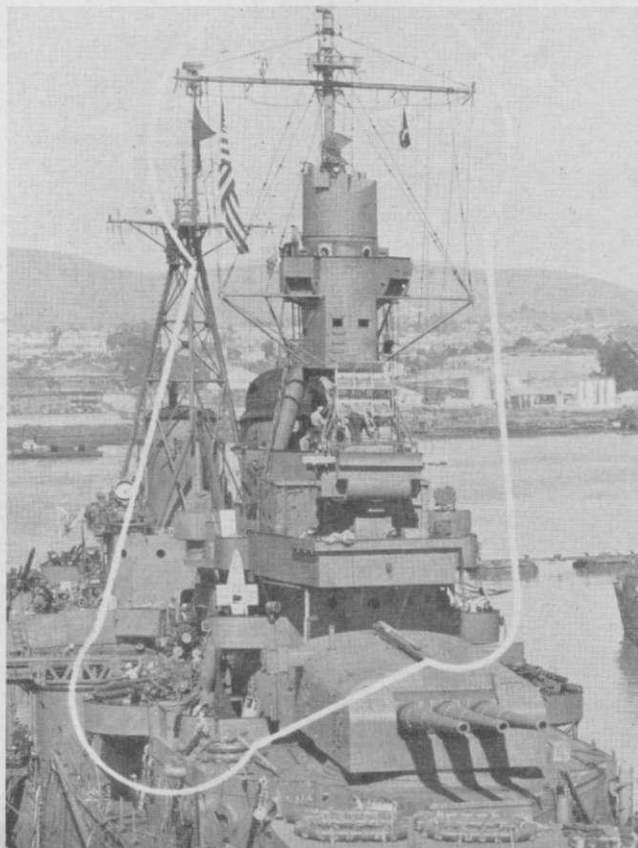
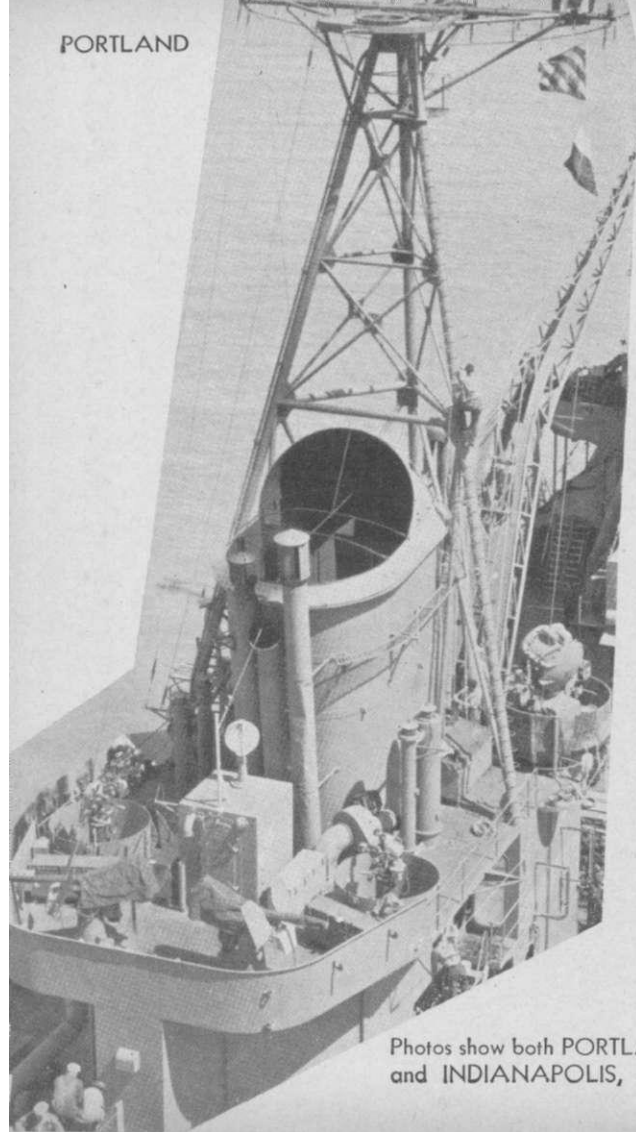
Improved NORTHAMPTON's, these two units were the last of the Washington Treaty group completed from 1929-1932. Both have had the light tripod mainmast moved forward.

Observer's Note:

- Cruiser hull, deck line broken amidships.
- Two raked, flat sided stacks, separated by catapult well deck
- Heavy, low tripod foremast, light tripod mainmast at No. 2 stack.

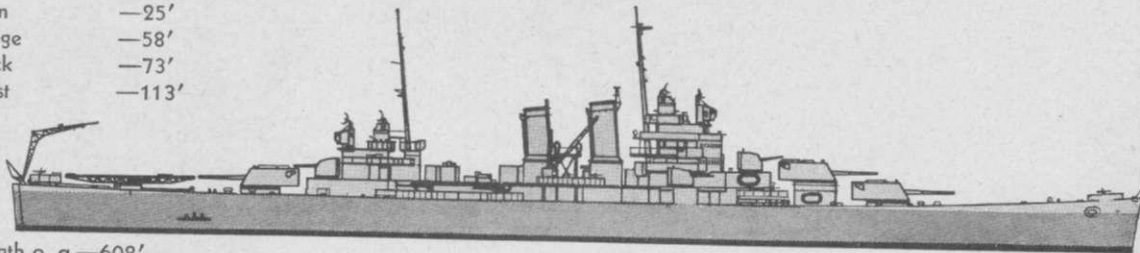


PORTLAND

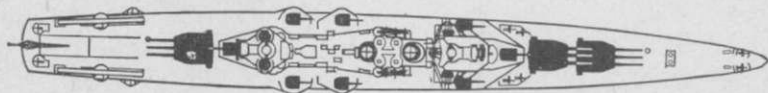


Photos show both PORTLAND
and INDIANAPOLIS, 5-43.

Bow —30'
 Stern —25'
 Bridge —58'
 Stack —73'
 Mast —113'



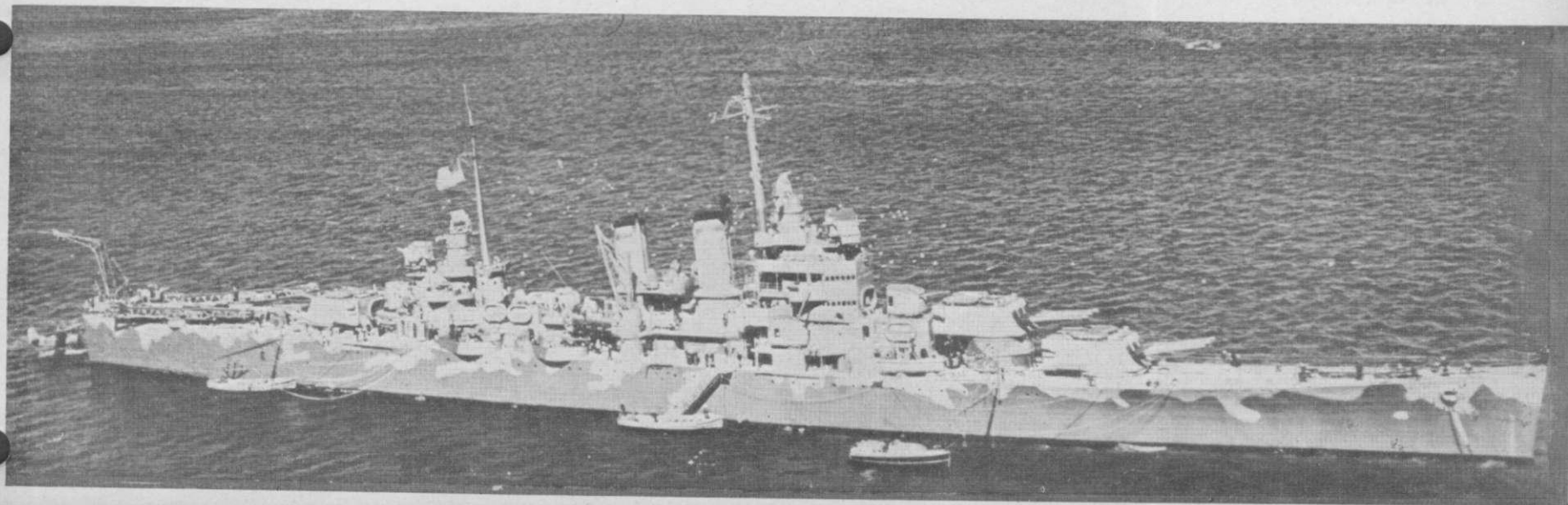
Length o. a.—608'

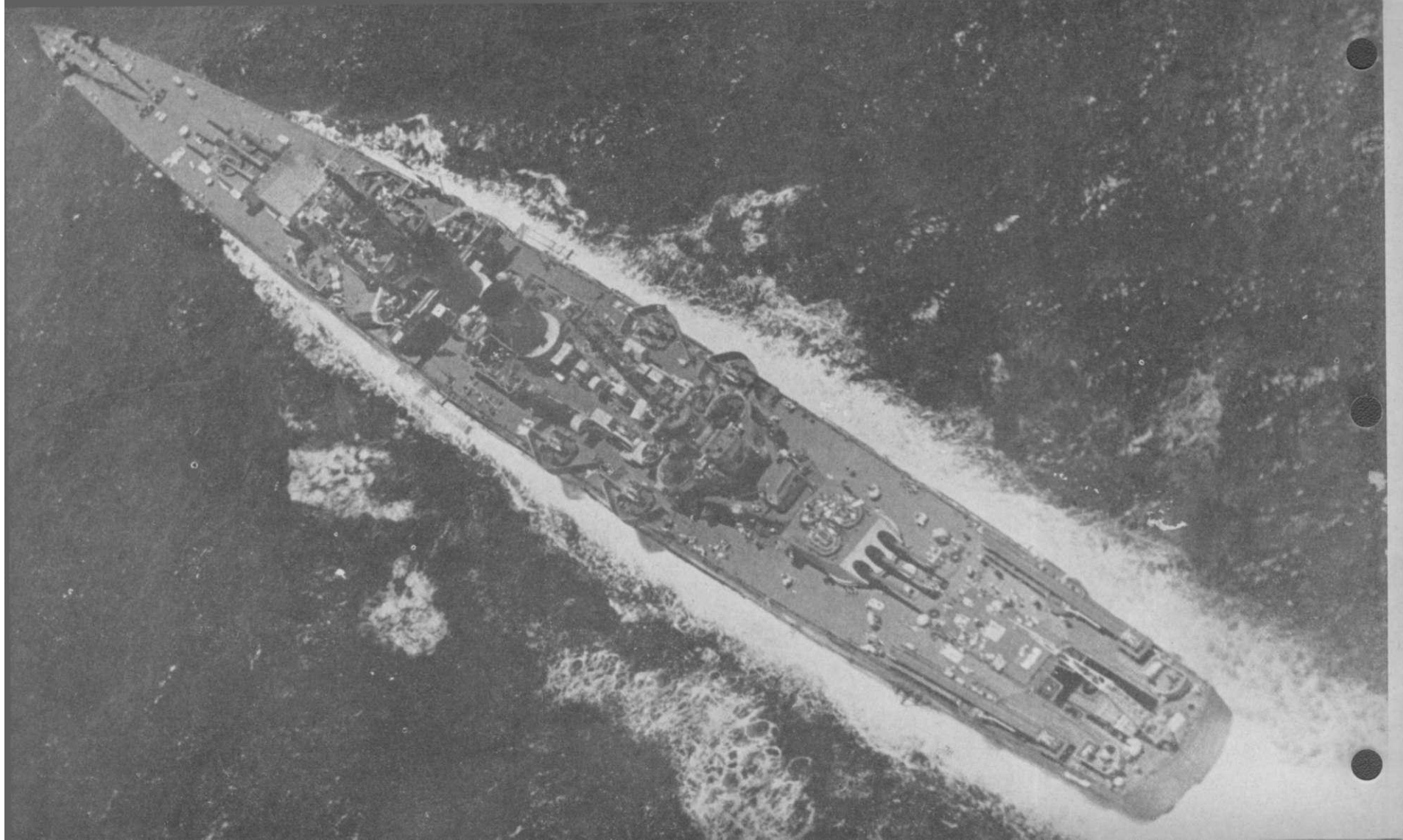


The last CA built under the London Treaty (1939), the WICHITA is an 8" gun version of the BROOKLYN Class.

Observer's Note:

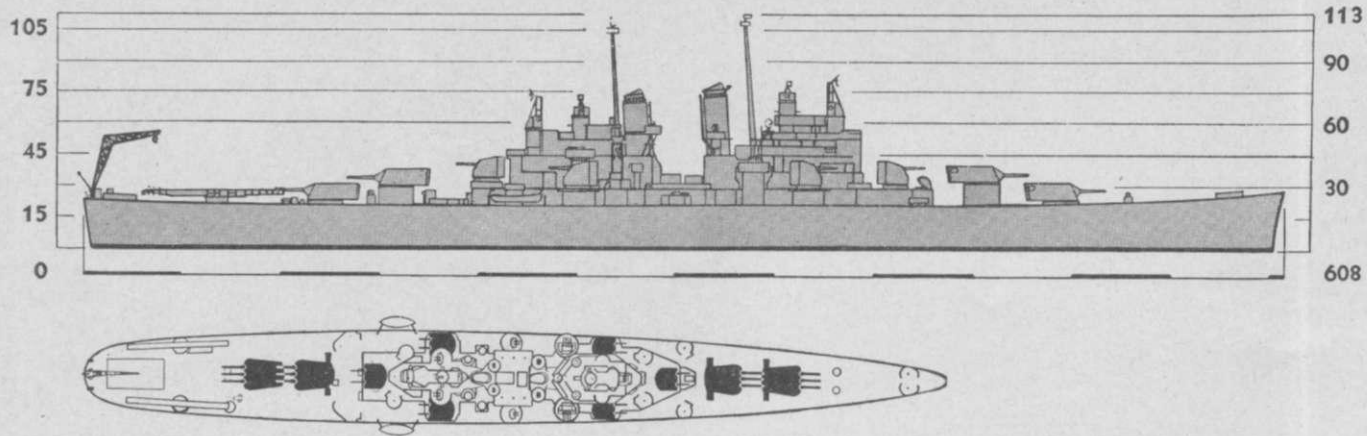
- Flush hull, wide transom stern.
- Two closely spaced, raking stacks, pole masts.
- 2-A-1 main battery arrangement; note superimposed secondaries.





CL—CLEVELAND Class

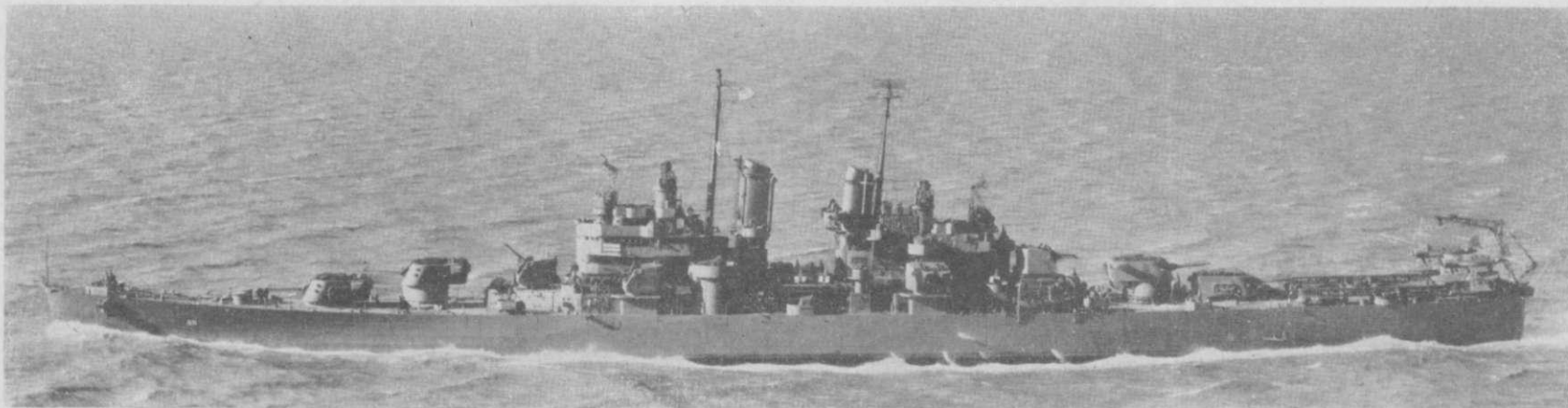
DIVISION OF NAVAL INTELLIGENCE
IDENTIFICATION AND CHARACTERISTICS SECTION



Ships in Class:

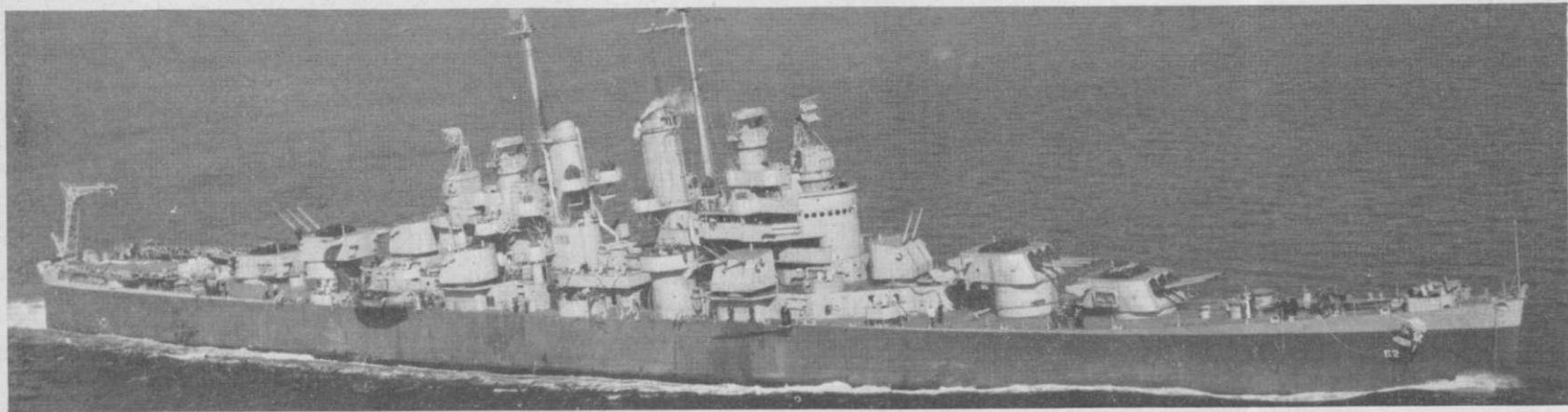
- CL 55 CLEVELAND
- CL 56 COLUMBIA
- CL 57 MONTPELIER
- CL 58 DENVER
- CL 60 SANTA FE
- CL 62 BIRMINGHAM
- CL 63 MOBILE

Observer's note: Resembles—
ATLANTA Class (CL U. S.)
ST. LOUIS Class (CL U. S.)
BALTIMORE Class (CA U. S.)

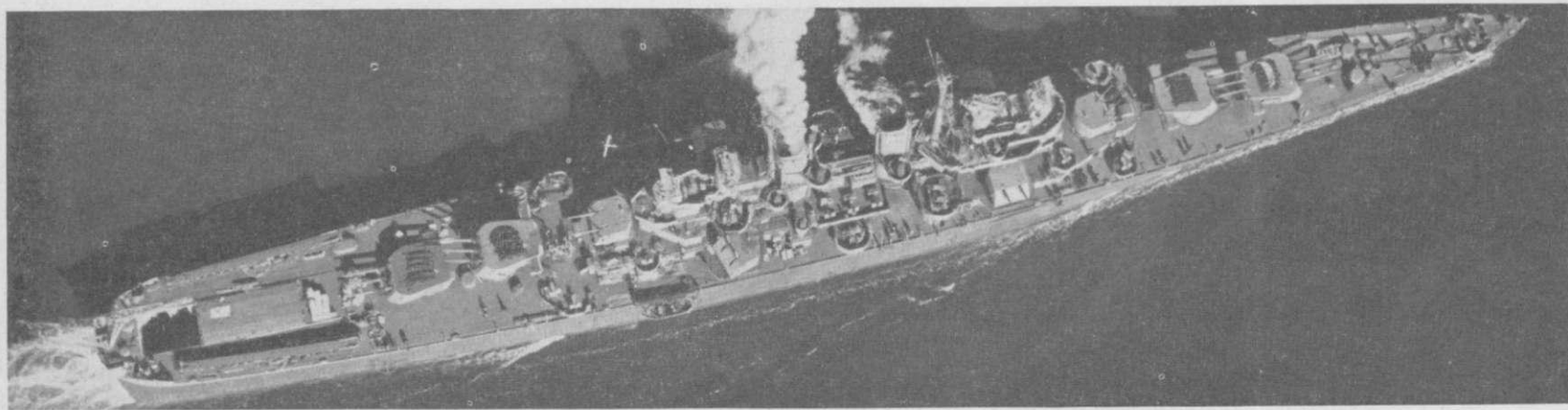


CL 60—Photo 3/7/43

CL 62



CL 62—Photo 2/20/43



CL 62—Photo 2/20/43

ONI 54-R • RESTRICTED

CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-60V-97

Supplement 4—8-4-43

Altered to CL's to conform with the London Naval Treaty, these ships were completed in 1939, with WICHITA being the only ship to be completed in accordance with original designs. BROOKLYN and PHOENIX classes identical in appearance, vary from the ST. LOUIS in after superstructure and mainmast location.

BROOKLYN-PHOENIX Classes, ST. LOUIS—CL 40-49

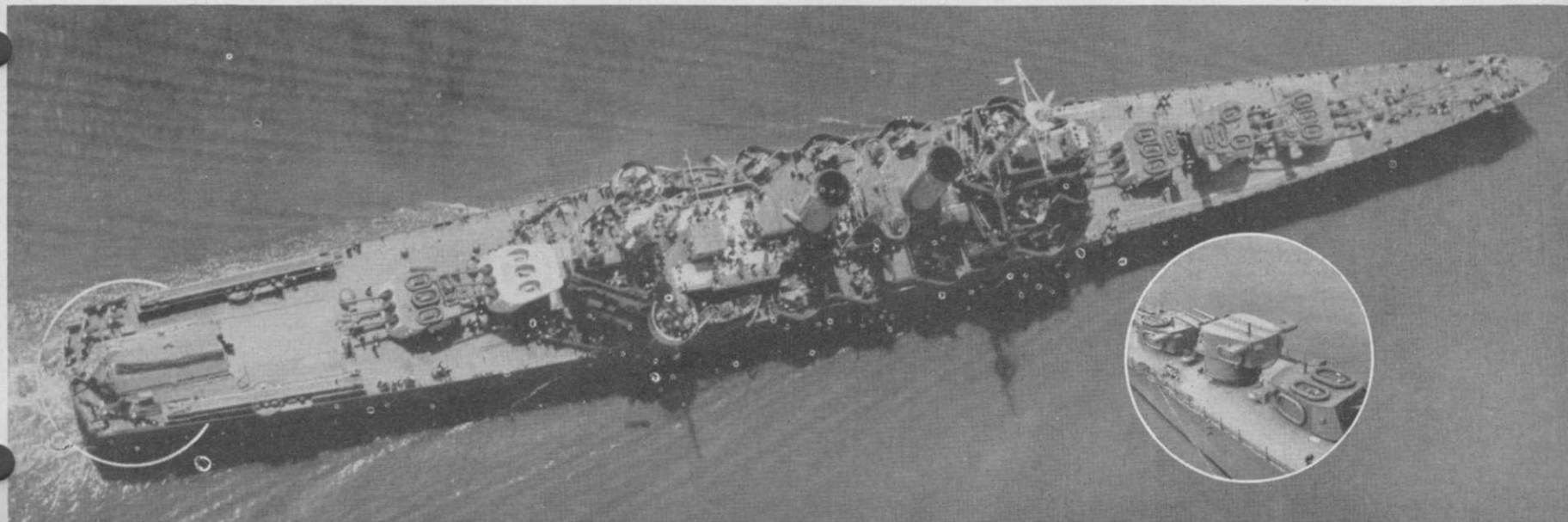
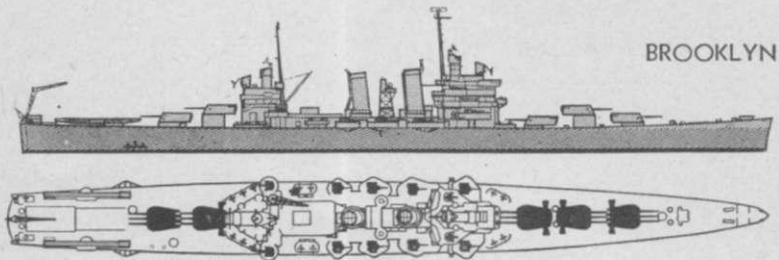
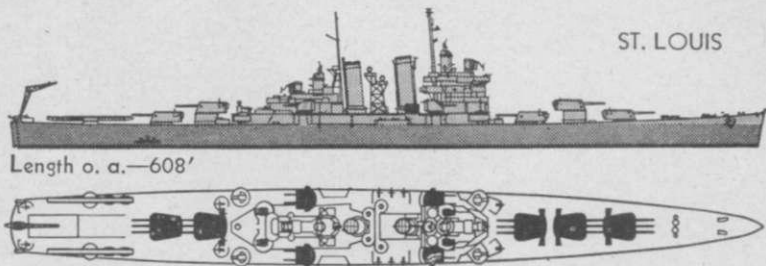
Division of Naval Intelligence—Identification and Characteristics Section

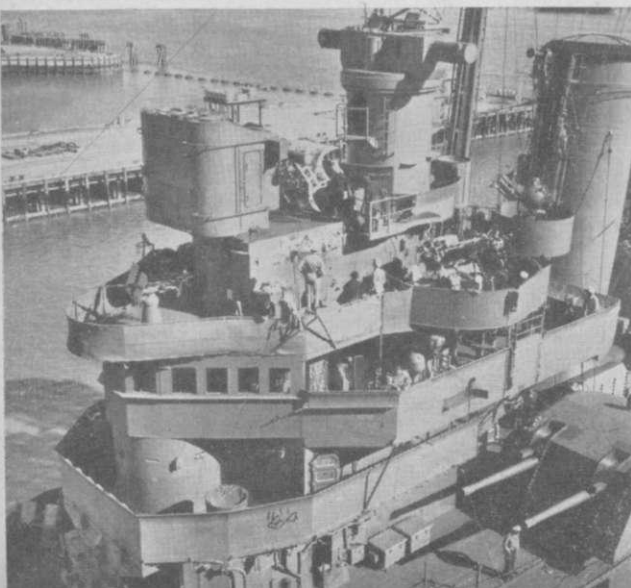
Observer's Note:

- Flush cruiser hull, wide transom stern.
- Two closely spaced, raking stacks.
- Low tower bridge and aft control.

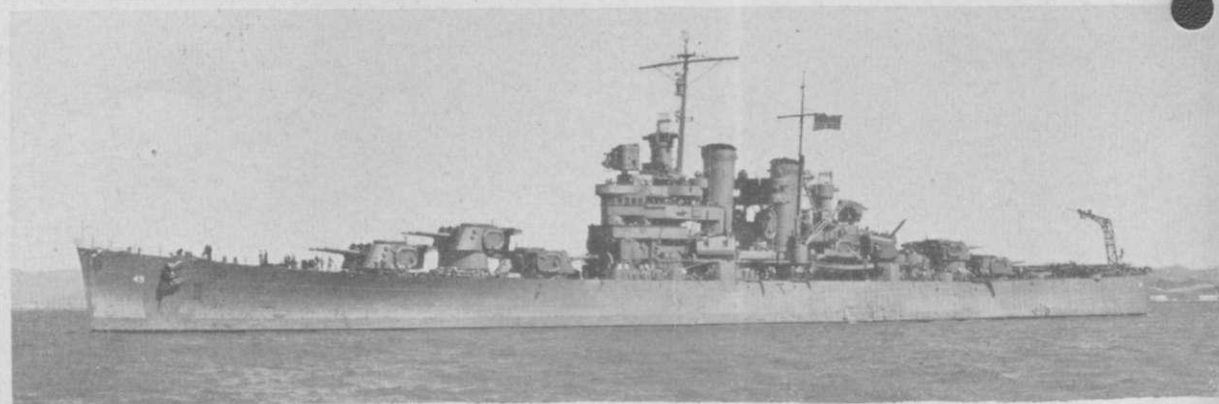
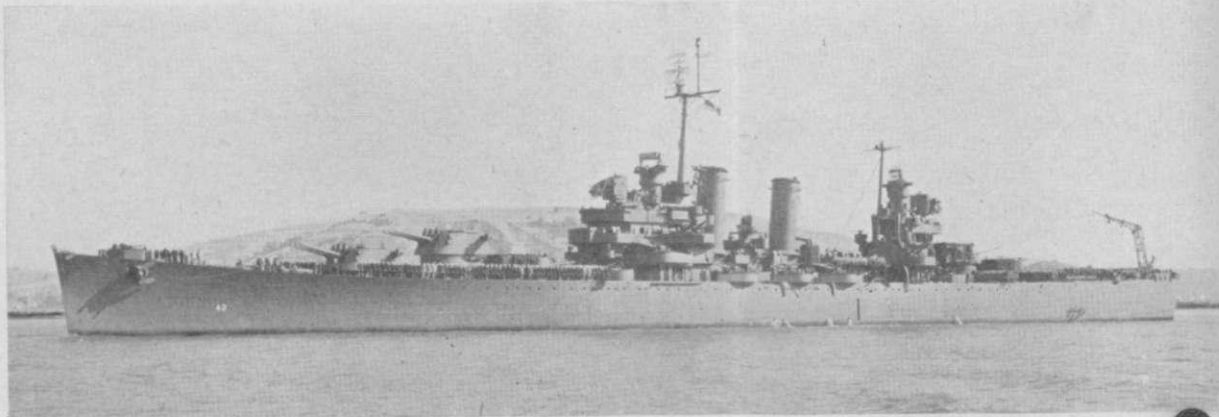
Ships in Classes:

BROOKLYN	—CL 40	PHOENIX	—CL 46
PHILADELPHIA	—CL 41	BOISE	—CL 47
SAVANNAH	—CL 42	HONOLULU	—CL 48
NASHVILLE	—CL 43	ST. LOUIS	—CL 49





◀ NASHVILLE, 6-30-43 ▼



◀ ST. LOUIS, 3-6-42 ▶

ONI 54-R • RESTRICTED

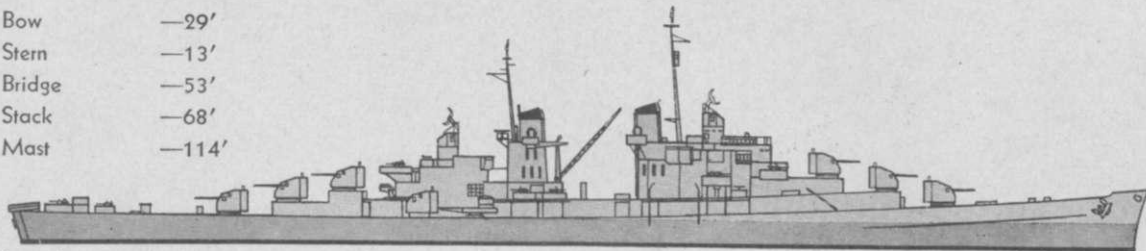
Supplement 4—8-4-43

CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

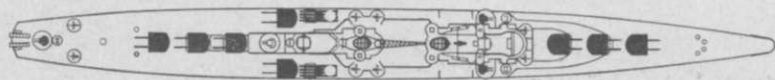
ATLANTA, OAKLAND Classes—CL 53, 54, 95—

Division of Naval Intelligence—Identification and Characteristics Section

Bow	—29'
Stern	—13'
Bridge	—53'
Stack	—68'
Mast	—114'



Length o. a.—541'



▼ SAN JUAN, 6-3-43.

Ships in Class:

SAN DIEGO—CL 53

SAN JUAN—CL 54

OAKLAND—CL 95

Sister ships are building

Observer's Note:

—Flush hull with pronounced sheer forward.

—3-A-3 main battery arrangement.

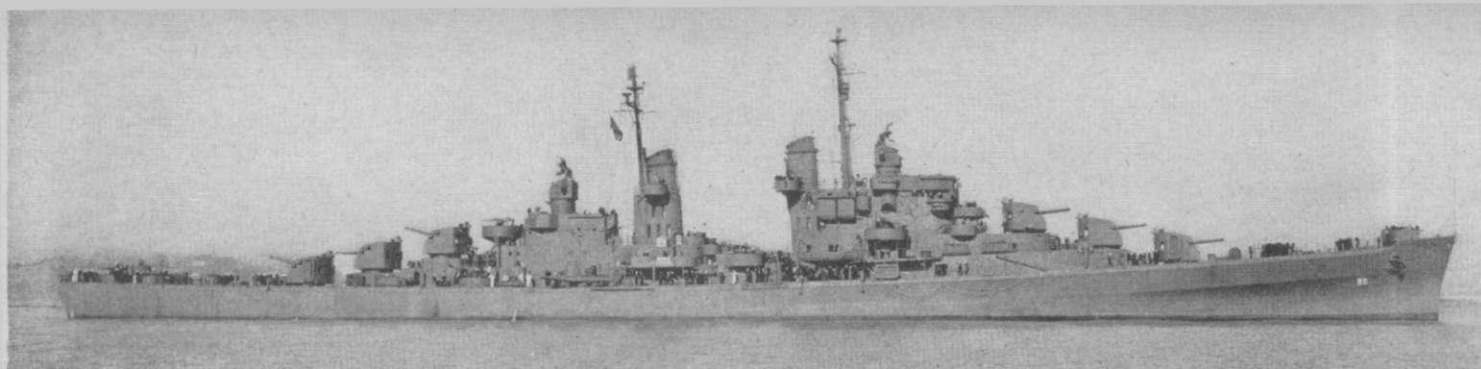
(Note: OAKLAND has no wing mounts.)

—Two thin stacks combined with superstructure.

—OAKLAND differs from ATLANTA in bridge details and minor armament variations.

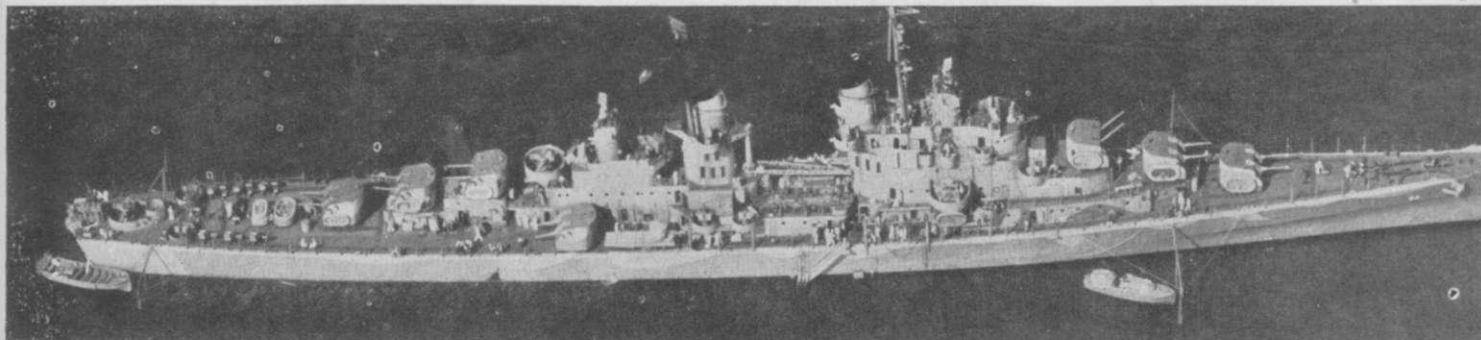
OAKLAND, 8-2-43. ▼



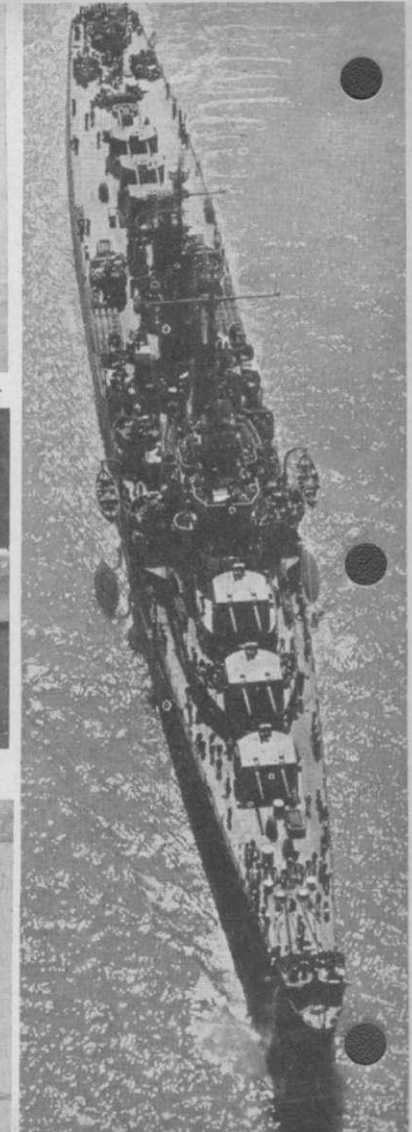
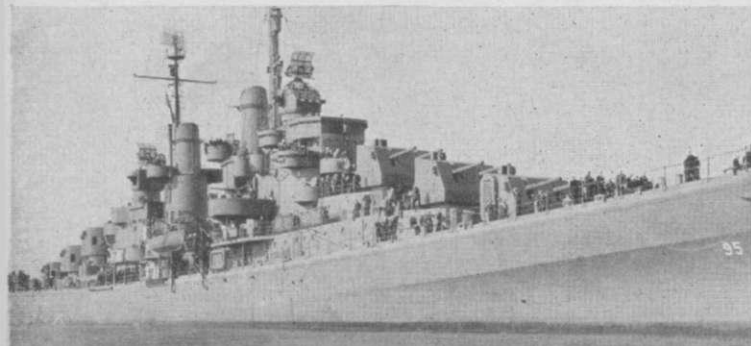


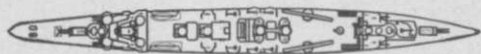
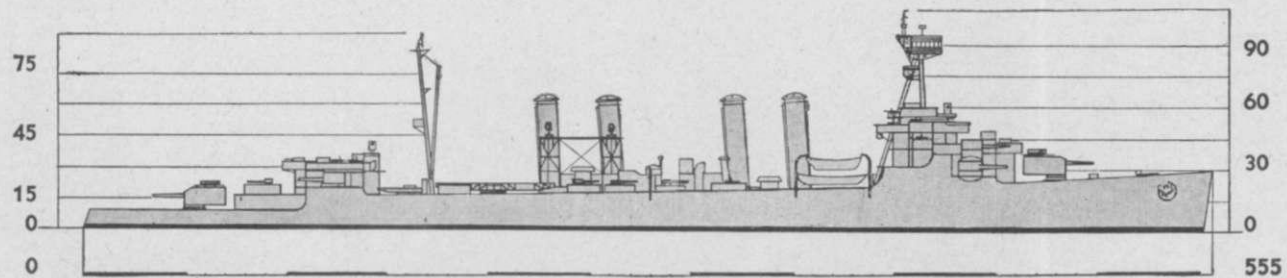
▼ SAN JUAN, 6-3-43.

▲ OAKLAND, 8-2-43. ►



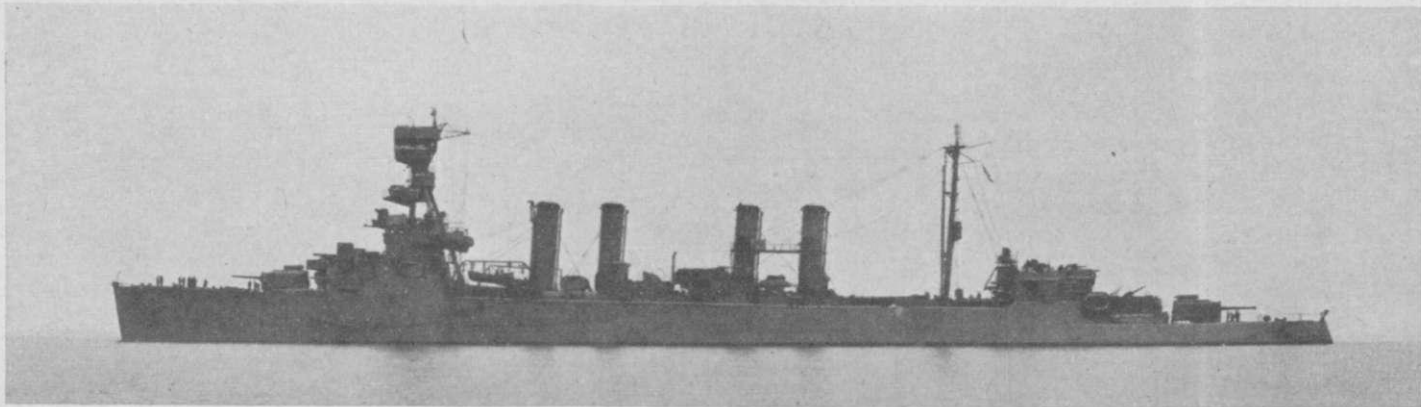
▼ OAKLAND, 8-2-43. ▼





MILWAUKEE

OMAHA CLASS



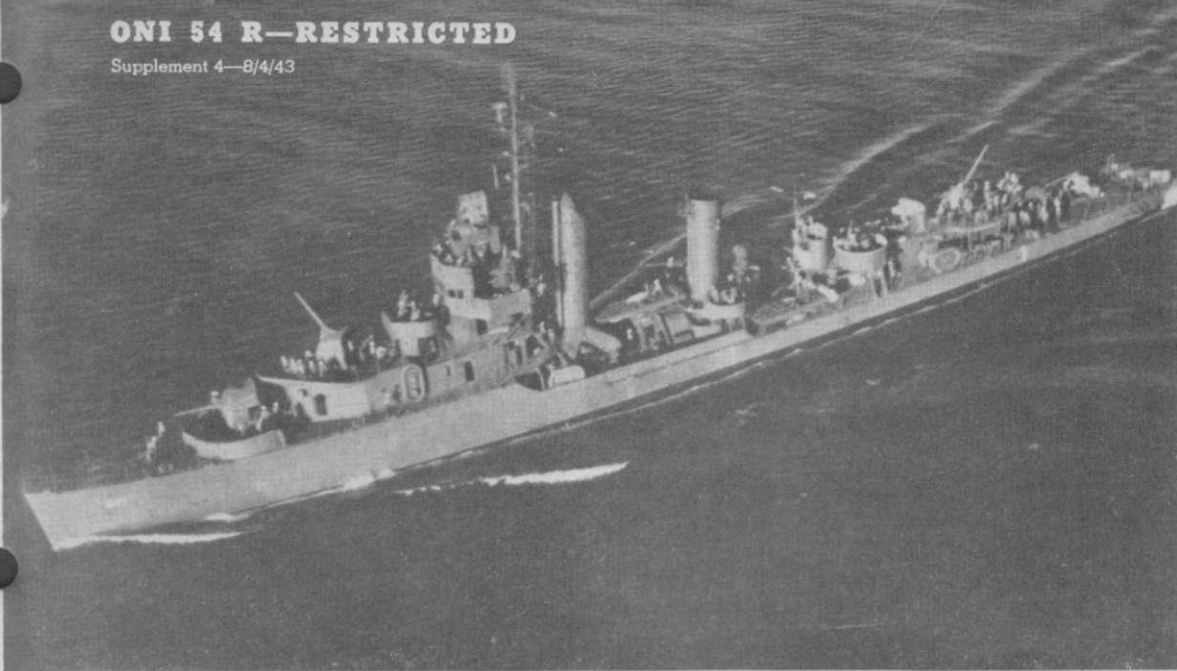
DETROIT →

MARBLEHEAD ↓



ONI 54 R—RESTRICTED

Supplement 4—8/4/43

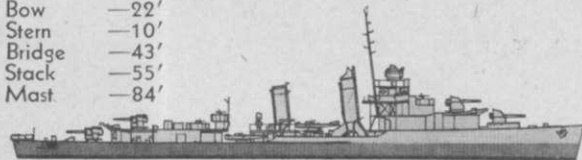


MAHAN-DUNLAP Classes—DD

Division of Naval Intelligence—Identification and Characteristics
Section

CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

Bow	—22'
Stern	—10'
Bridge	—43'
Stack	—55'
Mast	—84'



Length o. a.—341'



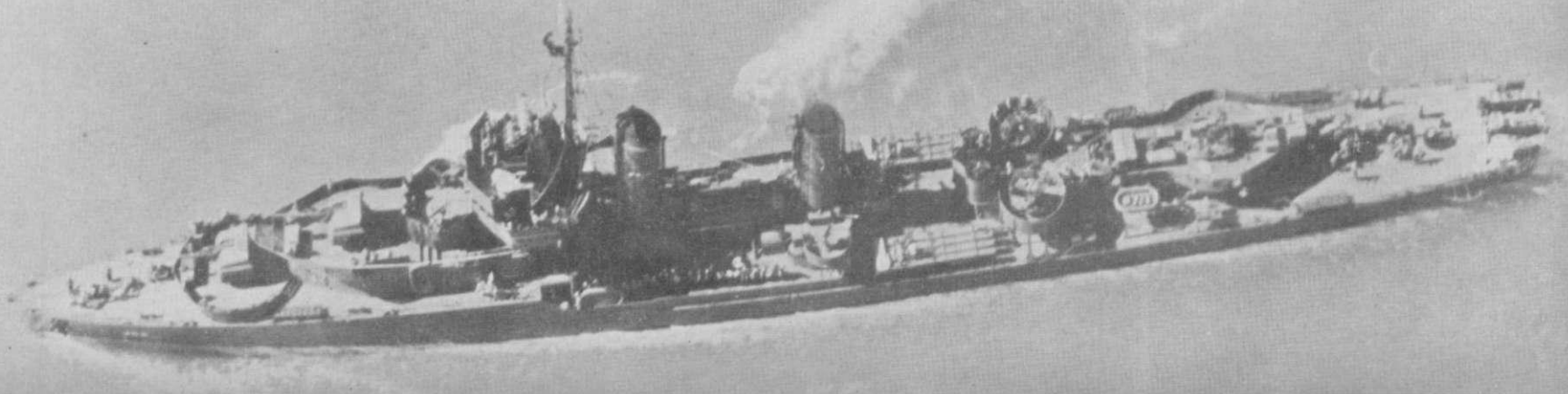
Completed in 1936-37 as improved FARRAGUT's, these ships are typical of our older two-stack destroyers.

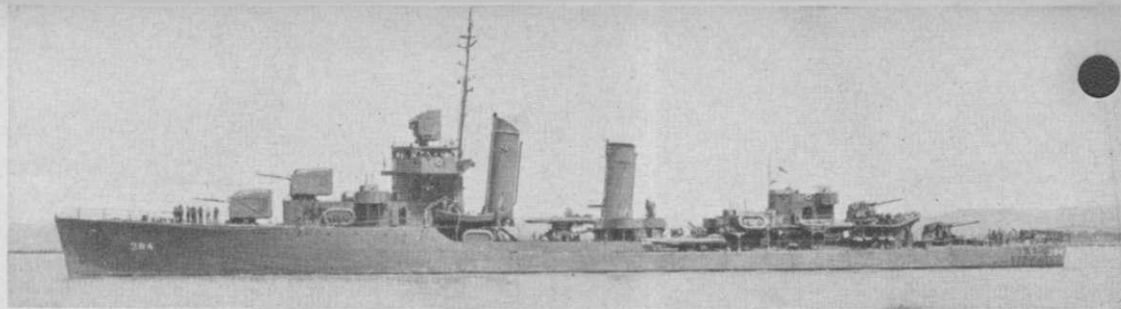
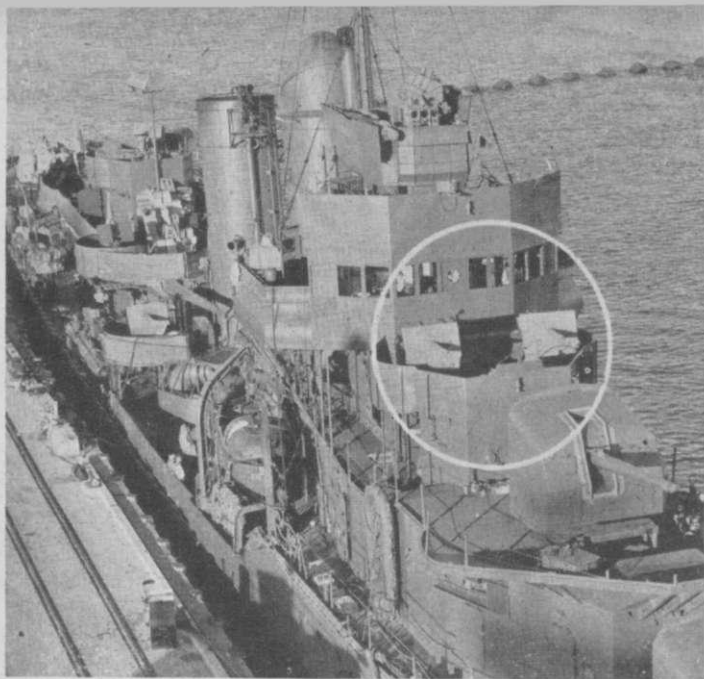
Observer's Note:

- Gunhouses forward differentiate DUNLAP from MAHAN Class (open gunshields).
- Very similar in appearance to PORTER, LIVERMORE, BENSON Classes; differentiated by armament disposition and stack spacing.

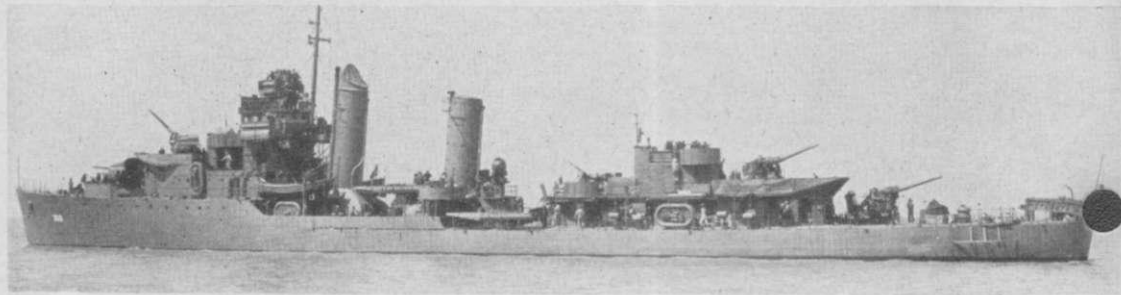
◀ CONYNGHAM, 1-42

▼ FLUSSER, 1-43



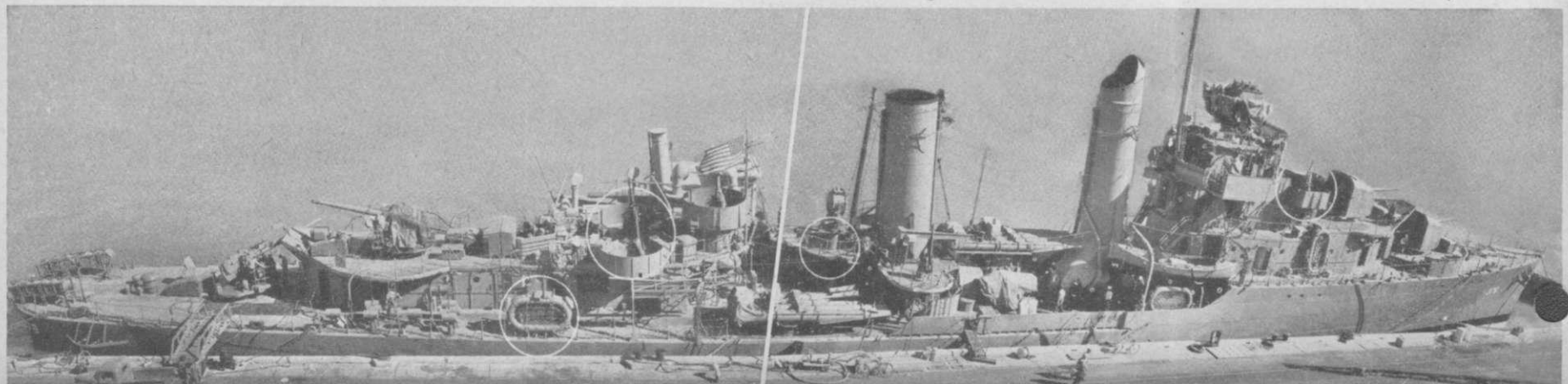


DUNLAP ▲, FLUSSER ▼ illustrate appearance differences in the two combined classes.



◀ CONYNGHAM, showing recent alterations, typical of the class.

▼ CUSHING



ONI 54 R—RESTRICTED

Supplement 4—8/4/43

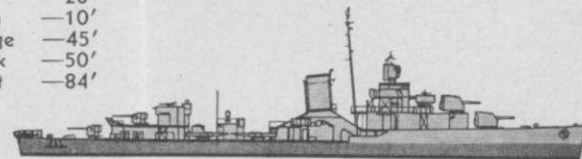


BAGLEY Class—DD

Division of Naval Intelligence—Identification and Characteristics Section

CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

Bow —20'
Stern —10'
Bridge —45'
Stack —50'
Mast —84'



Length o. a. —341

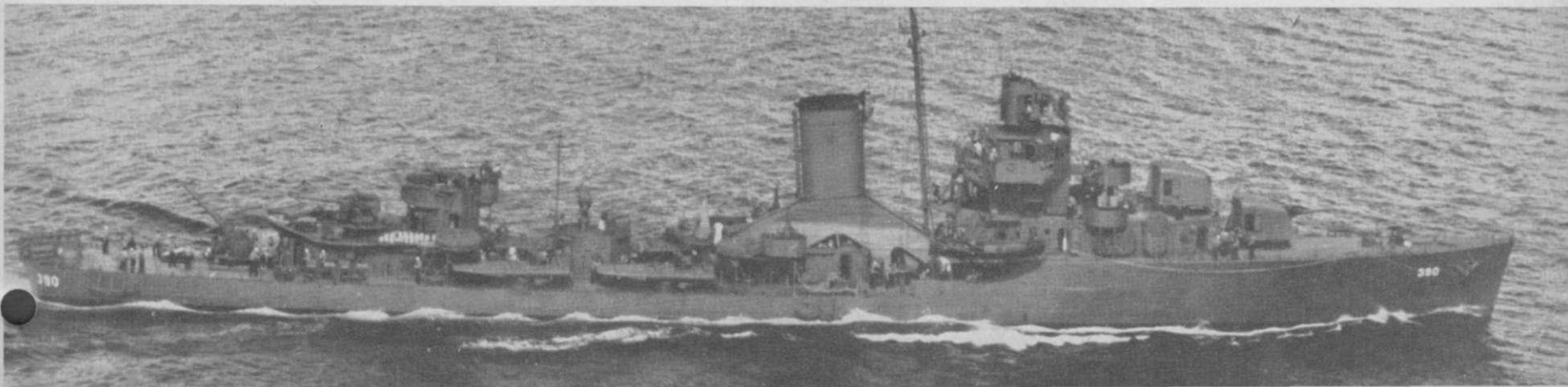


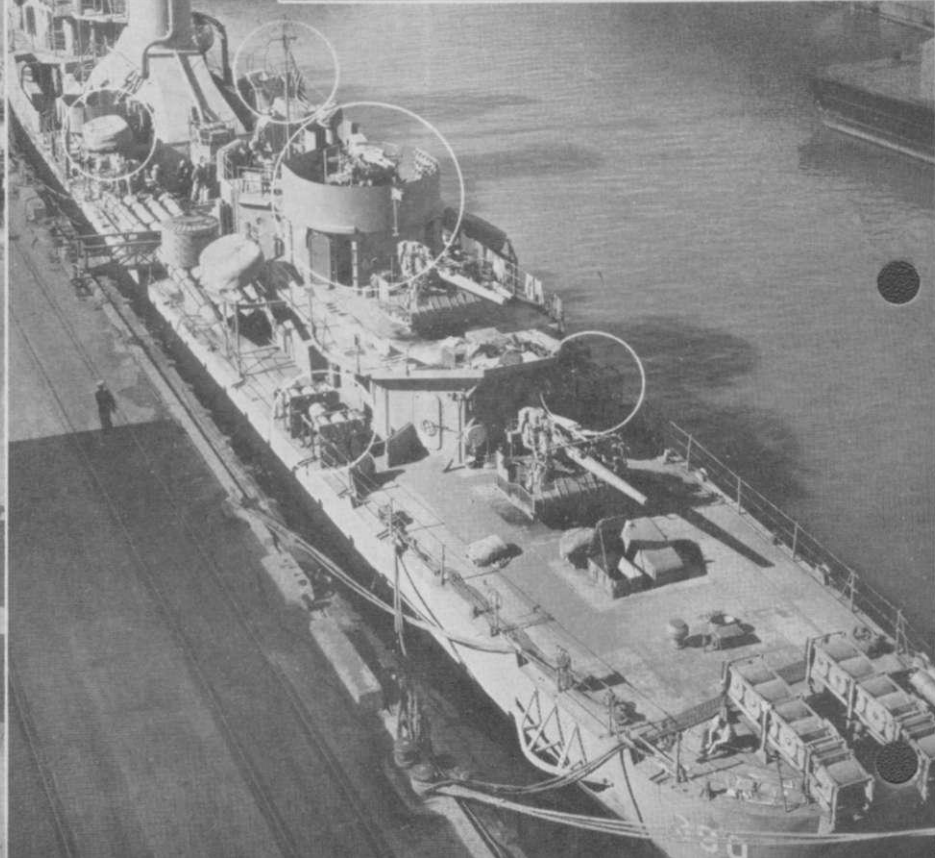
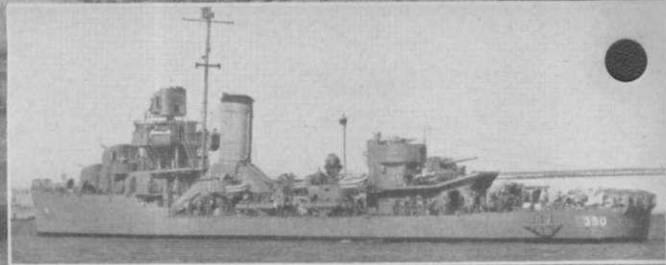
Like the GRIDLEY's, with which they are often classed, these ships are a development of the MAHAN design. They are the heaviest armed ships in torpedo battery.

Observer's Note:

- Widely split trunked stack and paired quadruple torpedo tubes differentiate these ships from the GRIDLEY, BENHAM-SIMS Classes.
- 2-A-2 gun arrangement—shields forward, open mounts aft.

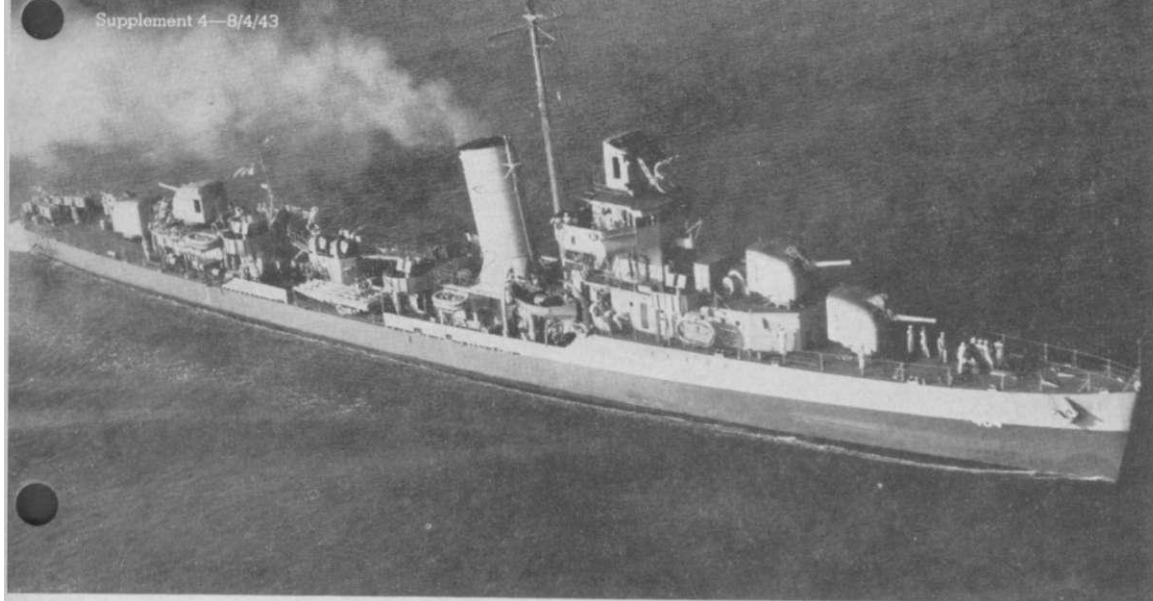
▼ RALPH TALBOT, 12-42.





ONI 54 R—RESTRICTED

Supplement 4—8/4/43

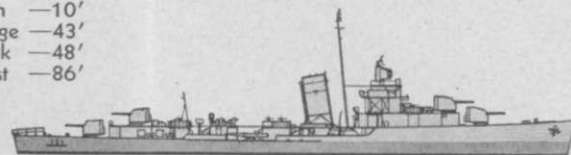


BENHAM Class—DD

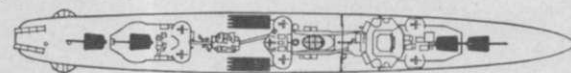
Division of Naval Intelligence—Identification and Characteristics Section

CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-90V-57

Bow —22'
Stern —10'
Bridge —43'
Stack —48'
Mast —86'



Length o. a.—341'



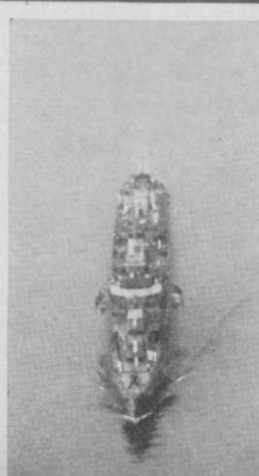
An improved MAHAN design, these units are very similar to SIMS Class ships. Both classes were completed 1939-40.

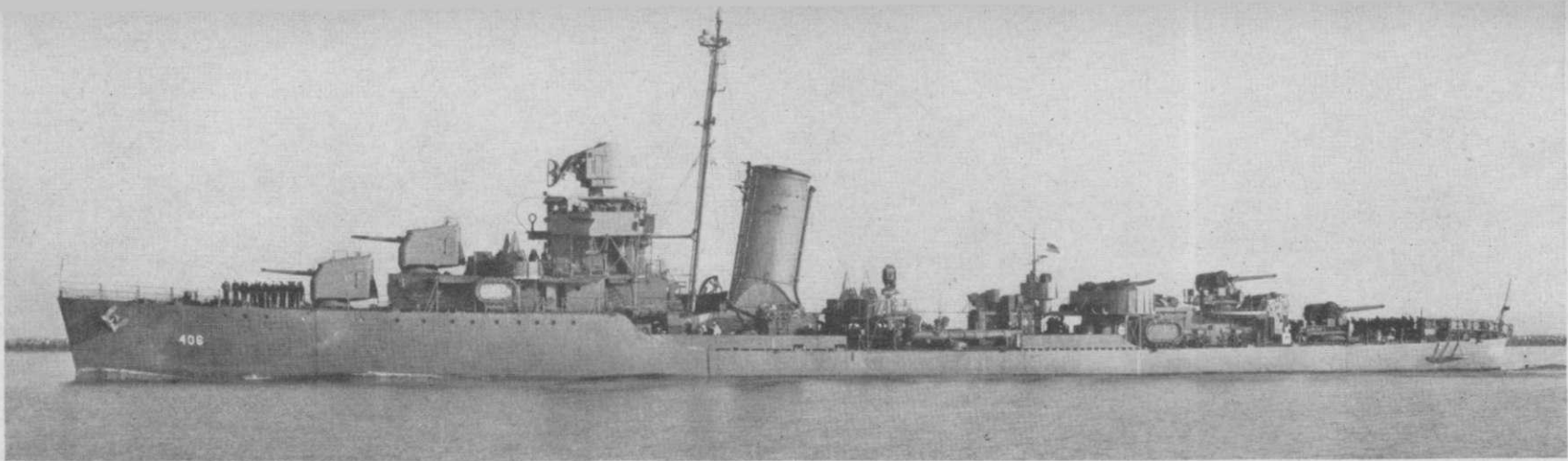
Observer's Note:

- Large single trunked stack (no stack cap).
- Amidships quadruple torpedo mount differentiate these ships from SIMS, GRIDLEY, BAGLEY Classes.

◀ RHIND, 9-17-42.

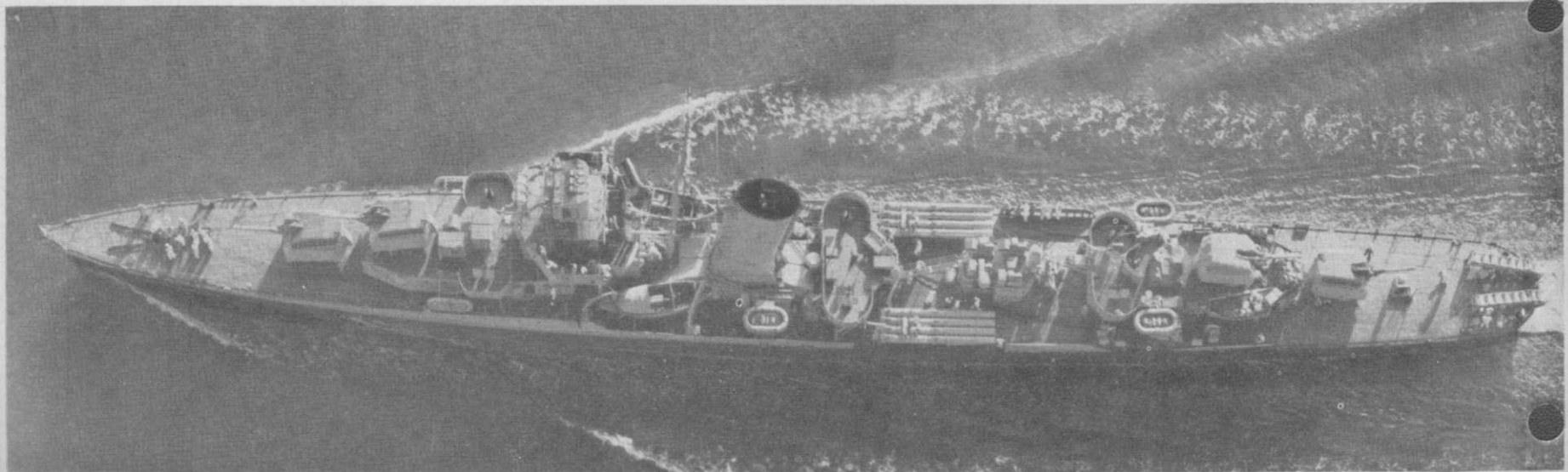
USS TRIPPE, 6-2-42. ▼

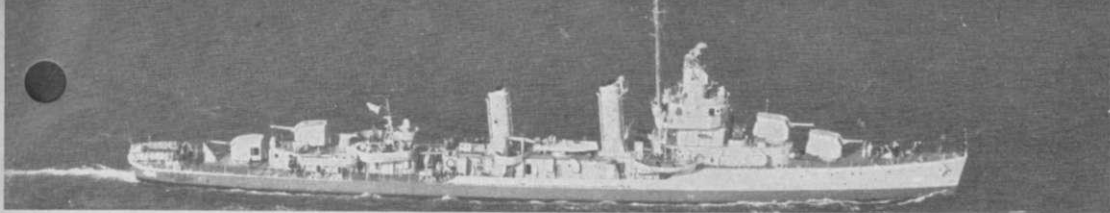




▲ STACK, 8-6-42.

▼ RHIND, 9-17-42.

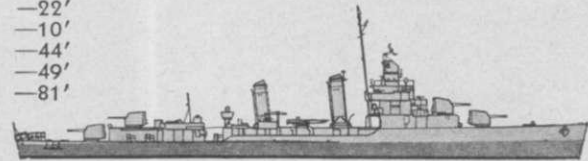




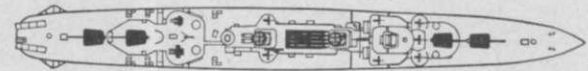
BENSON, LIVERMORE Classes—DD

Division of Naval Intelligence—Identification and Characteristics Section
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

Bow —22'
Stern —10'
Bridge —44'
Stack —49'
Mast —81'



Length o. a.—348'

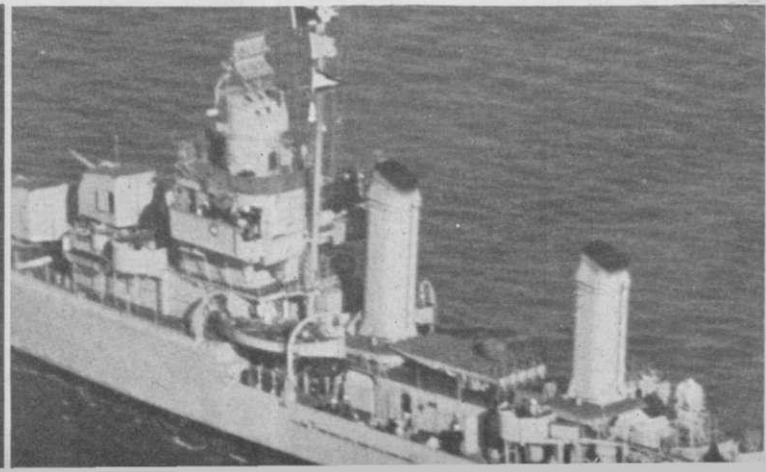


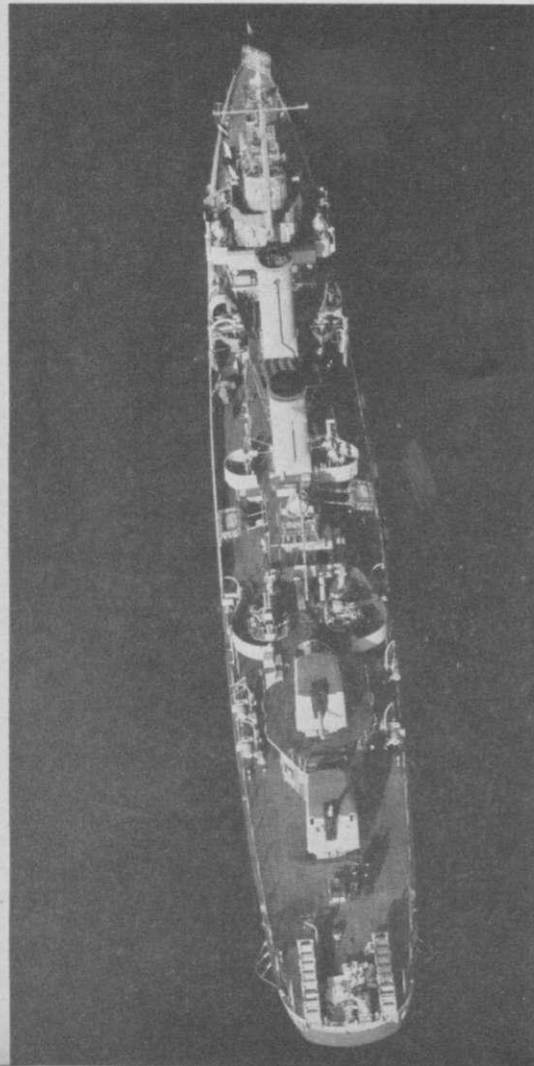
First commissioned in 1940, these ships are essentially an improved SIMS type. Armament varies in individual units.

Observer's Note:

- Two thin raking stacks—round in LIVERMORE's, squared in BENSON's.
- 2-A-2 gunhouse arrangement.

◀ FITCH and JEFFERS ▼ HOBBY, a unit of the BENSON Class, 1-43



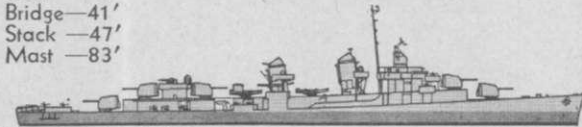


FLETCHER Class—DD

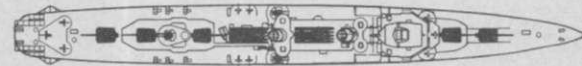
Division of Naval Intelligence—Identification
and Characteristics Section

CONDENSED AND PRINTED FOR FM 30-50. NAVAER 00-80V-57

Bow —19'
Stern —9'
Bridge—41'
Stack —47'
Mast —83'



Length o. a.—376'



A departure from previous designs, these destroyers follow closely the pattern found in our new BB's, CA's, and CL's. A variation occurs in those units equipped for handling aircraft.

Observer's Note:

- Flush hull with pronounced bow sheer.
- Two broad, raking stacks.
- 2-A-1-A gunhouse disposition.

◀ TRATHEN, 6-42

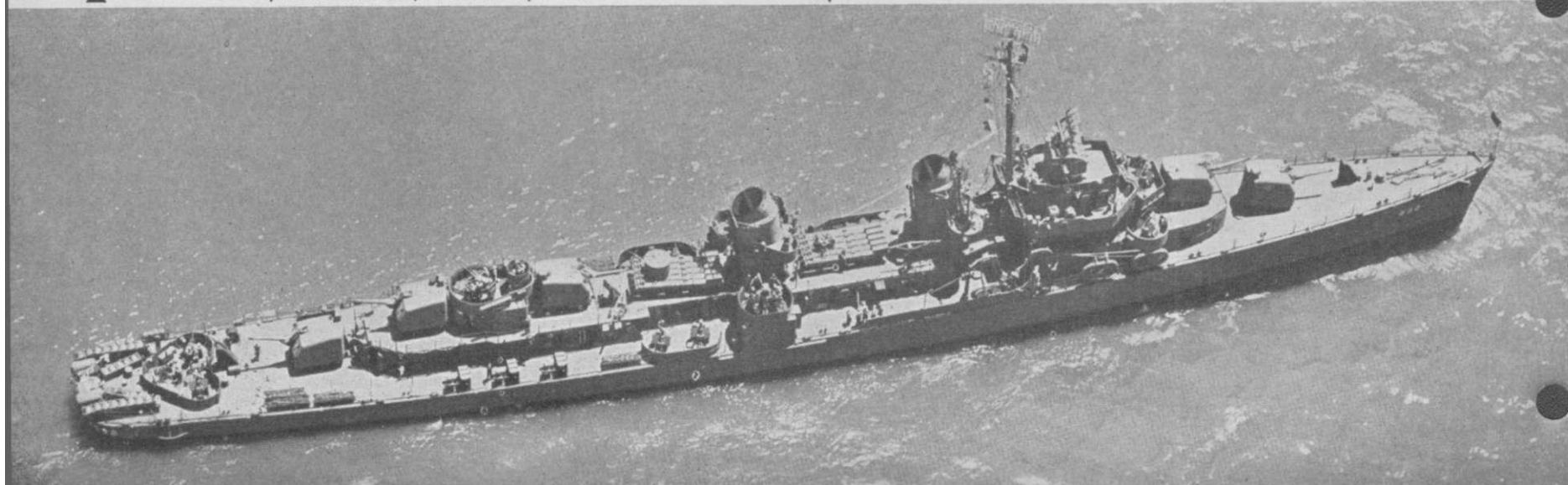
▼ BULLARD, 4-43





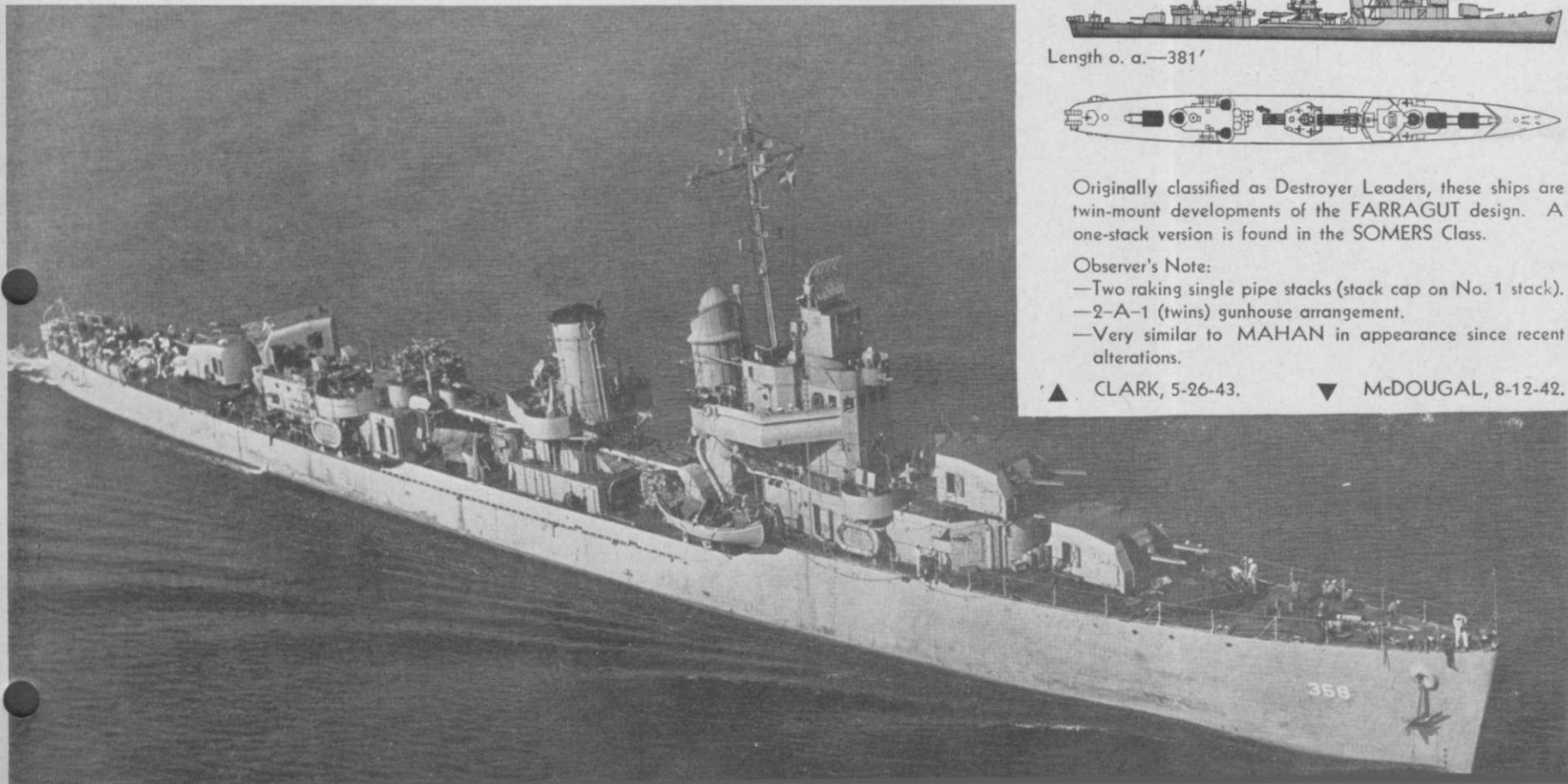
▲ USS HALFORD, shown with catapult variations, 4-43.

▼ Below the standard design is illustrated by the HEERMANN, 7-43.



ONI 54 R—RESTRICTED

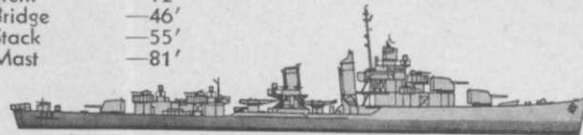
Supplement 4—8/4/43



PORTER Class—DD

Division of Naval Intelligence—Identification and Characteristics Section
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-50V-57

Bow	—24'
Stern	—12'
Bridge	—46'
Stack	—55'
Mast	—81'



Length o. a.—381'



Originally classified as Destroyer Leaders, these ships are twin-mount developments of the FARRAGUT design. A one-stack version is found in the SOMERS Class.

Observer's Note:

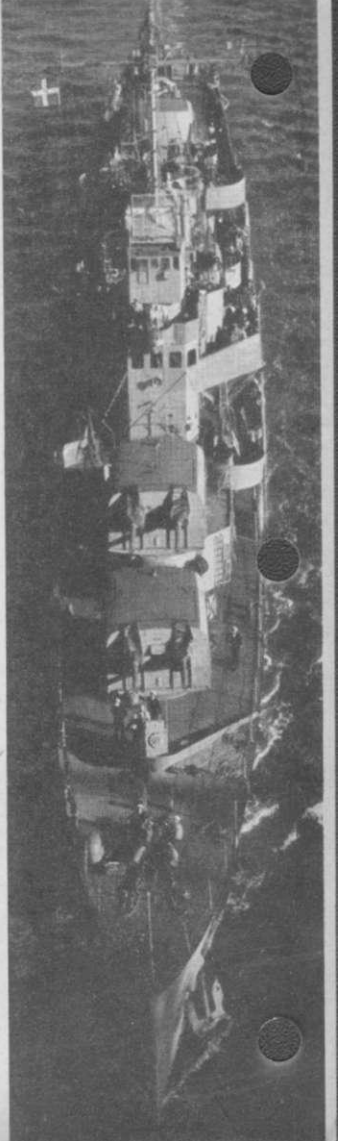
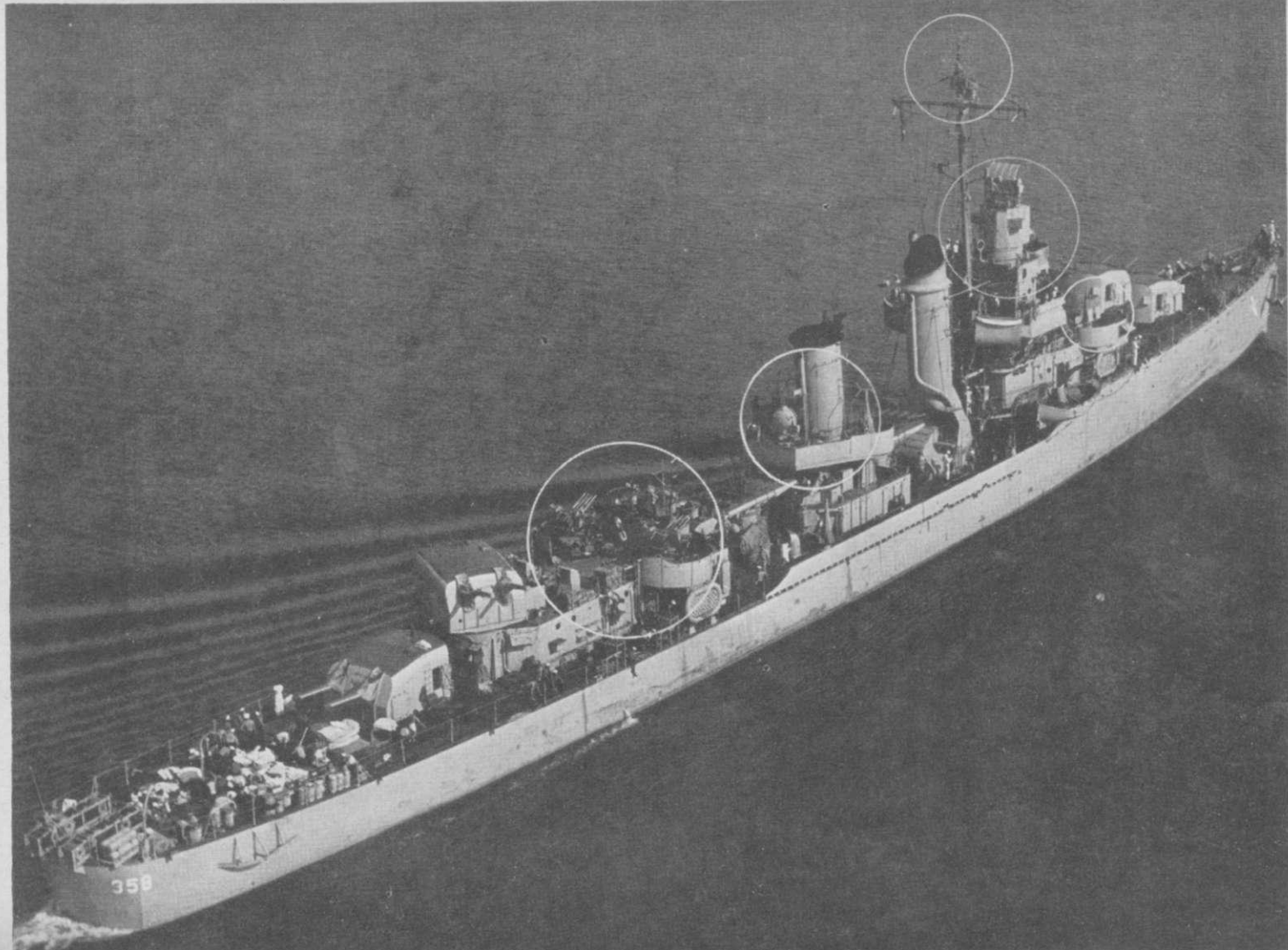
- Two raking single pipe stacks (stack cap on No. 1 stack).
- 2-A-1 (twins) gunhouse arrangement.
- Very similar to MAHAN in appearance since recent alterations.

▲ CLARK, 5-26-43.

▼ McDOUGAL, 8-12-42.

McDOUGAL, 8-12-42.

MOFFETT, 10-28-42.



ONI 54 R—RESTRICTED

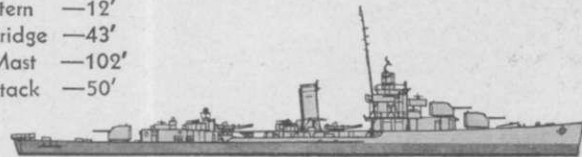
Supplement 4—8/4/43



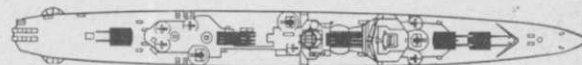
SOMERS Class—DD

Division of Naval Intelligence—Identification and Characteristics Section
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

Bow —26'
Stern —12'
Bridge —43'
Mast —102'
Stack —50'



Length o. a.—381

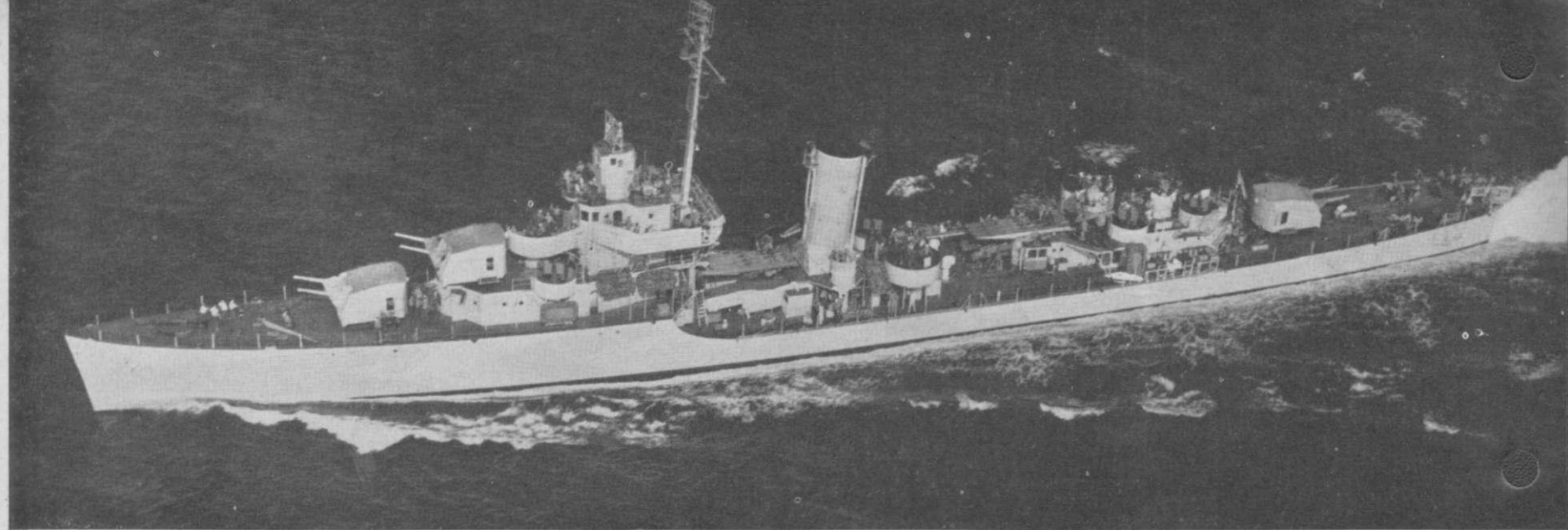


Completed in 1938-39, these ships were designed as improved PORTER's. As in other classes, they have recently undergone considerable armament changes.

Observer's Note:

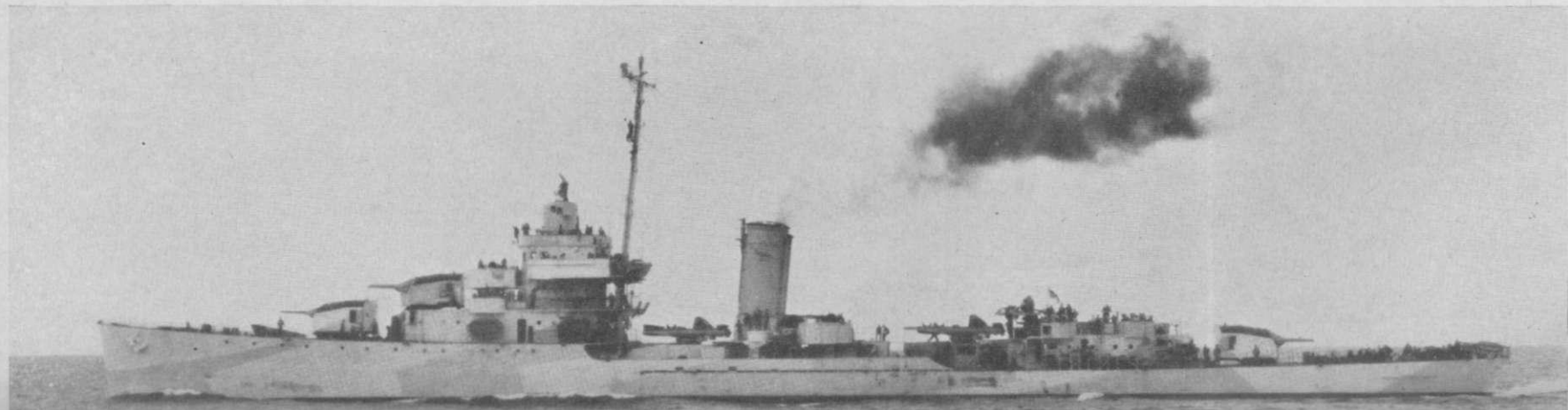
- Distinctive tall, raking, single-pipe stack.
- 2-A-1 gunhouse arrangement (twins).





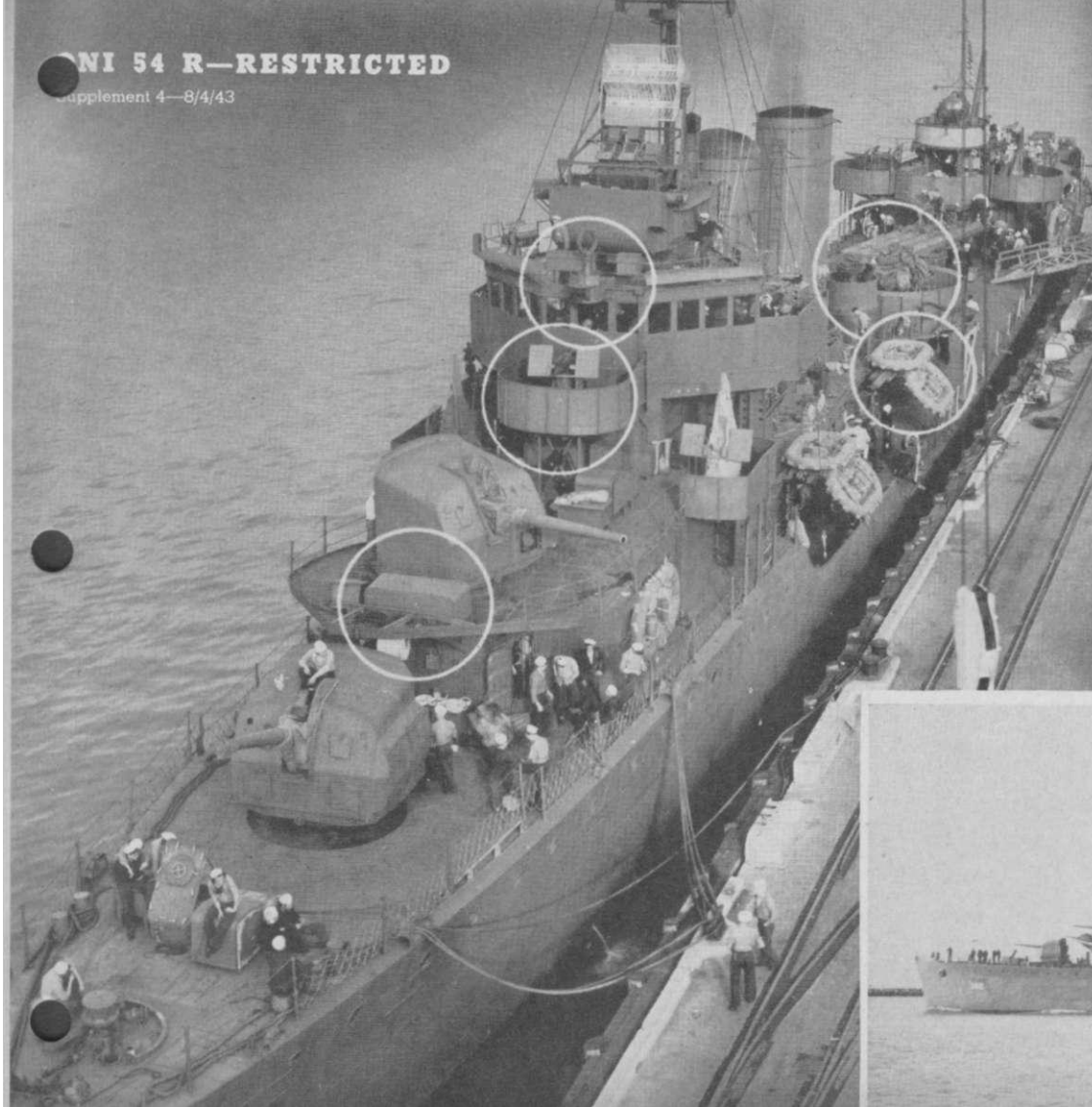
Below and on front is illustrated the WARRINGTON, 4-23-43.

▲ SAMPSON, 3-14-43



ONI 54 R—RESTRICTED

Supplement 4—8/4/43

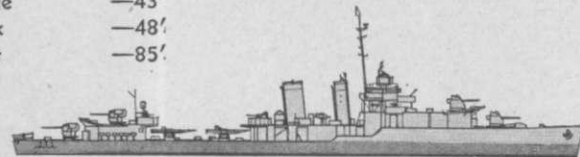


FARRAGUT Class—DD

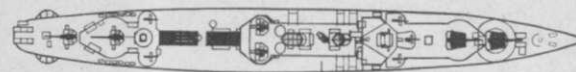
Division of Naval Intelligence—Identification and Characteristics Section

CONDENSED AND PRINTED FOR FM 30-50,
NAVAER 00-60V-57

Bow	—21'
Stern	—10'
Bridge	—43'
Stack	—48'
Mast	—85'



Length o. a.—341



The first of our post-war destroyers, completed in 1934-35. Their design follows the two-stack, British-inspired destroyer type found in most navies.

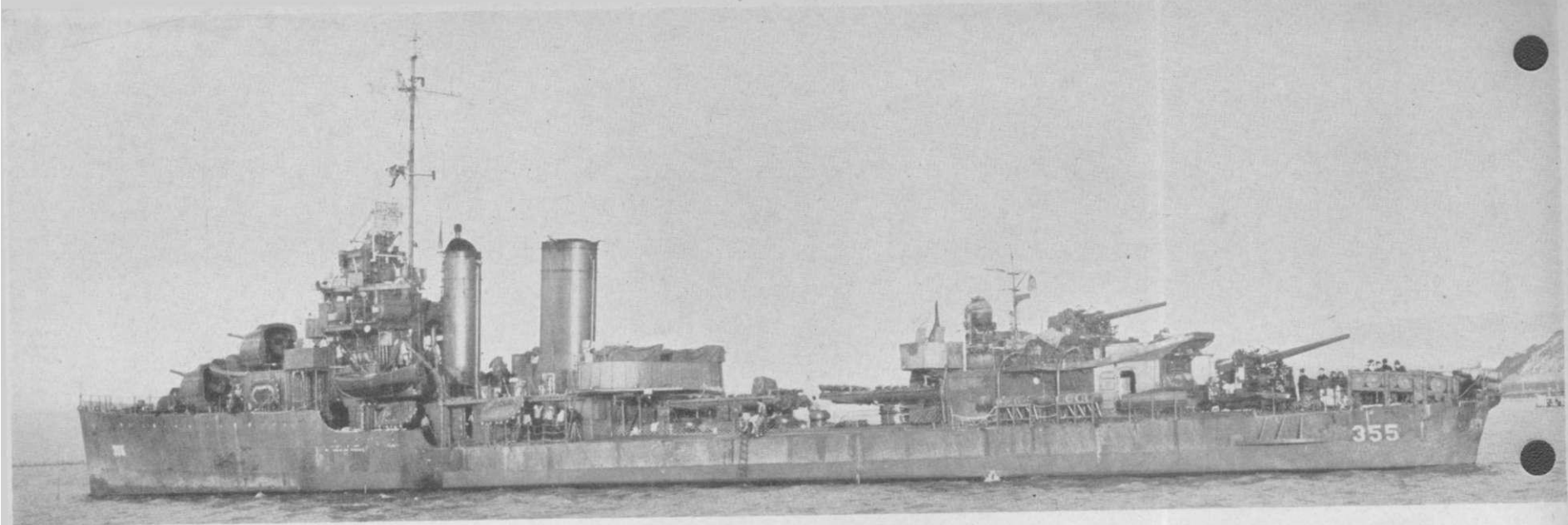
Observer's Note:

- Two closely spaced stacks of unequal thickness.
- Shielded superimposed mounts forward, open guns aft.
- Two in-line torpedo mounts on main deck abaft stack.

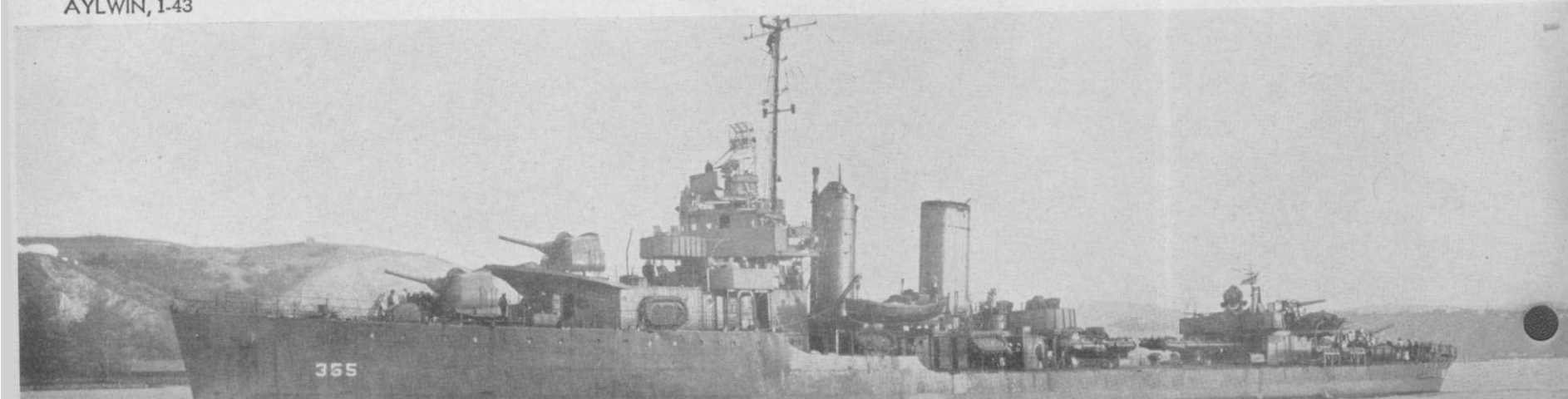
DEWEY, 12-42.

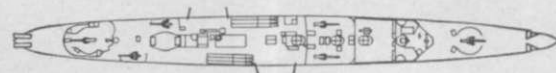
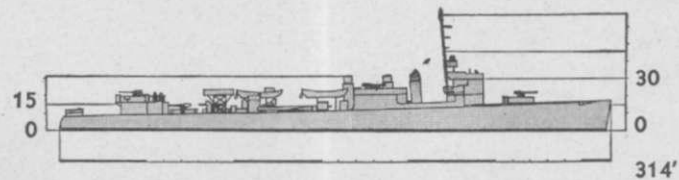
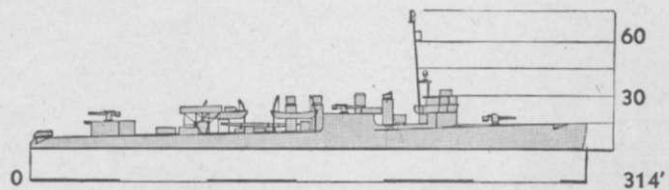
▼ WORDEN, 1-43.



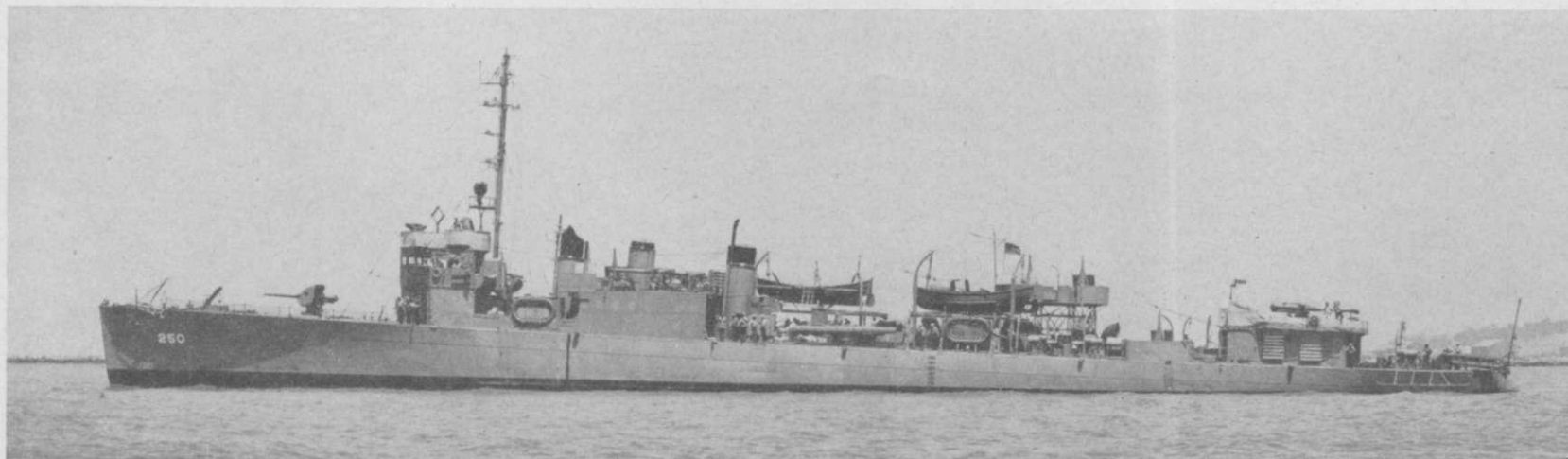


AYLWIN, I-43

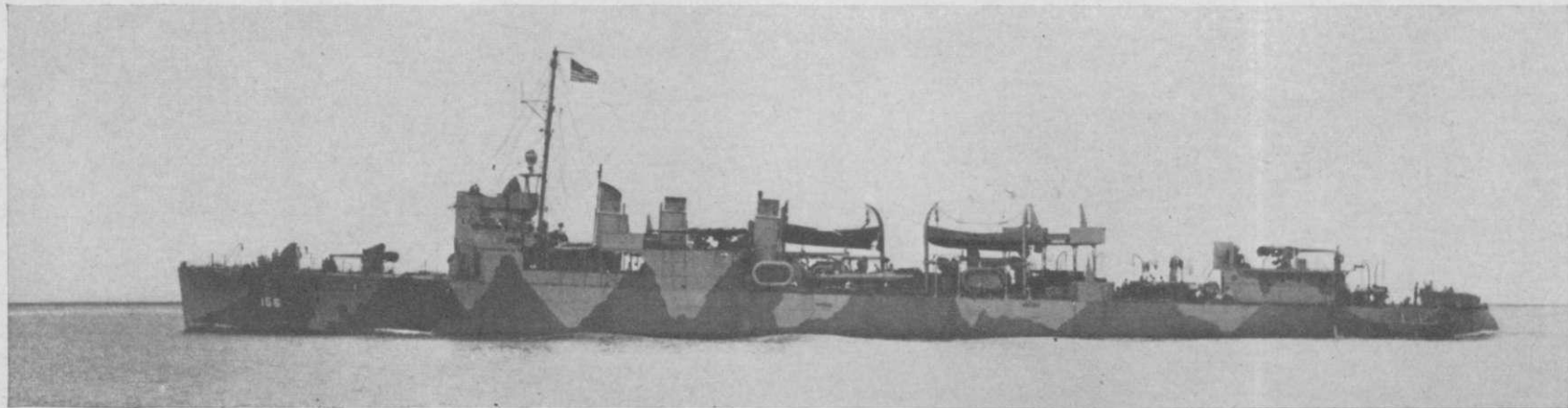




Although some of this class retain the above appearance,
final conversion will be to 3 stacks.

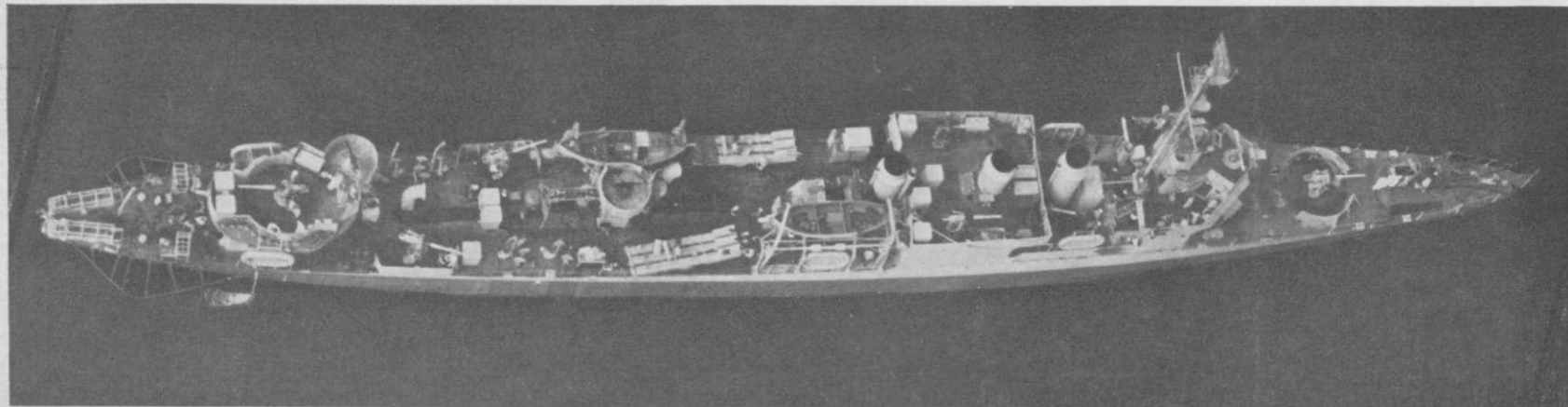


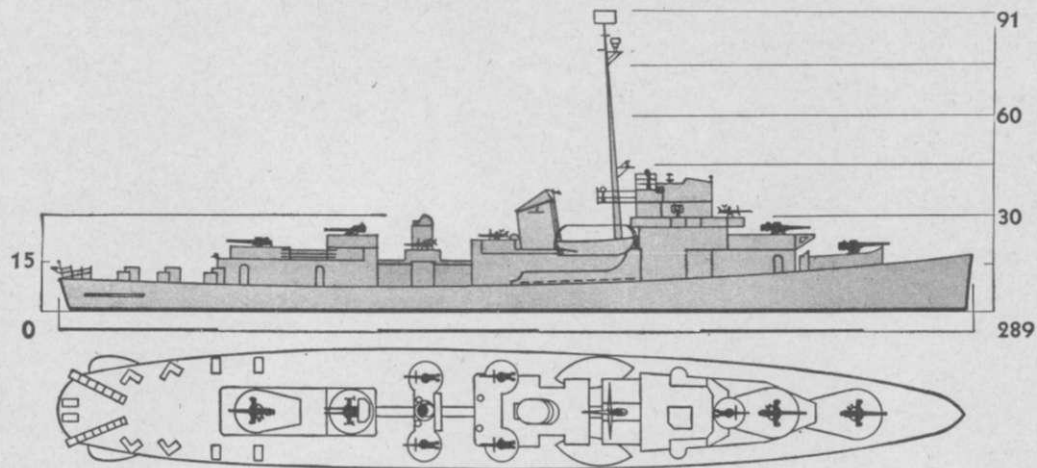
DD 66-347 CLASS



J. FRED TALBOT ↑

↓ ELLIS

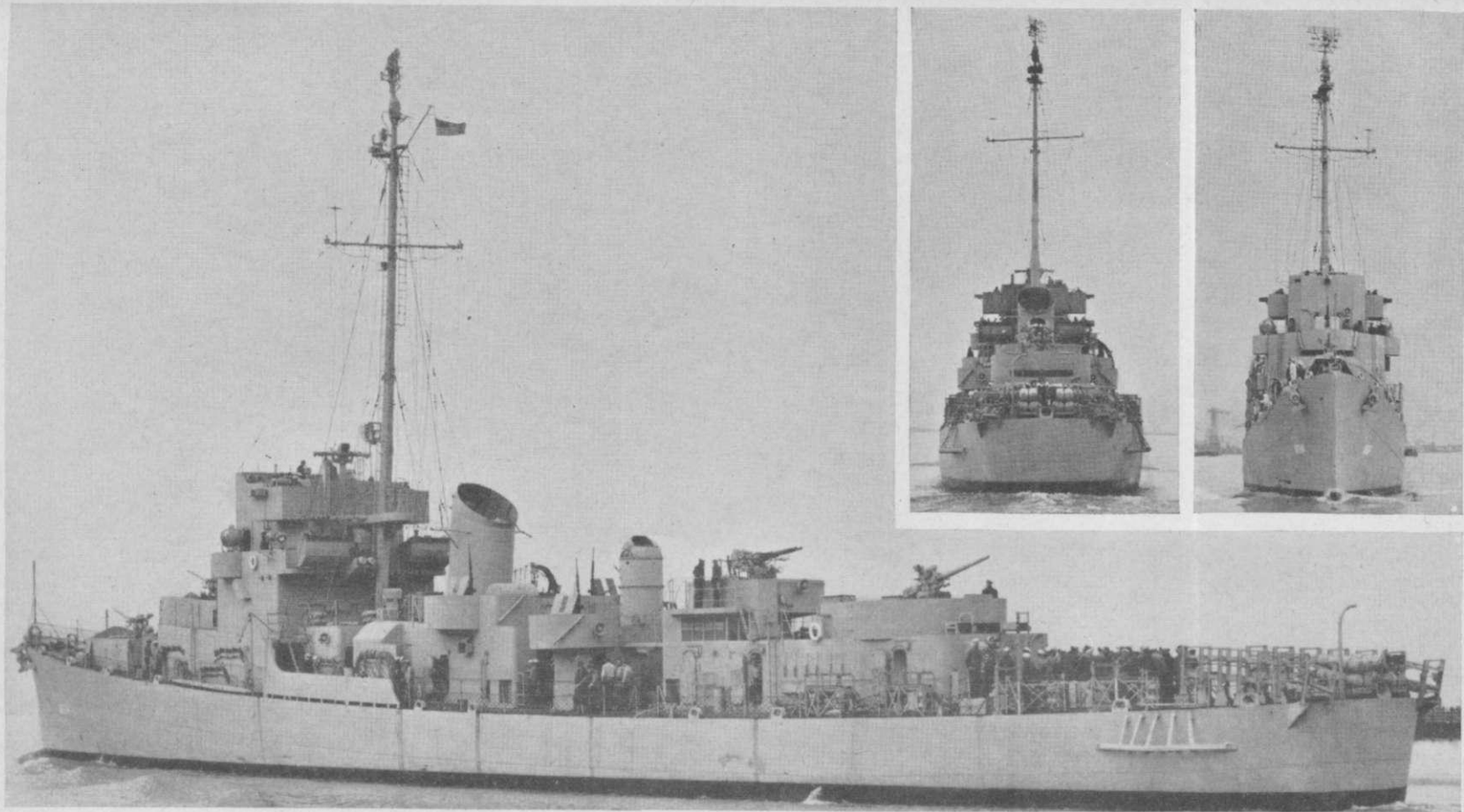




Ships in Class: No class names have been officially assigned to the types of DEs now commissioned or building. Some ships of identical design and hull length differ radically in power and machinery. The type illustrated on this page is a short-hull DE being completed in numbers for both the United States and Great Britain (BDE).



DE 14—Photo 2/23/43

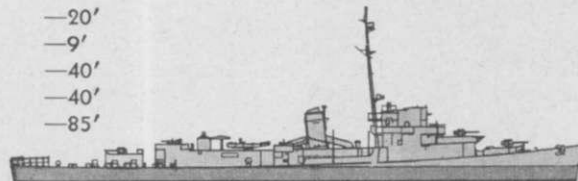


DE 14—All photographs 2/23/43

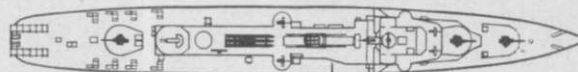
BUCKLEY Class—DE

Division of Naval Intelligence—Identification and Characteristics Section
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

Bow —20'
Stern —9'
Bridge —40'
Stack —40'
Mast —85'



Length o. a.—306'



These ships still retain many of the attributes of the destroyers they replace in escort duties. Torpedo armament differentiates them from the short-hull DE's.

Observer's Note:
—Long-hull DE's have either a raking single pipe or trunked stack, depending upon type of drive. Although no class differentiation is made, these ships are classified under four separate groups, according to builder and machinery.

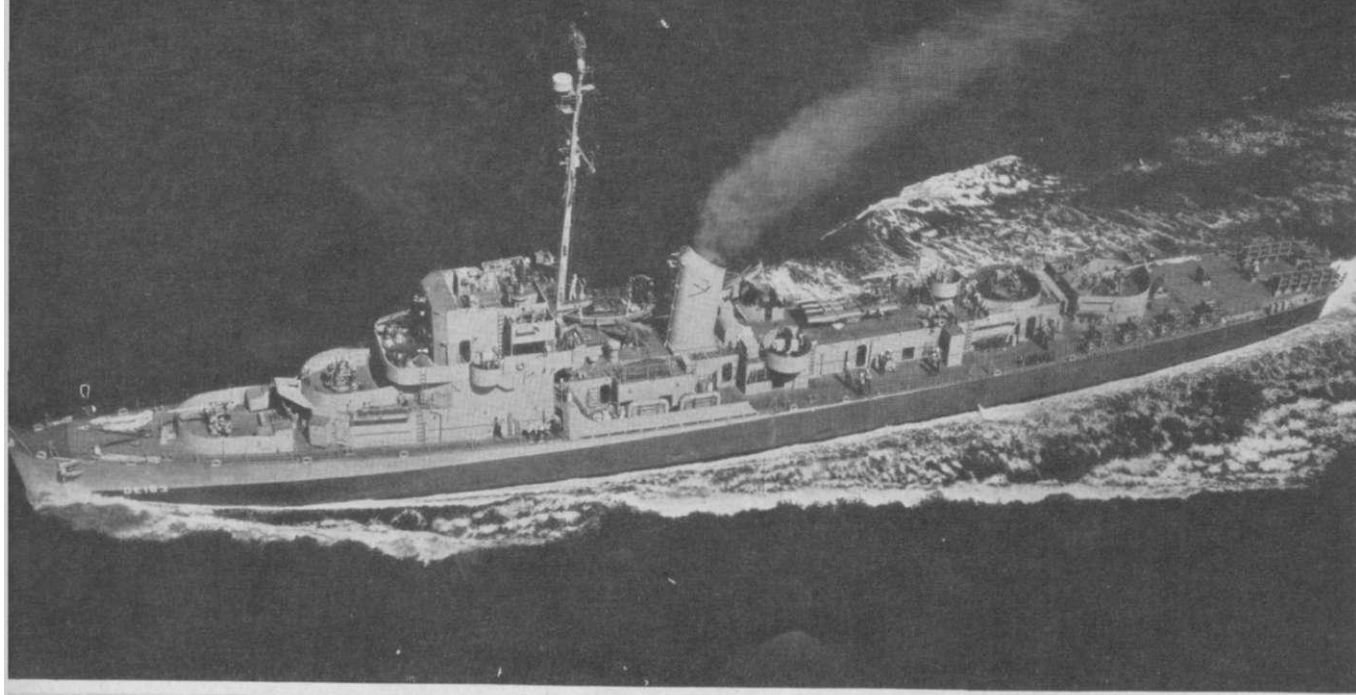
◀ REUBEN JAMES, 4-43

▼ ACREE, 8-43





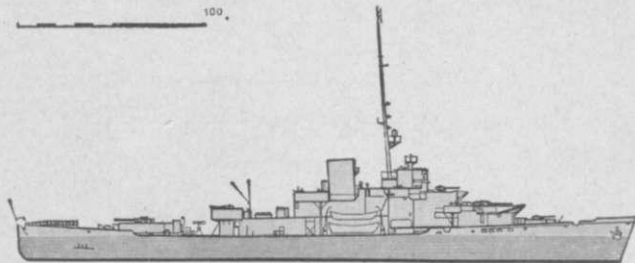
▲ BUCKLEY, 5-43



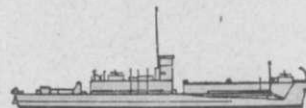
◀ McCONNELL, 6-43



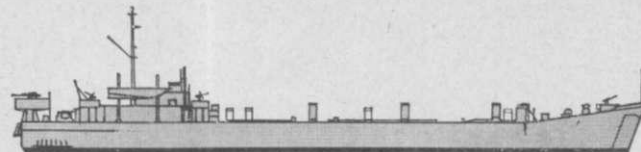
100'



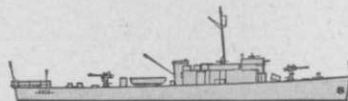
PG—COAST GUARD CUTTER



LCI—INFANTRY LANDING CRAFT



LST—TANK LANDING CRAFT



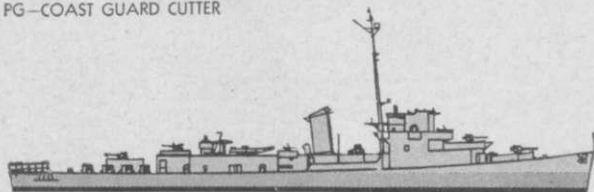
PC—SUBMARINE CHASER—Also AM



PCE—PATROL ESCORT—Also AM



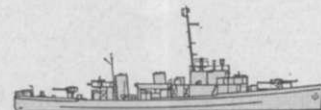
SC—SUBMARINE CHASER



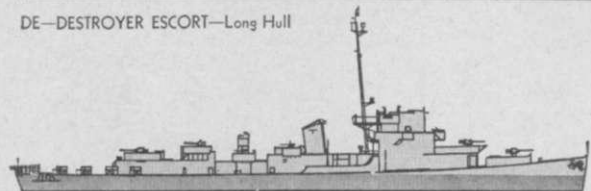
DE—DESTROYER ESCORT—Long Hull



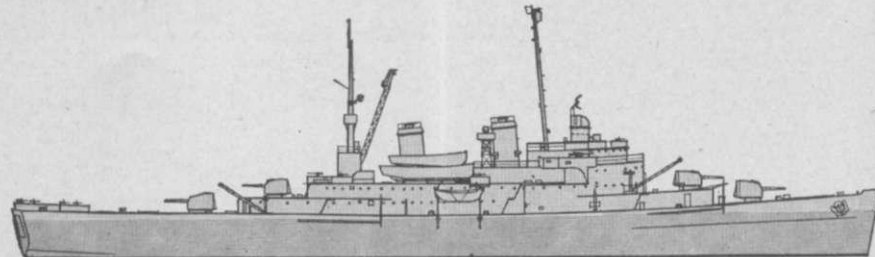
PG—COAST GUARD CUTTER—"A" Class



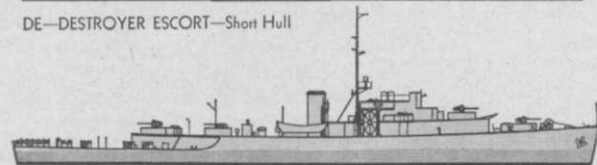
PG—COAST GUARD CUTTER—"B" Class



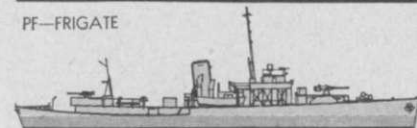
DE—DESTROYER ESCORT—Short Hull



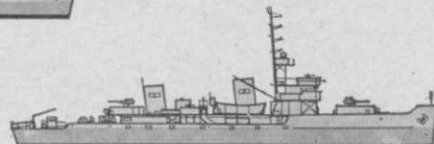
CM—MINE LAYER



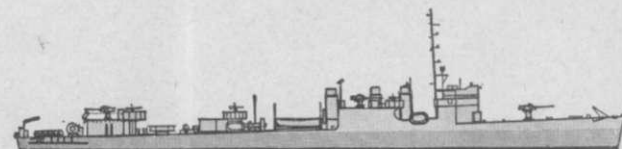
PF—FRIGATE



PG—CORVETTE

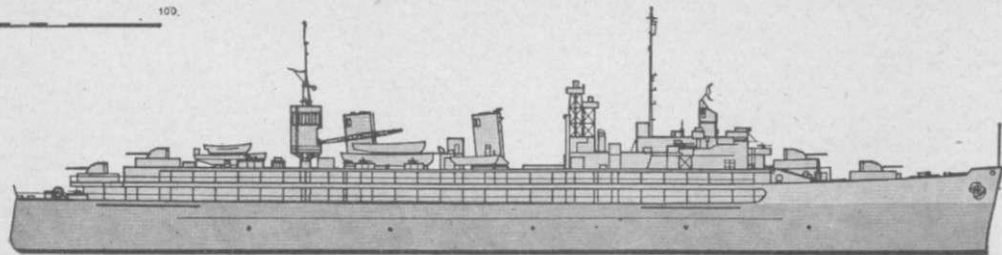


AM—MINE SWEEPER

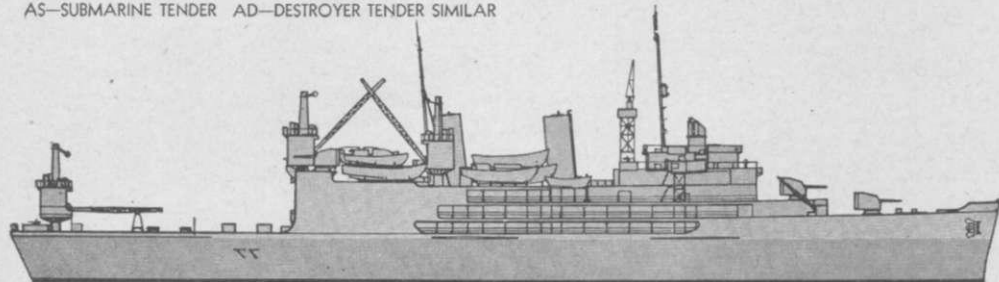


DM—DMS—DESTROYER MINELAYER / SWEEPER

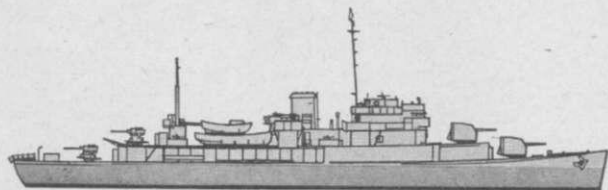
100.



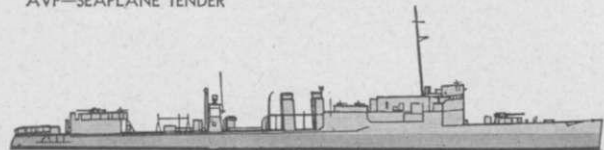
AS—SUBMARINE TENDER AD—DESTROYER TENDER SIMILAR



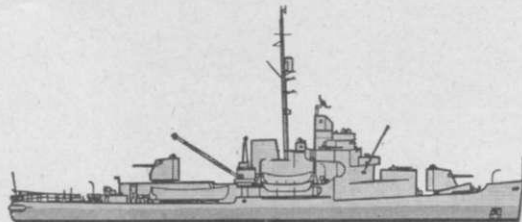
AV—SEAPLANE TENDER



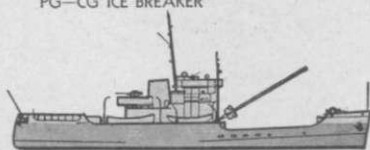
AVP—SEAPLANE TENDER



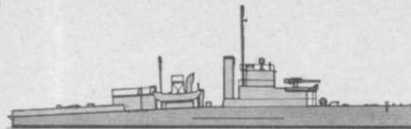
AVD—SEAPLANE TENDER
A PD—DM—DMS SIMILAR



PG—CG ICE BREAKER



AGL—CG TENDER



PE—EAGLE BOAT



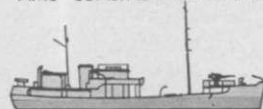
AM·AT·ASR·ARS·APV



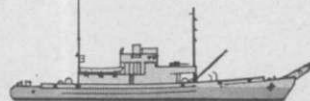
YMS—MOTOR MINE SWEEPER



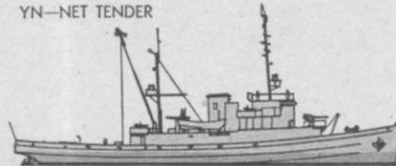
AMC—COASTAL MINE SWEEPER



YP—DISTRICT PATROL VESSELS—AM SIMILAR



YN—NET TENDER



AT—OCEANGOING TUG

Division of Naval Intelligence—
Identification and Characteristics Section

WORLD WAR 2

WORLD WAR 1

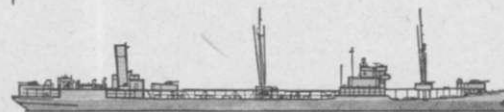
OILER



T2—SEA1

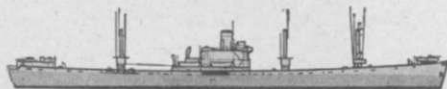


TANKER, T-2

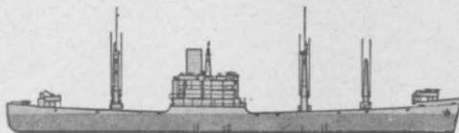


FLUSH-DECKERS

CARGO



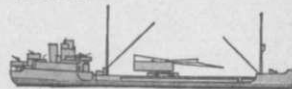
LIBERTY TYPE



C-2 TYPES



"HOG ISLAND" TYPE

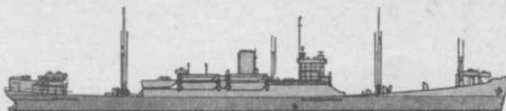


N-3

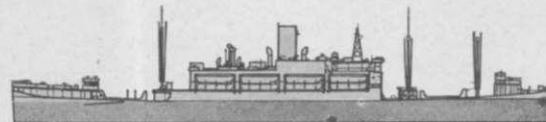
TRANSPORT



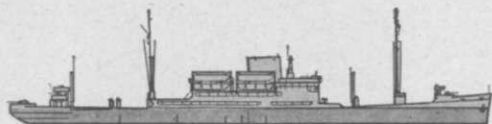
C-3 P&C



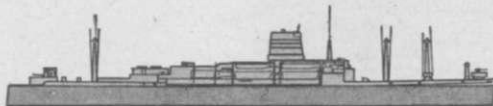
EX-BALTIMORE MAIL "CITY" TYPE



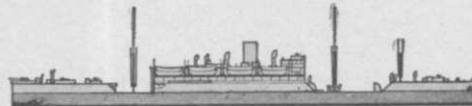
"PRESIDENT" TYPE



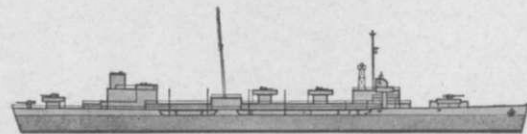
P&C



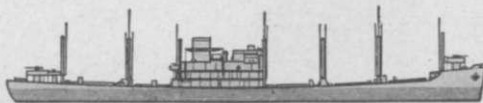
C-3 P&C



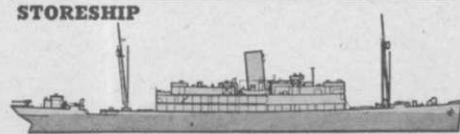
"HOG ISLAND 448" TYPE



C4—SA2 100



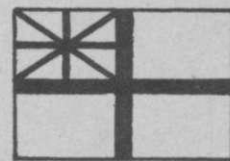
C-3 SA2



EX-UNITED FRUIT LINE

STORESHIP

UNITED KINGDOM NAVAL VESSELS



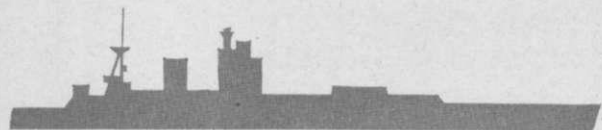
**SIMPLIFIED
SILHOUETTES**



BATTLESHIPS-BB



KING GEORGE V CLASS



NELSON CLASS



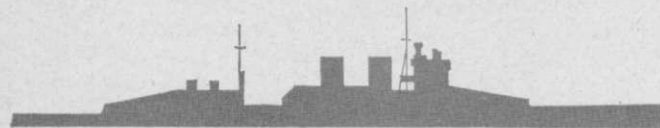
ROYAL SOVEREIGN CLASS



MALAYA



QUEEN ELIZABETH-VALIANT



RENOWN

SCALE



HEAVY CRUISERS-CA



KENT CLASS



HAWKINS CLASS



LONDON



DEVONSHIRE CLASS



BELFAST

LIGHT CRUISERS-CL



DRAGON-CARLISLE CLASSES



LEANDER CLASS



ARETHUSA CLASS



DIDO CLASS



FIJI CLASS



CALEDON CLASS



SOUTHAMPTON CLASS



EMERALD CLASS

AIRCRAFT CARRIERS—CV



FURIOUS



ILLUSTRIOUS CLASS

AUXILIARY AIRCRAFT CARRIERS—CVE



BATTLER

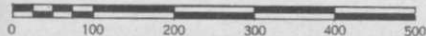


ARGUS



ARCHER CLASS

SCALE



DESTROYERS—DD



J-K-N CLASSES
L-M CLASSES SIMILAR



HUNT CLASS



TRIBAL



O-T CLASSES



A-I CLASS



TOWN (3 STACK) CLASS



TOWN (4 STACK) CLASS



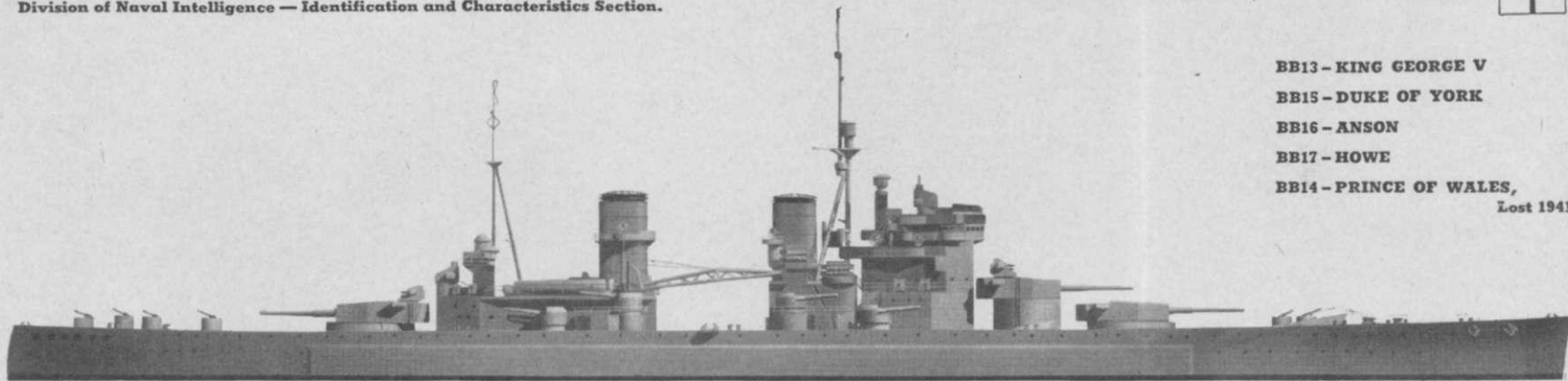
CODRINGTON CLASS



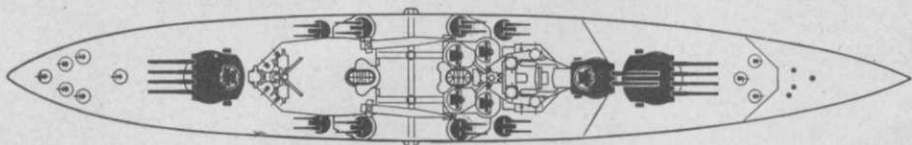
V-W WAIRS CLASSES



WALLACE-DOUGLAS SAGUENAY
CLASSES



BB13 - KING GEORGE V
BB15 - DUKE OF YORK
BB16 - ANSON
BB17 - HOWE
BB14 - PRINCE OF WALES,
 Lost 1941



HEIGHT IN FEET:

from W. L.	to Top of Stack - 82'	to Top of Foretop - 118'
from Main Deck	to Top of Stack - 60'	to Top of Foretop - 96'

LENGTH: 740' (W. L.). BEAM: 103'

DISTINGUISHING FEATURES:

- Two widely spaced tall, flat-sided stacks; athwartships catapult set in well deck between stacks.
- Massive tower bridge with tripod foremast stepped close abaft bridge; light tripod mainmast.
- Main battery mounted in one quadruple and one high twin turret forward, and one quadruple turret aft.
- Relatively low flush-deck hull; wide quarterdeck.
- Secondary battery is disposed in two pairs of super-firing twin mounts; each pair is abreast of a stack.

STRONG SIMILARITY TO:

RENOWN (Brit. - CC) LONDON (Brit. - CA)
 FIJI Class (Brit. - CL) ARETHUSA Class (Brit. - CL)
 LITTORIO Class (Ital. - BB) from the air.

RESEMBLANCE TO:

ALMIRANTE LATORRE (Chile - BB)
 LA ARGENTINA (Argentina - CL)
 CAVOUR Class (Ital. - BB) from the air.



DUKE OF YORK

July 1942



DUKE OF YORK

July 1942



KING GEORGE V

1941



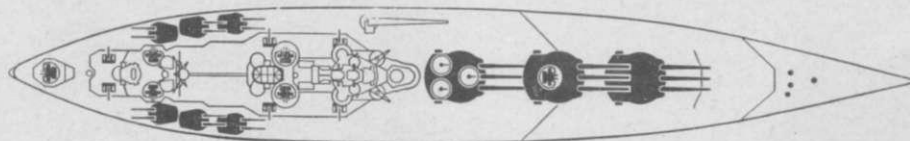
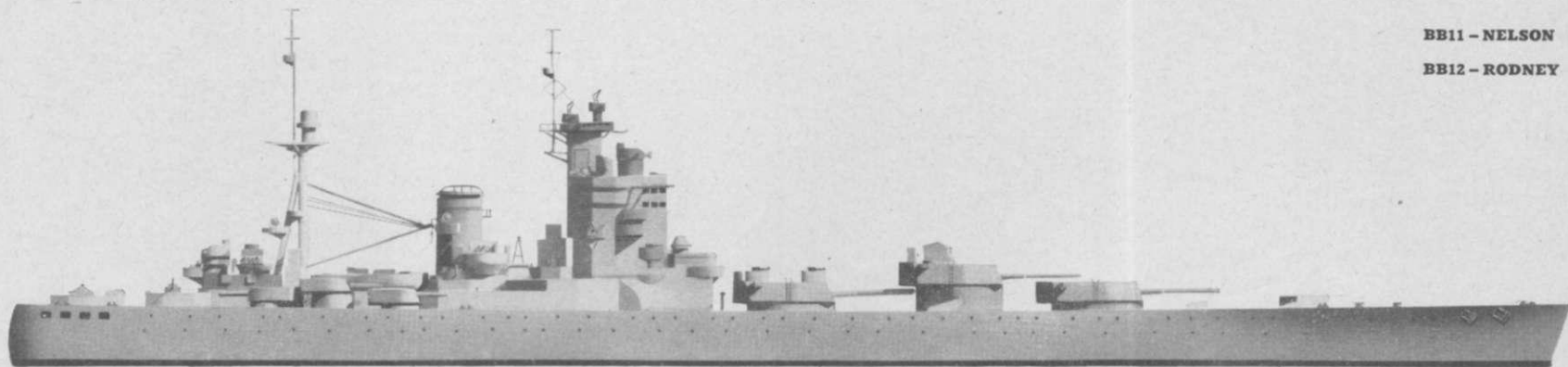
DUKE OF YORK

1942



BB11 - NELSON

BB12 - RODNEY



HEIGHT IN FEET:

from W. L.	to Top of Stack - 79'	to Top of Foretop - 120'
from Main Deck	to Top of Stack - 54'	to Top of Foretop - 95'

LENGTH: 702' (W. L.). BEAM: 106'

DISTINGUISHING FEATURES:

- Entire main battery mounted forward in three large triple turrets.
- Superstructure placed aft. Note high, massive tower bridge with prominent director tower, relatively small stack and tall heavy tripod mainmast.
- High freeboard flush-deck hull.
- Secondary battery concentrated aft in three twin turrets on either quarter.

STRONG SIMILARITY TO:

DUNKERQUE Class (French-BB) RICHELIEU Class (French-BB)

RESEMBLANCE:

None. Unique placing of main battery turrets and superstructure gives this class a distinctive appearance from both the surface and the air.

NELSON Class (2 units)

ONI 201



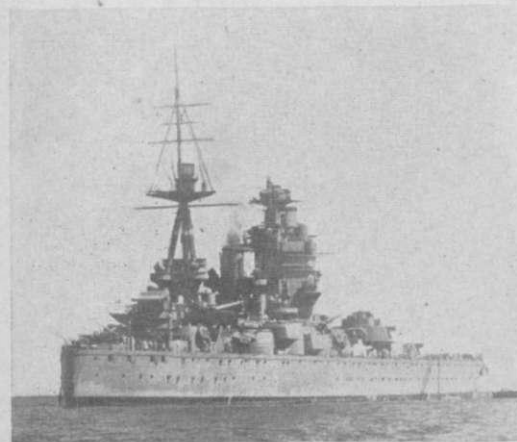
RODNEY

1941



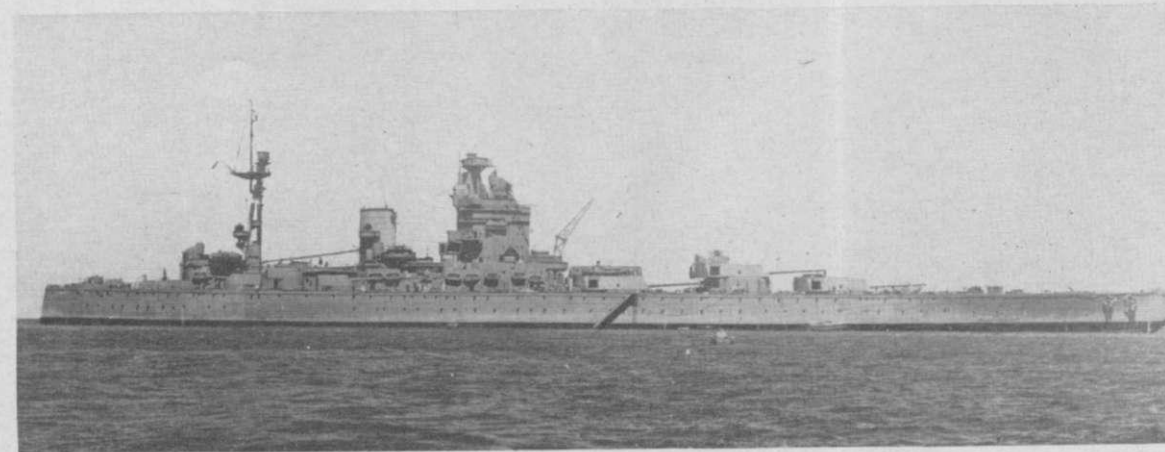
NELSON — forward director tower differs from that of RODNEY

1942



RODNEY

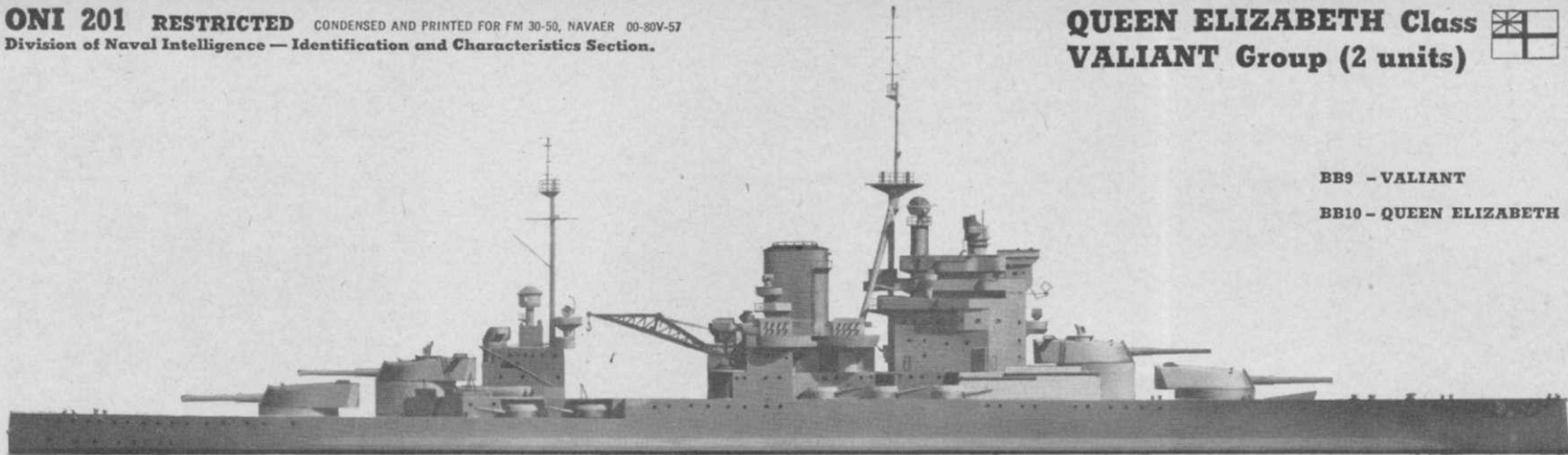
1941



RODNEY

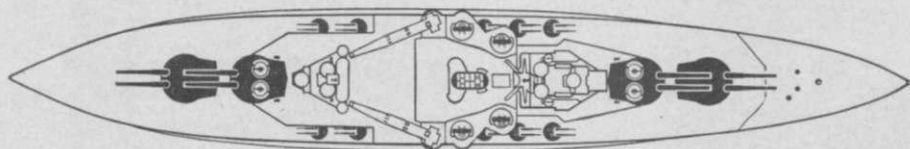
1941

QUEEN ELIZABETH Class
VALIANT Group (2 units)



BB9 - VALIANT

BB10 - QUEEN ELIZABETH



HEIGHT IN FEET:

from W. L.	to Top of Stack - 83'	to Top of Foretop - 122'
from Foc'sle Deck	to Top of Stack - 58'	to Top of Foretop - 97'

LENGTH: 634½' (W. L.). BEAM: 104'

DISTINGUISHING FEATURES:

- Massive tower bridge; tripod foremast stepped close abaft bridge.
- Pole mainmast in VALIANT; light tripod mainmast in QUEEN ELIZABETH.
- Stack slightly higher than in WARSPITE.
- No secondary battery recesses in the hull; secondary battery remounted in "pill box" twin mounts, five on either beam.
- Hangar amidships extends outboard, flush with ship's sides.
- Prominent aircraft cranes and athwartships catapult. Well deck abaft stack.

STRONG SIMILARITY TO:

WARSPITE (Brit. -BB) NAGATO Class (Jap. -BB) from the air.

RESEMBLANCE TO:

NEW MEXICO Class (U.S. -BB) PENNSYLVANIA (U.S. -BB)
 NAGATO Class (Jap. -BB) TIRPITZ (Ger. -BB)
 from the surface. LEANDER Class (Brit. -CL)

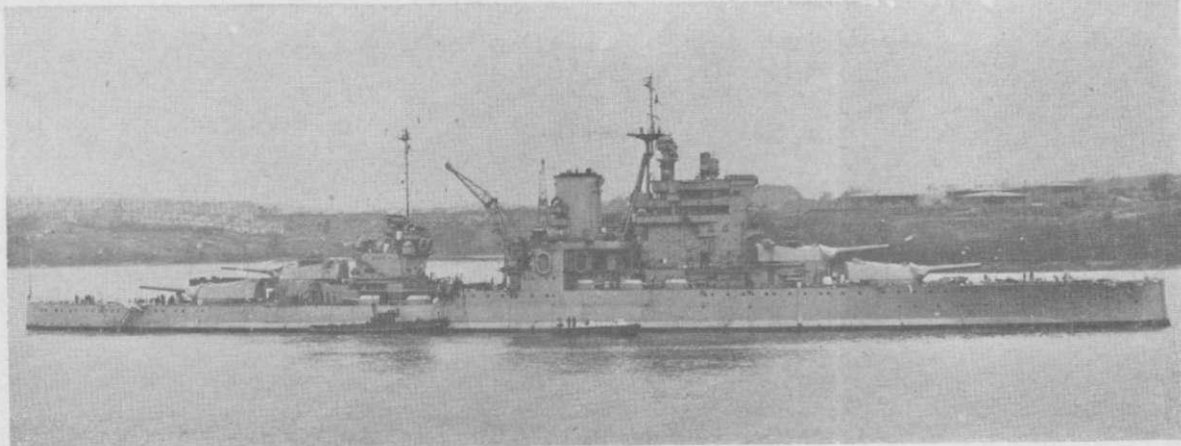
QUEEN ELIZABETH Class — VALIANT Group (2 units)

RESTRICTED ONI 201
Division of Naval Intelligence — Identification and Characteristics Section.



VALIANT

April, 1940



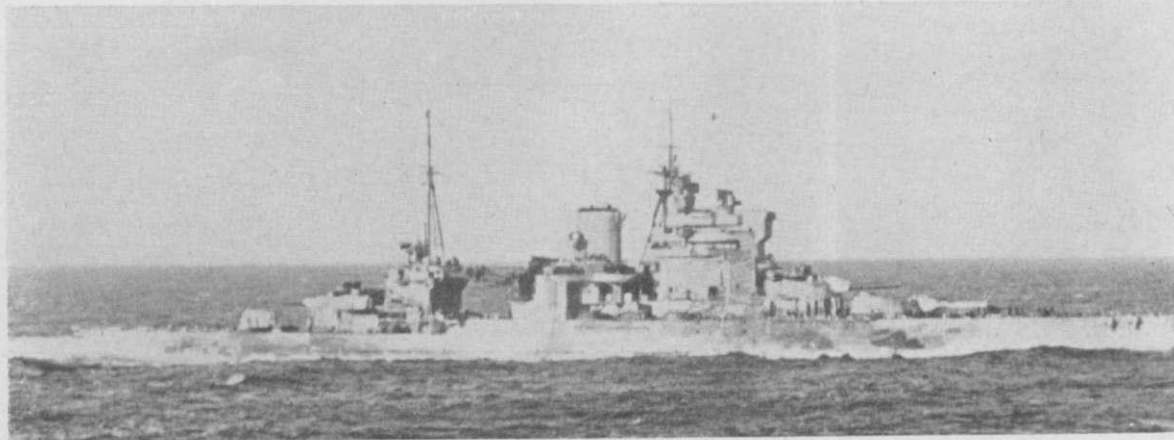
VALIANT — note pole mainmast and absence of sternwalk.

1939



VALIANT

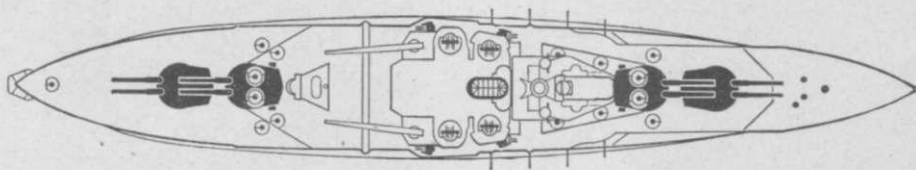
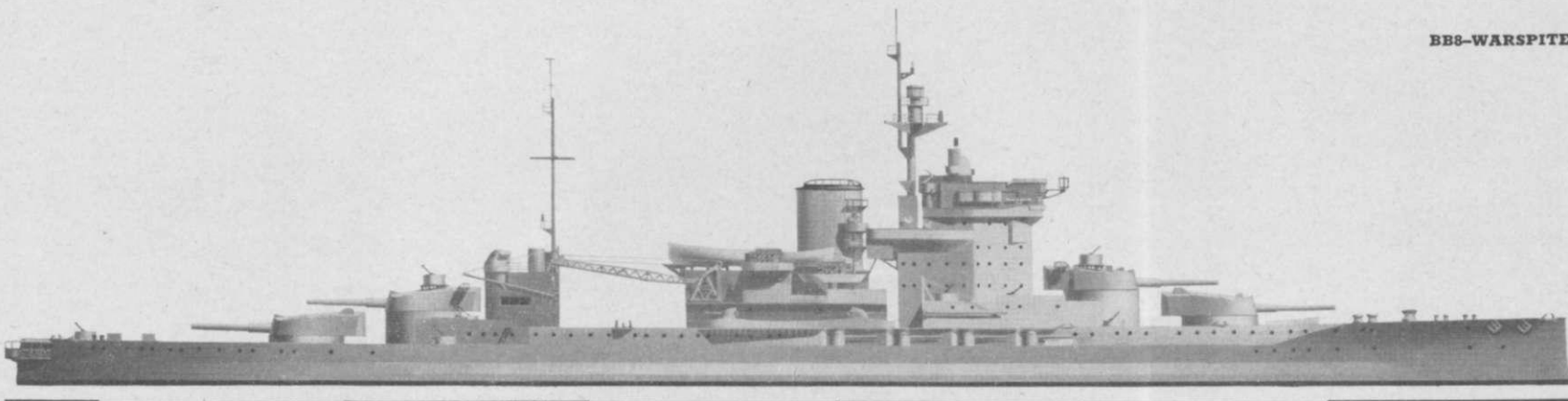
April, 1940



QUEEN ELIZABETH — note tripod mainmast. This unit also has a sternwalk (not visible in the photograph).

1941

BB8-WARSPITE



HEIGHT IN FEET:

from W. L.	to Top of Stack - 79'	to Top of Foretop - 120'
from Foc'sle Deck	to Top of Stack - 56'	to Top of Foretop - 97'

LENGTH: 634½' (W. L.). BEAM: 104'

DISTINGUISHING FEATURES:

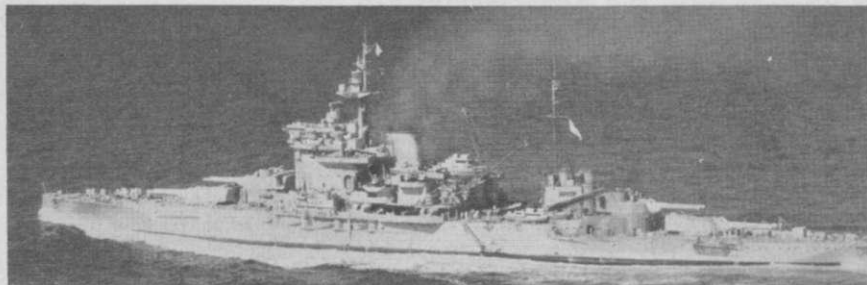
- Massive tower bridge, surmounted by heavy pole foremast; pole mainmast.
- Low stack set close to bridge.
- Secondary battery recesses extend well towards the bow; no recesses aft in the quarterdeck.
- Hangar, aircraft cranes and athwartships catapult well deck abaft the stack.

STRONG SIMILARITY TO:

VALIANT (Brit. - BB) NAGATO Class (Jap. - BB) from the air.

RESEMBLANCE TO:

NEW MEXICO Class (U.S. - BB) LEANDER Class (Brit. - CL)
PENNSYLVANIA (U.S. - BB) TIRPITZ (Ger. - BB)



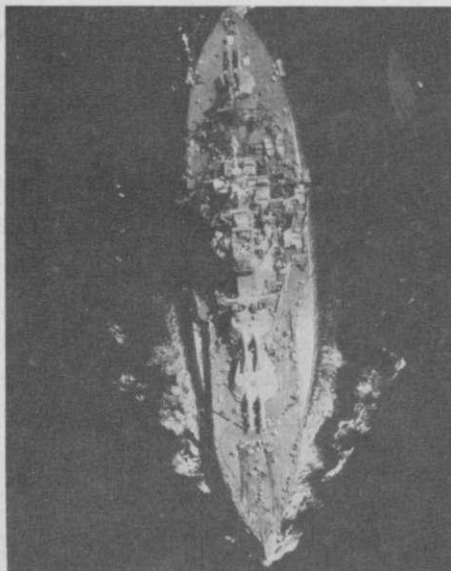
WARSPITE

Nov. 1942



WARSPITE

1941



WARSPITE

Nov. 1942



WARSPITE

Nov. 1942

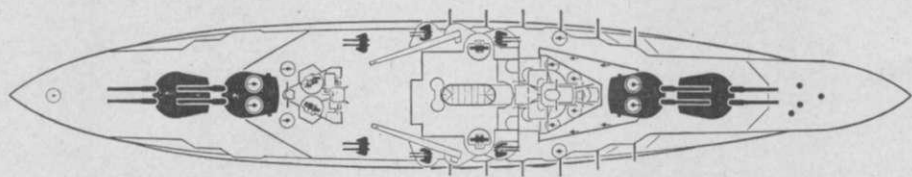
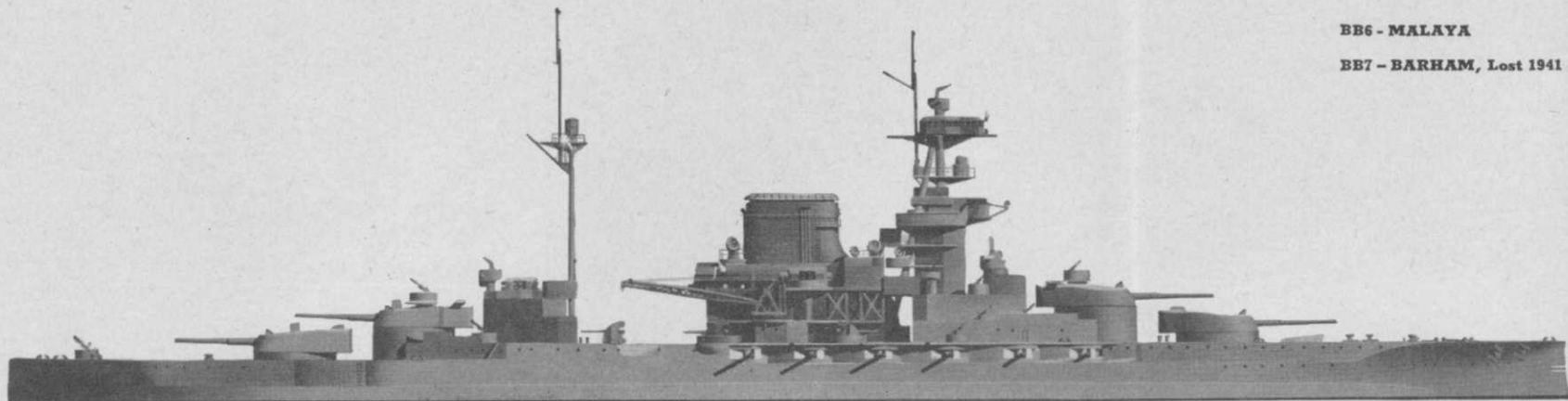
ONI 201 RESTRICTED

Division of Naval Intelligence — Identification and Characteristics Section.
 CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

QUEEN ELIZABETH Class — MALAYA Group (1 unit)

BB6 - MALAYA

BB7 - BARHAM, Lost 1941

**HEIGHT IN FEET:**

from W. L.	to Top of Stack - 81'	to Top of Foretop - 113'
from Foc'sle Deck	to Top of Stack - 55½'	to Top of Foretop - 87'

LENGTH: 634½' (W. L.). BEAM: 104'**DISTINGUISHING FEATURES:**

- Massive trunked stack, much broader than in the ROYAL SOVEREIGN Class.
- Heavy tripod foremast, tall pole mainmast.
- Secondary battery recesses extend well towards the bow; two on either beam in the quarterdeck (without guns).
- Athwartships catapult abaft stack; prominent aircraft cranes.

STRONG SIMILARITY TO:

ROYAL SOVEREIGN Class (Brit. - BB)
 NAGATO Class (Jap. - BB) from the air.

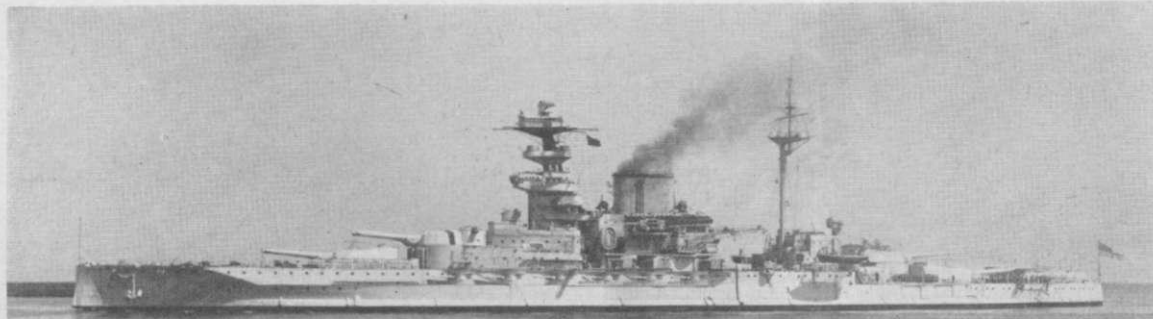
RESEMBLANCE TO:

TIRPITZ (Ger. - BB) SCHARNHORST (Ger. - BB)
 HIPPER Class (Ger. - CA) PENNSYLVANIA (U.S. - BB)



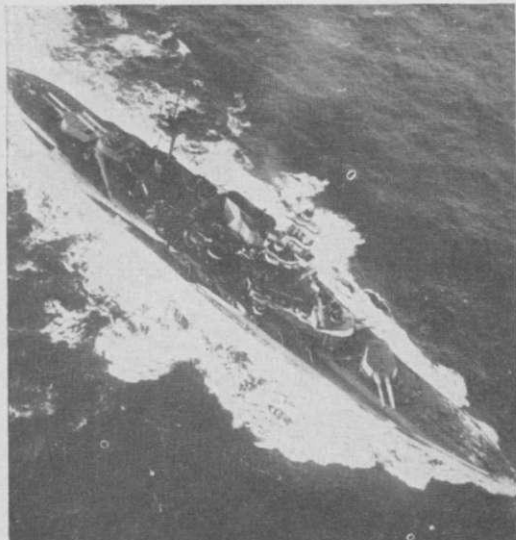
MALAYA

1942



MALAYA

1937



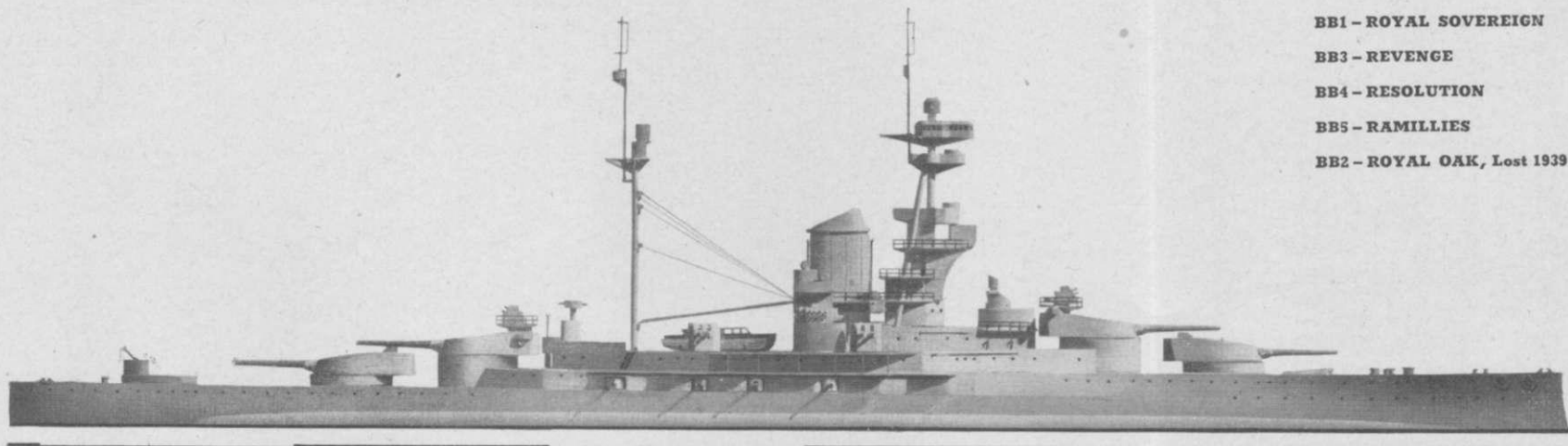
MALAYA

1942

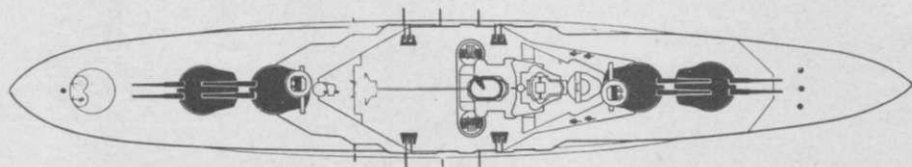


MALAYA—note aircraft hangar abaft stack.

1941



BB1 - ROYAL SOVEREIGN
BB3 - REVENGE
BB4 - RESOLUTION
BB5 - RAMILLIES
BB2 - ROYAL OAK, Lost 1939



HEIGHT IN FEET:

from W. L.	to Top of Stack-80'	to Top of Foretop-122'
from Foc'sle Deck	to Top of Stack-56'	to Top of Foretop- 98'

LENGTH: 614½' (W.L.). BEAM: 102½'

DISTINGUISHING FEATURES:

- Very wide quarterdeck.
- Stack set very close to bridge.
- All have heavy tripod foremasts;
Pole mainmasts in **ROYAL SOVEREIGN** and **REVENGE**
Tripod mainmasts in **RESOLUTION** and **RAMILLIES**.
- Casemate battery recesses amidships.
- All in class now have sloping stack cap.

STRONG SIMILARITY TO:

PENNSYLVANIA (U.S. - BB) **MALAYA** (Brit. - BB)
QUEEN ELIZABETH Class (Brit. - BB) from the air.

RESEMBLANCE TO:

TIRPITZ (Ger. - BB) **HIPPER** Class (Ger. - CA)
SCHARNHORST (Ger. - BB)

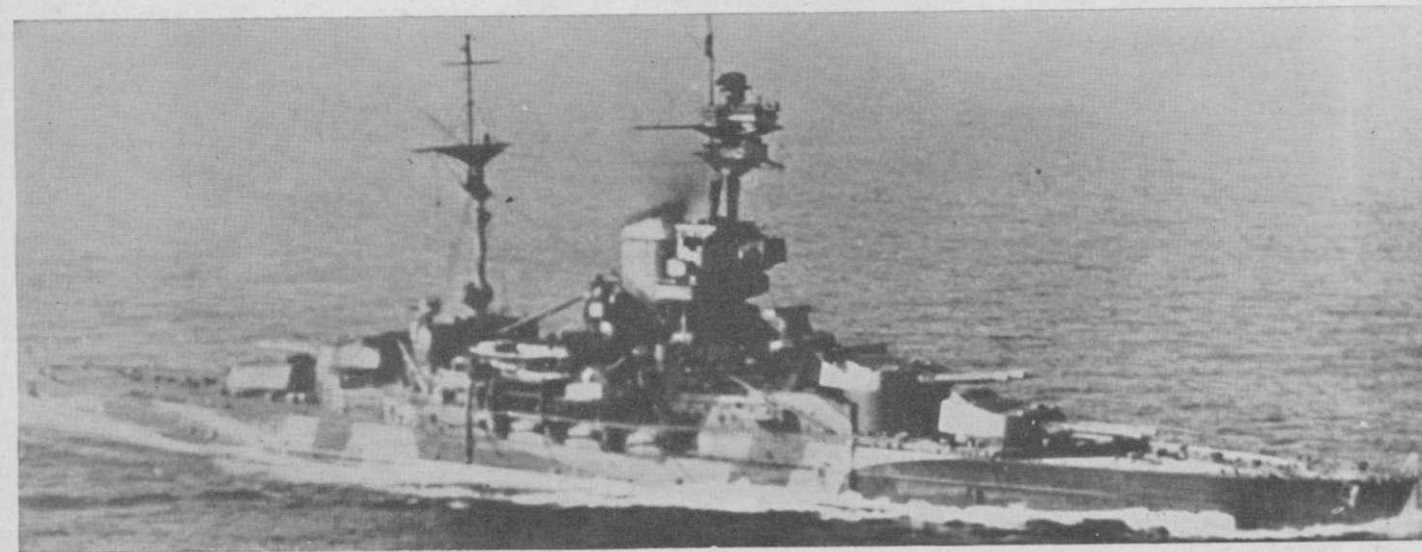
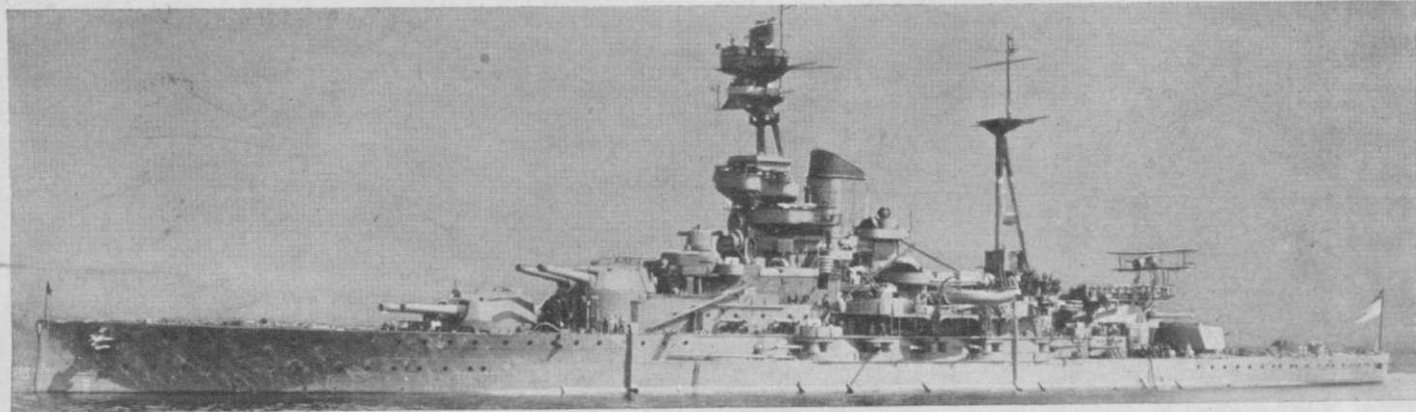
ROYAL SOVEREIGN Class (4 units)

ONI 201

RESOLUTION

Sept. 11, 1941

The only unit with a catapult on top of No. 3 turret.

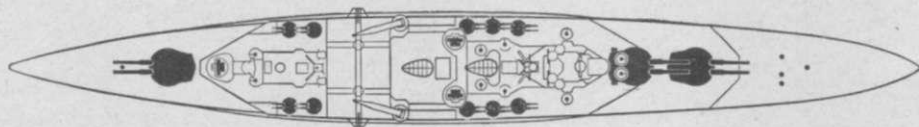
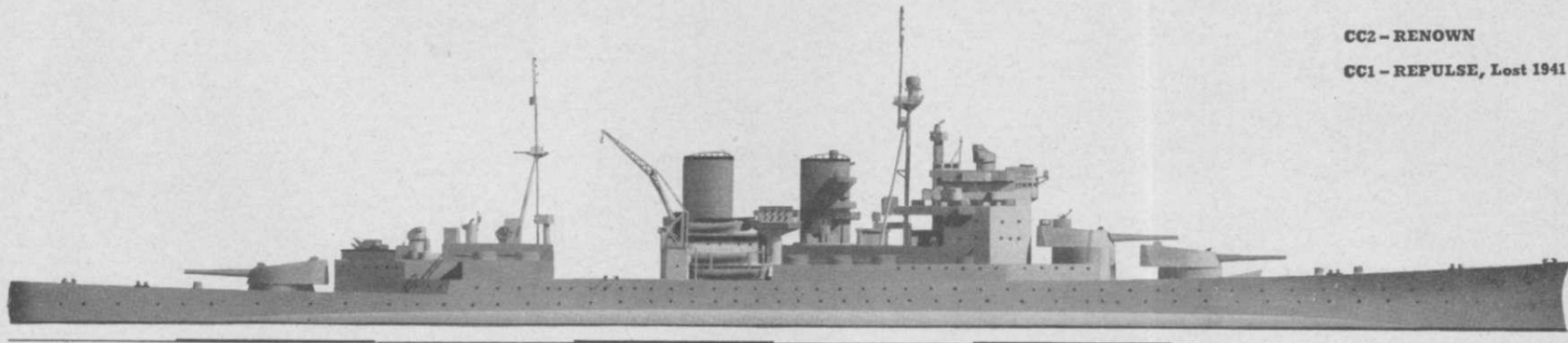


REVENGE 1941
The only unit with after edge of upper bridge extended towards the stack.



CC2—RENOWN

CC1—REPULSE, Lost 1941



HEIGHT IN FEET:

from W. L.	to Top of Stack—84½'	to Top of Foretop—123'
from Foc'sle Deck	to Top of Stack—59½'	to Top of Foretop—98'

LENGTH: 787½' (W. L.). BEAM: 102'

DISTINGUISHING FEATURES:

- The only capital ship in existence with three twin turrets, two forward and one aft.
- Two equal broad, stream-lined stacks placed forward of the catapult well deck.
- Tall tripod foremast stands clear of massive tower bridge; light tripod mainmast.
- Hull has cruiser lines when observed from the air.

STRONG SIMILARITY TO:

- KING GEORGE V Class (Brit. — BB)
- SUMATRA (Netherlands — CL)
- HAWKINS Class (Brit. — CA)

RESEMBLANCE TO:

- LITTORIO Class (Ital. — BB)
- KONGO Class (Jap. — BB) from the air.
- FIJI Class (Brit. — CL)
- LONDON (Brit. — CA)

REPULSE Class (1 unit—RENOWN)



RENOWN

1942



RENOWN — note aircraft hangars abaft second stack.

1942



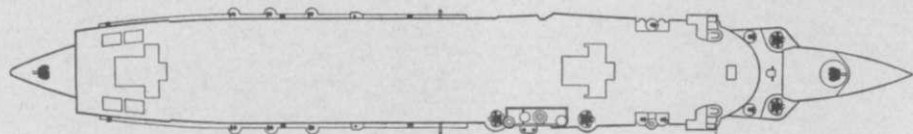
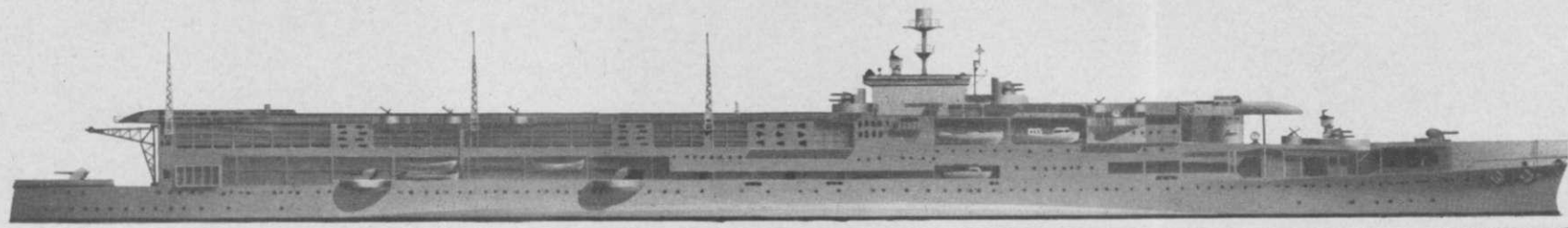
RENOWN

Nov. 28, 1941



RENOWN

Nov. 28, 1941



HEIGHT IN FEET:

from W. L.	to Flight Deck - 62'	to Top of Foretop - 110'
from Flight Deck	to Foretop - 48'	

LENGTH: 782' (W. L.). BEAM: 90' (hull)

DISTINGUISHING FEATURES:

- Flight deck stops short of the stern and well short of the bow.
- Small, low island superstructure; A.A. battery and director on long forecastle deck.
- From the air note rounded forward end of flight deck and smoke vents in the deck aft.
- Numerous openings along ship's sides between hull proper and flight deck.

STRONG SIMILARITY TO:

None.

RESEMBLANCE TO:

British and U. S. Auxiliary Aircraft-Carriers.
Typical Japanese Carrier Design (from a distance).

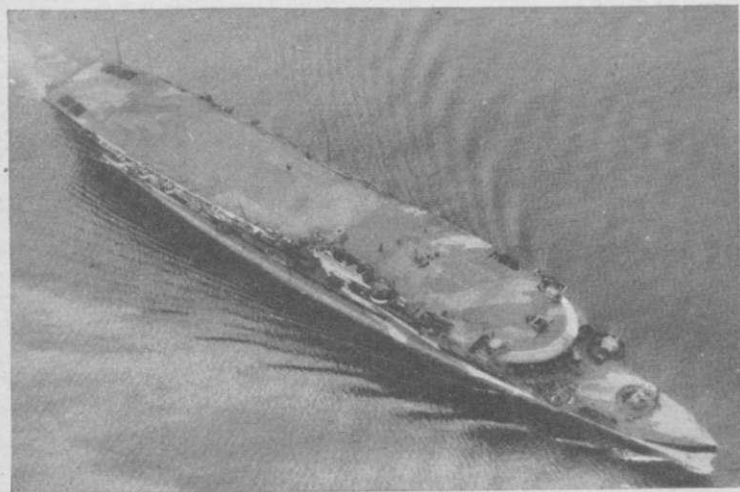
CV3 FURIOUS

ONI 201



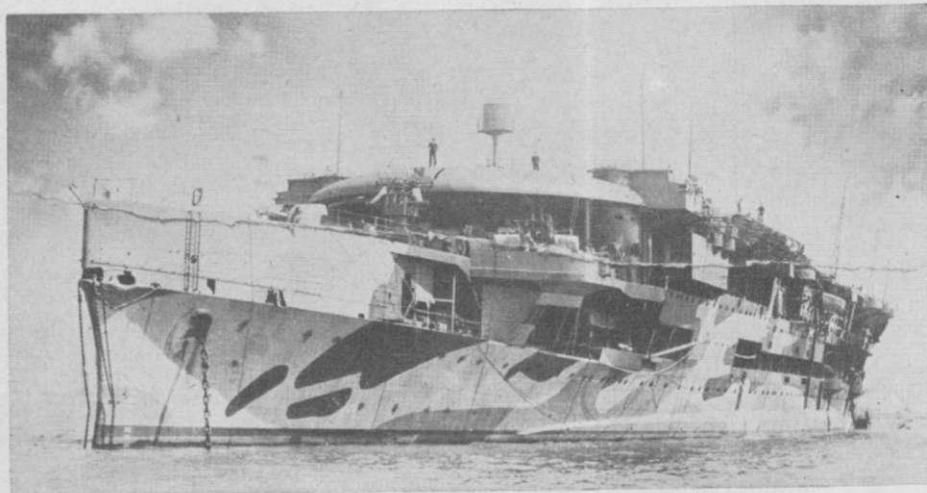
FURIOUS

Nov. 7, 1940



FURIOUS

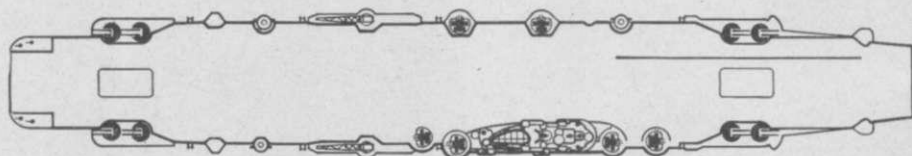
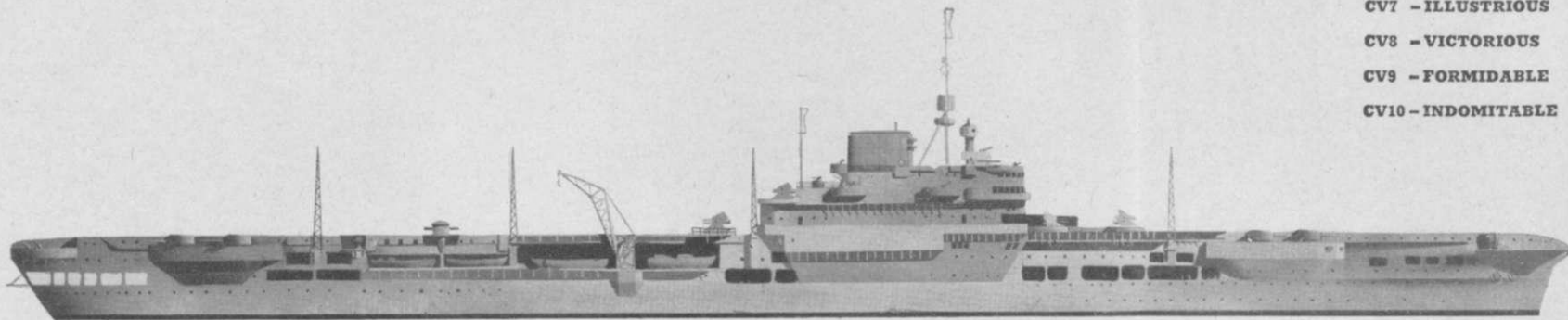
July 10, 1942



FURIOUS

1942

CV7 - ILLUSTRIOUS
CV8 - VICTORIOUS
CV9 - FORMIDABLE
CV10 - INDOMITABLE



HEIGHT IN FEET:

from W. L.	to Flight Deck - 40'	to Top of Stack - 91½'
from Flight Deck	to Top of Stack - 51¾'	

LENGTH: 710' (W. L.). BEAM: 95½' (hull)

DISTINGUISHING FEATURES:

- Relatively high island superstructure with a broad short stack. Note the asymmetrical "tear drop" plan view of the island and stack.
- Pairs of "pill box" dual-purpose battery twin mounts on each bow and quarter.
- Hull joined to forward edge of flight deck.
- All ships carry a light tripod foremast. Stepping of a low pole mainmast abaft the stack is subject to frequent changes.

STRONG SIMILARITY TO:

ESSEX Class (U.S. - CV)

RESEMBLANCE TO:

ENTERPRISE (U.S. - CV)

ILLUSTRIOUS Class (4 units)

ONI 201



VICTORIOUS

Feb. 19, 1943



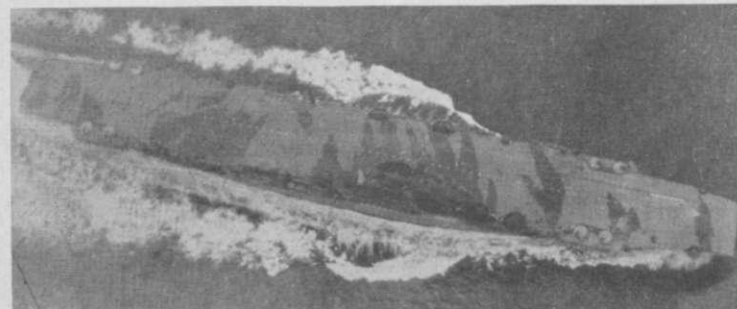
ILLUSTRIOUS

1940



INDOMITABLE

1942



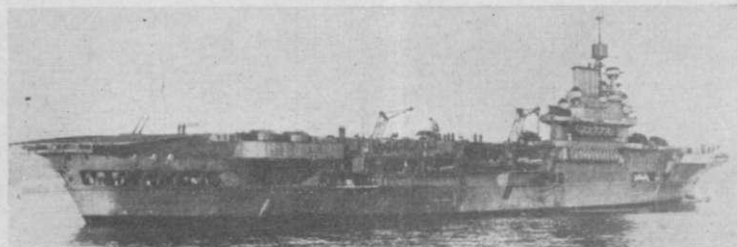
VICTORIOUS

May 1941



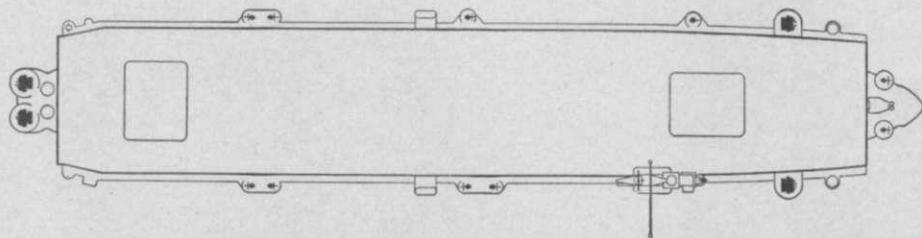
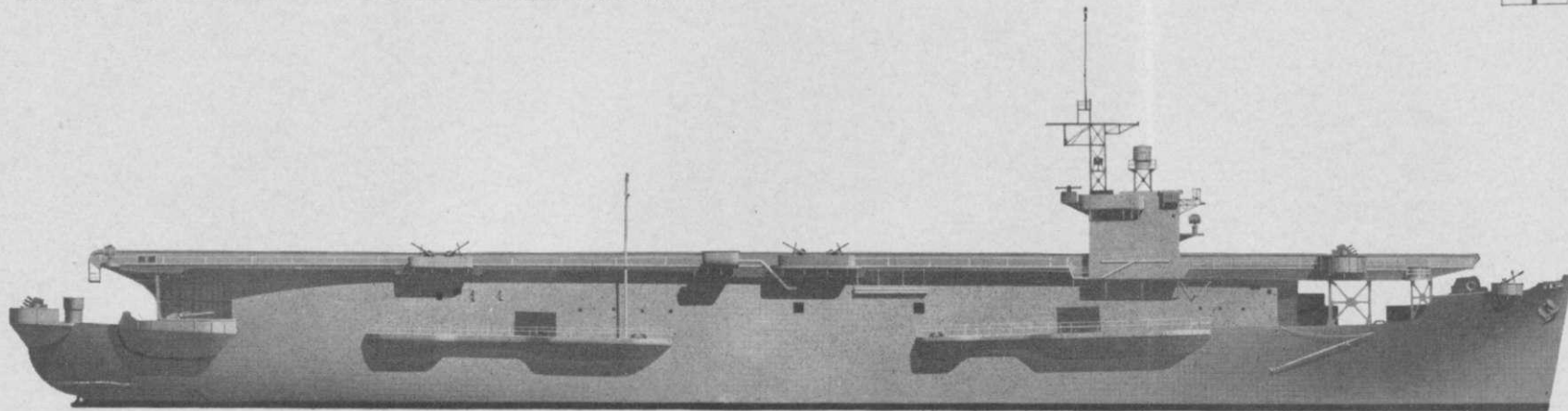
INDOMITABLE

Nov. 21, 1941



ILLUSTRIOUS

1940



HEIGHT IN FEET:

from W. L.	to Flight Deck - 47'	to Top of Foretop - 99'
from Flight Deck	to Foretop - 52'	

LENGTH: 495½' (O. A.). BEAM: 69½' (hull)

DISTINGUISHING FEATURES:

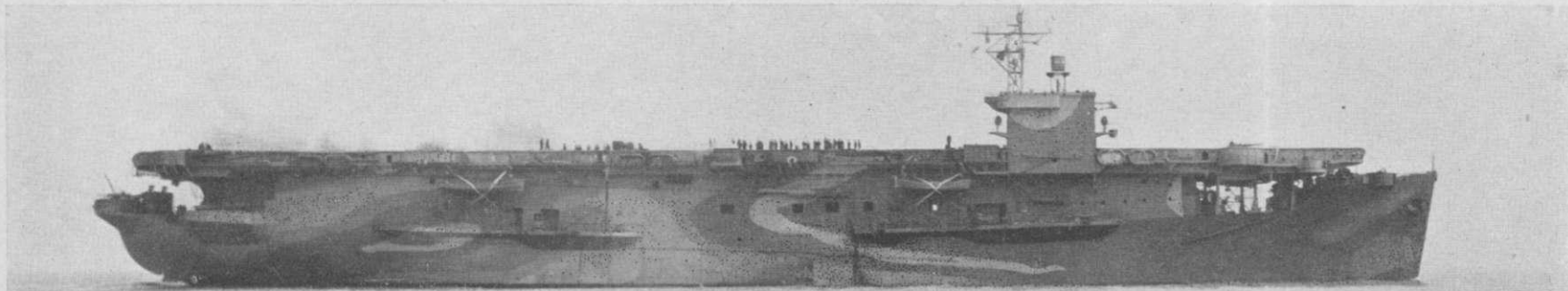
- High freeboard freighter hull, built up to flight deck for greater portion of ship's length; prominent sponsons on ship's sides at main deck level.
- Narrow "box" island superstructure on starboard side forward; trestle mast mounted on after end of island.
- Wide rectangular flight deck, slightly tapered forward and aft; two aircraft elevators, one forward and one aft.
- Some units have small smoke vents projecting outboard amidships.

STRONG SIMILARITY TO:

ARCHER Class (Brit. - ACV) BOGUE Class (U.S. - ACV)

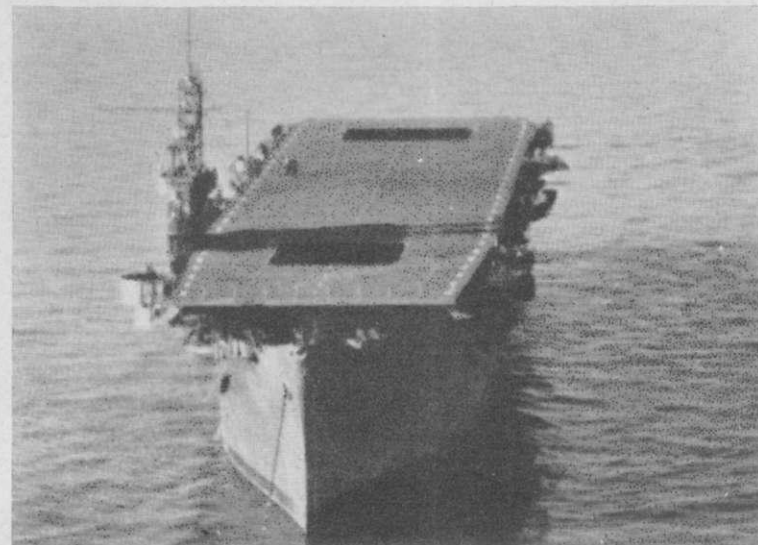
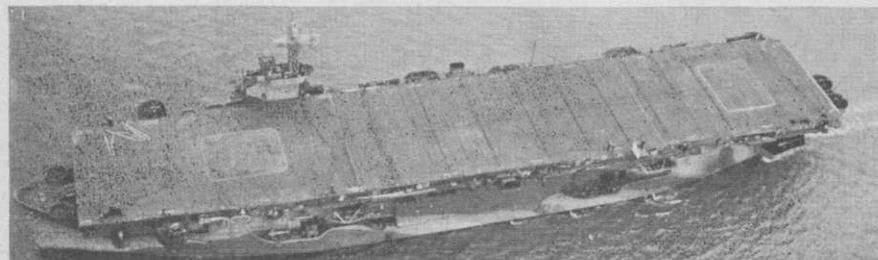
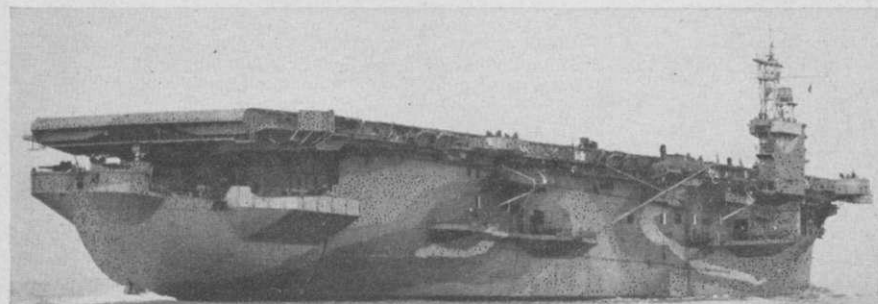
RESEMBLANCE TO:

ARGUS (Brit. - ACV) Typical Japanese Carrier design (from a distance).



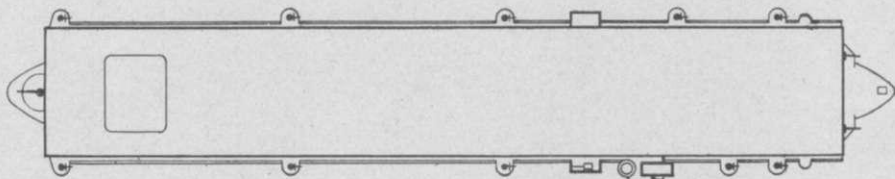
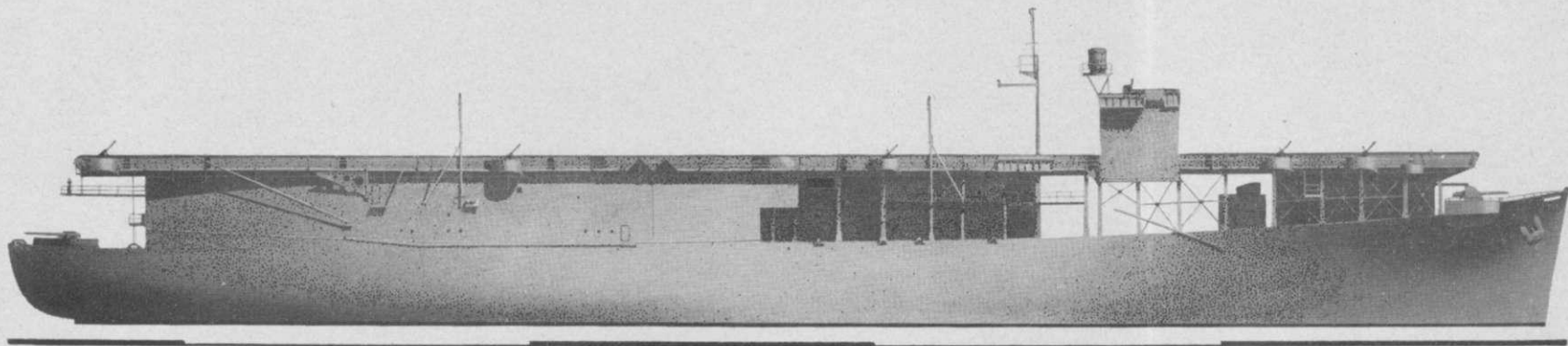
FENCER (above and below)

Mar. 26, 1943



BATTLER

1942



HEIGHT IN FEET:

from W. L.	to Flight Deck — 52'	to Top of Isl. Lantern—85'
	from Flight Deck to Top of Isl. Lantern—32'	

LENGTH: 492' (O. A.). BEAM: 69½' (hull)

DISTINGUISHING FEATURES:

- High freeboard freighter hull, built up to flight deck aft and open forward.
- All but ARCHER have a small, narrow "box" island superstructure on starboard side forward; prominent lantern mounted on top of after end of island.
- Upright pole mast stepped abaft the island.
- Wide rectangular flight deck, stopping just short of bow and stern; only one aircraft elevator near stern.

STRONG SIMILARITY TO:

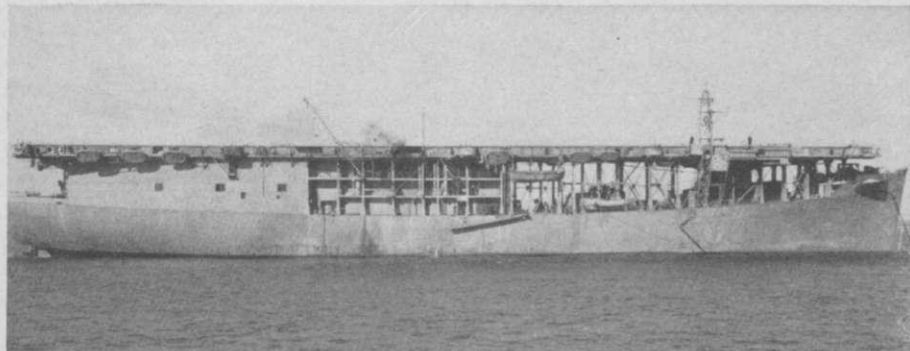
ARCHER to U.S.S. LONG ISLAND (ACV)
Rest of Class to
BATTLER Class (Brit. — ACV) BOGUE Class (U.S. — ACV)

RESEMBLANCE TO:

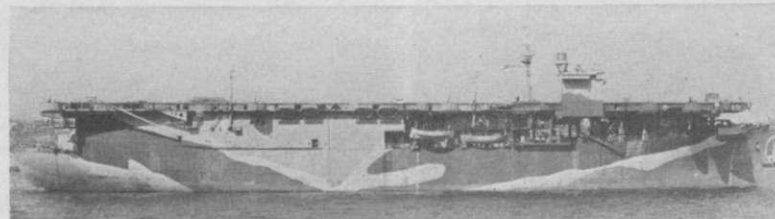
ARGUS (Brit. — ACV) Typical Japanese Carrier design
(from a distance).

ACV ARCHER Class

ONI 201

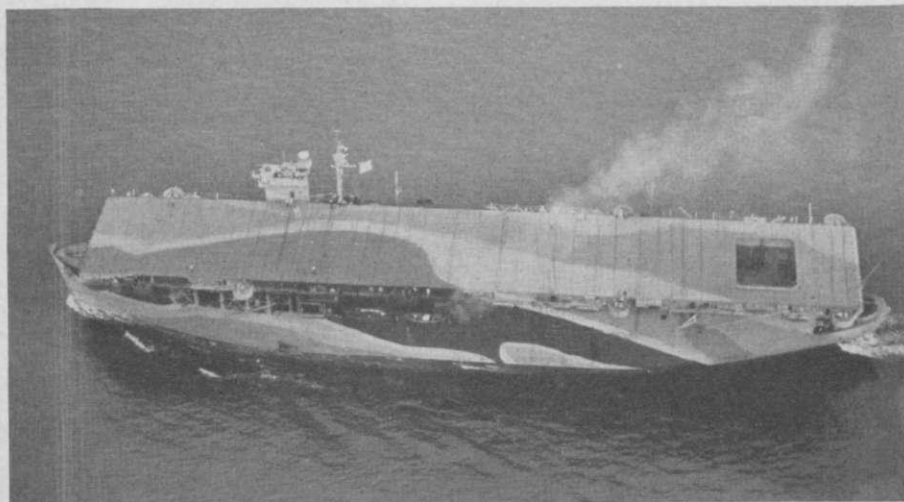


ARCHER — note: trestle mast; absence of "island" superstructure; open structure below flight deck extends further aft than in rest of class.
Dec. 21, 1941



BITER

May 28, 1942



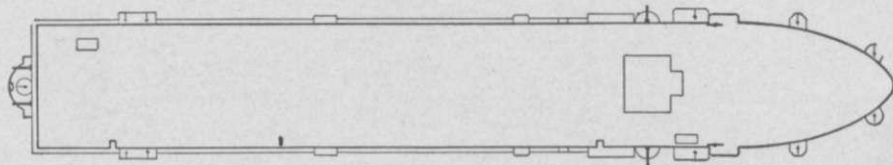
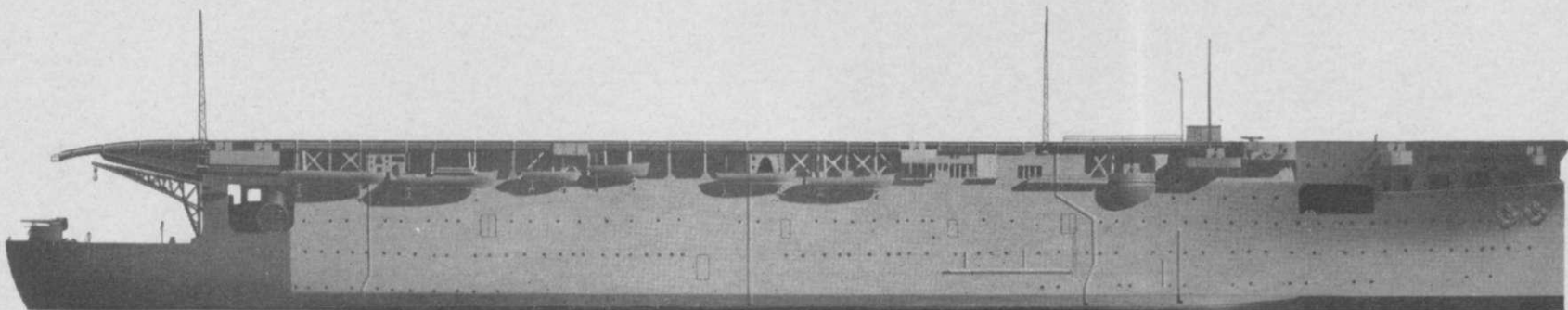
DASHER

July 24, 1942



BITER

Sept. 1942



HEIGHT IN FEET:

Average Height of Flight Deck	to W. L.	59'
-------------------------------	-------------	-----

LENGTH: 555' (W. L.). BEAM: 76' (hull)

DISTINGUISHING FEATURES:

- Absence of permanent superstructure above the flight deck.
- High "liner" hull; very high freeboard for the greater length of ship; hull cut away aft.
- Forward end of flight deck is rounded.
- Stern section almost invariably painted black, due to position of smoke vents just forward of cut-away at stern.
- Smoke vent in port side of after end of flight deck.

STRONG SIMILARITY TO:

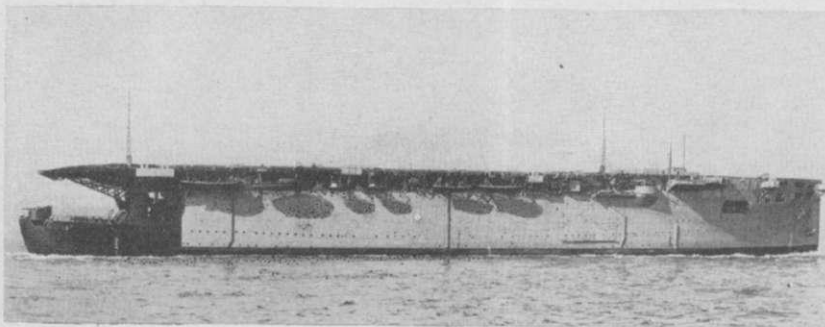
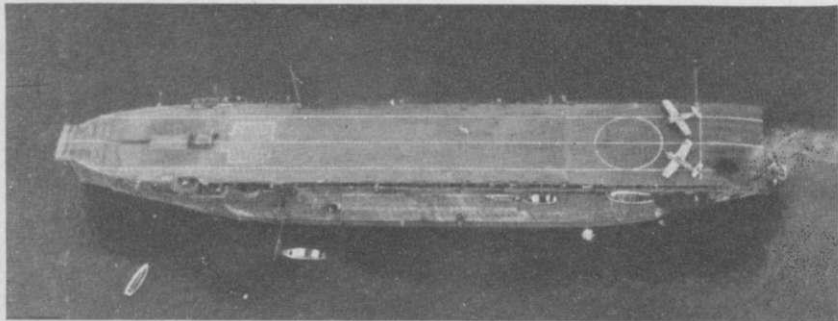
ARCHER (Brit. — ACV)

RESEMBLANCE TO:

British and U.S. Auxiliary Aircraft-Carriers.
Typical Japanese Carrier Design (from a distance).

ACV1 ARGUS

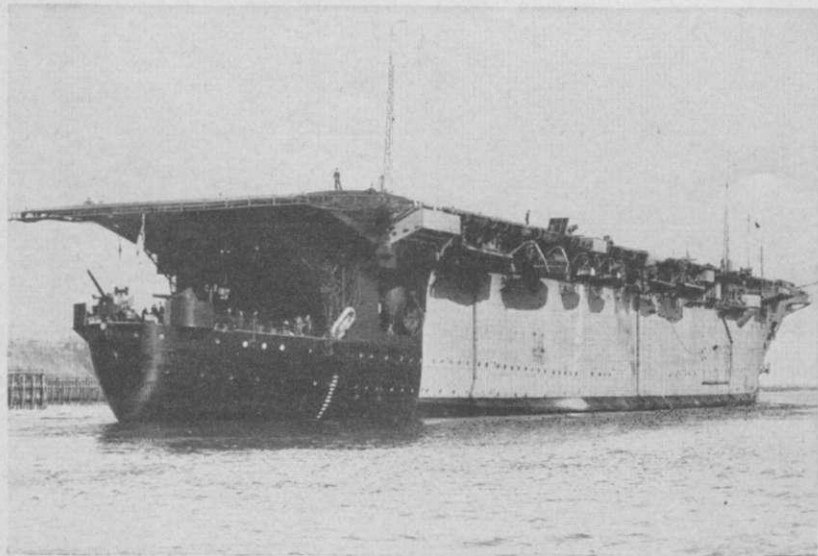
ONI 201



ARGUS — note smoke vent in flight deck aft. Forward end of flight deck now rounded.

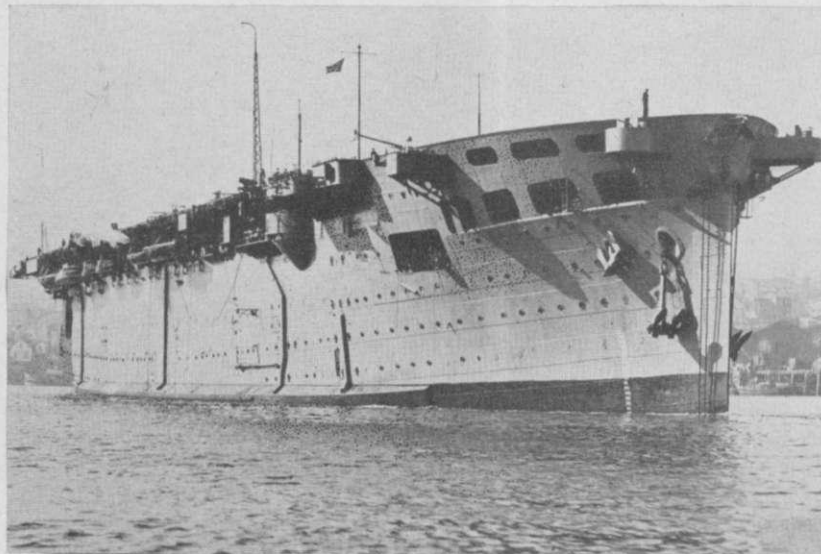
ARGUS

Jan. 1943



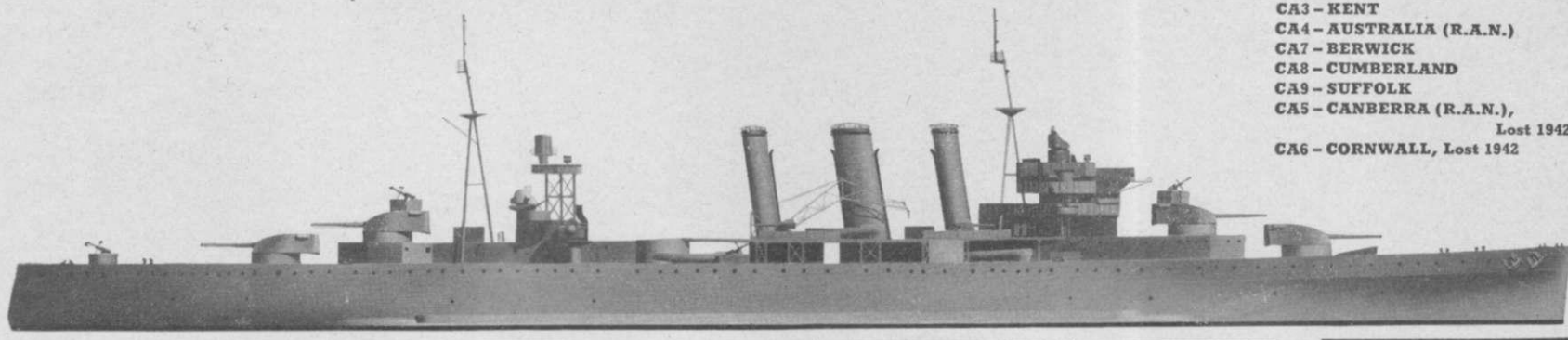
ARGUS

Jan. 1943

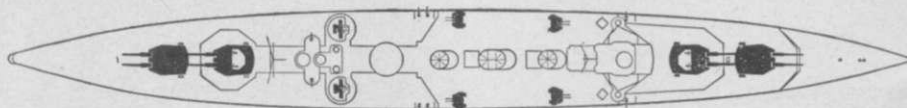


ARGUS

Jan. 1943



- CA3 - KENT
- CA4 - AUSTRALIA (R.A.N.)
- CA7 - BERWICK
- CA8 - CUMBERLAND
- CA9 - SUFFOLK
- CA5 - CANBERRA (R.A.N.),
Lost 1942
- CA6 - CORNWALL, Lost 1942



HEIGHT IN FEET:

from W. L.	to Top of Stack - 79'	to Top of Bridge - 73½'
from Foc'sle Deck	to Top of Stack - 53½'	to Top of Bridge - 45½'

LENGTH: 624' (W. L.). BEAM: 68½'

DISTINGUISHING FEATURES:

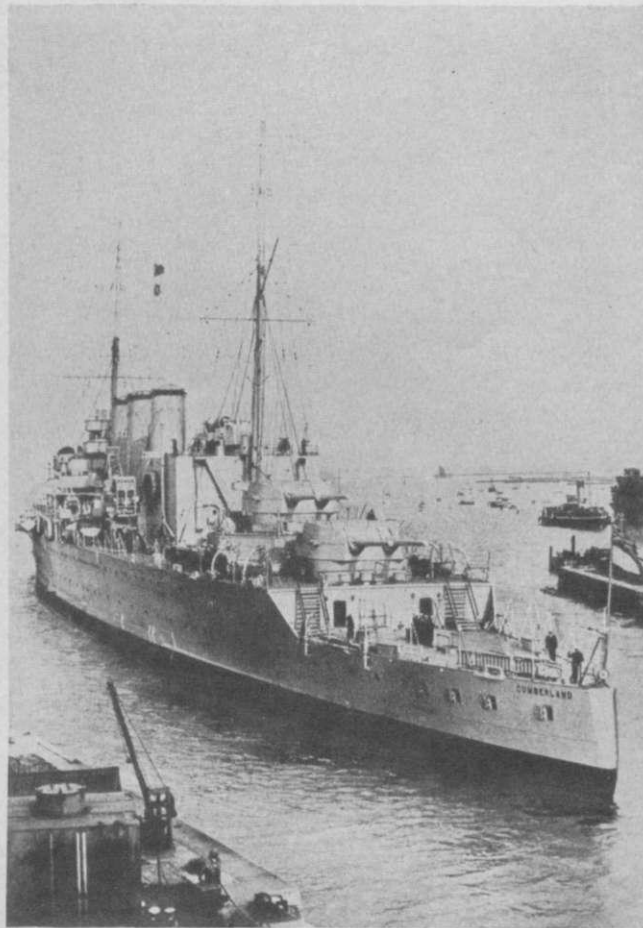
- Three tall, thin, raking stacks; center stack widest; horizontal stack caps.
- Pairs of twin turrets placed near the ends of the hull; relatively short forecastle and quarterdeck.
- All originally had high-freeboard flush-deck hulls; SUFFOLK and CUMBERLAND now cut down a deck abaft No. 4 turret.
- Distinguished from DEVONSHIRE and NORFOLK Classes by having less clearance between No. 2 turret and the bridge.

STRONG SIMILARITY TO:

DEVONSHIRE and NORFOLK Classes (Brit. - CA)
ABDIEL Class (Brit. - DM)

RESEMBLANCE TO:

ADELAIDE (Australia - CL). On occasions have been mistaken for liners at long range.



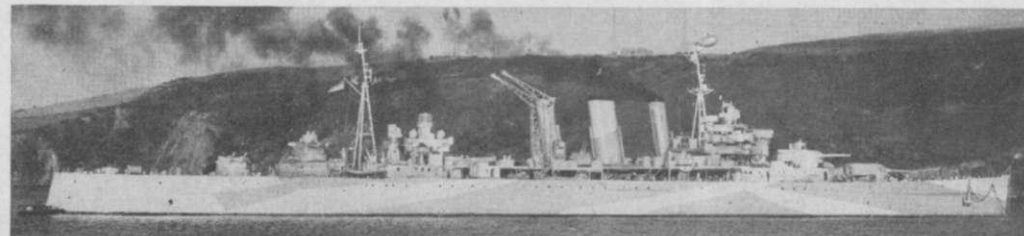
CUMBERLAND — note cut-away quarterdeck.

1936



BERWICK

1942



BERWICK — hangar and catapult amidships have been removed.

1942



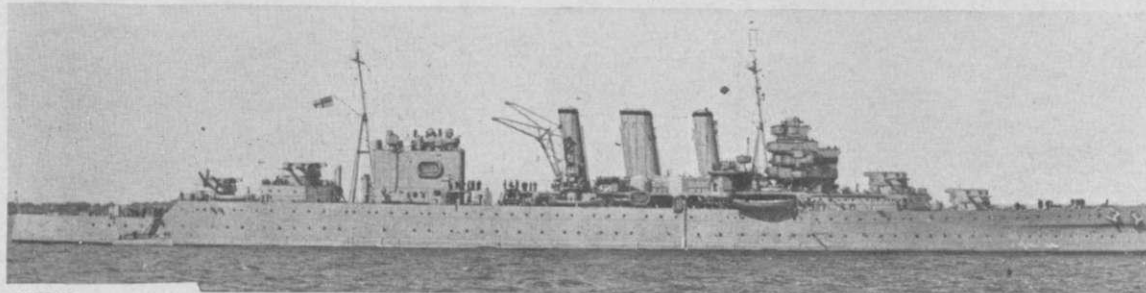
AUSTRALIA — the only unit with pole masts and her heavy A.A. battery mounted on the main deck instead of on the shelter deck.

Aug. 1942



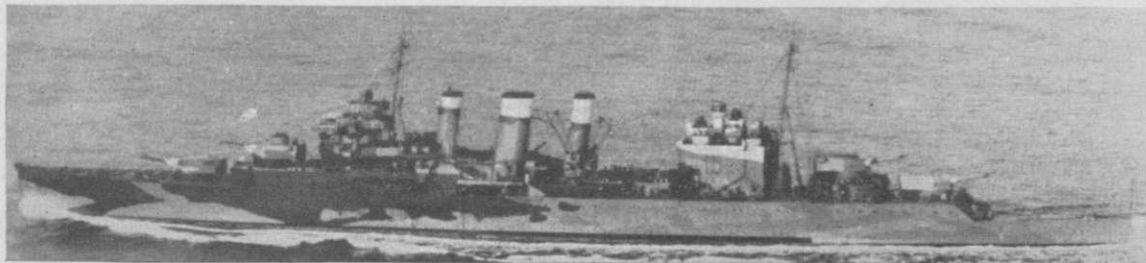
KENT

March 1942



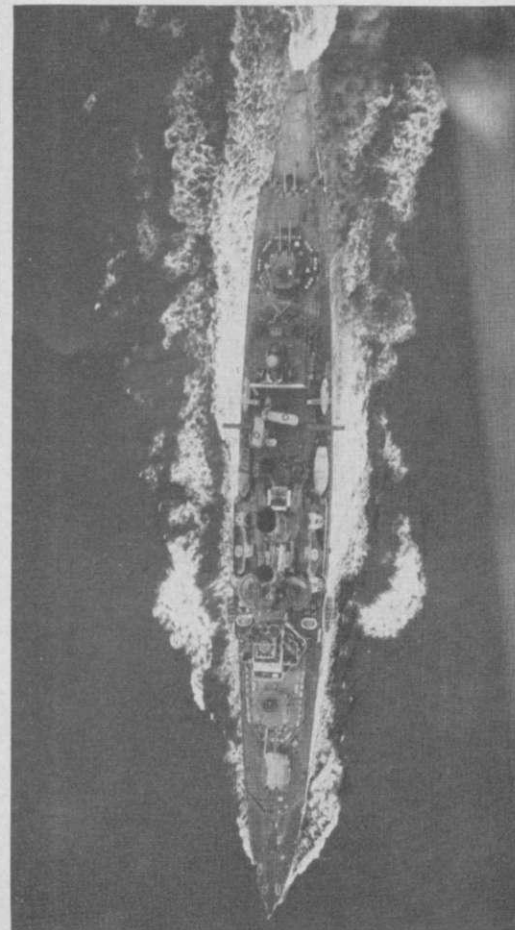
SUFFOLK

July 1940



SUFFOLK — note low quarterdeck.

Sept. 1942



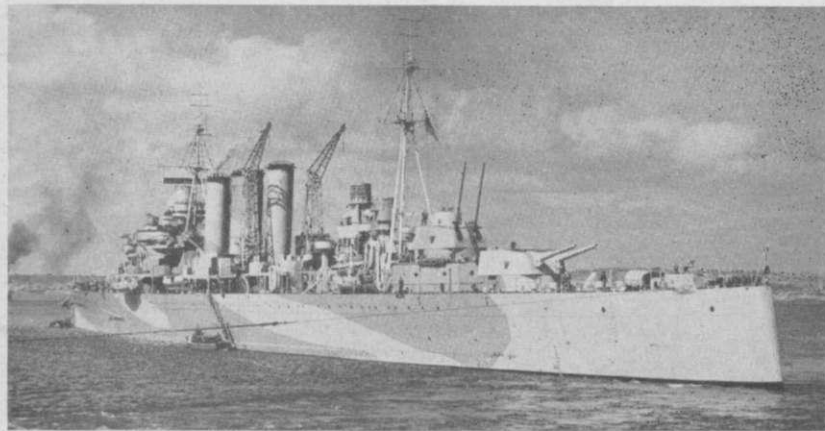
CUMBERLAND

1942

KENT Class (5 units)

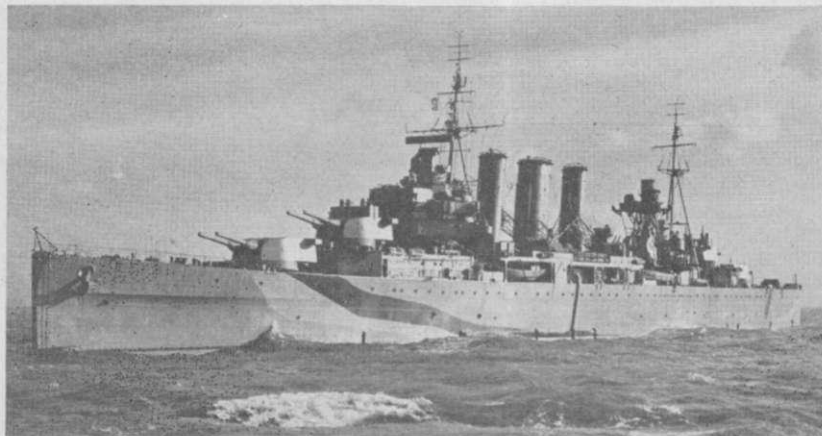
RESTRICTED ONI 201

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BERWICK

1942



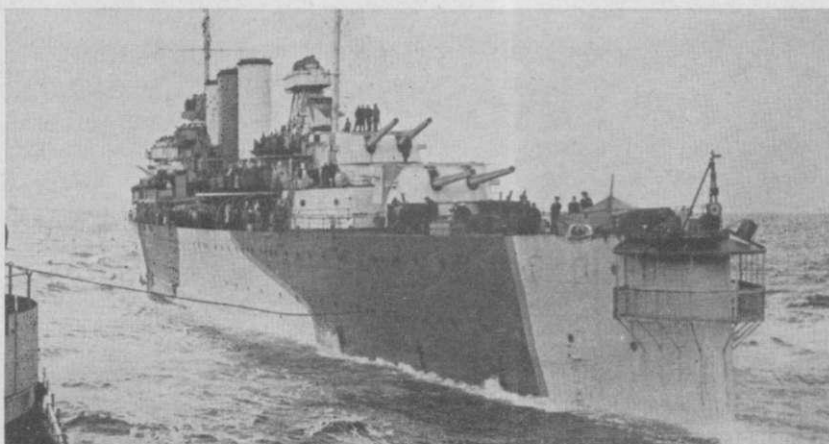
KENT

Oct. 1942



BERWICK

1942

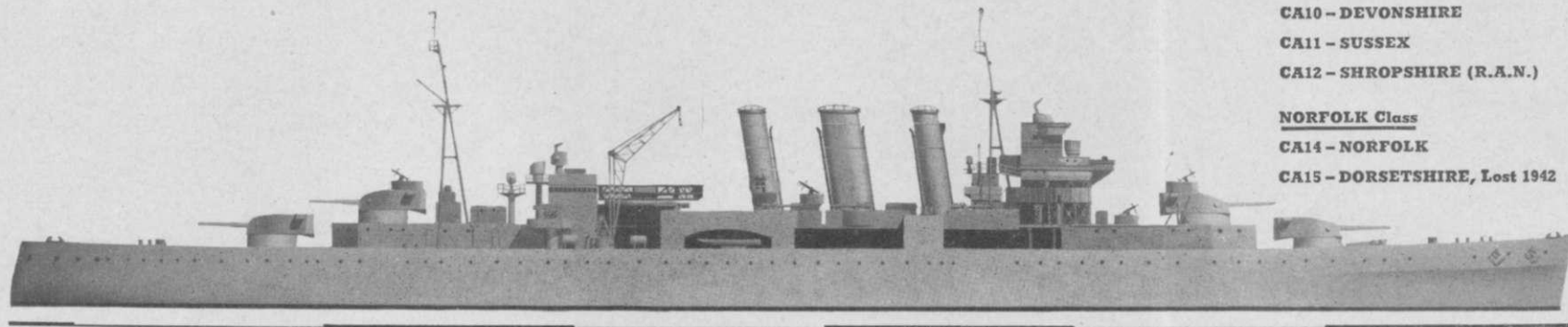
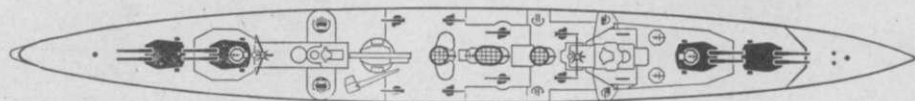


KENT — sternwalk since removed.

1941

ONI 201 RESTRICTED

Division of Naval Intelligence — Identification and Characteristics Section.
 CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

CA DEVONSHIRE Class (3 units) — CA NORFOLK Class (1 unit)**DEVONSHIRE Class****CA10 — DEVONSHIRE****CA11 — SUSSEX****CA12 — SHROPSHIRE (R.A.N.)****NORFOLK Class****CA14 — NORFOLK****CA15 — DORSETSHIRE, Lost 1942****HEIGHT IN FEET:**

from W. L.	to Top of Stack — 80'	to Top of Bridge — 61½'
from Main Deck	to Top of Stack — 53'	to Top of Bridge — 34'

LENGTH: 624' (W. L.). BEAM: 66'**DISTINGUISHING FEATURES: (for both Classes)**

- Three tall, thin raking stacks; center stack widest; horizontal stack caps.
- Pairs of twin turrets placed near the ends of the hull; relatively short forecastle and quarterdeck.
- High-freeboard flush-deck hulls.
- Distinguished from KENT Class by having No. 2 turret well forward of the bridge.

STRONG SIMILARITY TO:

KENT Class (Brit. — CA)

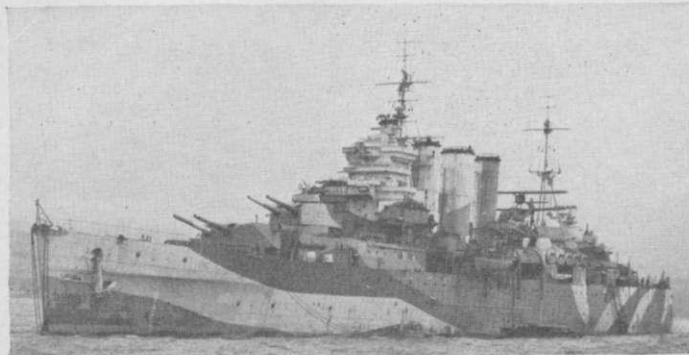
ABDIEL Class (Brit. — DM)

RESEMBLANCE TO:

ADELAIDE (Australia — CL)

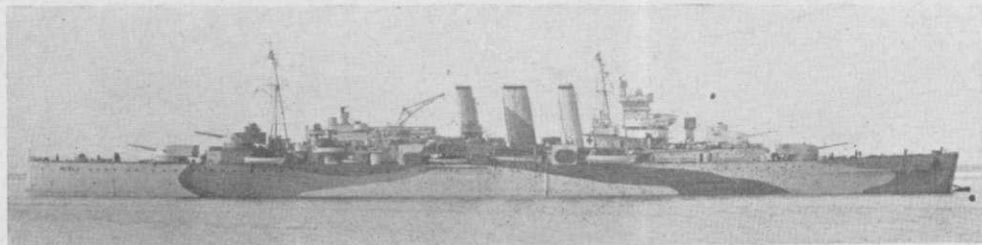
CA DEVONSHIRE Class (3 units) — CA NORFOLK Class (1 unit)

ONI 201



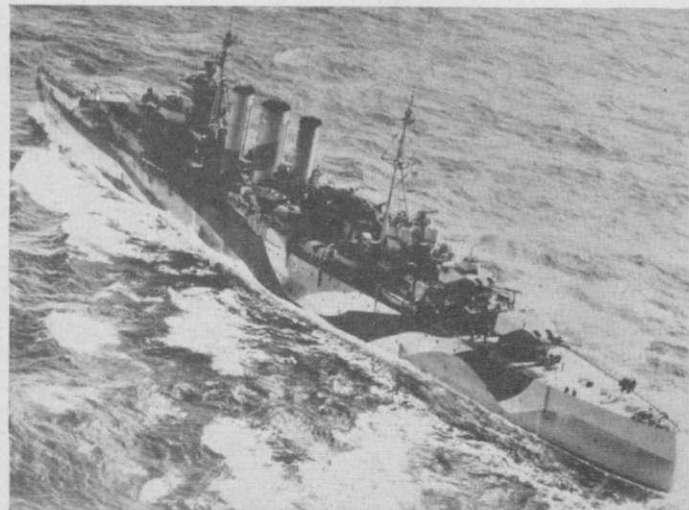
SUSSEX

1942



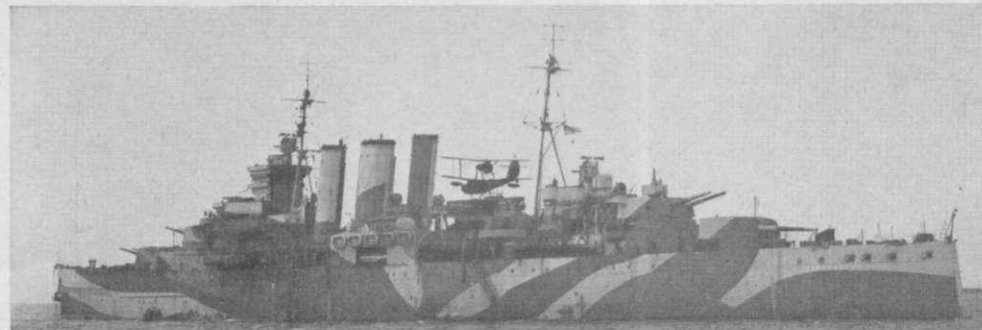
SHROPSHIRE

April 1942



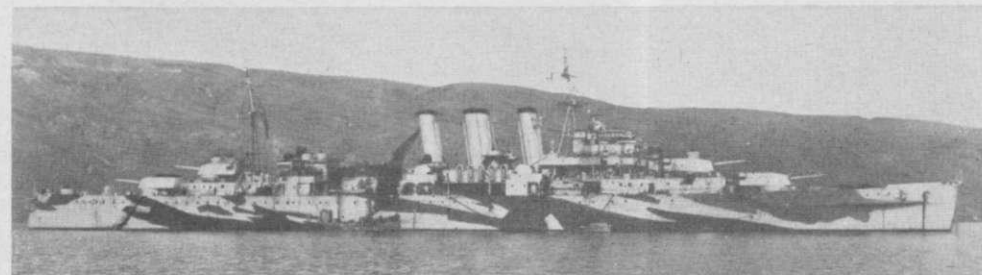
SUSSEX

1942



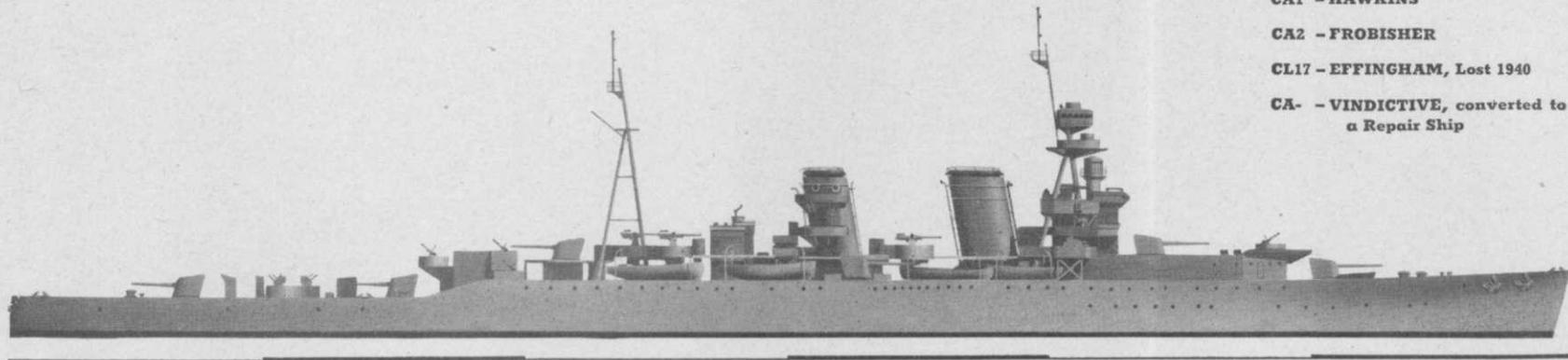
SUSSEX

Sept. 1942

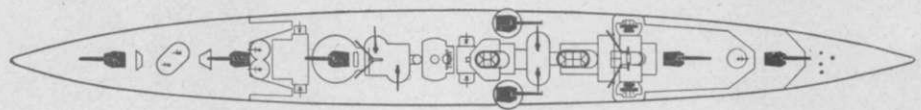


NORFOLK

Dec. 1942



- CA1 - HAWKINS
- CA2 - FROBISHER
- CL17 - EFFINGHAM, Lost 1940
- CA- - VINDICTIVE, converted to a Repair Ship



HEIGHT IN FEET:

from W. L.	to Top of Stack - 62½'	to Top of Foretop - 90'
from Foc'sle Deck	to Top of Stack - 43½'	to Top of Foretop - 70'

LENGTH: 599' (W. L.). BEAM: 65'

DISTINGUISHING FEATURES:

- Two tall, raking, flat-sided stacks with horizontal stack caps; search light platforms built around the thinner second stack.
- The only heavy cruisers mounting their main battery in single shields (instead of turrets). Guns are inconspicuous.
- Long, low quarterdeck.
- A ramp connects forecastle deck with main deck.

STRONG SIMILARITY TO:

- CALEDON Class (Brit. - CL) RENOWN (Brit. - CC)
- ADVENTURE (Brit. - CM) SUMATRA (Netherlands - CL)

RESEMBLANCE TO:

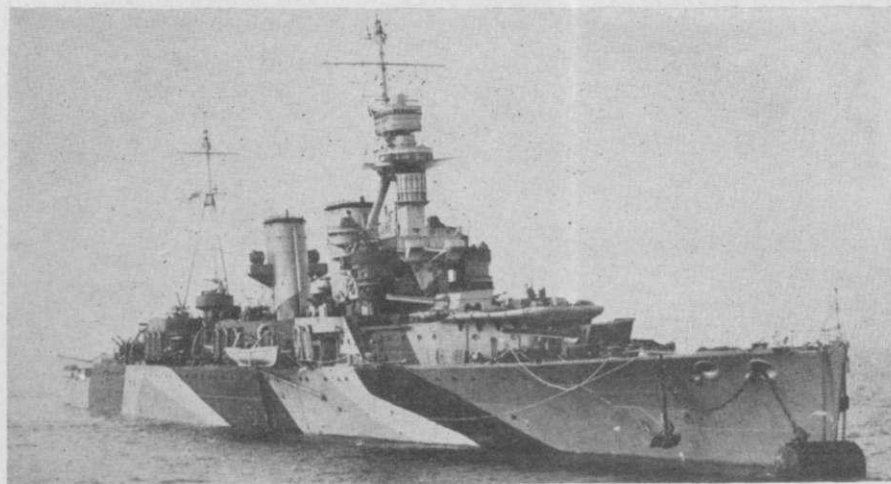
- DRAGON, CARLISLE and CERES Classes (Brit. - CL)
- NEW ORLEANS Class (U.S. - CA)

HAWKINS Class (2 units)

ONI 201



HAWKINS

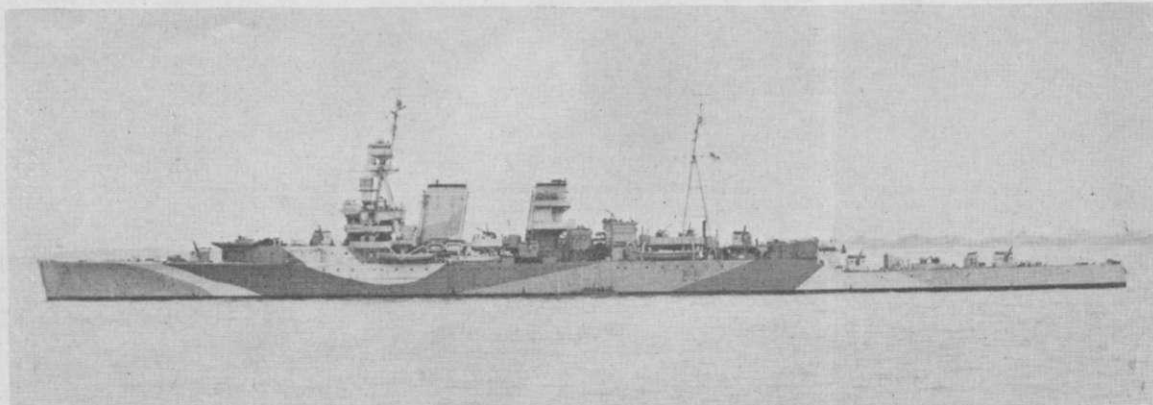


June 1942 FROBISHER — note waist main battery shield guns have been replaced by lighter pieces.



HAWKINS

June 1942



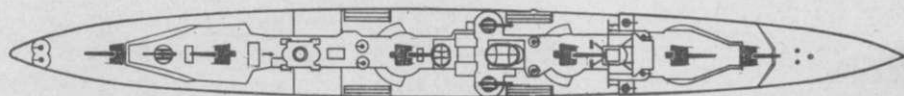
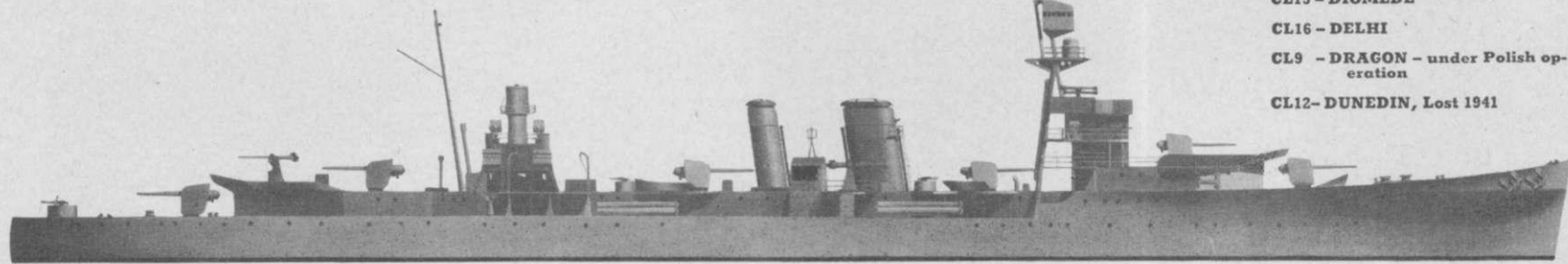
HAWKINS

June 1942

DRAGON Class (6 units)



- CL10 - DANAE
- CL11 - DAUNTLESS
- CL13 - DURBAN
- CL14 - DESPATCH
- CL15 - DIOMEDE
- CL16 - DELHI
- CL9 - DRAGON - under Polish operation
- CL12 - DUNEDIN, Lost 1941



HEIGHT IN FEET:

from W. L.	to Top of Stack - 47½'	to Top of Foretop - 76'
from Foc'sle Deck	to Top of Stack - 27'	to Top of Foretop - 55½'

LENGTH: 466' (W. L.). BEAM: 46½'

DISTINGUISHING FEATURES:

- Two short raking stacks with horizontal caps; first stack is broader.
- Relatively high bridge and heavy tripod foremast.
- Main battery mounted in single shields; relatively inconspicuous.
- Can be distinguished from CARLISLE and CERES Classes by having a center-line shield gun between stack and foremast.
- DRAGON, DANAE and DAUNTLESS have little sheer to bows; the balance of the class have trawler bows.

STRONG SIMILARITY TO:

CARLISLE and CERES Classes (Brit. - CL)
 CALEDON Class (Brit. - CL)

RESEMBLANCE TO:

ADVENTURE (Brit. - CM) HAWKINS Class (Brit. - CA)

DRAGON Class (6 units)

ONI 201

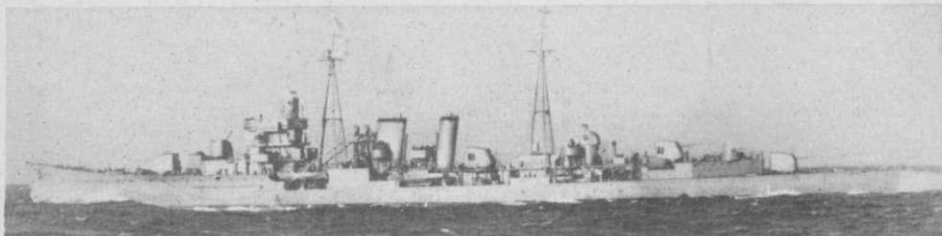


DESPATCH

July 1942



DIOMEDE—note gun-house to No. 1 6-inch gun; only ship so fitted.



DELHI—differs from rest of class. Note American design gun-houses, new bridge and director towers, shifting of search lights and new masts.



DAUNTLESS—note bow.

1942



DESPATCH—note "Trawler Bow"

July 1942

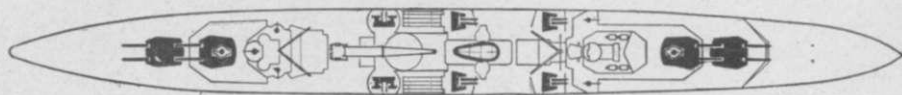
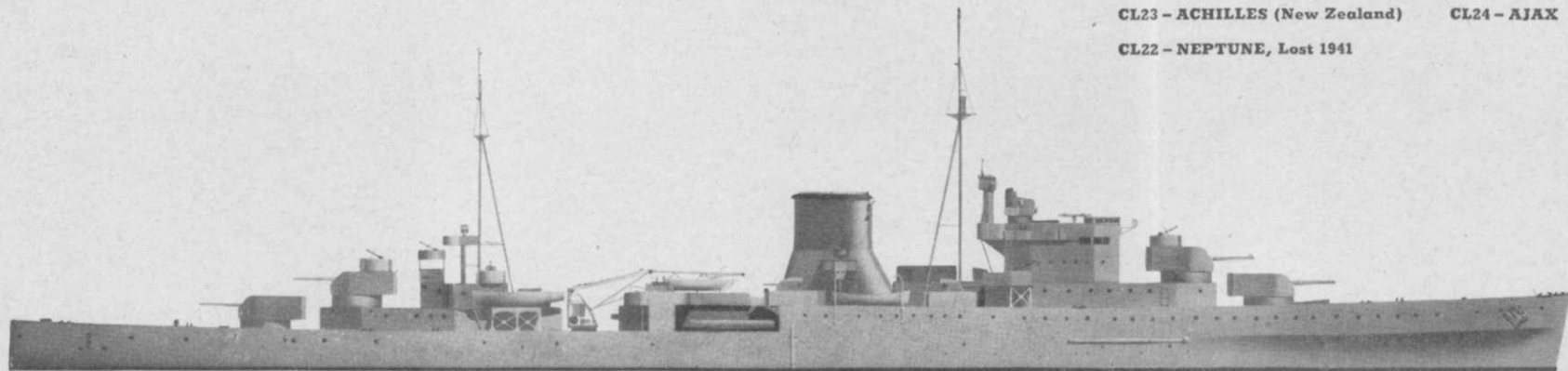


DAUNTLESS

1942

LEANDER Class (4 units) 

CL20 — LEANDER (New Zealand) CL21 — ORION
CL23 — ACHILLES (New Zealand) CL24 — AJAX
CL22 — NEPTUNE, Lost 1941



HEIGHT IN FEET:

from W. L.	to Top of Stack — 63'	to Top F'w'd Director — 70'
from Foc'sle Deck	to Top of Stack — 39'	to Top F'w'd Director — 46'

LENGTH: 554½' (O. A.). BEAM: 55½'

DISTINGUISHING FEATURES:

- A single broad stream-lined stack, set near-amidships.
The only British cruisers with a single stack.
- Absence of rake to tripod masts.
- Relatively low silhouette.

STRONG SIMILARITY TO:

LEIPZIG (Ger. — CL)
NUERNBERG (Ger. — CL)
BLYSKAWICA (Poland — DD)
ALMIRANTE BROWN (Argentina — CA)

RESEMBLANCE TO:

CANARIAS (Spain — CA)
GORDI Class (Russia — DD)
British one-stack destroyers

LEANDER Class (4 units)

ONI 201



ORION

1942



ACHILLES — tripod masts not fitted.

1941



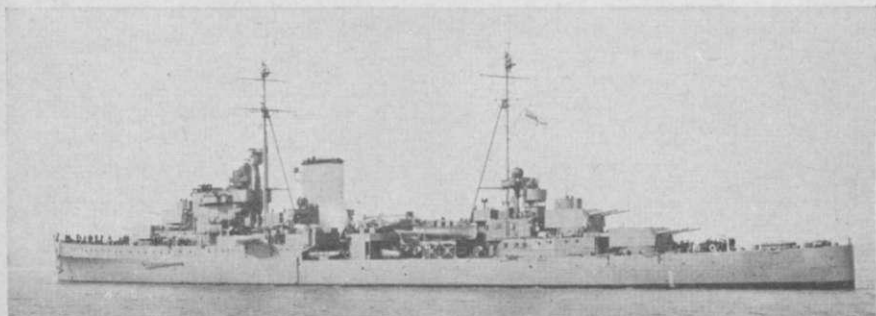
AJAX

Nov. 1942



AJAX

Nov. 1942



ORION

Feb. 1942



AJAX

Nov. 1942

ARETHUSA Class (3 units)

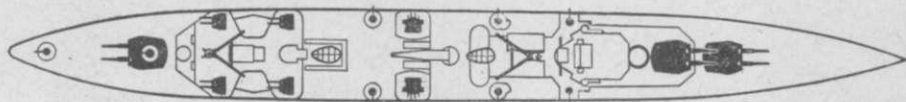
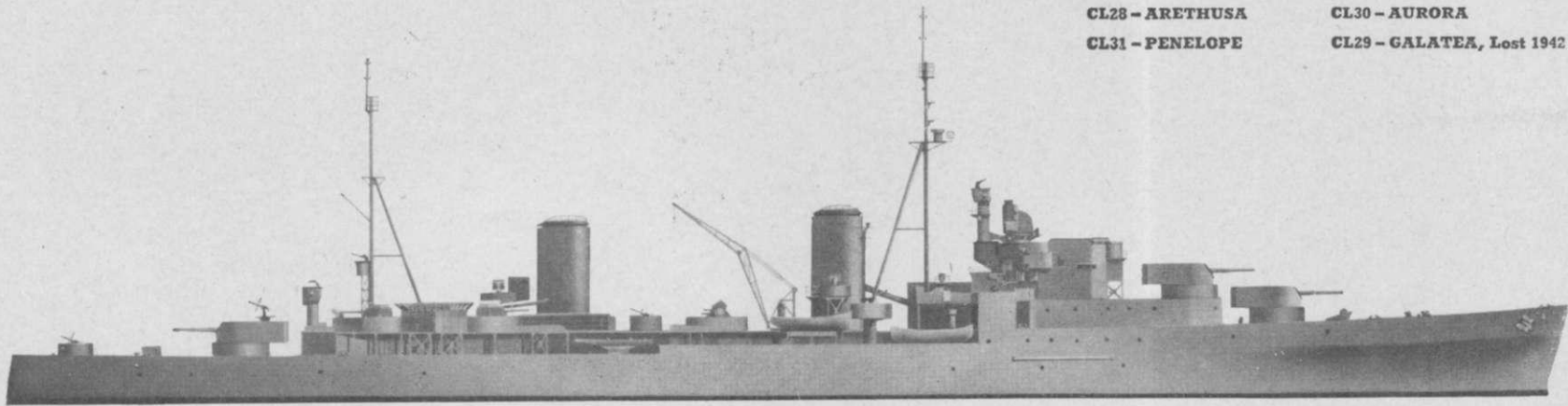


CL28 - ARETHUSA

CL30 - AURORA

CL31 - PENELOPE

CL29 - GALATEA, Lost 1942



HEIGHT IN FEET:

from W. L.	to Top first Stack—62'	to Top f'w'd Director—68'
from Foc'sle Deck	to Top first Stack—40'	to Top f'w'd Director—46'

LENGTH: 500' (W. L.). BEAM: 51'

DISTINGUISHING FEATURES:

- Two widely separated upright stacks with "teardrop" cross-section.
- The single turret aft is mounted on a short quarterdeck.
- No rake to light tripod masts; mainmast stepped well abaft second stack.
- Relatively low silhouette; superstructure appears to be "pushed" aft.

STRONG SIMILARITY TO:

HOBART (Australia - CL) DIDO Class (Brit. - CL)
 LA ARGENTINA (Argentina - CL)

RESEMBLANCE TO:

FIJI Class (Brit. - CL) LE FANTASQUE Class (France - DD)
 SOUTHAMPTON Class (Brit. - CL) LONDON (Brit. - CA)

ARETHUSA Class (3 units)

ONI 201



PENELOPE

Sept. 1942



ARETHUSA — note that stacks are of equal height.

April 1942



PENELOPE

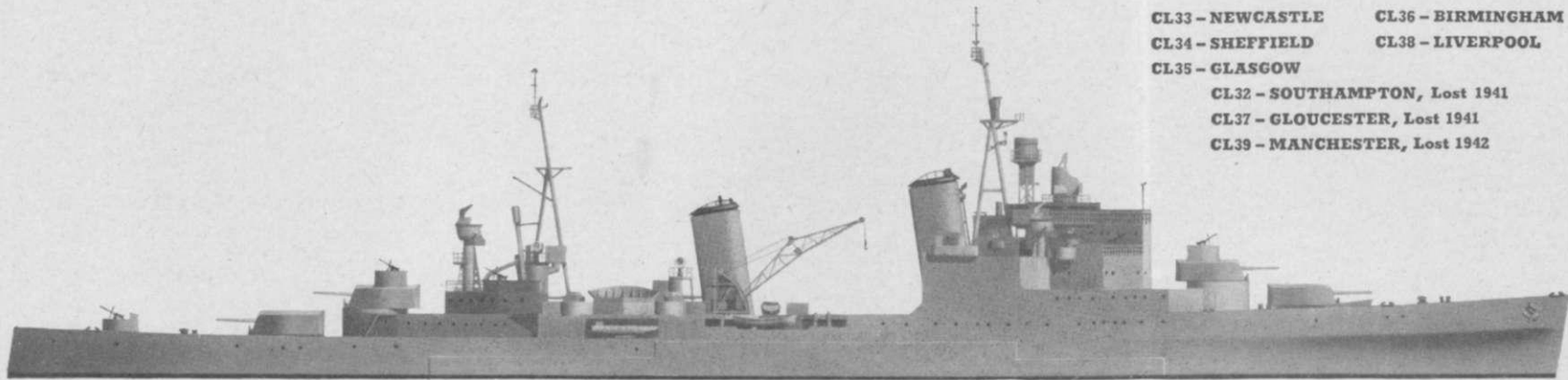
Sept. 1942



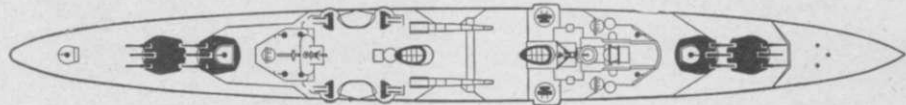
PENELOPE

Sept. 1942

SOUTHAMPTON Class (5 units) 



CL33 - NEWCASTLE CL36 - BIRMINGHAM
 CL34 - SHEFFIELD CL38 - LIVERPOOL
 CL35 - GLASGOW
 CL32 - SOUTHAMPTON, Lost 1941
 CL37 - GLOUCESTER, Lost 1941
 CL39 - MANCHESTER, Lost 1942



HEIGHT IN FEET:

from W. L.	to Top first Stack-76'	to Top f'w'd Director-90'
from Foc'sle Deck	to Top first Stack-44'	to Top f'w'd Director-58'

LENGTH: 584' (W. L.). BEAM: 62¼'

DISTINGUISHING FEATURES:

- Two separated raking broad stacks; second stack shorter with tear drop cross-section.
- Prominent hangar at base of foremast and forward stack; catapult well-deck between stacks.
- Center gun port in each triple turret is cut back farther in the turret roof (due to center gun being mounted slightly back of wing guns).
- Raking light tripod masts.

STRONG SIMILARITY TO:

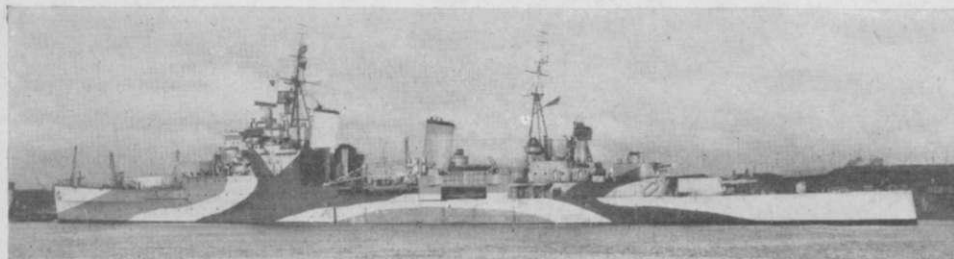
NORTHAMPTON-CHICAGO-PORTLAND Classes (U.S. - CA)
 DIDO Class (Brit. - CL) FIJI Class (Brit. - CL)
 LONDON (Brit. - CA)

RESEMBLANCE TO:

HOBART (Australia - CL) PENSACOLA Class (U.S. - CA)
 LA ARGENTINA (Argentina - CL) BELFAST (Brit. - CL)

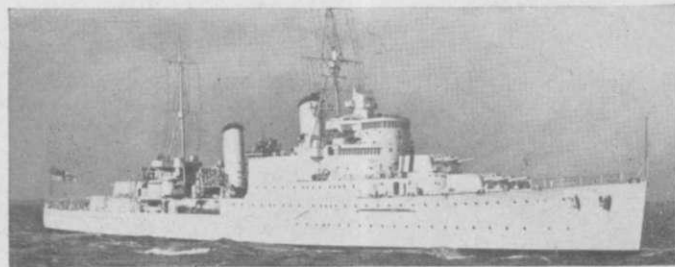
SOUTHAMPTON Class (5 units)

ONI 201



SHEFFIELD

Sept. 1942



BIRMINGHAM — has continuous flare to bows.

Sept. 1940



LIVERPOOL

Oct. 1941



SHEFFIELD

Sept. 1942



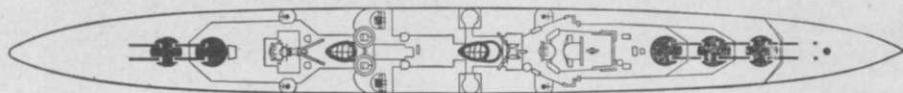
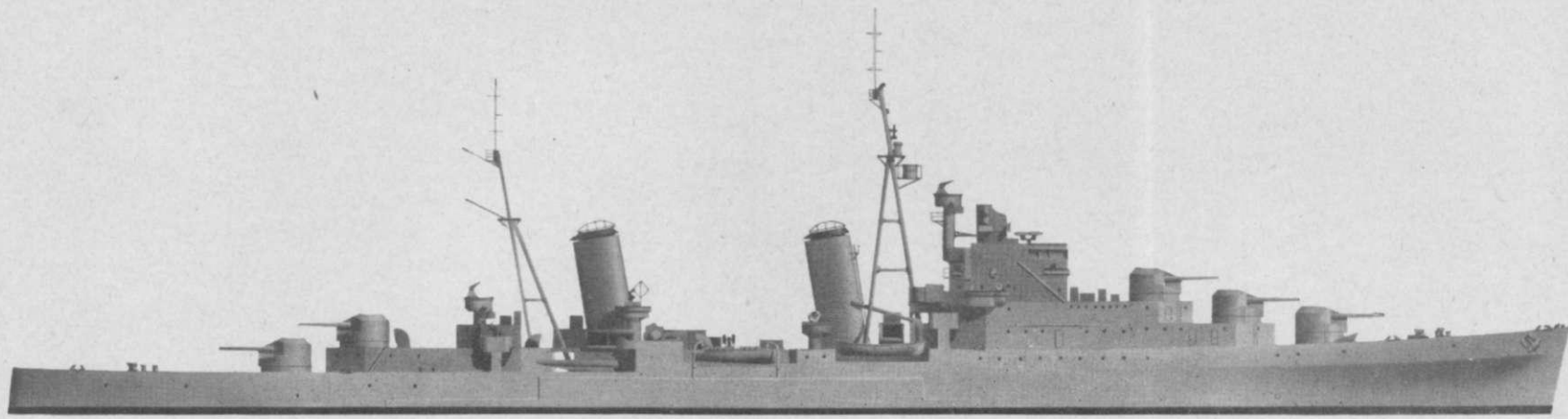
LIVERPOOL

Oct. 1941



SHEFFIELD

Aug. 1941



HEIGHT IN FEET:

from W. L.	to Top first Stack—62'	to Top f'w'd Director—73'
from Foc'sle Deck	to Top first Stack—40'	to Top f'w'd Director—51'

LENGTH: 512' (O. A.). BEAM: 50½'

DISTINGUISHING FEATURES:

- Two separated raking broad stacks of equal height with tear-drop cross-section.
- Prominent bridge; three super-firing gun positions forward; aircraft hangars omitted.
- Raking light tripod masts; mainmast stepped close abaft after stack.

STRONG SIMILARITY TO:

SOUTHAMPTON Class (Brit. — CL) ARETHUSA Class (Brit. — CL)
 PENSACOLA Class (U.S. — CA) HOBART (Australia — CL)

RESEMBLANCE TO:

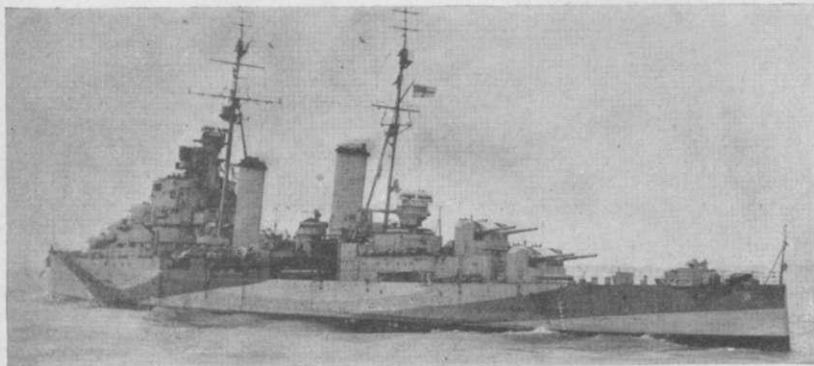
FIJI Class (Brit. — CL) LONDON (Brit. — CA)
 UGANDA Class (Brit. — CL) BELFAST (Brit. — CL)

DIDO Class



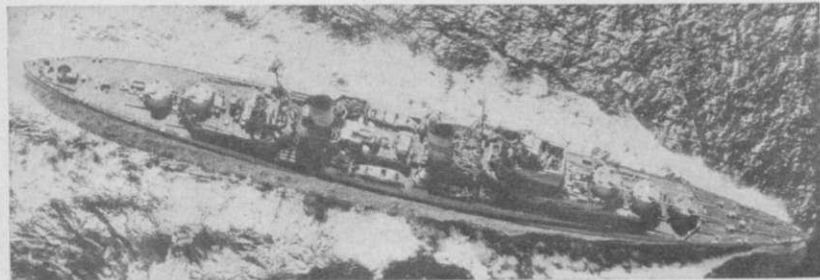
PHOEBE — note that two turrets forward have been removed.

Jan. 1943



EURYALUS

1941



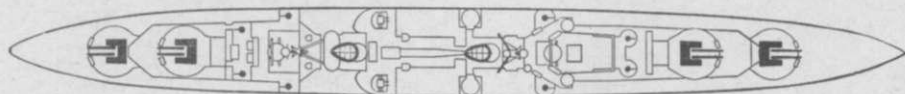
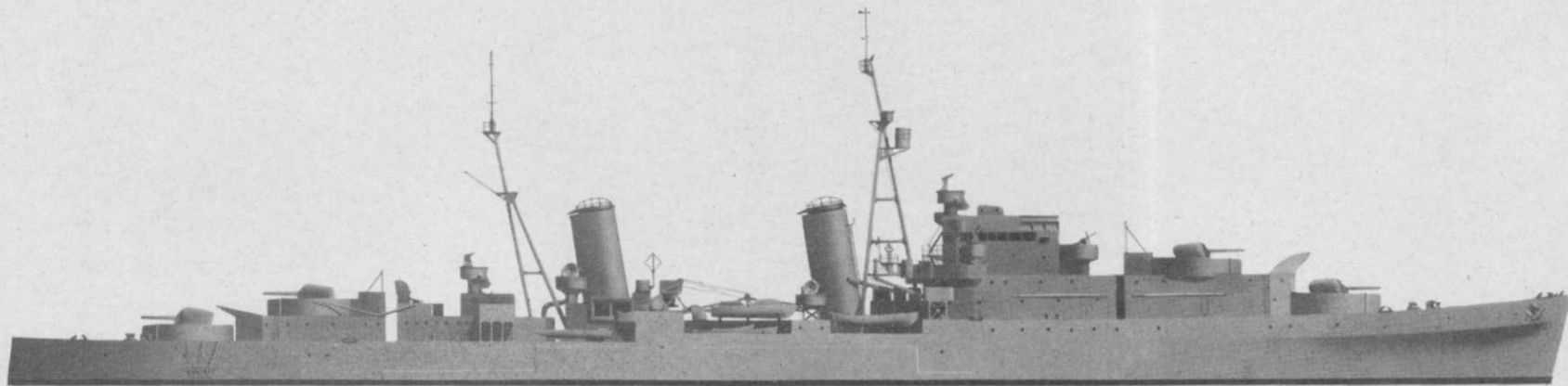
SIRIUS

1942



ARGONAUT

1942



HEIGHT IN FEET:

from W. L.	to Top first Stack—61'	to Top f'w'd Director—65'
from Foc'sle Deck	to Top first Stack—39'	to Top f'w'd Director—43'

LENGTH: 512' (O. A.). BEAM: 50½'

DISTINGUISHING FEATURES:

- Two separated raking broad stacks of equal height; "teardrop" cross-section.
- Prominent bridge.
- Can be readily distinguished from balance of class by conspicuously high deck houses forward and aft, only one super-firing gun position forward, and mounting of main battery in shields instead of turrets.
- Raking light tripod masts; mainmast stepped close abaft after stack.

STRONG SIMILARITY TO:

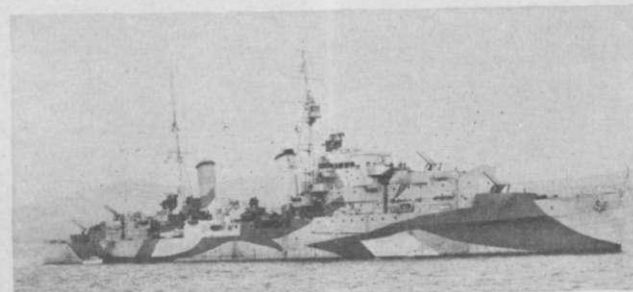
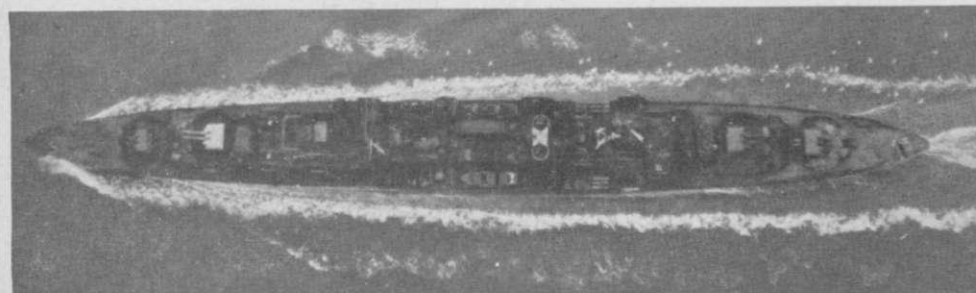
SOUTHAMPTON Class (Brit. — CL) ARETHUSA Class (Brit. — CL)
PENSACOLA Class (U.S. — CA) HOBART (Australia — CL)

RESEMBLANCE TO:

FIJI Class (Brit. — CL) LONDON (Brit. — CA)
UGANDA Class (Brit. — CL) BELFAST (Brit. — CL)

DIDO Class — CHARYBDIS Group

ONI 201

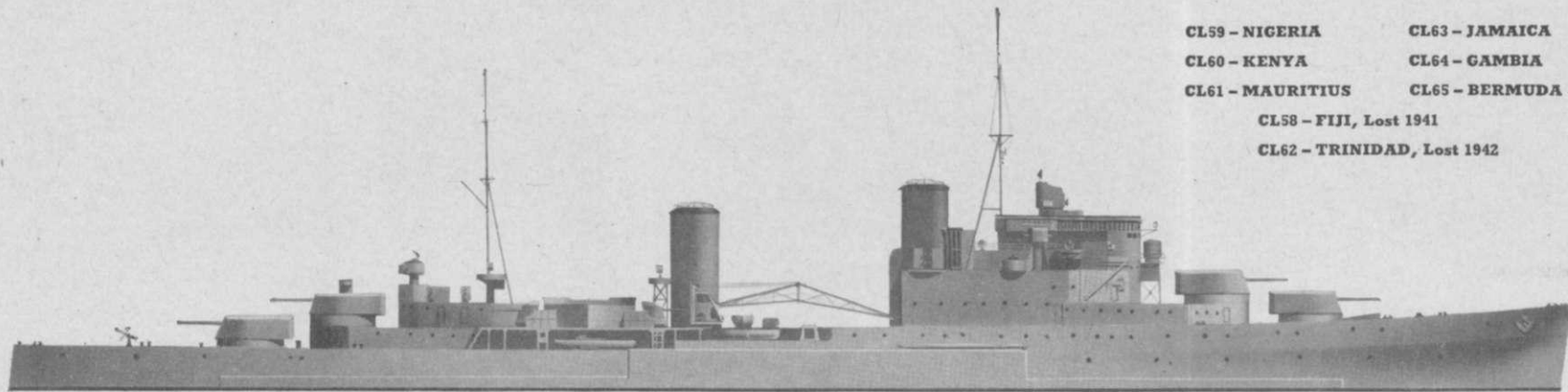


CHARYBDIS

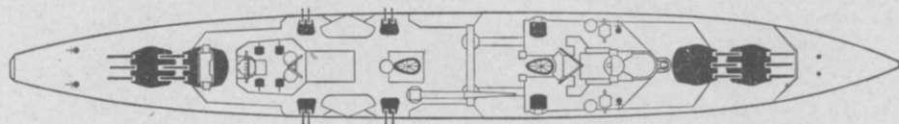
Feb. 1943

SCYLLA

1942



CL59 - NIGERIA CL63 - JAMAICA
CL60 - KENYA CL64 - GAMBIA
CL61 - MAURITIUS CL65 - BERMUDA
CL58 - FIJI, Lost 1941
CL62 - TRINIDAD, Lost 1942



HEIGHT IN FEET:

from W. L.	to Top first Stack - 74'	to Top of Bridge - 64'
from Foc'sle Deck	to Top first Stack - 50'	to Top of Bridge - 40'

LENGTH: 550' (W. L.). BEAM: 62'

DISTINGUISHING FEATURES:

- Two separated upright stacks; second stack shorter with tear drop cross-section.
- Prominent hangar at base of foremast and forward stack; catapult well-deck between stacks.
- Center gun port in each triple turret is cut back farther in the turret roof (due to center gun being mounted slightly back of wing guns).
- Conspicuous range-finder is mounted on roof of after high turret.
- Upright light tripod masts. Narrow transom stern.

STRONG SIMILARITY TO:

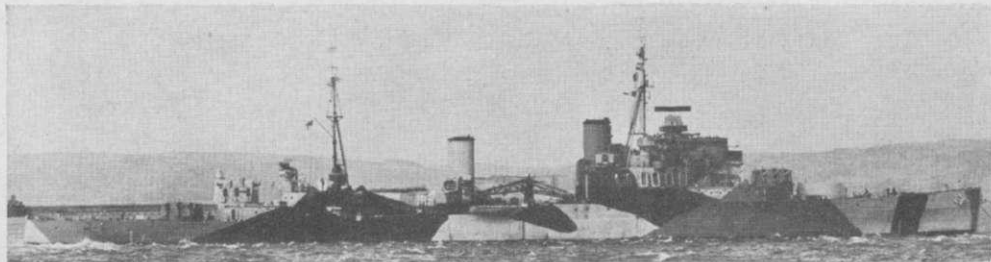
LONDON (Brit. - CA) SOUTHAMPTON Class (Brit. - CL)
UGANDA Class (Brit. - CL) HOBART (Australia - CL)

RESEMBLANCE TO:

NORTHAMPTON-CHICAGO-PORTLAND Classes (U.S.-CA)
LA ARGENTINA (Argentina - CL) DIDO Class (Brit. - CL)
ARETHUSA Class (Brit. - CL)

FIJI Class (6 units)

ONI 201



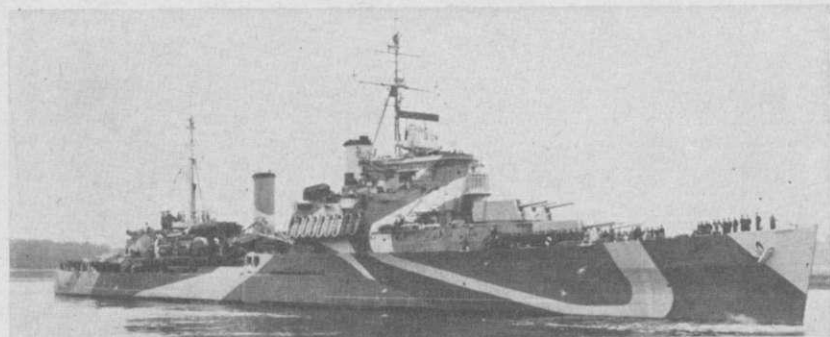
MAURITIUS

1942



MAURITIUS

1942



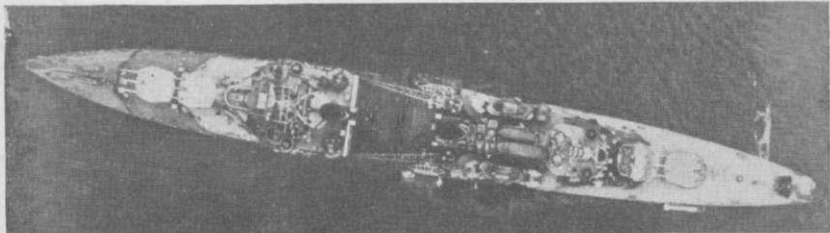
BERMUDA

1942



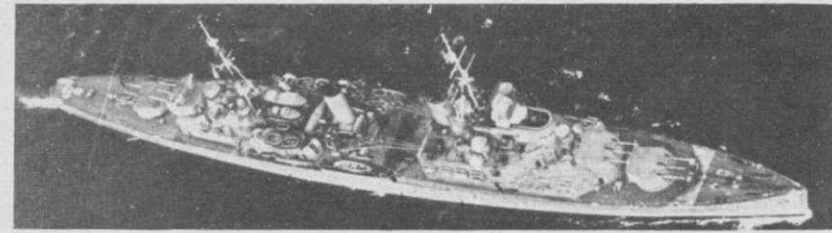
BERMUDA

1942



JAMAICA

1942



KENYA

1941

JAPANESE NAVAL VESSELS



**SIMPLIFIED
SILHOUETTES**



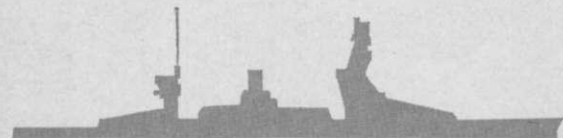
BATTLESHIPS-BB

HEAVY CRUISERS-CA

LIGHT CRUISERS-CL



KONGO CLASS



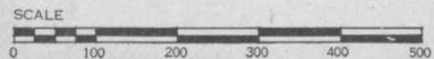
FUSO CLASS



ISE CLASS



NAGATO CLASS



NACHI CLASS



ATAGO CLASS



ATAGO CLASS
CHOKAI-MAYA GROUP



MOGAMI CLASS



AOBA CLASS



TONE CLASS



KATORI CLASS



KUMA-NATORI CLASSES



TENRYU CLASS



SENDAI CLASS

AIRCRAFT CARRIERS—CV



SHOKAKU CLASS



HOSHO

SEAPLANE CARRIERS—CVS



MIZUHO CLASS



CHITOSE CLASS

DESTROYERS—DD



ASASHIO CLASS



MUTSUKI-KAMIKAZE CLASSES



TERUTSUKI CLASS



MINEKAZE-WAKATAKE-MOMI CLASSES



FUBUKI CLASS
AMIGIRI GROUP



HATSUHARU CLASS



SHIGURE CLASS

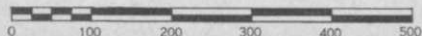


YUBARI—CL



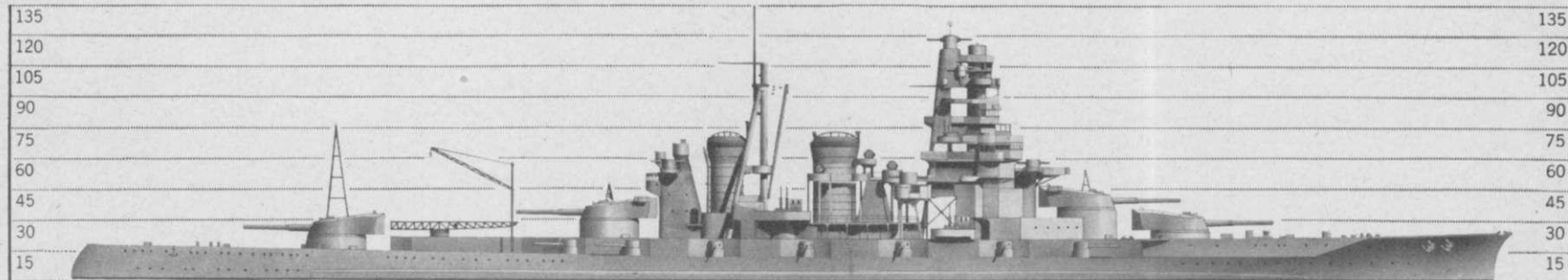
FUBUKI CLASS
SHINONOME-HIBIKI GROUPS

SCALE





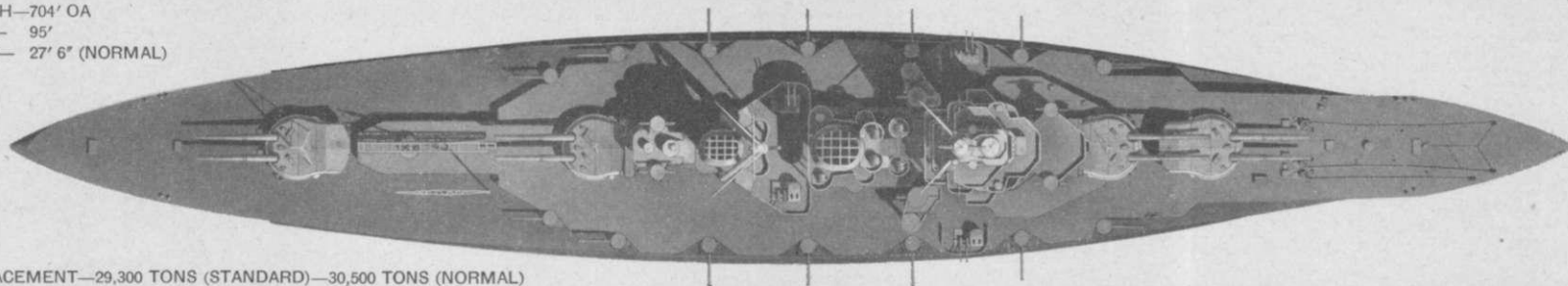
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—704' OA
BEAM— 95'
DRAFT— 27' 6" (NORMAL)



DISPLACEMENT—29,300 TONS (STANDARD)—30,500 TONS (NORMAL)

DENSITY OF FIRE
MAIN BATTERY

35° 28° 28° 35°



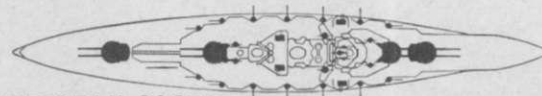
137° 150° 180° 150° 137°

ARMAMENT

	MAX. ELEV.	RANGE
8-14" (45)	30°	30,000 YD.
14-6" (50) CASEMATES	25°	19,000 YD.
8-5" AA TWIN MOUNTS	85°	18,000 YD.
1 CATAPULT, 3 SCOUT OBSERVATION		
NOTE: HIYEI, ONCE DEMILITARIZED; MAY HAVE WEAKER ORDNANCE.		

PROTECTION

BELT—	6"-8" WITH 3" ENDS
TURRETS—	9"-10"
BARBETTES—	10"
CONNING TOWER—	10"
DECK—	2 3/4"-4"; 7" OVER VITALS



PROPULSION

DES HP—	78,000	DES SPEED—	26 KNOTS
ENDURANCE—	3,500 @ 26 KNOTS		12,600 @ 12 KNOTS

KONGO CLASS





KONGO CLASS—BB1-4

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—NOVEMBER, 1942

KONGO— BB1
HIYEI— BB2
KIRISHIMA—BB3
HARUNA— BB4

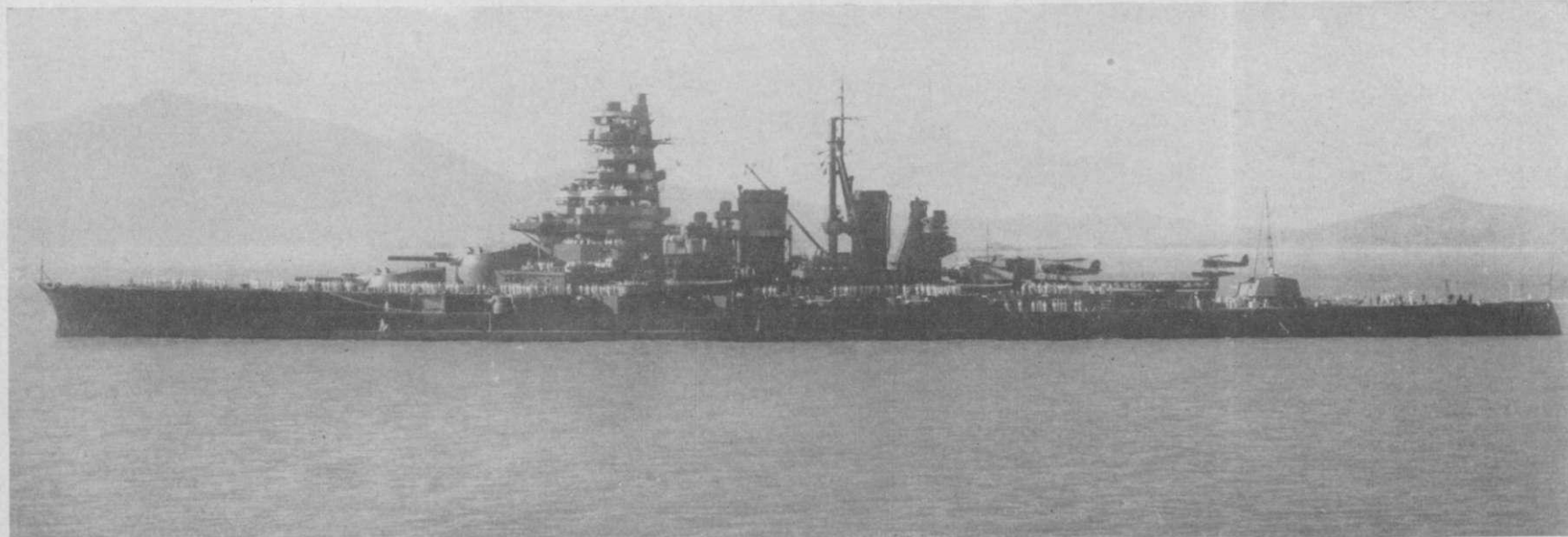
BEGUN
1/17/11
11/4/11
3/17/12
3/16/12

COMPLETED
8/16/13
8/4/14
4/19/15
4/19/15

MODERNIZED
1935-1937
1938
1926-1930
1929-1934

ONI 41-42

RESTRICTED



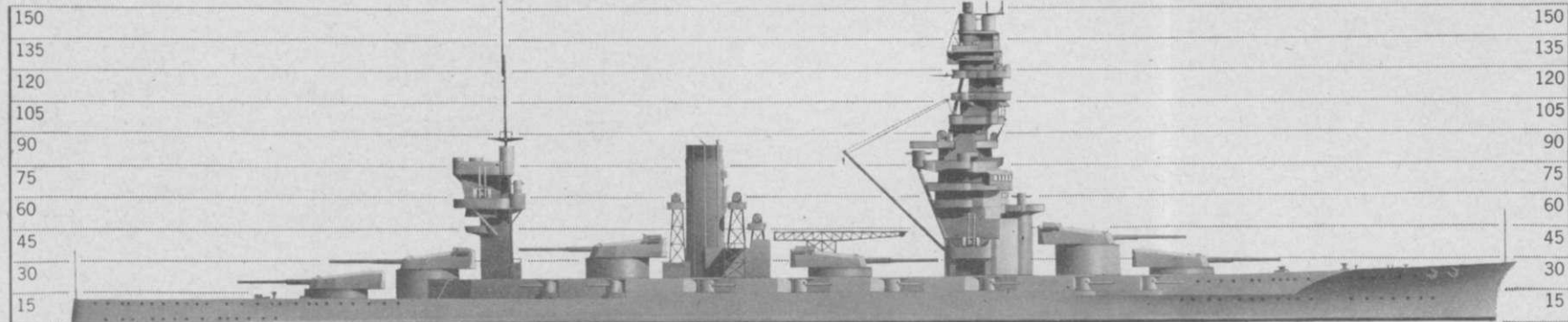
↑ KIRISHIMA—12/19/38 ↓

KONGO—12/19/38 ↓

HARUNA—1937 ↓



HEIGHT OF OBSERVER

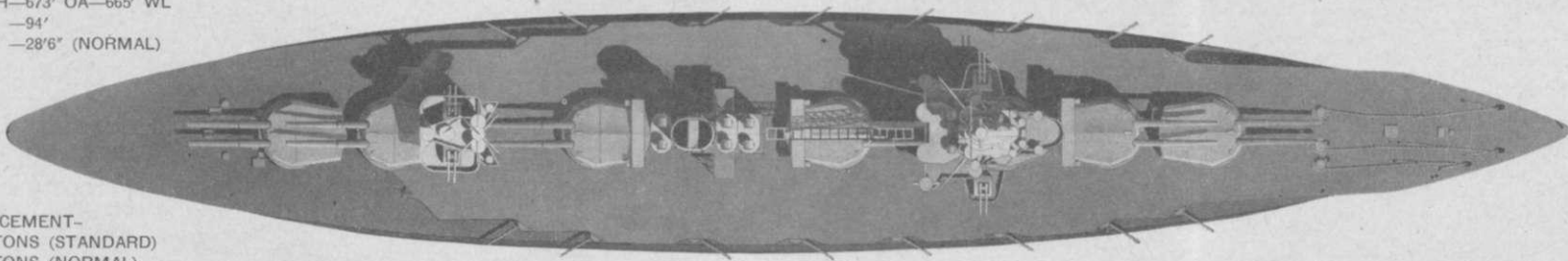


HORIZON BEYOND THE SHIP

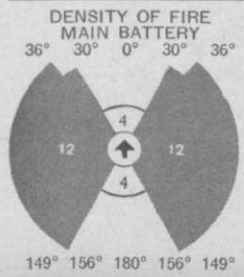
SHIP BEYOND THE HORIZON

0

LENGTH—673' OA—665' WL
BEAM —94'
DRAFT —28'6" (NORMAL)



DISPLACEMENT—
29,330 TONS (STANDARD)
30,600 TONS (NORMAL)



ARMAMENT

12-14" (45) TWIN TURRET
16-6" (50) CASEMATES
8-5" A. A. TWIN MOUNTS
1 CATAPULT; 3 SCOUT OBSERVATION

MAX. ELEV.

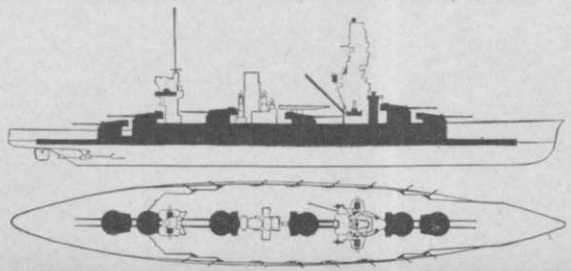
30°
25°
85°

RANGE

30,000 YD.
19,000 YD.
18,000 YD.

PROTECTION

BELT— 8-12" ENDS 4-5"
TURRETS— 8-12"
BARBETTES— 8-12"
CONNING TOWER—6-12"
DECK— 2" 7" OVER VITALS



FUSO CLASS



FUSO (HUSO) BB 5



YAMASHIRO (YAMASHIRO) BB 6



FUSO—BB 5

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

FUSO —BB 5
YAMASHIRO—BB 6

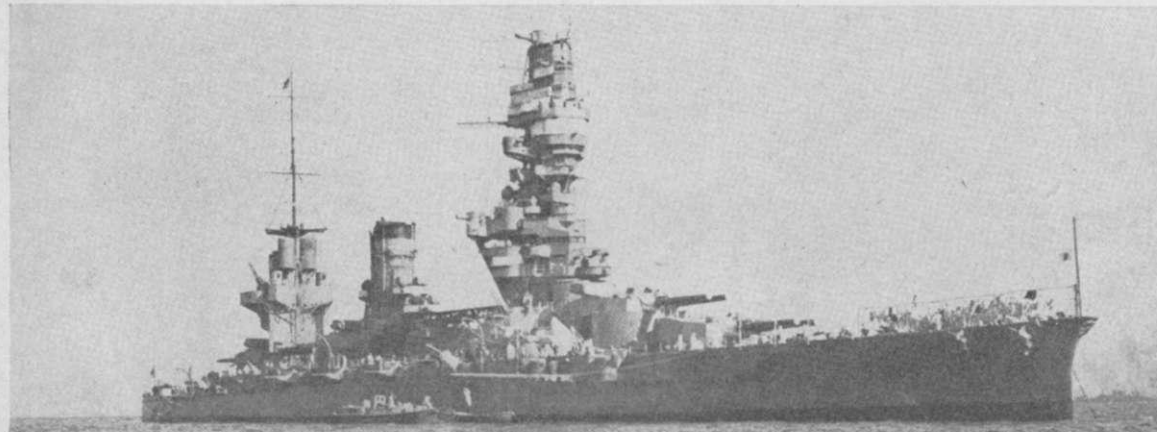
BEGUN
3/11/12

COMPLETED
11/8/15

MODERNIZED 1932-33
PROFILE MODIFIED

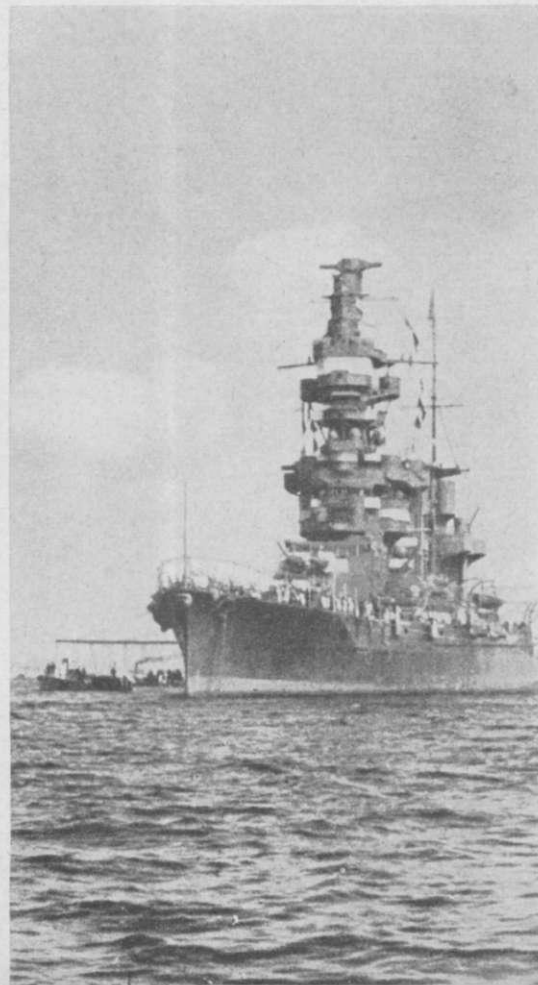
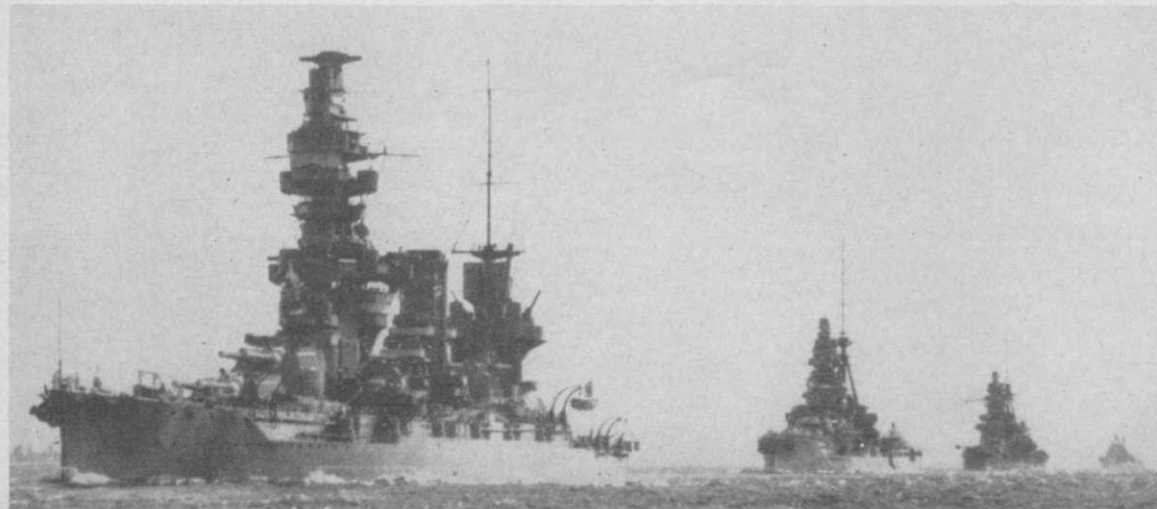
ONI 41-42

RESTRICTED



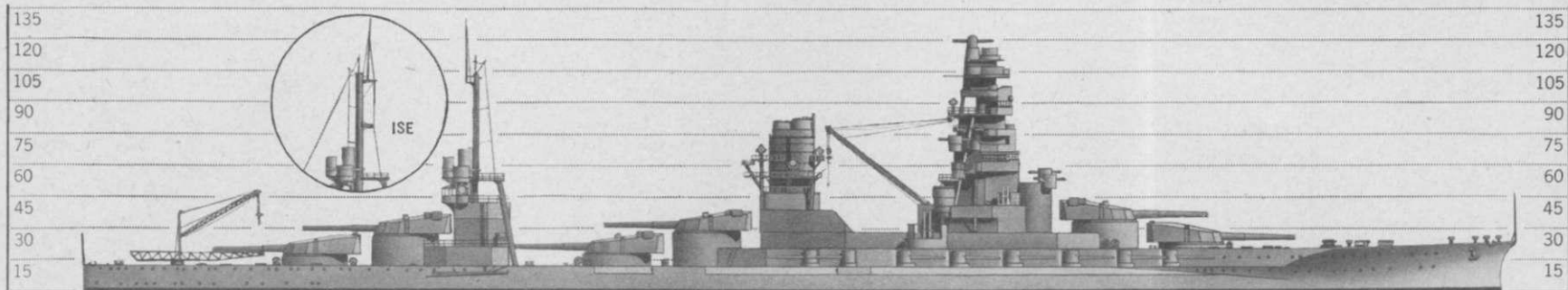
↑ 1935

↓ FUSO LEADING UNITS OF THE KONGO CLASS



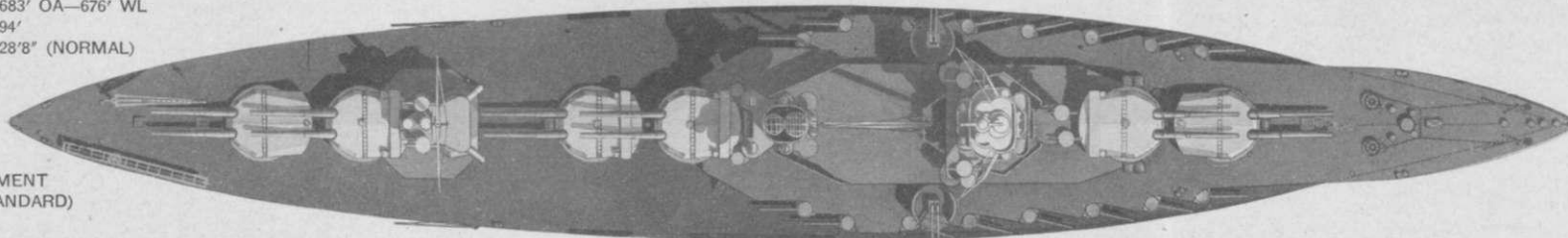


HEIGHT OF OBSERVER

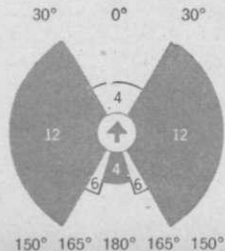


LENGTH—683' OA—676' WL
BEAM— 94'
DRAFT— 28'8" (NORMAL)

DISPLACEMENT
29,990 (STANDARD)



DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

12-14" (45) TWIN TURRETS
16-5".5 (50) CASEMATES
8-5" AA, 4-1" AA TWIN MOUNTS
1 CATAPULT, 3 SEAPLANE SCOUTS

	MAX. ELEV.	RANGE
12-14" (45) TWIN TURRETS	30°	30,000 YD.
16-5".5 (50) CASEMATES	25°	19,000 YD.
8-5" AA, 4-1" AA TWIN MOUNTS	85°	18,000 YD.

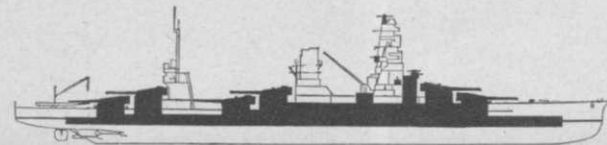


PROTECTION

BELT— 8"-12"
TURRETS— 8"-12"
BARBETTES— 8"
CONNING TOWER—12"-6"
DECK 6¾"-2½"

PROPULSION

MACHINERY— 4 TURBINES
BOILERS— 8 KAMPON
FUEL— OIL, 4,500 TONS
DES HP— 45,000
DES SPEED— 23 KNOTS
ENDURANCE— 4,200 @ 23 KNOTS
12,600 @ 12 KNOTS



KNOTS	RPM
.....	420
.....	400
.....	350
23.....	318
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80



ISE, HYUGA—BB 7, 8

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

ISE —BB 7
HYUGA—BB 8

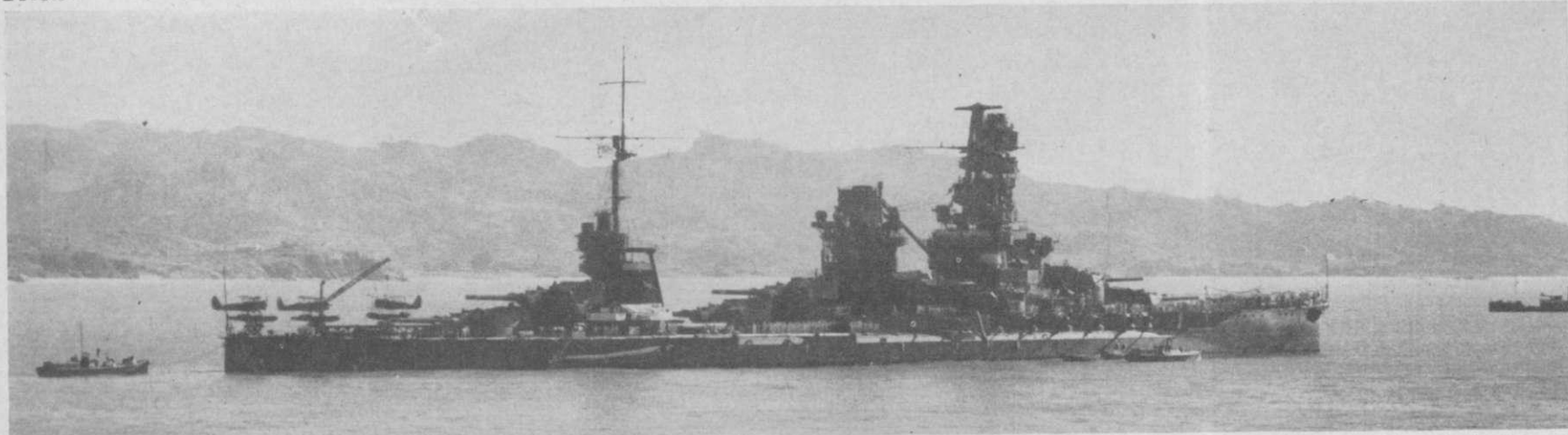
BEGUN
5/10/15
5/ 6/15

COMPLETED
12/15/17
4/30/18

MODERNIZED
1935-37

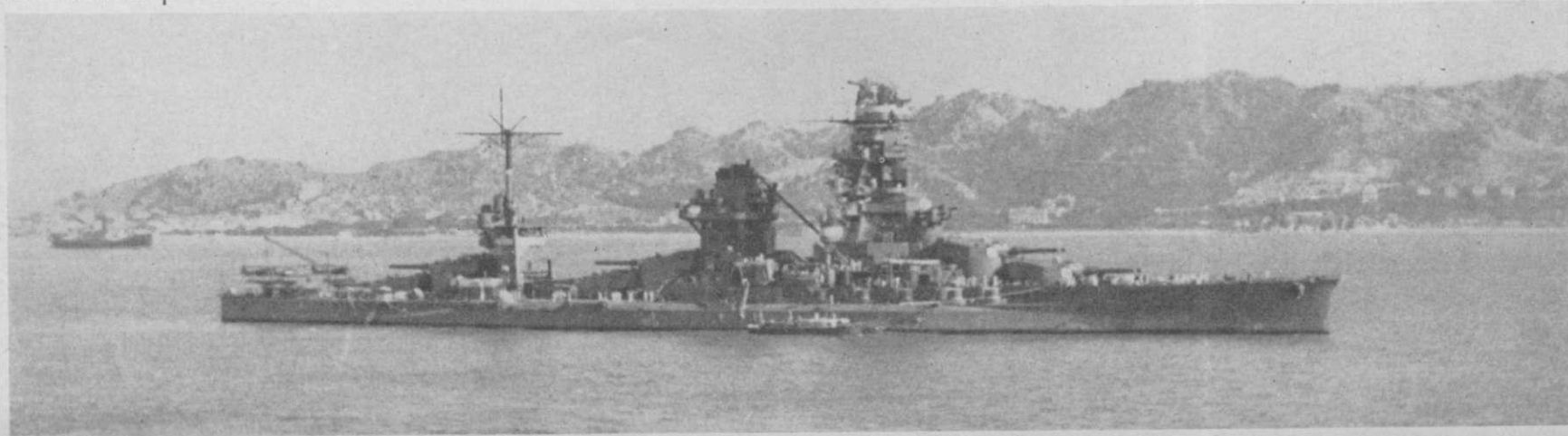
ONI 41-42

RESTRICTED



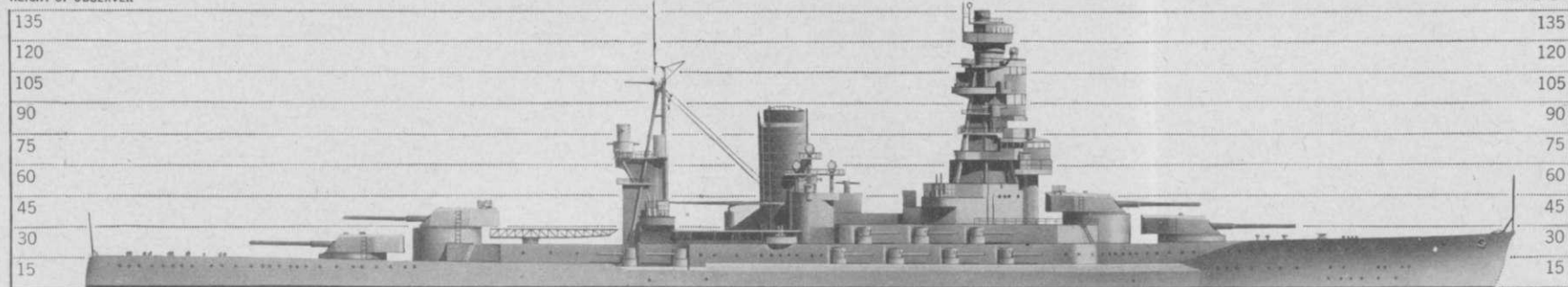
ISE—DEC. 19, 1938 ↑

↓ HYUGA—OCT., 1938



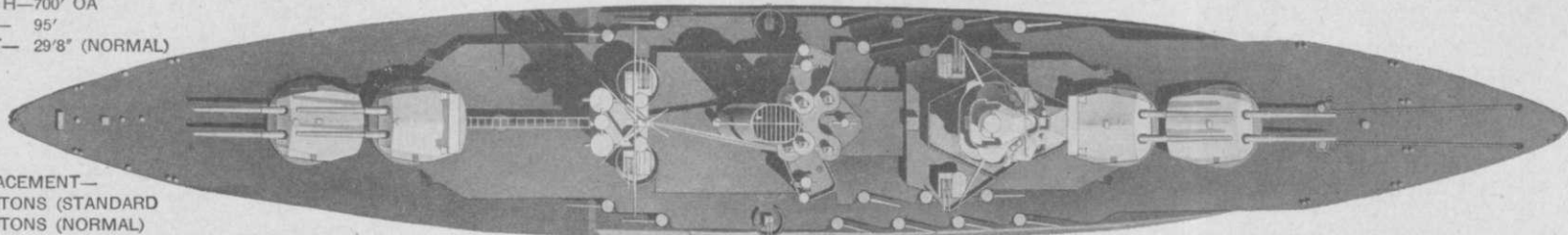
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

HEIGHT OF OBSERVER



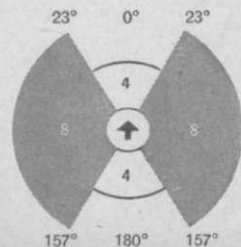
HORIZON BEYOND THE SHIP

LENGTH—700' OA
BEAM— 95'
DRAFT— 29'8" (NORMAL)



DISPLACEMENT—
32,720 TONS (STANDARD)
33,800 TONS (NORMAL)

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

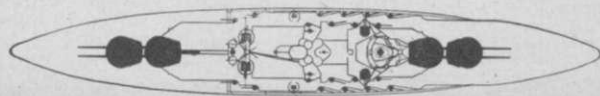
- 8-16" (45) TWIN TURRETS
- 18-5.5" (50) CASEMATES
- 8-5" AA TWIN SHIELD MOUNTS
- 1 CATAPULT, 3 SEAPLANE SCOUTS

MAX. ELEV.

- 35°
- 25°
- 85°

RANGE

- 36,000 YD.
- 19,000 YD.
- 17,000 YD.

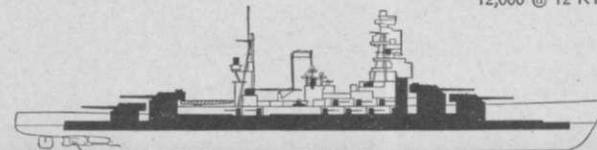


PROTECTION

- BELT— 13"
- TURRETS— 14"
- BARBETTES—
- CONNING TOWER—14"
- DECK—(OVER VITALS) 3½"-7"

PROPULSION

- MACHINERY— 4 TURBINES
- BOILERS— 21 KAMON
- FUEL— OIL—5,000 TONS
- DESIGNED HP— 80,000
- DESIGNED SPEED— 26 KNOTS
- ENDURANCE— 4700 @ 26 KTS
12,000 @ 12 KTS



KNOTS RPM

.....	420
.....	400
.....	350
26.....	330
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80



NAGATO CLASS—BB9-10

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

NAGATO—BB9
MUTSU —BB10

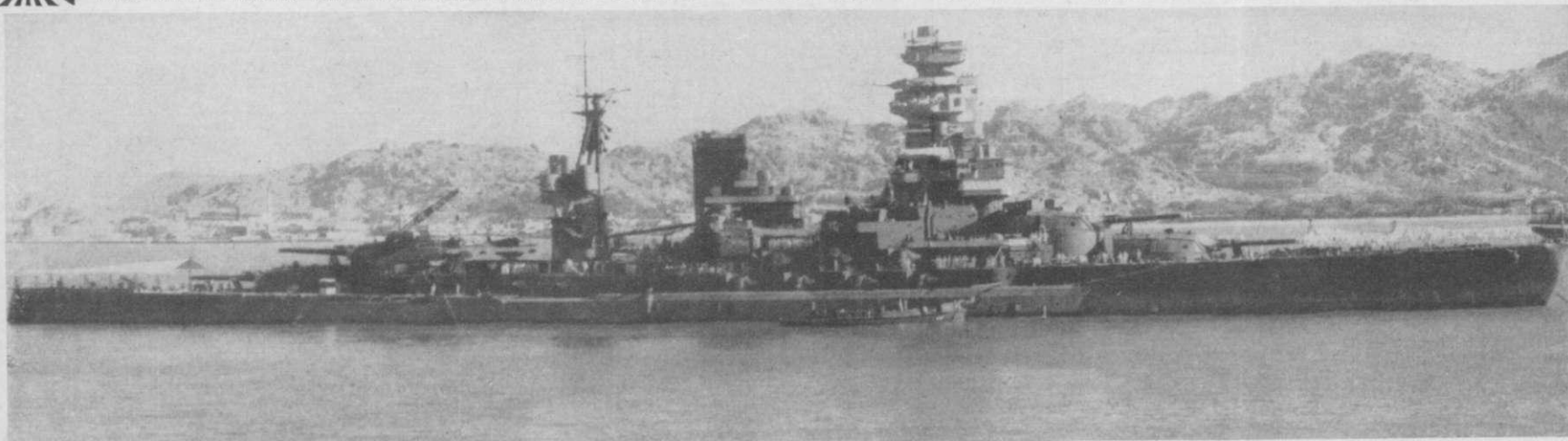
BEGUN
8/28/17
6/1 /18

COMPLETED
11/25/20
10/24/21

MODERNIZED
1935
1936

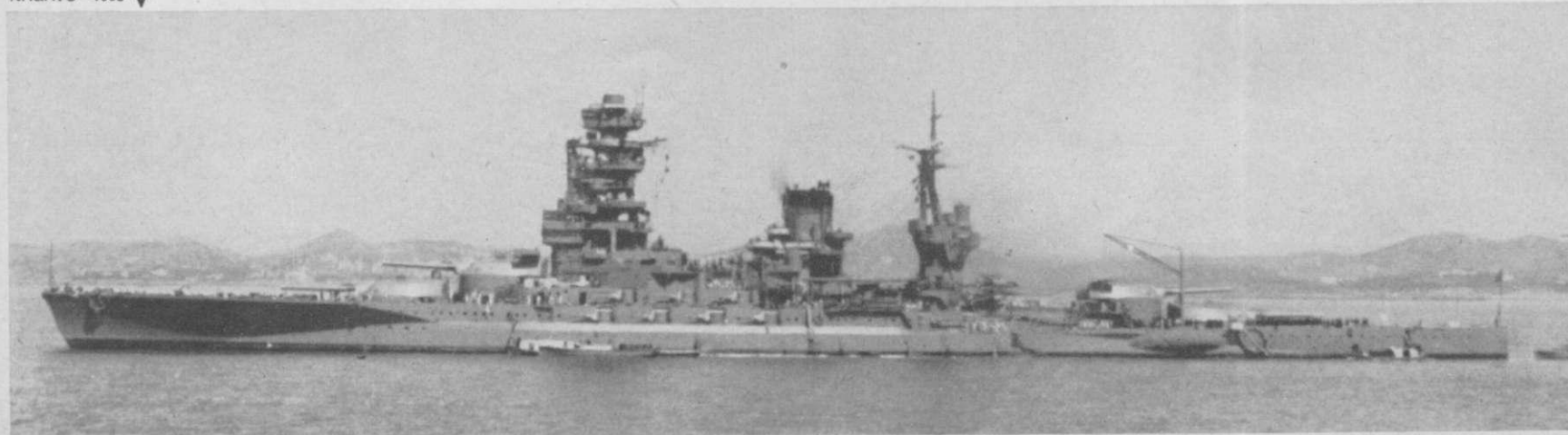
ONI 41-42

RESTRICTED



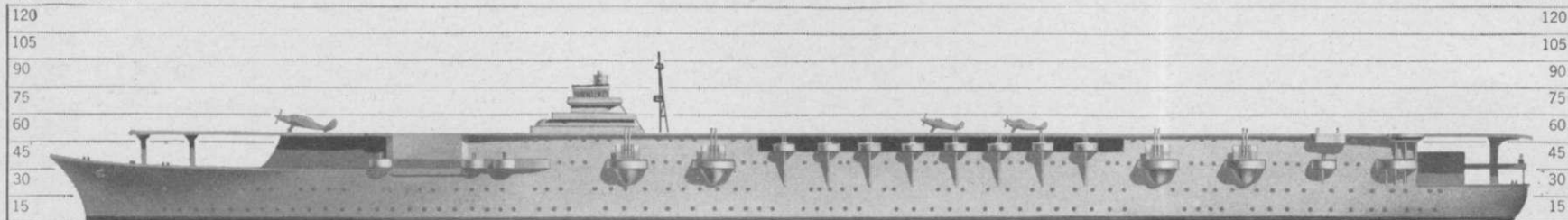
NAGATO—1938 ↓

↑ MUTSU—DEC. 1938





HEIGHT OF OBSERVER

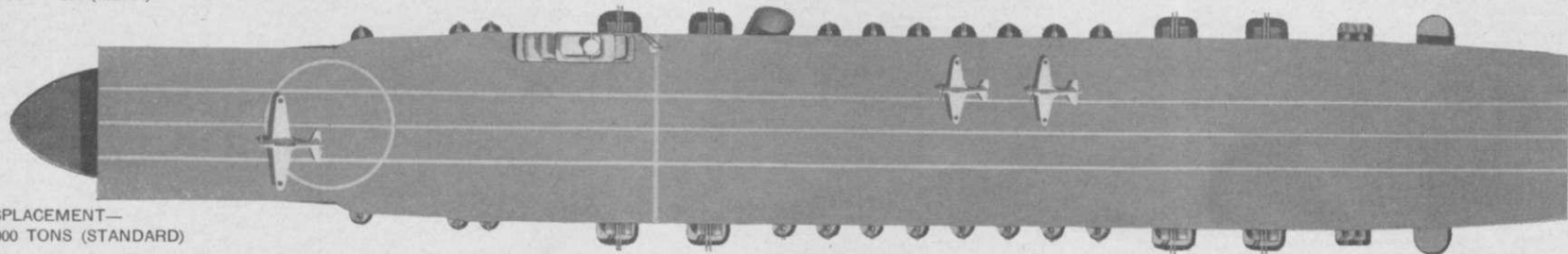


HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—826' OA—792' WL
BEAM —93'
DRAFT —21' (MEAN)

★ BASED ON INCOMPLETE INFORMATION



DISPLACEMENT—
15,000 TONS (STANDARD)

ARMAMENT

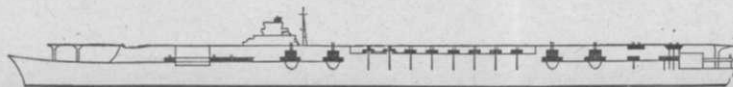
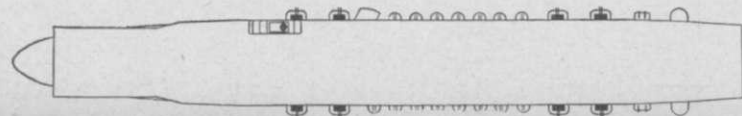
	MAX. ELEV.	RANGE
16-5" TWIN MOUNTS	85°	18,000 YD.
AIRCRAFT—VF	—18-21	
VOB OR VSB	—18-21	
VTB	—18-21	

PROPULSION

MACHINERY—	GEARED TURBINES
BOILERS—	
FUEL—	OIL—3500 TONS
DESIGNED HP—	
DESIGNED SPEED—	30 KNOTS (?)
ENDURANCE—	3900 @ 30(?) KNOTS
	14,000 @ 12 KNOTS

KNOTS RPM

.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80





SHOKAKU CLASS—CV7-8

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

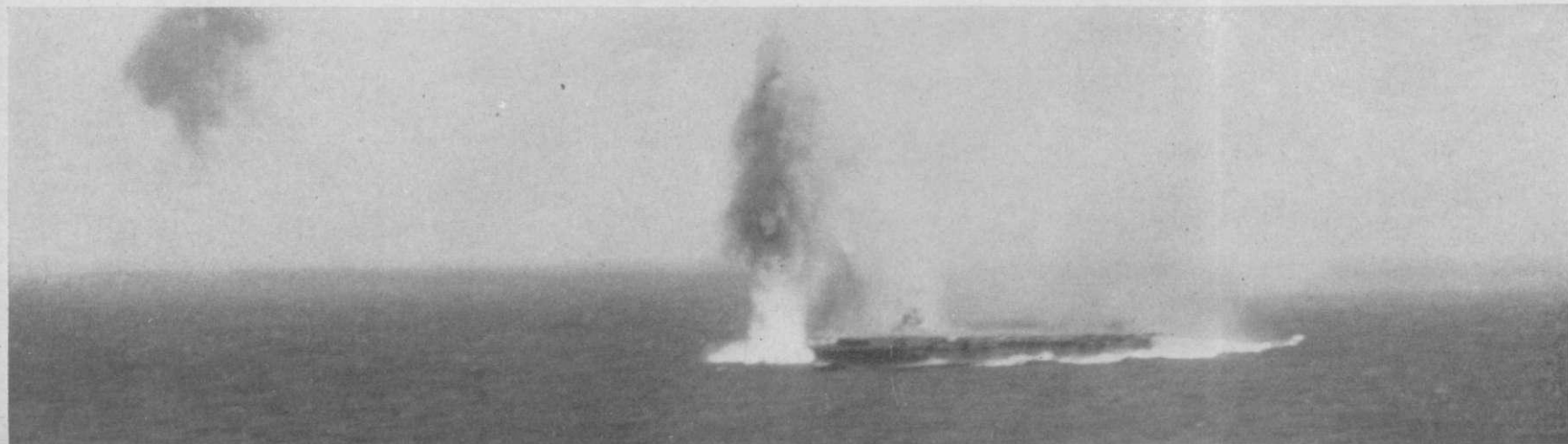
SHOKAKU—CV7
ZUIKAKU—CV8

BEGUN
12/11/37
1938

COMPLETED
8/ /40
1941

ONI 41-42

RESTRICTED



CORAL SEA—MAY 8, 1942

ONI 41-42

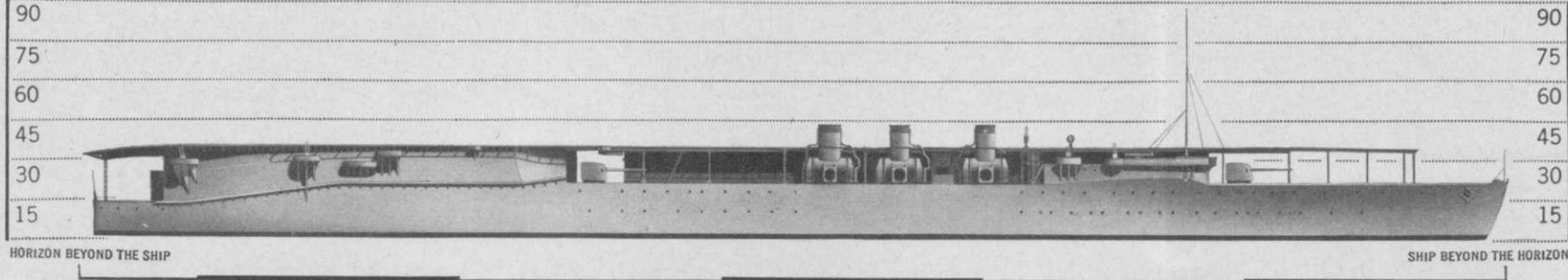
RESTRICTED

CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

ALSO SPELLED HOSYO **HOSHO—CV 1**

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—NOVEMBER, 1942

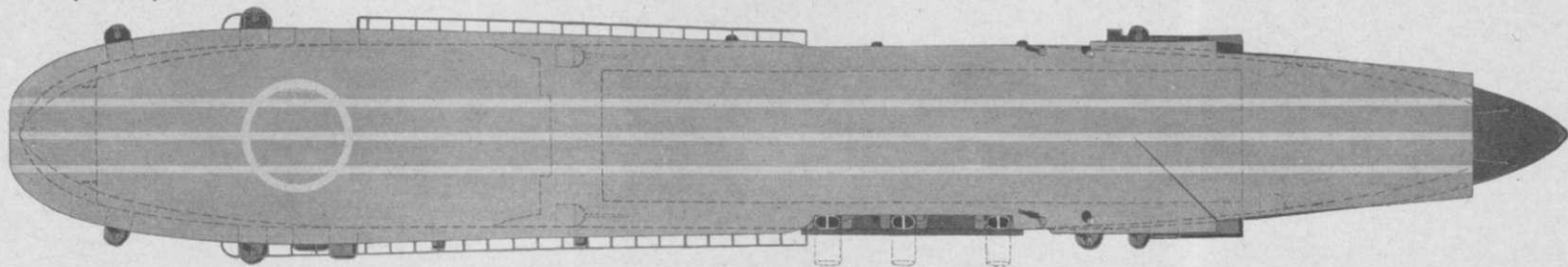
HEIGHT OF OBSERVER



LENGTH—540'6" OA—531' WL

BEAM —62'

DRAFT —20'3" (NORMAL)



DISPLACEMENT—7,470 TONS (STANDARD)—9,500 TONS (NORMAL)

ARMAMENT

4-5".5 (50)

MAX. ELEV.

30°

RANGE

19,000 YD.

72-3" (40)

85°

6,000 YD.

—AAMG

36 AIRCRAFT—12 FIGHTER

12 SCOUT OBSERVATION

12 TORPEDO BOMBER

PROPULSION

MACHINERY— 2 GEARED TURBINES

BOILERS— 8 KAMPON

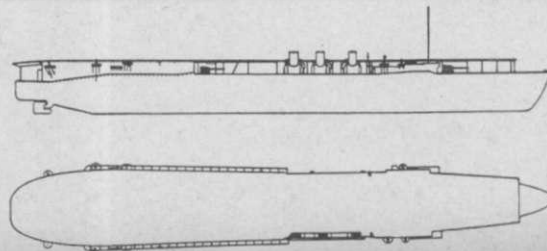
FUEL— OIL 1,500 TONS

DESIGNED HP— 30,000

DESIGNED SPEED—26 KNOTS

ENDURANCE— 2,170 @ 26 KNOTS

8,680 @ 12 KNOTS





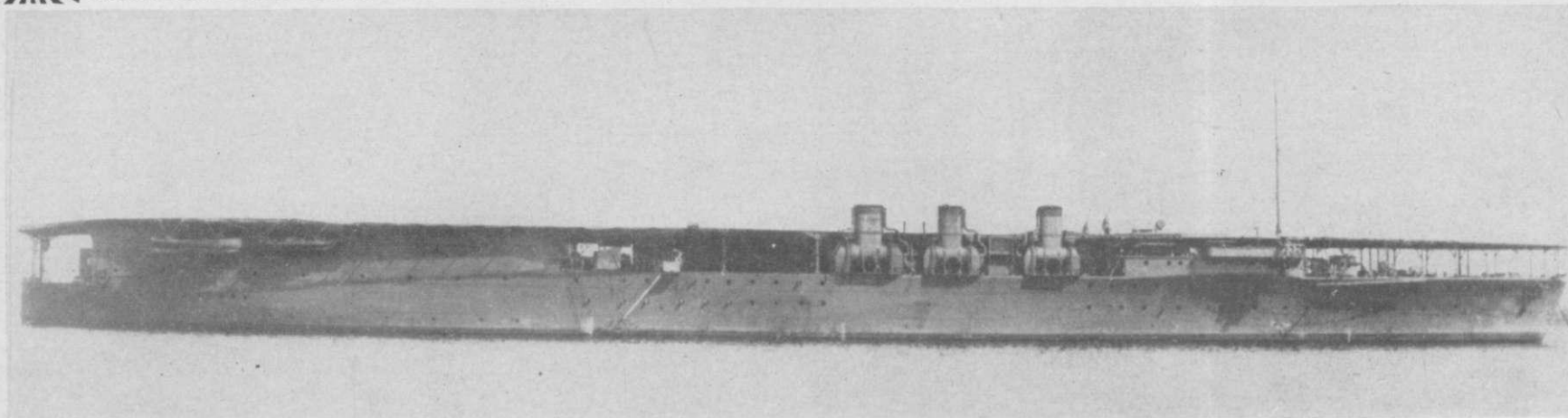
HOSHO—CV1

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—NOVEMBER, 1942

BEGUN — DECEMBER 16, 1919
COMPLETED — DECEMBER 27, 1922

ONI 41-42

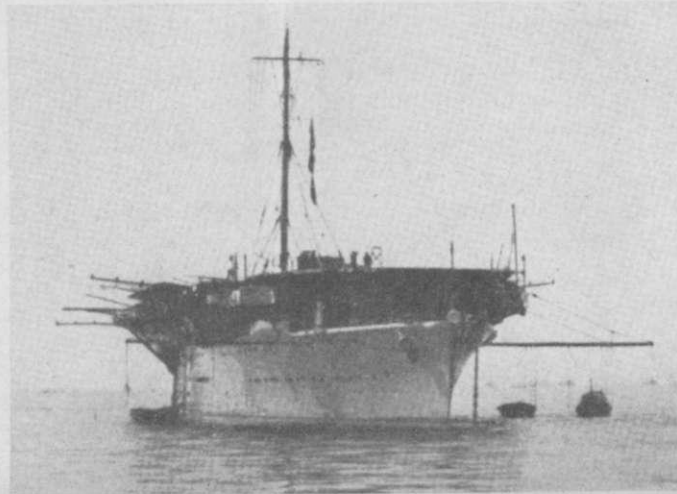
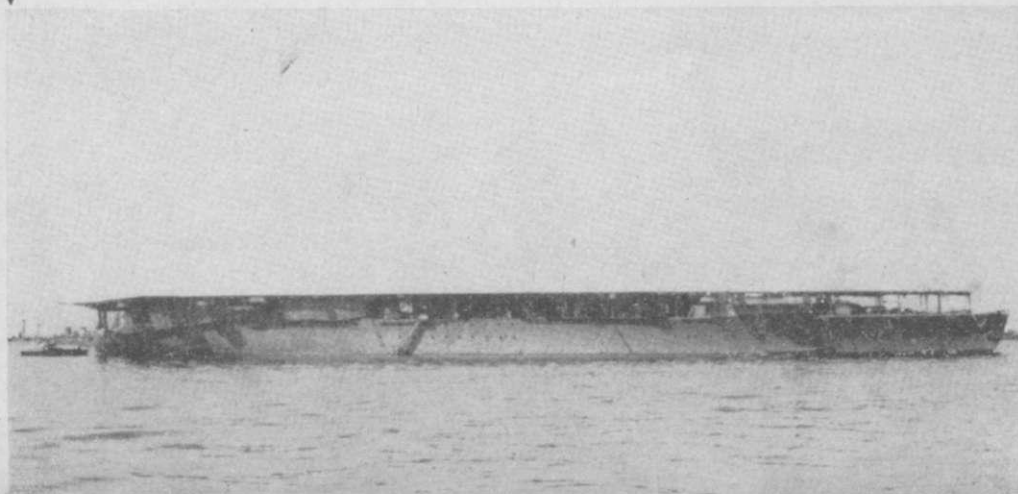
RESTRICTED



↓ 1939

JAPAN'S FIRST CARRIER, ALSO FIRST BUILT AS A CARRIER

1939 ↓



● ONI 41-42 RESTRICTED

ALL DATA AND DRAWINGS
PROVISIONAL

CV-CVE ESCORT AIRCRAFT CARRIERS



CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1943

SHOKAKU CLASS CV 7, 8

RECENT REPORTS INDICATE—DISPLACEMENT 20,000 TONS (STANDARD)
—72 AIRCRAFT CARRIED

HITAKA CLASS CV 11, 12 (CONVERTED 1942)

LENGTH— 720'
ARMAMENT— 16-5" AA
AIRCRAFT— 48-60
DESIGNED SPEED—28 KNOTS
HITAKA (HIYO) CV 11 (EX-IZUMO MARU)
HAYATAKA (JUNYO) CV 12 (EX-KASHIWARA MARU)

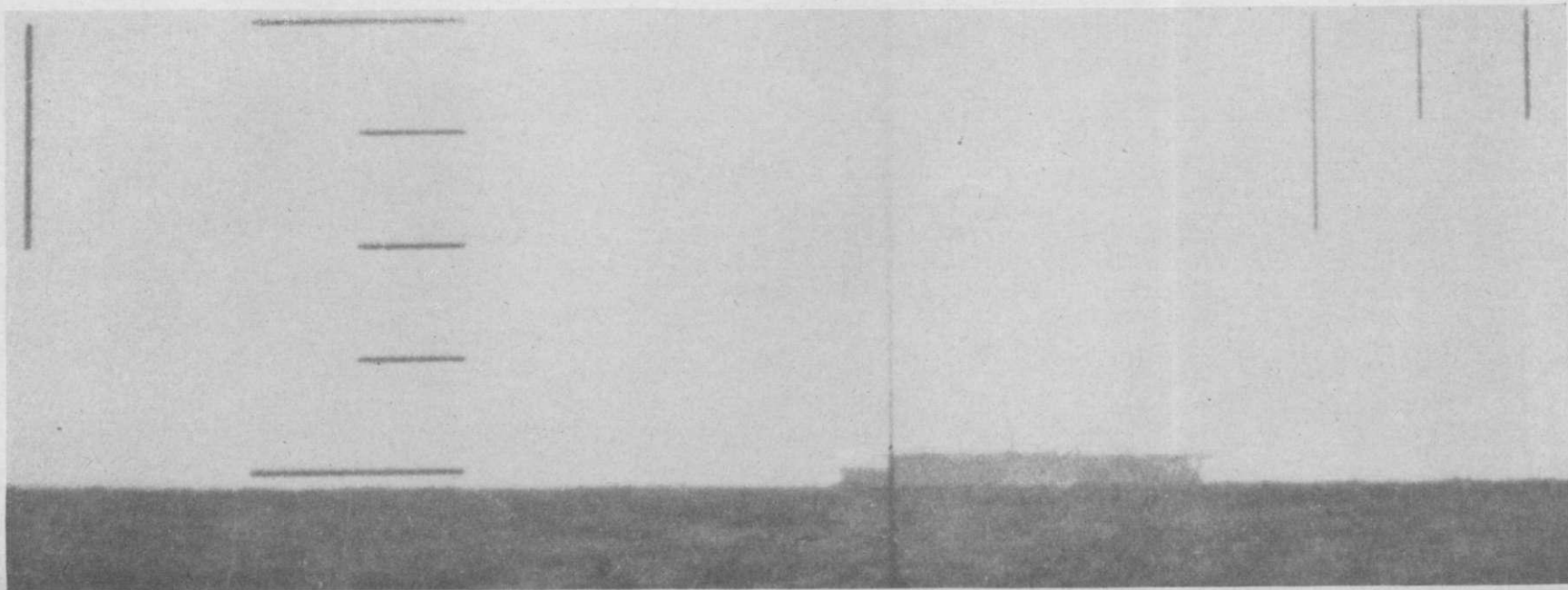
ZUIHO CLASS CV 9, 10 (EX-AS TAKASAKI—CONVERTED 1940)

LENGTH— 660' O.A.
DISPLACEMENT— 15,000 (?) TONS (STANDARD)
DESIGNED SPEED—25 (?) KNOTS
AIRCRAFT— 36 PLANES CARRIED
SHOHO CV 10— REPORTED SUNK 5/7/42



↑ PROBABLY ZUIHO CLASS ↓

PHOTO 4/7/43



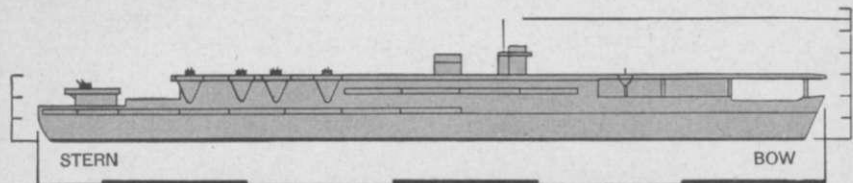


CVE ESCORT AIRCRAFT CARRIER

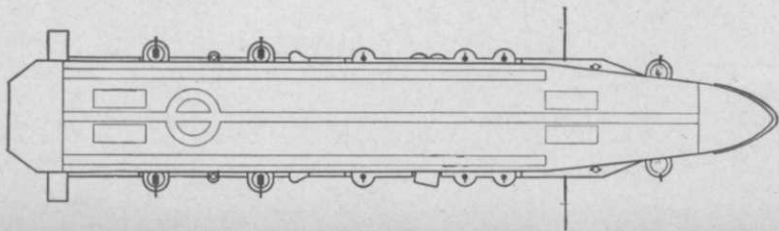
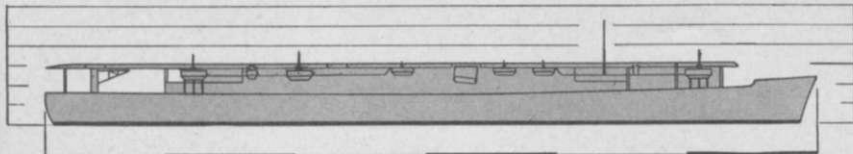
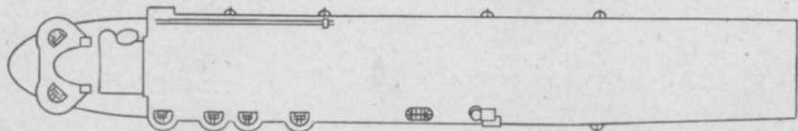
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1943

ONI 41-42

RESTRICTED



LENGTH—545' OA, 516' WL, 450' FLIGHT DECK
BEAM— 69' HULL, 74' FLIGHT DECK
DRAFT— 29' (MAXIMUM—PRE-CONVERSION)
12,775 TONS (GROSS—PRE-CONVERSION)



← CVE 1—(EX-ARGENTINA MARU TYPE)

COMPLETED 1939—CONVERTED 1942

ARMAMENT— 6 HEAVY AA MOUNTS
5 AAMG MOUNTS

AIRCRAFT— 30 (?)

PROPULSION—(PRE-CONVERSION)—

MACHINERY— DIESEL
FUEL— OIL
BRAKE HP— 16,500
DESIGNED SPEED— 21 KNOTS

OTAKA CLASS CVE 2-4

DIMENSIONS— 591' OA x 74' (PRE-CONVERSION)
22,500 TONS (PRE-CONVERSION)

ARMAMENT— 6-5" (?) AA

AIRCRAFT— 48 PLANES CARRIED

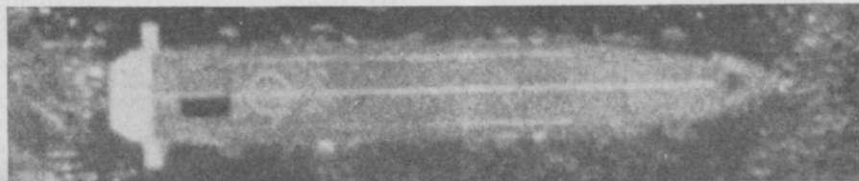
DESIGNED SPEED—23 KNOTS

OTAKA CVE 2 (EX-KASUGA MARU)

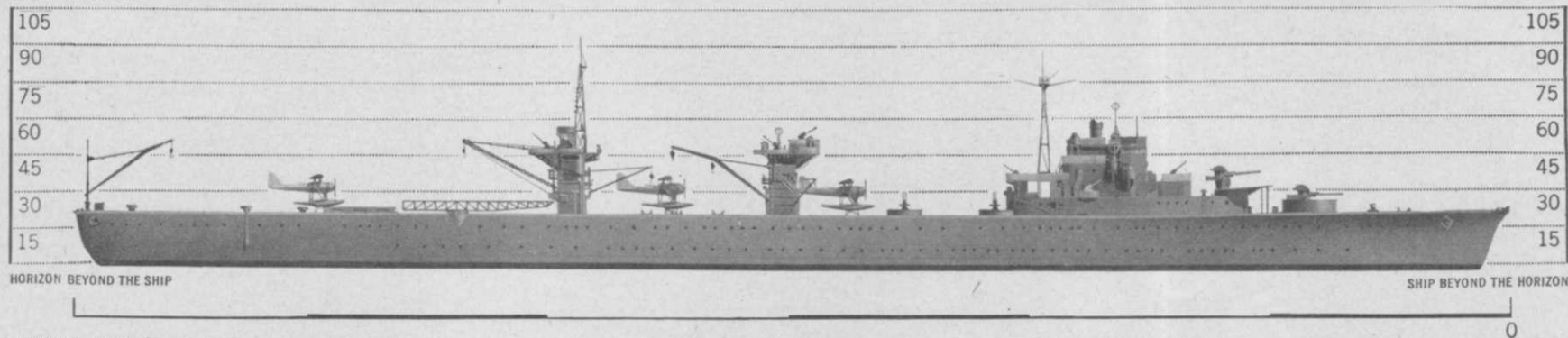
UNYO CVE 3 (EX-YAWATA MARU)

CHUYO CVE 4 (EX-NITTA MARU)

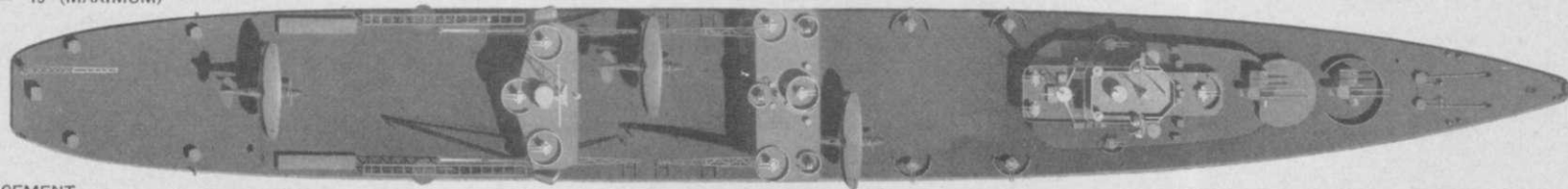
CONVERSION COMPLETED 1941



HEIGHT OF OBSERVER



LENGTH—597'6" OA
BEAM— 61'8"
DRAFT— 19' (MAXIMUM)



DISPLACEMENT
9,000 TONS (STANDARD)

ARMAMENT MAX. ELEV.

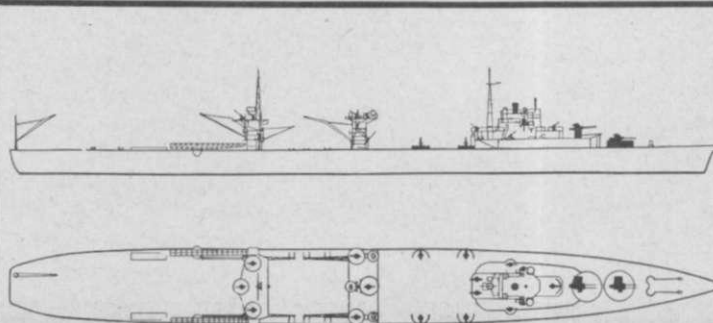
4-5" (50) AA TWINS 85°
12 AAMG TWINS
4 CATAPULTS, 20 SCOUT OBSERVATION

MAX. RANGE
(HORIZONTAL)
19,000 YARDS

MAX. RANGE
(VERTICAL)
33,000 FEET

PROPULSION

MACHINERY— GEARED TURBINES
BOILERS— TWO KAMPONS
FUEL— OIL, 1,000 TONS
DESIGNED HP— 15,000
DESIGNED SPEED— 20 KNOTS
ENDURANCE— 11,000 MILES @ 10 KNOTS
2,700 MILES @ 20 KNOTS



MIZUHO CLASS



MIZUHO—CVS 5



NISSHIN—CVS 6



AKITSUSHIMA—CVS 7



MIZUHO CLASS—CVS 5-7

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

MIZUHO—CVS5
NISSHIN—CVS6
AKITSUSHIMA—CVS7

BEGUN
1937
1937
1940

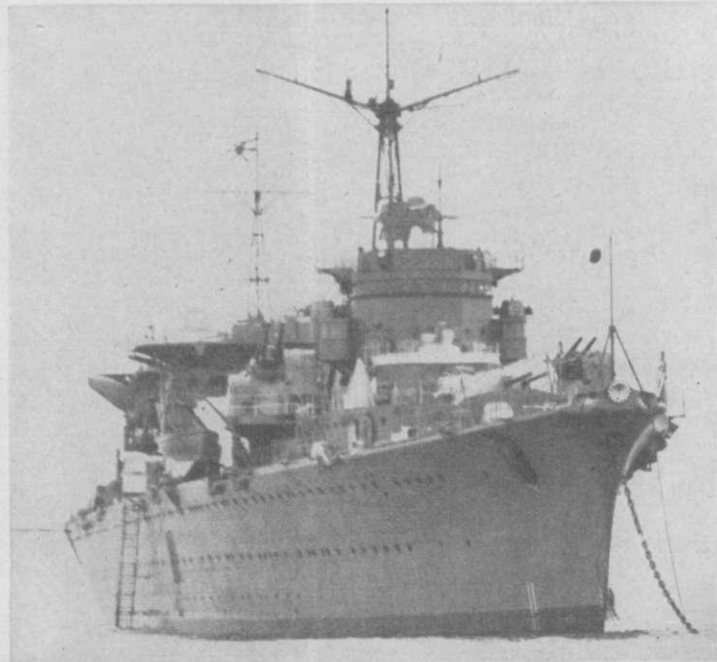
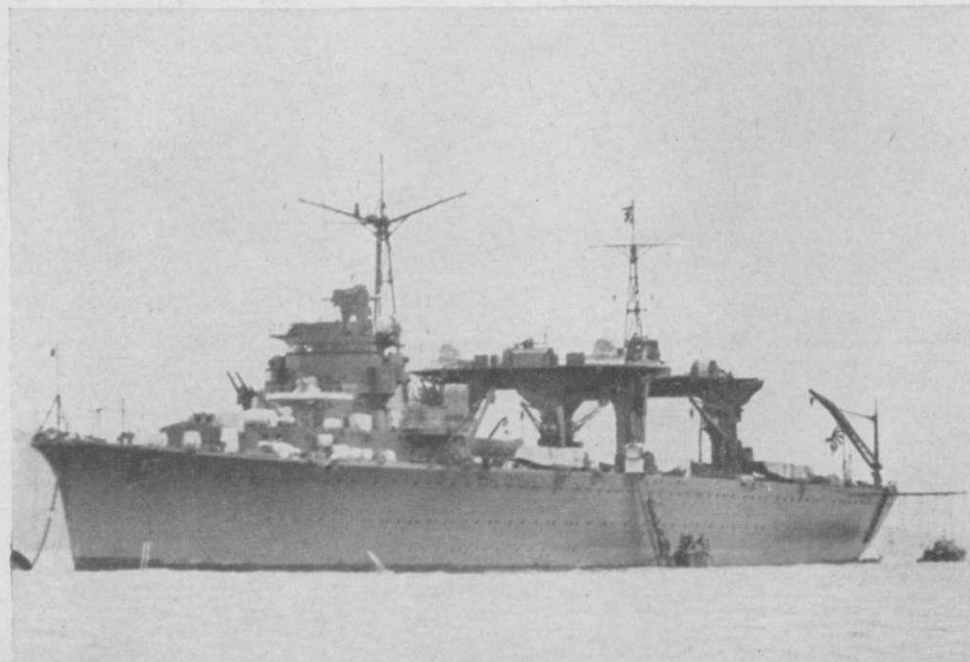
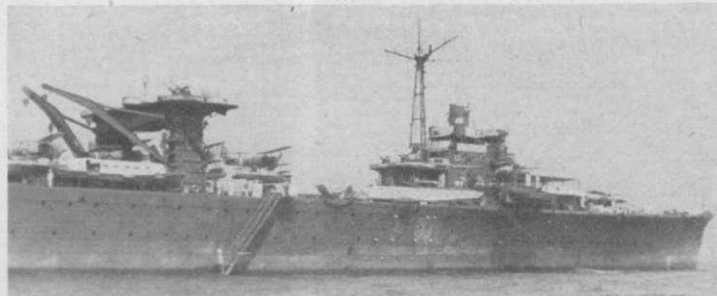
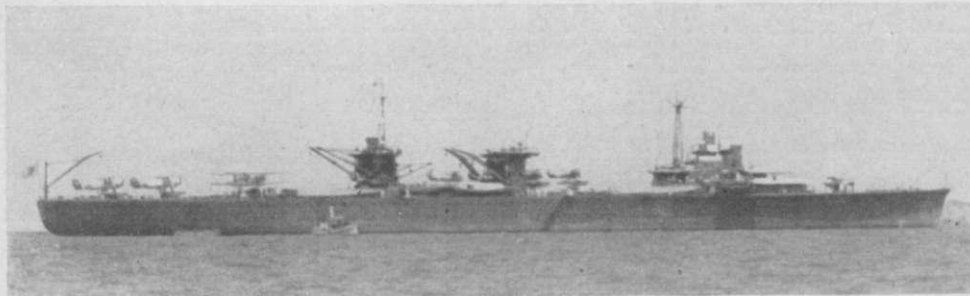
COMPLETED
2/25/39
1941
1942

ONI 41-42

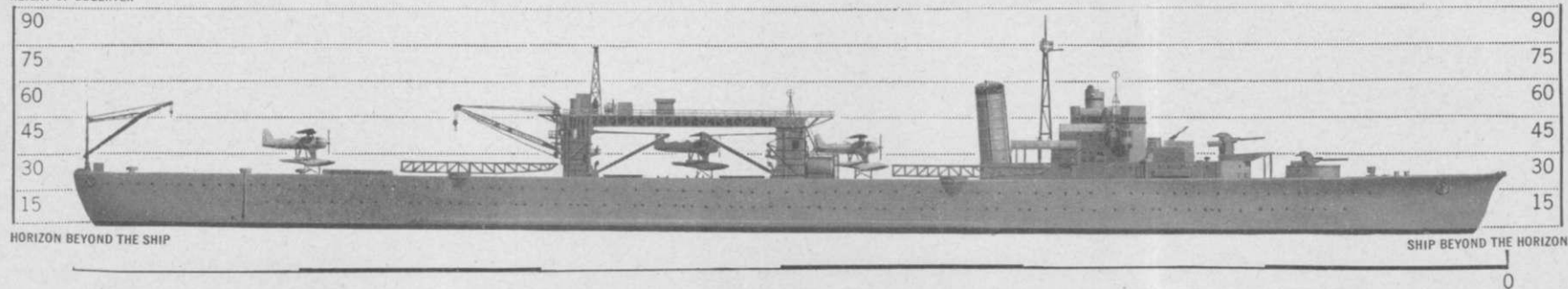
RESTRICTED

BELIEVED BEGUN 1940

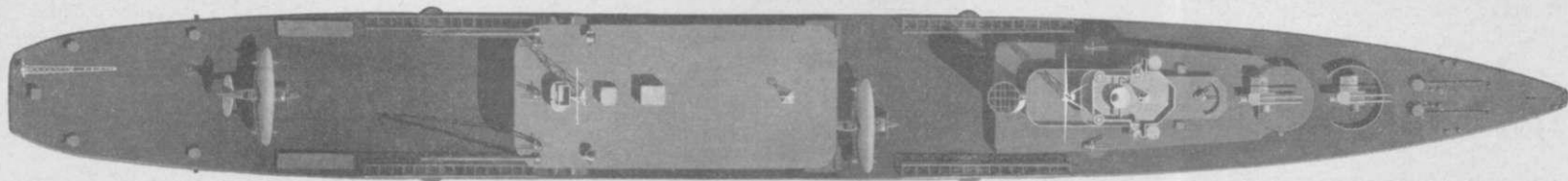
ALL PHOTOS MIZUHO DATED APRIL, 1940.



HEIGHT OF OBSERVER



LENGTH—597'5" OA
BEAM— 61'8"
DRAFT— 19' (MAXIMUM)



DISPLACEMENT—9,000 TONS (STANDARD)

ARMAMENT

4-5" (50) AA
12 AAMG (TWINS)
4 CATAPULTS, 16 SCOUT OBSERVATION

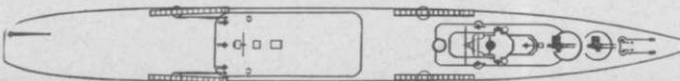
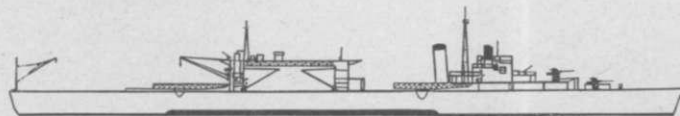
MAX. ELEV.
85°

MAX. RANGE
(HORIZONTAL)
19,000 YARDS

MAX. RANGE
(VERTICAL)
33,000 FEET

PROPULSION

MACHINERY— GEARED TURBINES
BOILERS— TWO KAMPONS
FUEL— OIL, 1,000 TONS
DESIGNED H. P.— 15,000
DESIGNED SPEED—20 KNOTS
ENDURANCE— 11,000 MILES @ 10 KNOTS
2,700 MILES @ 20 KNOTS



CHITOSE CLASS—



CHITOSE—CVS 3



CHIYODA—CVS 4



CHITOSE CLASS—CVS 3, 4

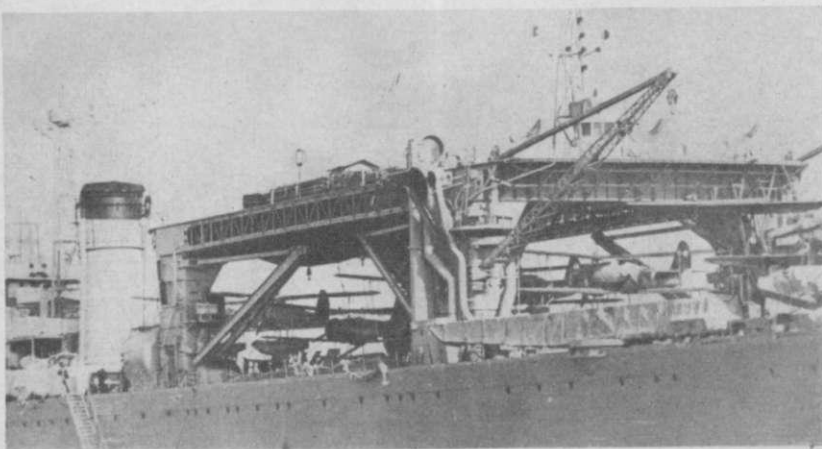
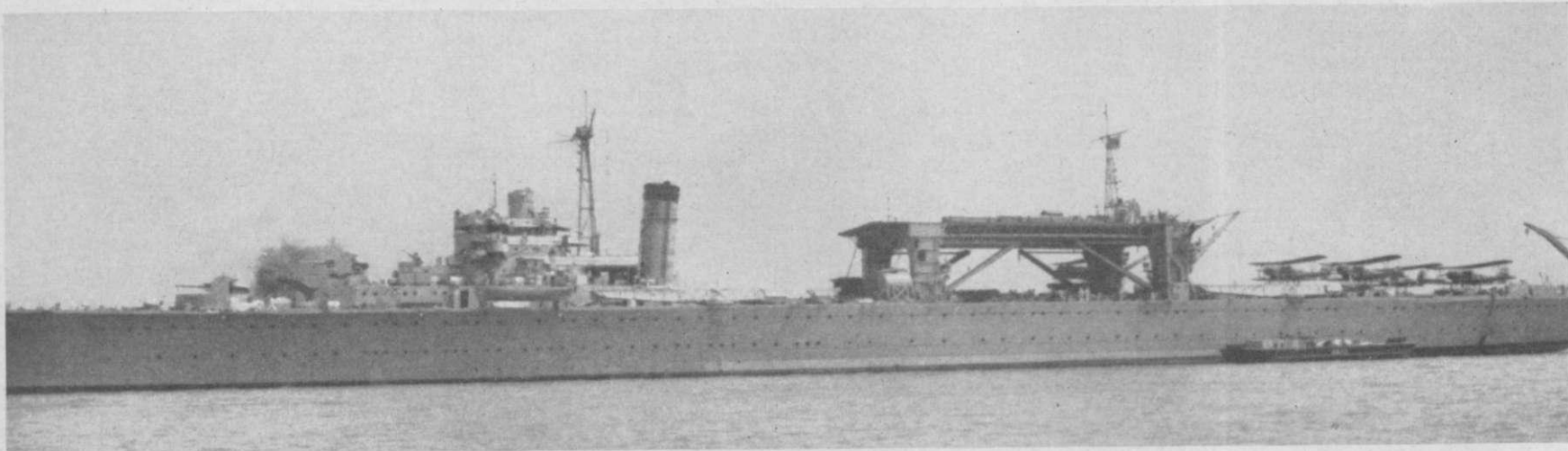
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

CHITOSE—CVS 3
CHIYODA—CVS 4

BEGUN
11/26/34
12/14/36

COMPLETED
1/?/38
1938

ONI 41-42
RESTRICTED



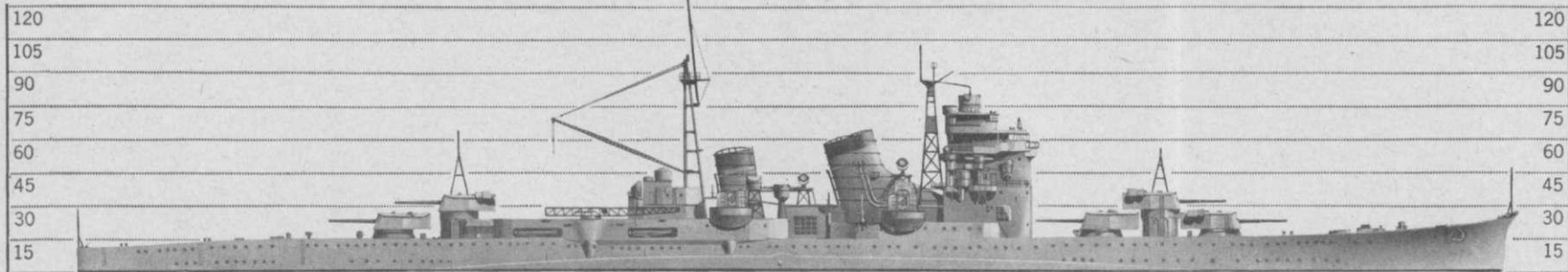
ONI 41-42 RESTRICTED
 CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57
 HEIGHT OF OBSERVER

NACHI (NATI)—HAGURO—MYOKO—ASHIGARA (ASIGARA)

NACHI CLASS—CA5-8



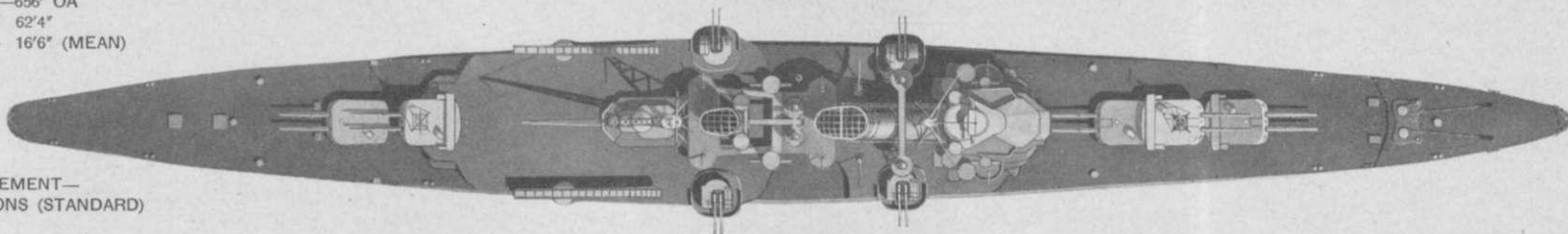
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—656' OA
 BEAM— 62'4"
 DRAFT— 16'6" (MEAN)



DISPLACEMENT—
 10,000 TONS (STANDARD)

DENSITY OF FIRE
 MAIN BATTERY

46° 21° 0° 21° 46°



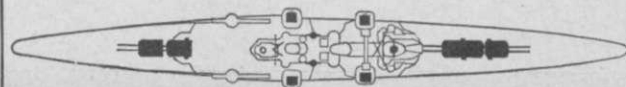
135° 156° 180° 156° 135°

ARMAMENT

10-8" 50 CAL TWIN TURRETS 35° 32,600 YD.
 8-4" 7 50 CAL AA TWIN SHIELD MOUNTS 85° 21,000 YD.
 8-21" TORPEDO TUBES—(TWIN MOUNTS)
 2 CATAPULTS—4 SEAPLANE SCOUTS
 DEPTH CHARGES CARRIED

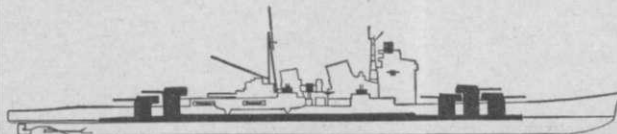
MAX. ELEV.

RANGE



PROTECTION

BELT— 3"-4"
 TURRETS—
 BARBETTES—
 CONNING TOWER—3"
 DECK— 1¼"-2"-3" (OVER VITALS)



KNOTS RPM

.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80

DES HP—100,000
 DES SPD—33 KTS
 ENDURANCE—
 2800 @ 33 KTS
 10,000 @ 15 KTS



NACHI CLASS—CA5-8

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

	BEGUN	COMPLETED			
NACHI—	CA5 11/26/24	11/26/28	MYOKO—	CA7 10/25/24	7/31/29
HAGURO—	CA6 3/16/25	4/25/29	ASHIGARA—	CA8 4/11/25	8/20/29

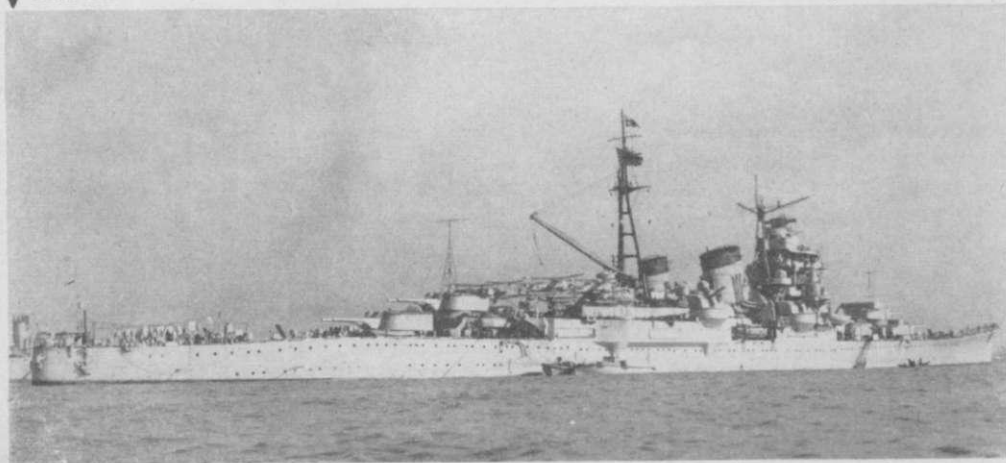
ONI 41-42
RESTRICTED



↓ DEC. 1940

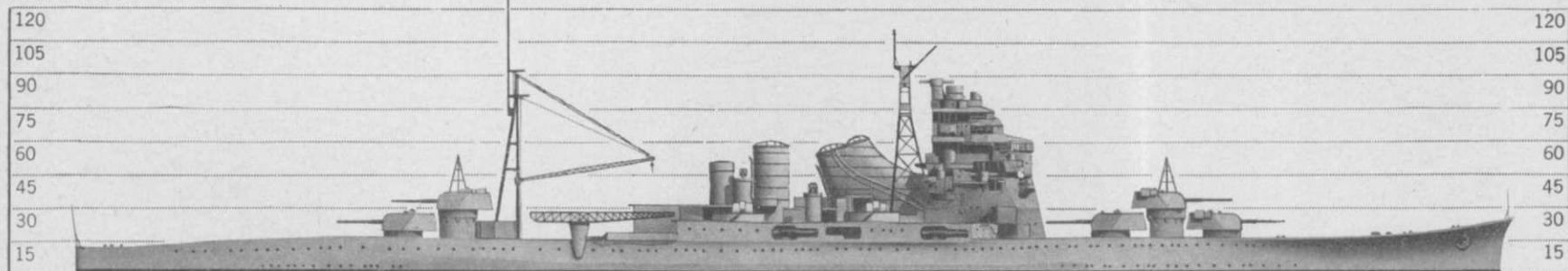
↑ DEC. 1940

↓ MAY 1938





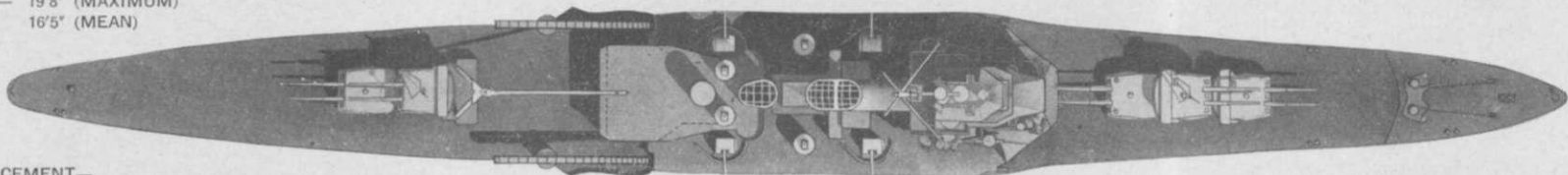
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

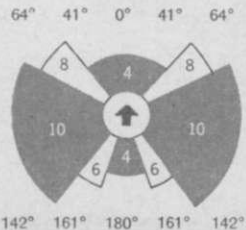
SHIP BEYOND THE HORIZON

LENGTH—657'0" OA—650'0" WL
BEAM— 62'4"
DRAFT— 19'8" (MAXIMUM)
16'5" (MEAN)



DISPLACEMENT—
9,850 TONS (STANDARD)

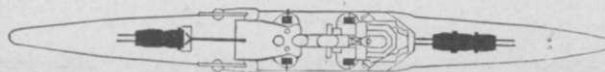
DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

- 10-8" 50 CAL TWIN TURRETS
- 4-4.7 50 CAL AA
- 8-21" TORPEDO TUBES
- 2 CATAPULTS—4 SEAPLANE SCOUTS

IT IS REPORTED THAT THE 4-4.7 BATTERY IS TO BE REPLACED BY 8-4.7 50 CAL AA GUNS IN TWIN SHIELD MOUNTS



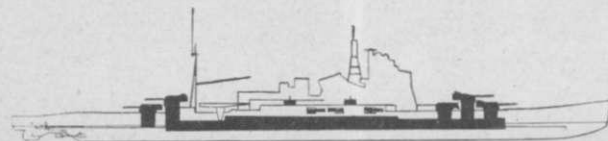
MAX. ELEV.

RANGE

10-8" 50 CAL TWIN TURRETS	35°	32,600 YD.
4-4.7 50 CAL AA	85°	21,000 YD.

PROTECTION

- BELTS— 3"-4"
- TURRETS— 3"
- BARBETTES— 2½"-3½"
- CONNING TOWER—
- DECK— 3"-5"



KNOTS RPM

.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80

DES SPEED 33 KTS
DES HP 100,000



ATAGO CLASS—CA9-10

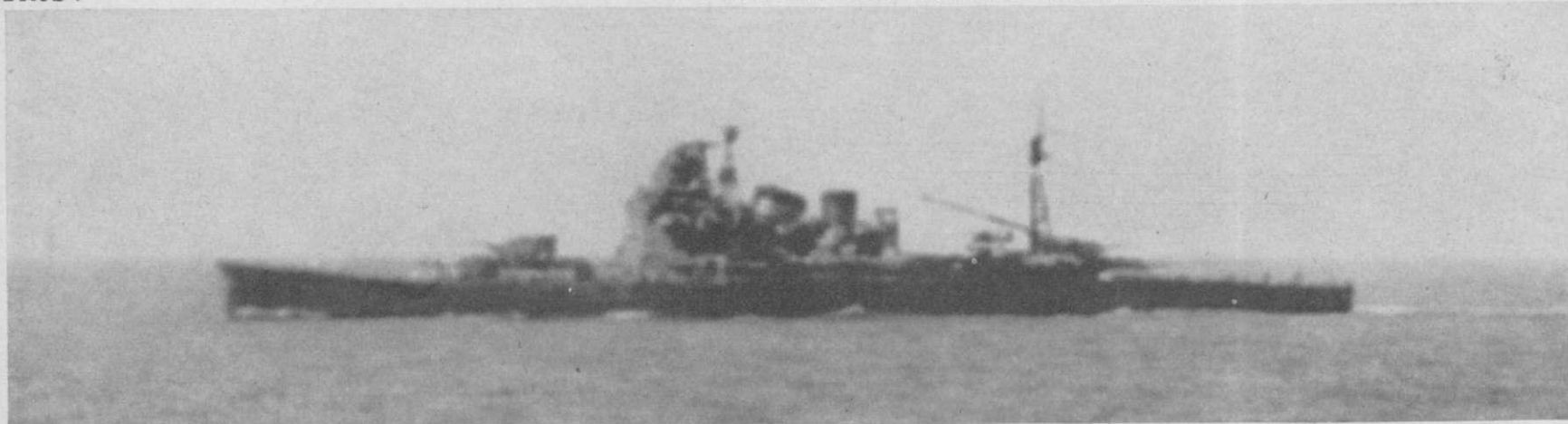
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

ATAGO—CA9
TAKAO—CA10

BEGUN COMPLETED
4/28/27 3/30/32
4/28/27 5/31/32
TWO OTHER UNITS—CHOKAI (TYOKAI), MAYA—RETAIN ORIGINAL PROFILE

ONI 41-42

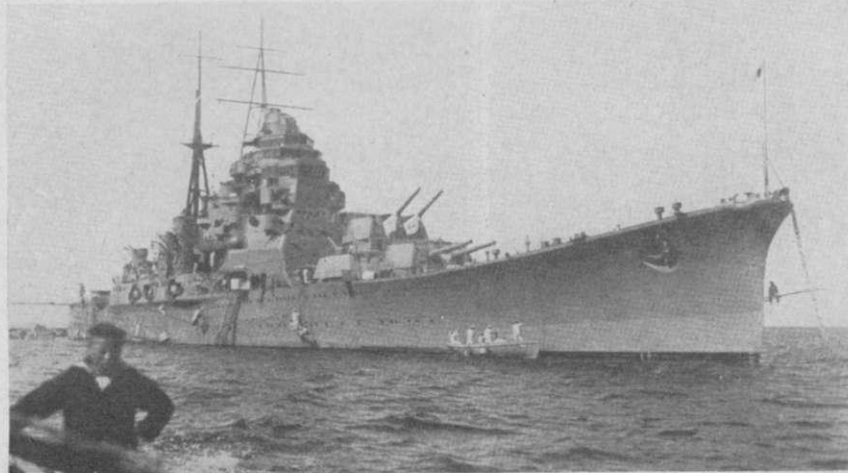
RESTRICTED



1941 ↓

TAKAO—1941 ↑

↓ ATAGO OLD RIG



ONI 41-42

RESTRICTED

CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

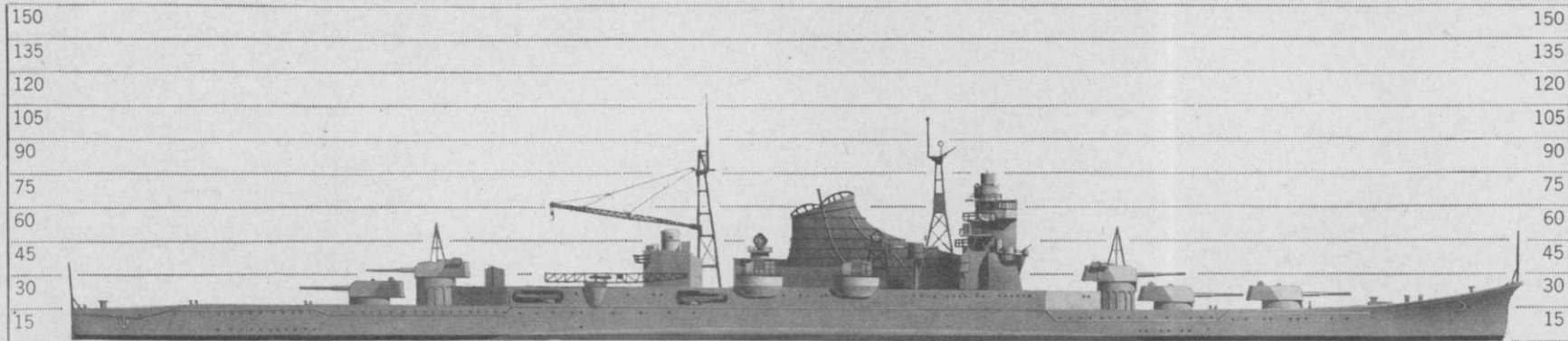
MOGAMI—SUZUYA—KUMANO

MOGAMI CLASS—CA 13-16



DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

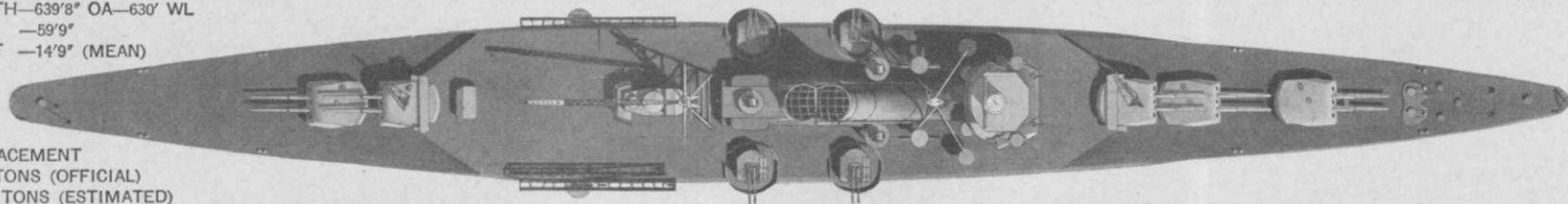
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

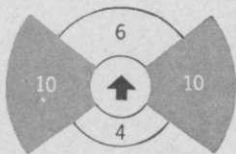
LENGTH—639'8" OA—630' WL
BEAM —59'9"
DRAFT —14'9" (MEAN)



DISPLACEMENT
8,500 TONS (OFFICIAL)
14,000 TONS (ESTIMATED)

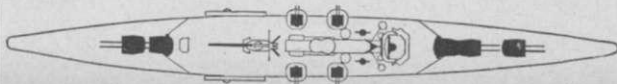
DENSITY OF FIRE
MAIN BATTERY

55° 0° 55°



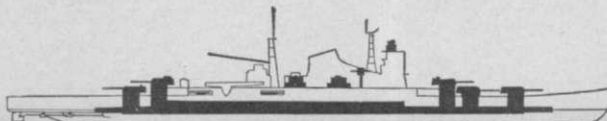
ARMAMENT

	MAX. ELEV.	RANGE
10-8" 50 CAL TWIN TURRETS	35°	32,600 YD.
8-5" 50 CAL AA TWIN SHIELD MOUNTS	85°	18,000 YD.
4-3" 40 CAL AA (REPORTED)	85°	9,000 YD.
12-21" TORPEDO TUBES (TRIPLE MOUNTS)		
2 CATAPULTS—4 SEAPLANE SCOUTS		
DEPTH CHARGES CARRIED		



PROTECTION PROPULSION

BELT—2 1/2"	MACHINERY—4 (MAIN)—2 (CRUISING)
TURRETS—	GEARED TURBINES
BARBETTES—	
CONNING TOWER—	BOILERS—8 OR 10 KAMPON
DECKS—2"	FUEL—OIL—2400 TONS
(OVER VITALS)	DESIGNED HP—90,000
	DESIGNED SPEED—33 KTS
	ENDURANCE—2,800 @ 33 KTS
	10,000 @ 15 KTS



KNOTS RPM

.....	420
.....	400
.....	350
.....	300
.....	290
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80



MOGAMI CLASS—CA13-16

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

BEGUN COMPLETED

MOGAMI—CA13 10/27/31 7/28/35

MIKUMA—CA14 SUNK

SUZUYA —CA15 12/11/33 1936

KUMANO—CA16 4/ 4/34 10/31/37

ONI 41-42

RESTRICTED



KUMANO—DEC. 19, 1938 ↓

SUZUYA—DEC. 19, 1938 ↑

KUMANO—OCT. 1938 ↓



PHOTOS SHOW OLD TRIPLE TURRETS, PREVIOUS TO 1938-39 REFIT

ONI 41-42

RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

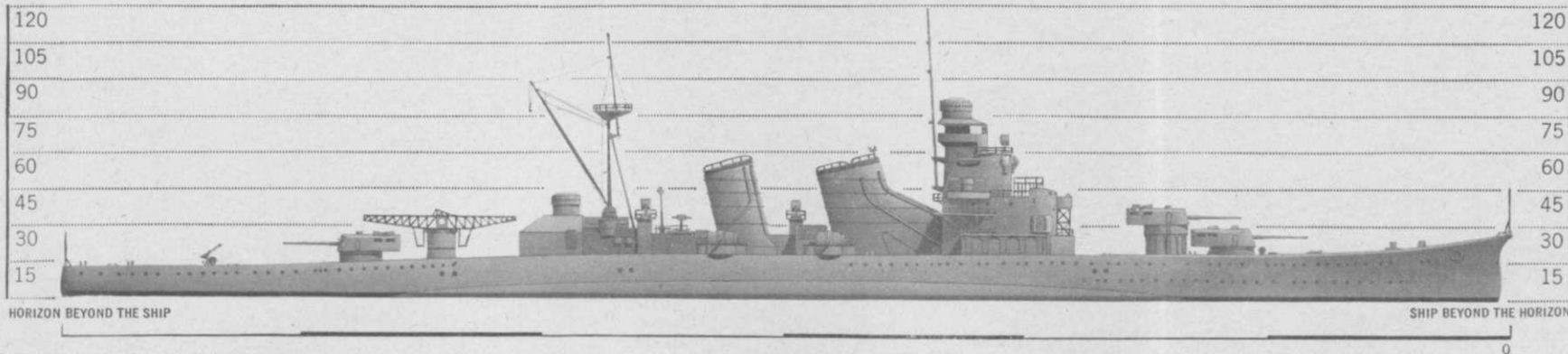
AOBA—KINUGASA

AOBA CLASS—CA3-4

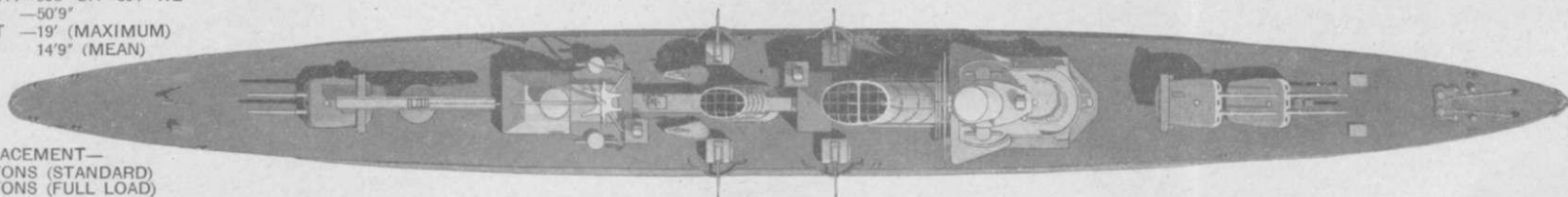


DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

HEIGHT OF OBSERVER

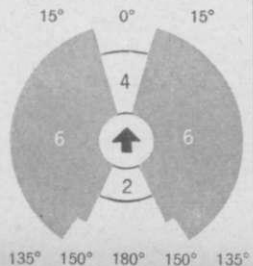


LENGTH—598' OA—594' WL
BEAM —50'9"
DRAFT —19' (MAXIMUM)
14'9" (MEAN)



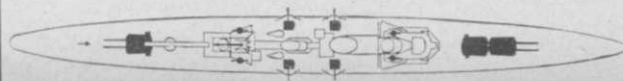
DISPLACEMENT—
7100 TONS (STANDARD)
7500 TONS (FULL LOAD)

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

	MAX. ELEV.	RANGE
6-8" 50 CAL TWIN TURRETS	35°	32,600 YD.
4-4.7 50 CAL AA—SINGLE MOUNTS	85°	21,000 YD.
12-21" TORPEDO TUBES—TWIN MOUNTS		
1 CATAPULT—2 SEAPLANE SCOUTS		
50 MINES—MOORED TYPE		

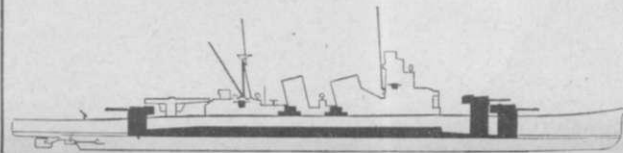


PROTECTION

BELT—2'-3"
TURRETS—1"
BARBETTES—
CONNING TOWER—
DECK—2" (OVER VITALS)

PROPULSION

MACHINERY—4 GEARED TURBINES
BOILERS—12 KAMPON
FUEL—OIL—1800 TONS
DESIGNED HP—95,000
DESIGNED SPEED—33 KTS
ENDURANCE—1120 @ 33 KTS
5040 @ 15 KTS



KNOTS RPM

.....	420
.....	400
33	370
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80



AOBA CLASS—CA3-4

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

AOBA — 2/4/24
KINUGASA — 1/23/24

BEGUN

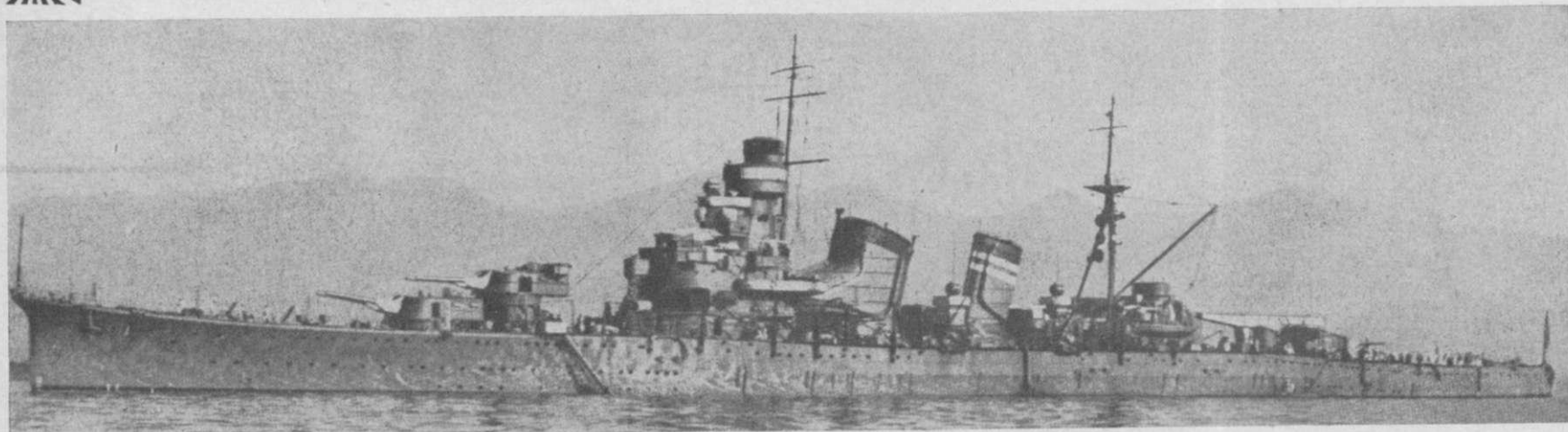
COMPLETED

9/20/27

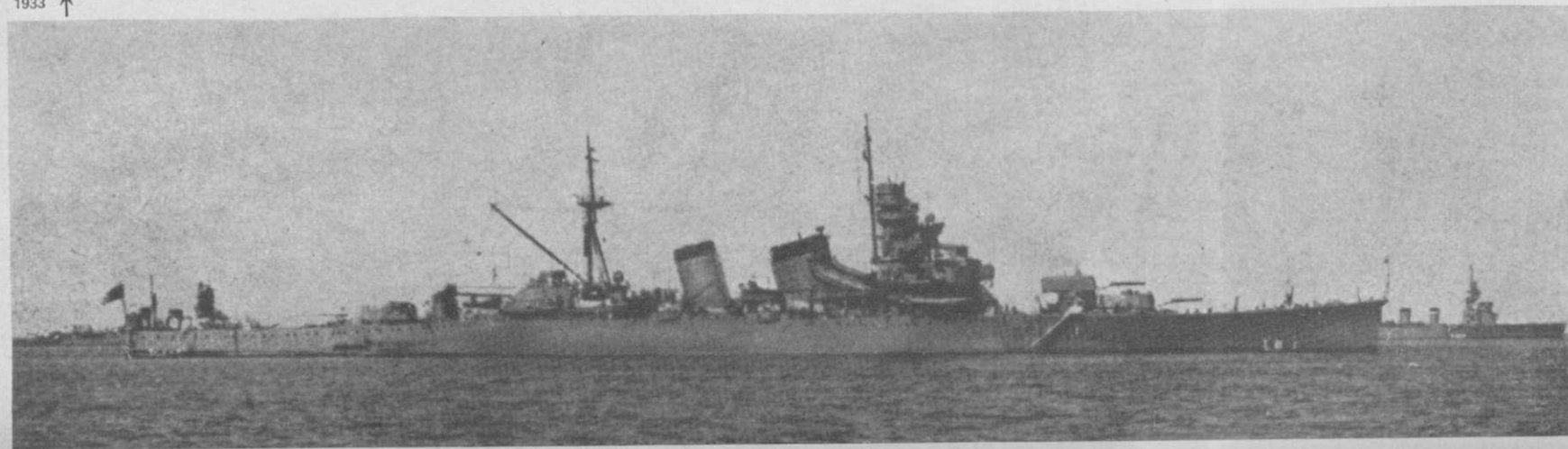
9/30/27

ONI 41-42

RESTRICTED

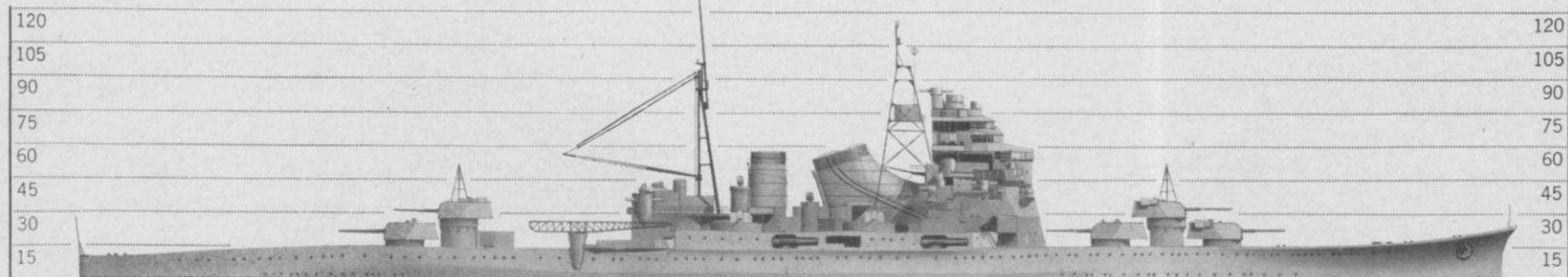


1933 ↑





HEIGHT OF OBSERVER

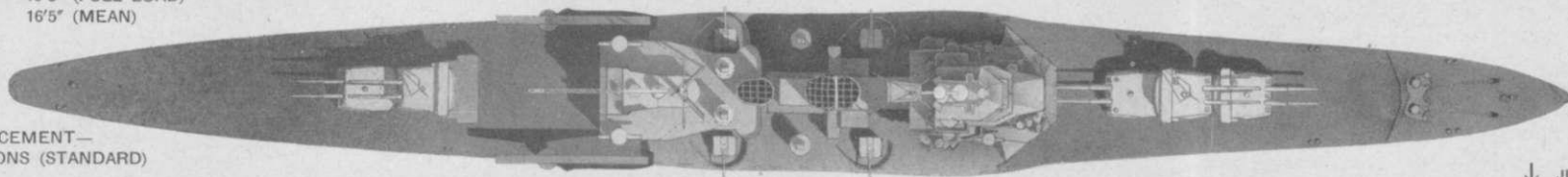


HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

0

LENGTH—657'0" OA—650'0" WL
BEAM —62'4"
DRAFT —19'8" (FULL LOAD)
16'5" (MEAN)



DISPLACEMENT—
9,850 TONS (STANDARD)

↓ JUNE, 1940

ARMAMENT

10-8" 50 CAL TWIN TURRETS
4-4.7 50 CAL AA SINGLE SHIELD MOUNTS
8-21" TORPEDO TUBES
2 CATAPULTS—4 SEAPLANE SCOUTS

	MAX. ELEV.	RANGE
10-8" 50 CAL TWIN TURRETS	35°	32,600
4-4.7 50 CAL AA SINGLE SHIELD MOUNTS	85°	21,000

PROTECTION

BELT —3"-4"
TURRETS —3"
BARBETTES—2½"-3½"
DECK —3"-5"

PROPULSION

MACHINERY —8 GEARED TURBINES
FUEL —OIL—2400 TONS
DESIGNED HP —100,000
DESIGNED SPD.—33 KTS.





ATAGO CLASS-CA 11-12

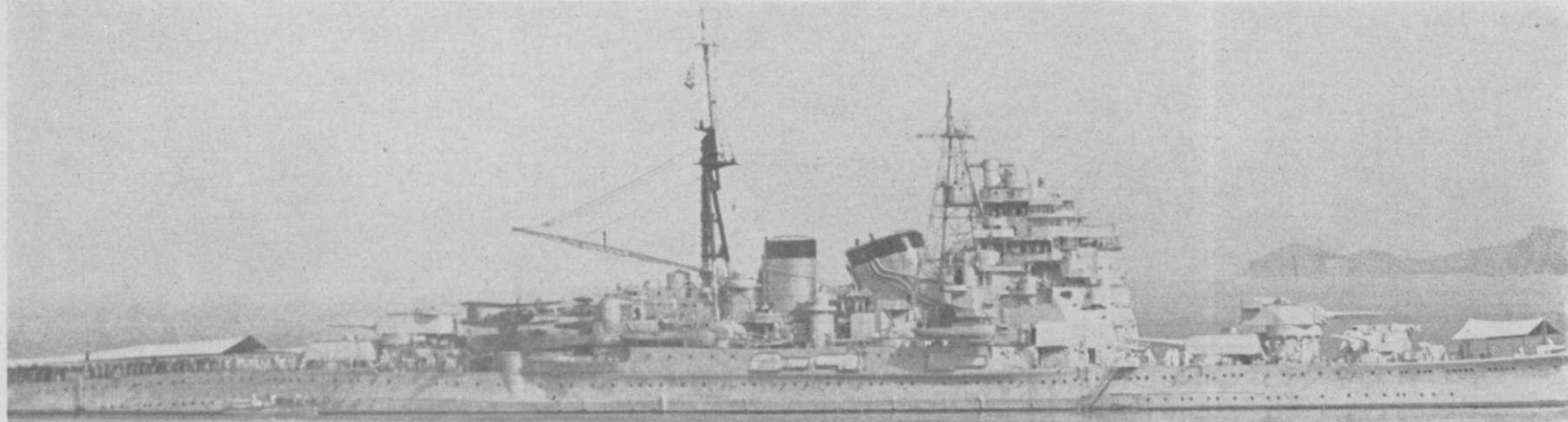
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1943

CHOKAI (TYOKAI)—CA11
MAYA —CA12
ALL PHOTOS ARE OF CHOKAI JUNE, 1940

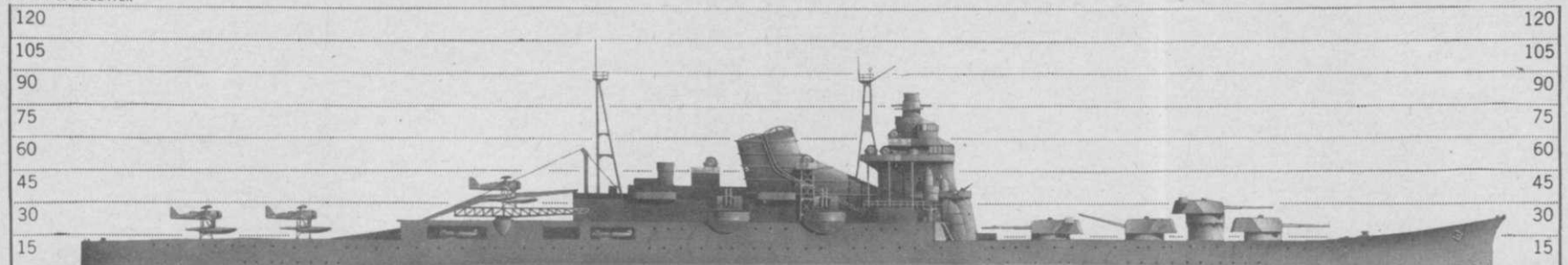
BEGUN
3/26/28
12/4/28

COMPLETED
6/20/32
6/30/32

ONI 41-42



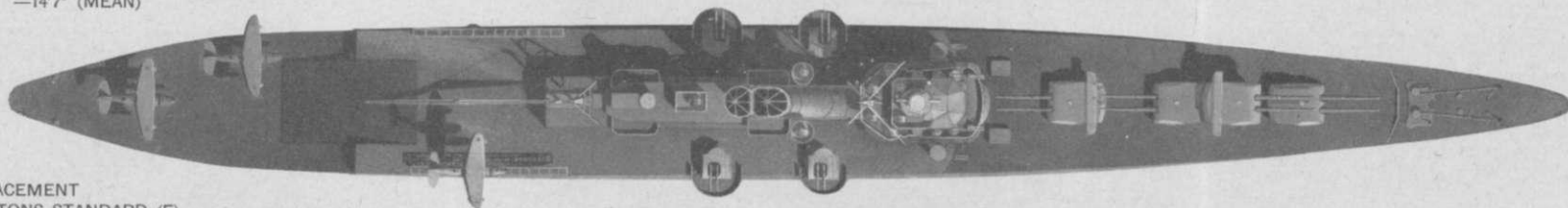
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

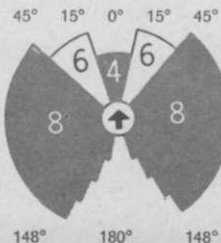
SHIP BEYOND THE HORIZON

LENGTH—658' (E) OA—614'3" WL
BEAM— 65' (E)
DRAFT —14'7" (MEAN)



DISPLACEMENT
12,000 TONS STANDARD (E)

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

8-8" (50)	45°?
8-5" (50) AA	85°
8-3" (40) AA (?)	85°
6 SCOUT OBSERVATION; 2 CATAPULTS	
12-24" TORPEDO TUBES	

MAX. ELEV.

RANGE

32,800 YD.
19,000 YD.
9,000 YD.

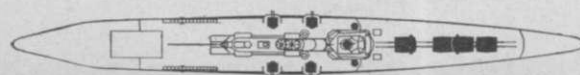
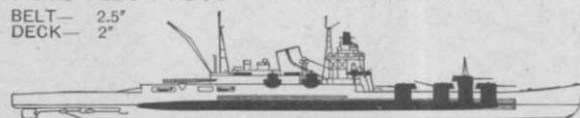
PROPULSION

MACHINERY—	FOUR GEARED TURBINE ENGINES
BOILERS—	EIGHT KAMPON
FUEL—	OIL, 2,400 TONS
DESIGNED HP—	90,000
CRUISING SPEED—	15 KNOTS
MAXIMUM SPEED—	33 KNOTS
PROPELLERS—	FOUR
SEARCHLIGHTS—	THREE

PROTECTION

BELT— 2.5"
DECK— 2"

BRIDGES—LIGHT STEEL



TONE CLASS



TONE—CA 17



CHIKUMA—CA 18



TONE CLASS—CA 17, 18

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

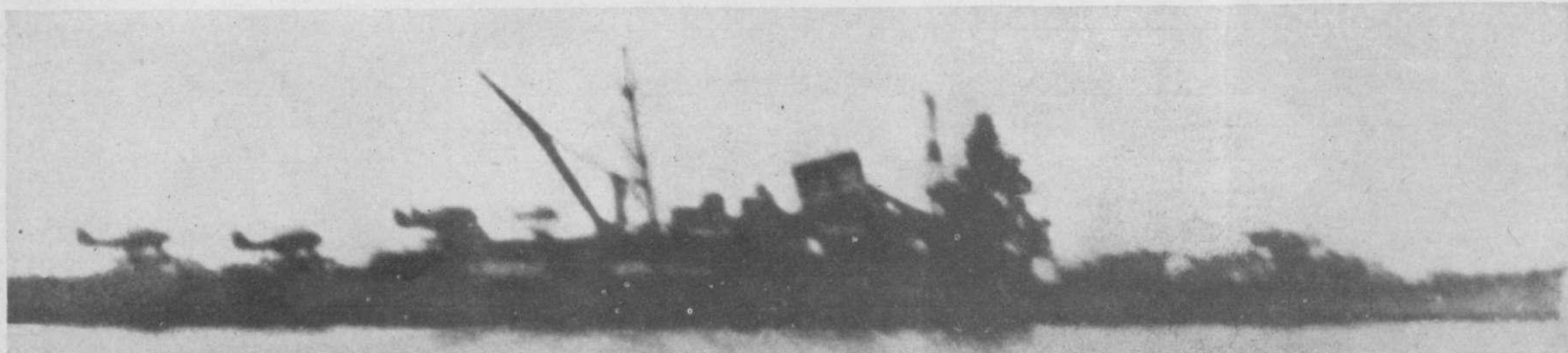
TONE— CA17
CHIKUMA—CA18

BEGUN
12/1/34
10/1/35

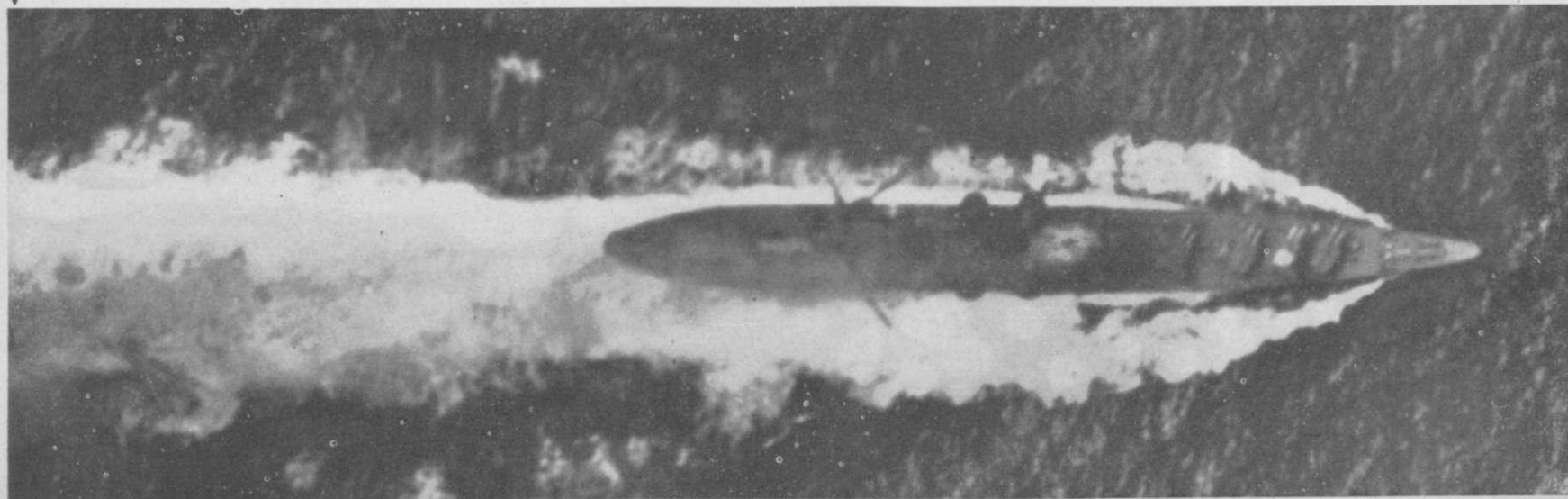
COMPLETED
11/20/38
3/7/39

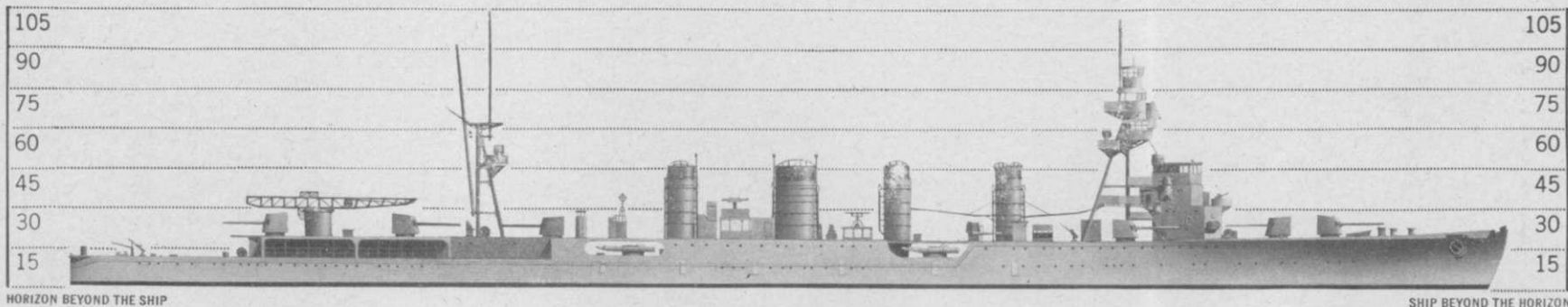
ONI 41-42

RESTRICTED



↓ SANTA CRUZ, 10/26/42





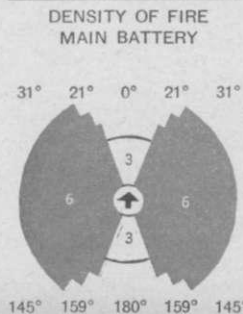
HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—535' OA
BEAM —47'3"
DRAFT —15'11" (NORMAL)



DISPLACEMENT—5,195 TONS (STANDARD)—5,595 TONS (NORMAL)



ARMAMENT

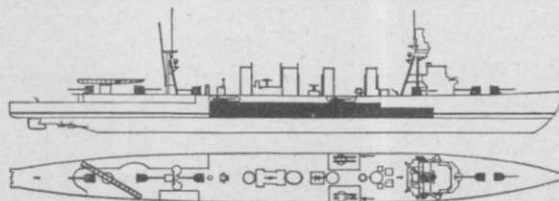
7-5" (50)
2-3" (40)
8-21" TORPEDO TUBES, TWIN MOUNTS
80 MINES
1 CATAPULT, 1 SCOUT OBSERVATION

MAX. ELEV.	RANGE
25°	19,000 YD.
85°	9,000 YD.

PROPULSION

MACHINERY—4 CURTIS PARSONS
FUEL—OIL 1500 TONS—COAL
DES HP—90,000
DES SPEED—33 KNOTS

BOILERS—16 KAMPON
ENDURANCE—1300 @ 33 KNOTS
7800 @ 10 KNOTS



PROTECTION

BELTS—2" TURRETS—
CONNING TOWER—2"

BARBETTES—
DECK—

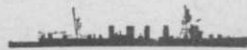
SENDAI CLASS



SENDAI CL 15



JINTSU CL 16 (ZINTU)



NAKA CL 17



SENDAI CLASS—CL15-17

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—NOVEMBER, 1942

SENDAI—CL15
JINTSU—CL16
NAKA—CL17

BEGUN
2/16/22
8/4/22
6/10/22

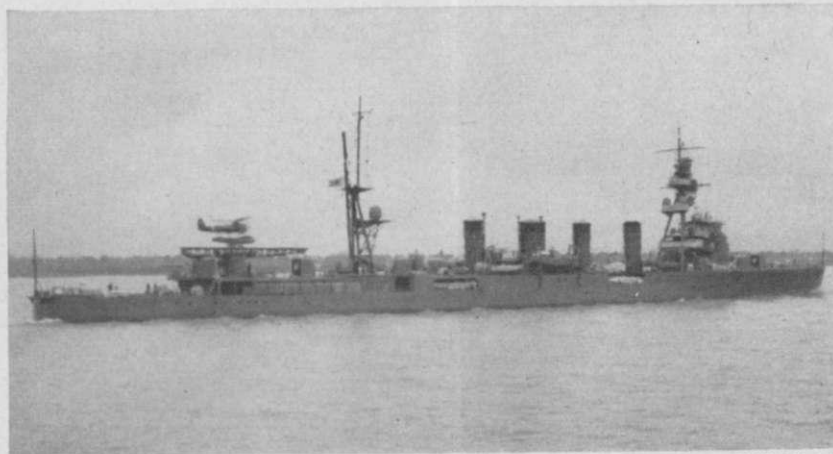
COMPLETED
4/29/24
7/31/25
11/30/25

ONI 41-42

RESTRICTED



SENDAI 8/37 NOTE CUTTER BOW—JINTSU, NAKA HAVE HOOKED BOW



SENDAI 8/37



JINTSU—NAKA HAS MAINMAST TRIPOD REVERSED



SENDAI 8/16/37

ONI 41-42

RESTRICTED

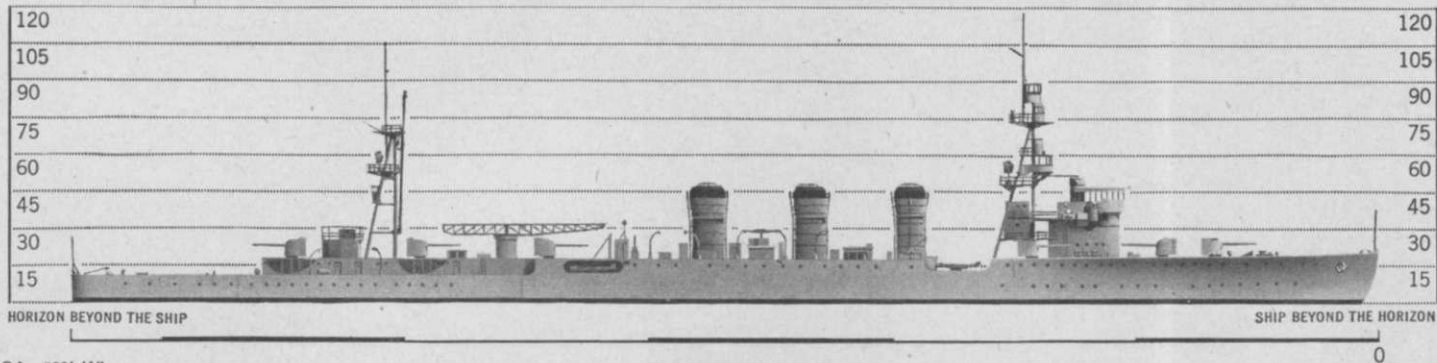
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

KUMA CLASS—CL3-7



DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

HEIGHT OF OBSERVER



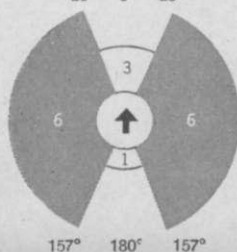
LENGTH—535' OA—529' WL
 BEAM —47'3"
 DRAFT —15'9" (MEAN)



DISPLACEMENT
 5,100 TONS (STANDARD)

DENSITY OF FIRE
 MAIN BATTERY

23° 0° 23°



ARMAMENT

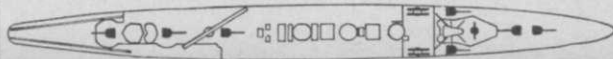
- 7-5.5 50 CAL
- 2-3.15 AA
- 8-21" TORPEDO TUBES TWIN MOUNTS
- 80 MINES—LAUNCHING TRACKS
- 1 CATAPULT—1 SEAPLANE SCOUT
- 24 DEPTH CHARGES—2 PROJECTORS

MAX. ELEV.

15°

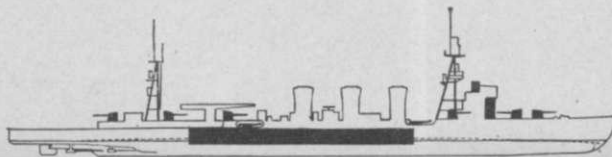
RANGE

20,000 YD.



PROTECTION

- BELT—1¾"
- TURRETS—1" TO 1½"
- CONNING TOWER—2"
- DECK—2" OVER VITALS
- UNDERWATER PROTECTION VERY GOOD



KNOTS

RPM

33	439
.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80

DES. SPEED DES. HP
 33 KTS 70,000



KUMA CLASS—CL3-7

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—OCTOBER, 1942

SISTER SHIPS

KUMA—CL3
TAMA—CL4

BEGUN COMPLETED

8/29/18 8/31/20
8/10/18 1/29/21

KITAKAMI—CL5

—CL6
—CL7

9/1 /19 4/15/21

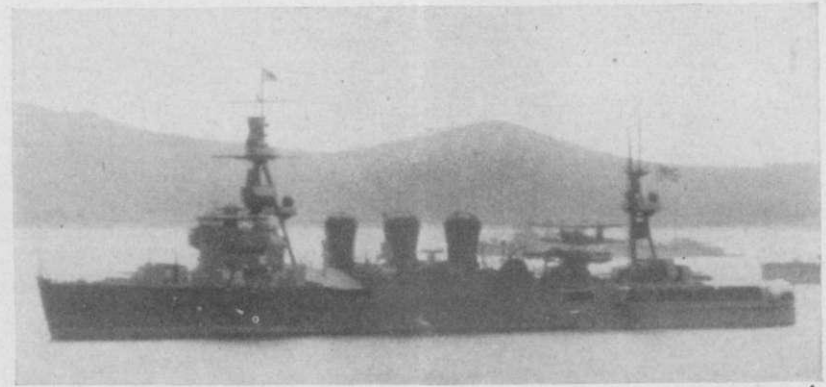
6/10/19 5/4 /21
11/24/19 1/29/21

ONI 41-42

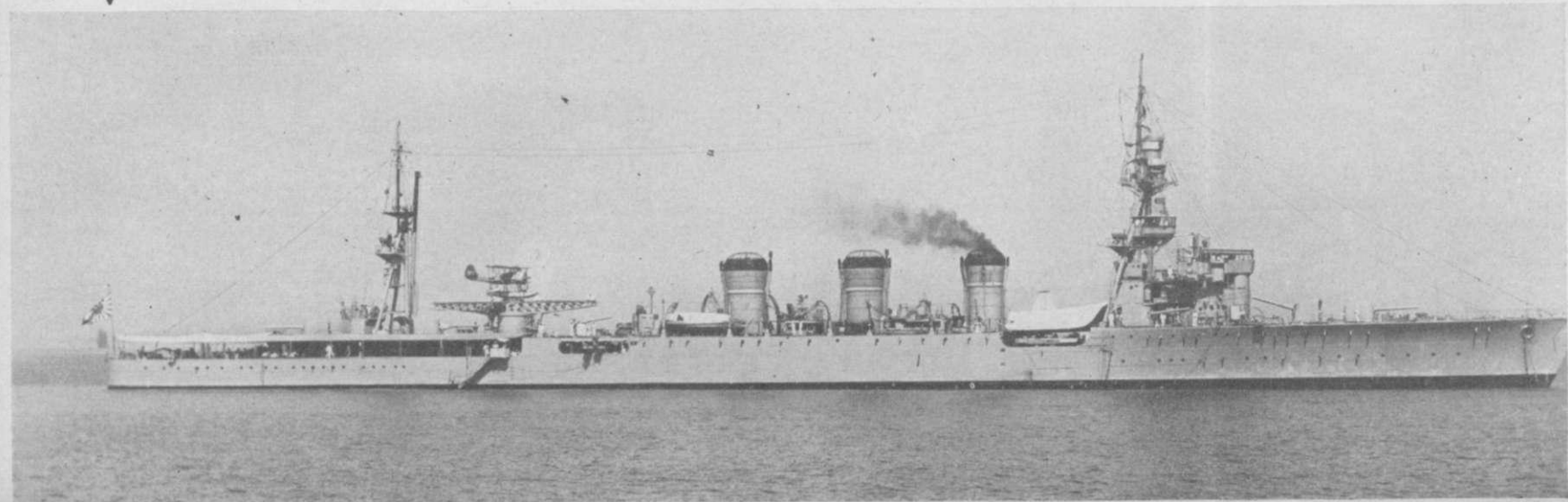
RESTRICTED



JUNE, 1935 ↓



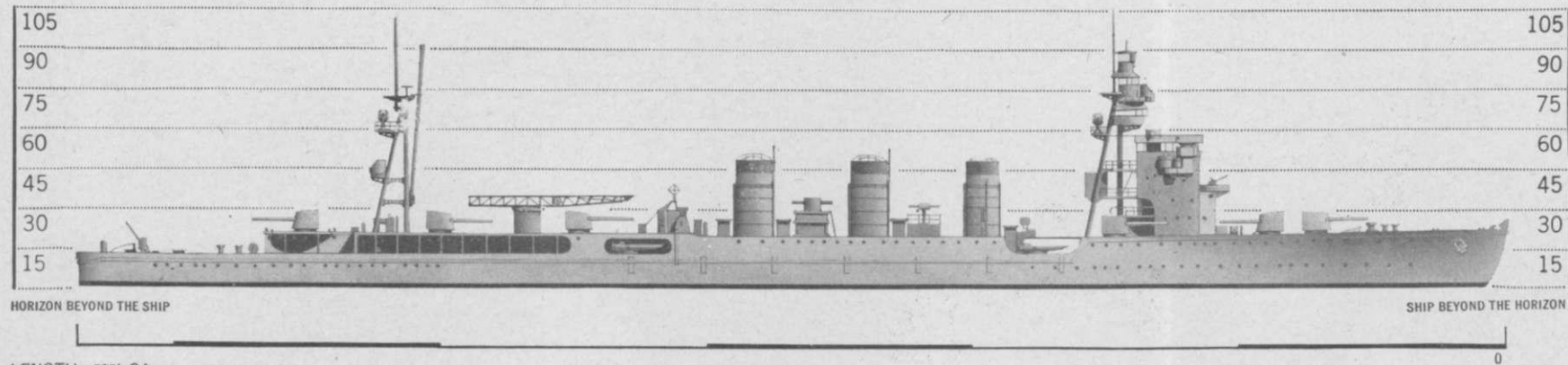
1937 ↑



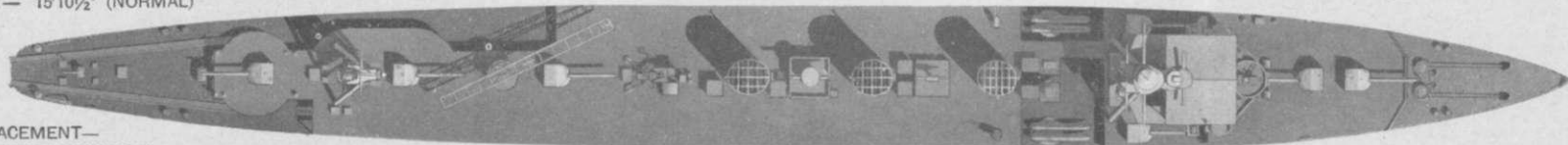
ONI 41-42RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57**NATORI CLASS—CL 8-13**

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—NOVEMBER, 1942

HEIGHT OF OBSERVER

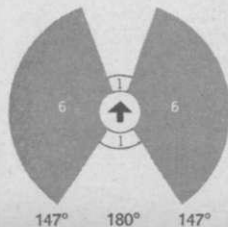


LENGTH—535' OA
 BEAM— 47'3"
 DRAFT— 15'10½" (NORMAL)



DISPLACEMENT—
 5,170 TONS (STANDARD)
 5,570 TONS (NORMAL)

DENSITY OF FIRE
 MAIN BATTERY
 19° 0° 19°

**ARMAMENT**

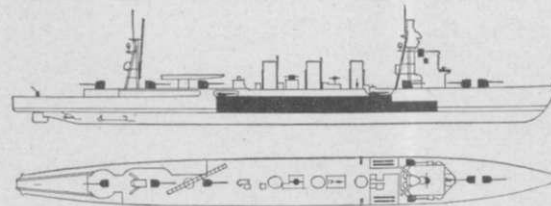
7-5½ (50) 30°
 3-3" (40) AA 85°
 8-21" TORPEDO TUBES TWIN MOUNTS
 80 MINES, 24 DEPTH CHARGES
 1 CATAPULT, 1 SCOUT OBSERVATION

MAX. ELEV.

RANGE

19,000 YD.
9,000 YD.**PROPULSION**

MACHINERY—4 CURTIS-PARSONS BOILERS—8 OIL, 4 COAL
 FUEL— COAL—300 TONS; OIL—1,260 TONS
 DESIGNED HP— 90,000 ENDUR.—1,500 @ 33 KNOTS
 DESIGNED SPEED—33 KNOTS 8,500 @ 10 KNOTS

**PROTECTION**

BELT—2" TURRETS BARBETTES—
 CONNING TOWER—2" DECK—2"

6—NATORI CLASS



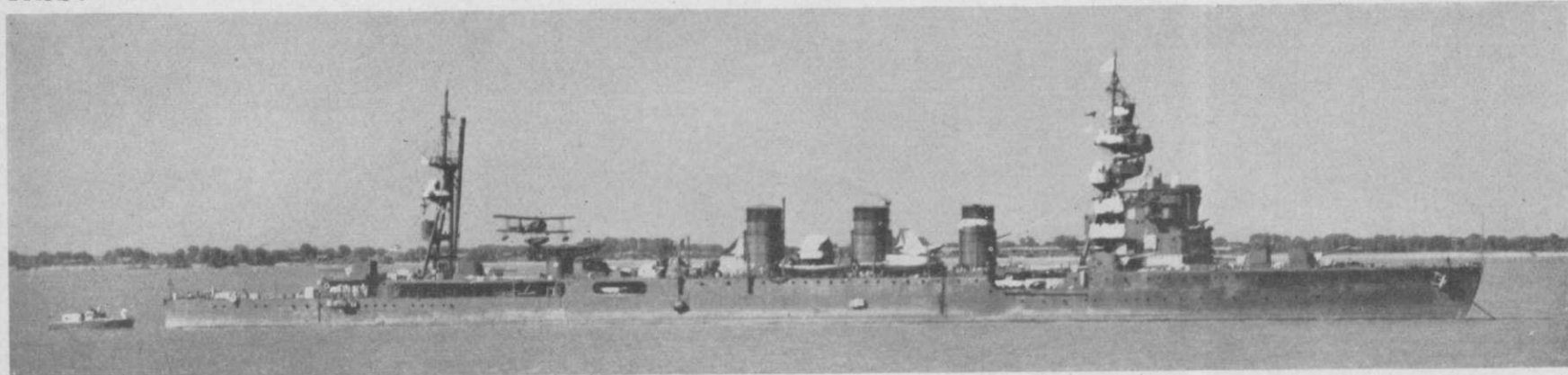
NATORI —CL 8
 NAGARA —CL 9
 KINU —CL 10
 YURA —CL 11
 ISUZU —CL 12
 ABUKUMA —CL 13



NATORI CLASS—CL8-13

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—NOVEMBER 1942

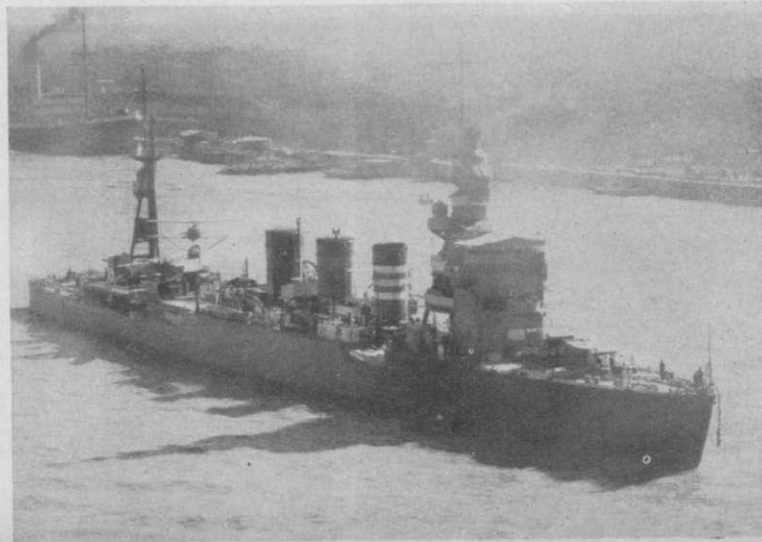
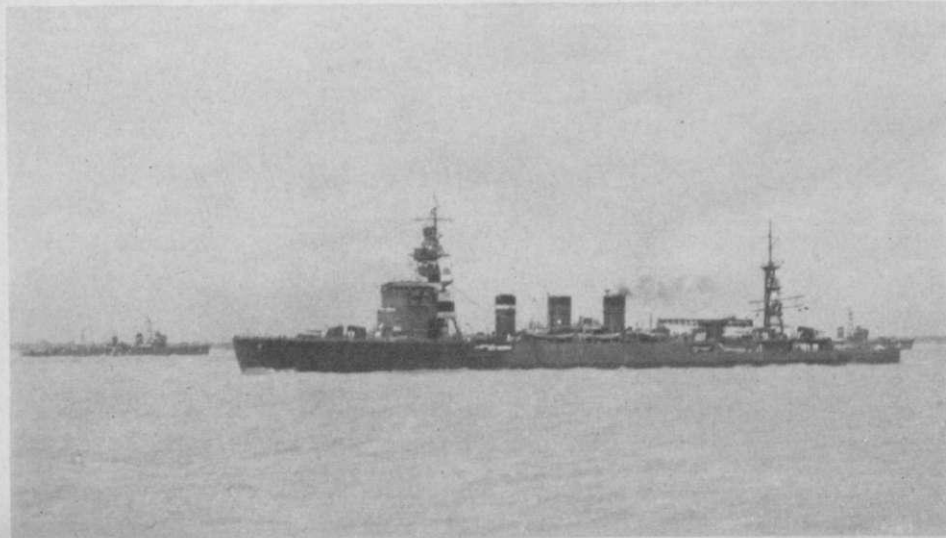
		BEGUN	COMPLETED						
NATORI	CL 8	12/14/20	9/15/22	YURA	CL11	5/21/21	3/20/23	ONI 41-42	RESTRICTED
NAGARA	CL 9	9/9/20	4/21/22	ISUZU	CL12	8/10/20	8/15/23		
KINU	CL10	1/17/21	11/10/22	ABUKUMA	CL13	1/8/21	5/26/25		



SEVERAL OF THIS CLASS ARE REPORTED SUNK

↑ YURA 1937 ↓

NAGARA 1937 ↓



ONI 41-42

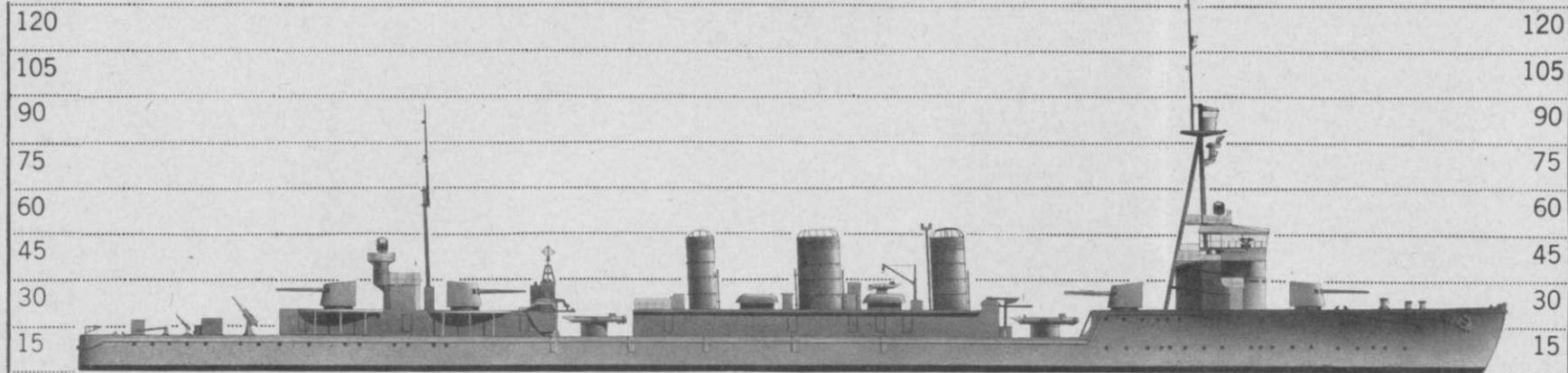
RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

TENRYU CLASS—CL 1, 2



DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—468' OA
BEAM —40'9"
DRAFT —13'3" (NORMAL)

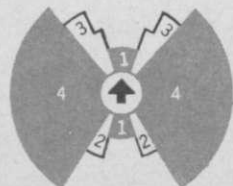
0



DISPLACEMENT—3,230 TONS (STANDARD)—3,500 TONS (NORMAL)

DENSITY OF FIRE
MAIN BATTERY

42° 25° 17° 0° 17° 25° 42°



148° 162° 180° 162° 148°

ARMAMENT

MAX. ELEV.

RANGE

4-5.5 (50) 25°
1-3" (40) 85°
6-21" TORPEDO TUBES, TRIPLE MOUNTS
DEPTH CHARGES AND MINES CARRIED

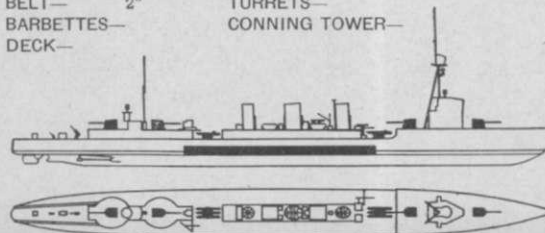
19,000 YD.
9,000 YD.

PROPULSION

MACHINERY— CURTIS-PARSONS
BOILERS— 10 KAMPON
FUEL— COAL AND OIL, 900 TONS
DESIGNED HP— 51,000
DESIGNED SPEED— 31 KNOTS; 33 KNOTS ON TRIAL
ENDURANCE— 1,250 @ 31 KNOTS
6,000 @ 10 KNOTS

PROTECTION

BELT— 2"
BARBETTES—
DECK—
TURRETS—
CONNING TOWER—



TENRYU CLASS



TENRYU—CL 1



TATSUTA—CL 2



TENRYU CLASS—CL 1, 2

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

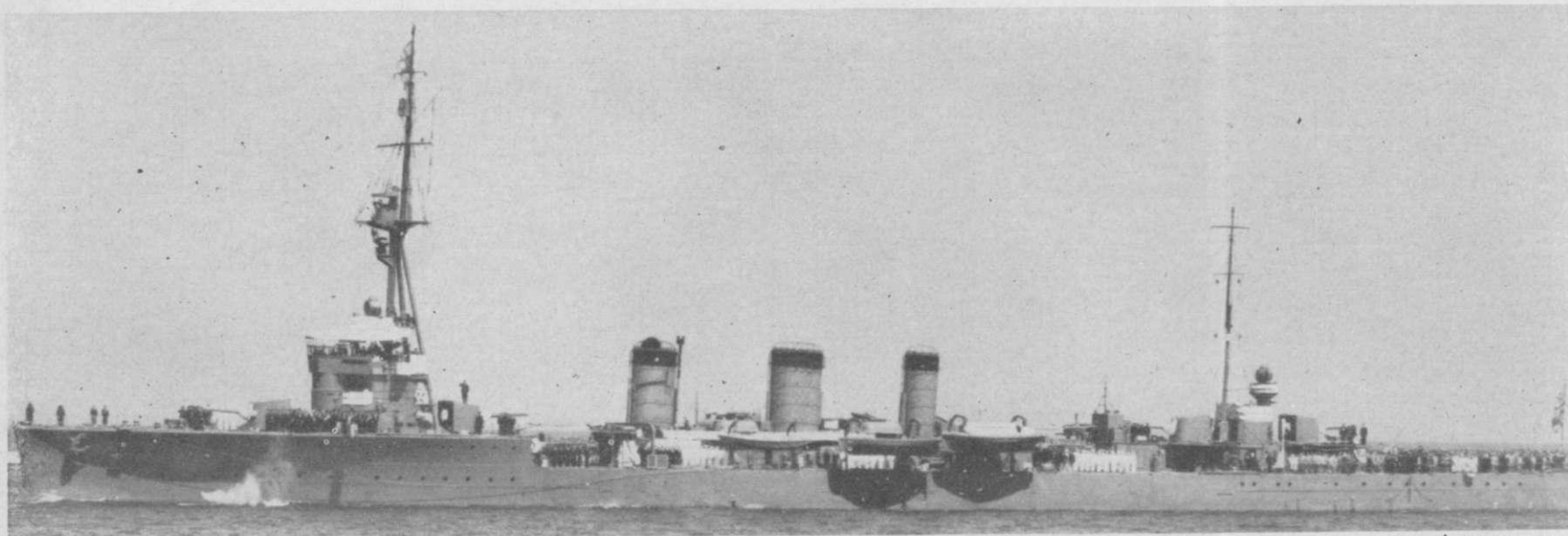
TENRYU—CL1
TATSUTA—CL2

BEGUN
5/17/17
7/24/17

COMPLETED
11/20/19
3/31/19

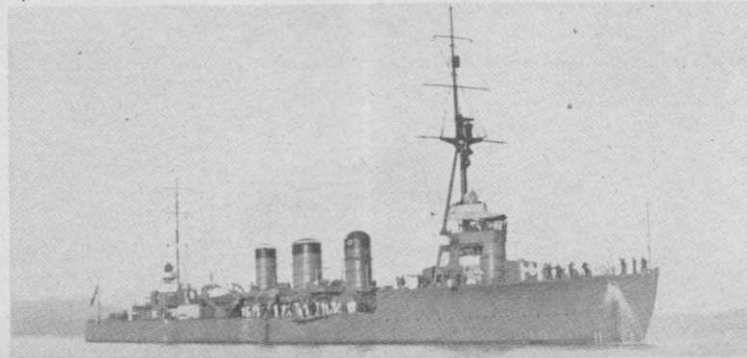
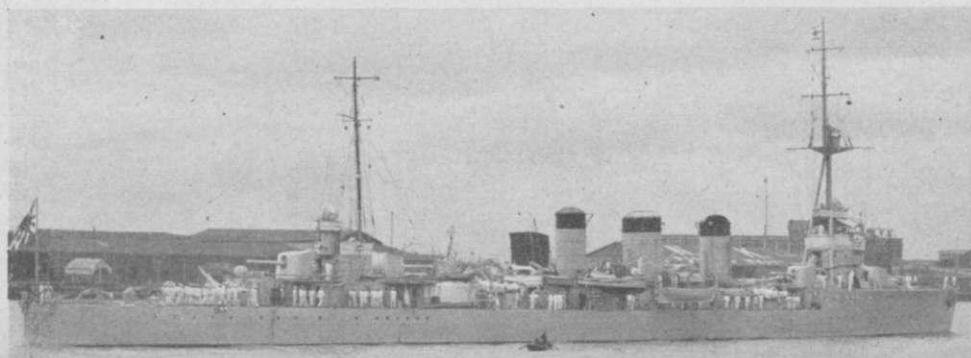
ONI 41-42

RESTRICTED



↓ TATSUTA—6/21/35

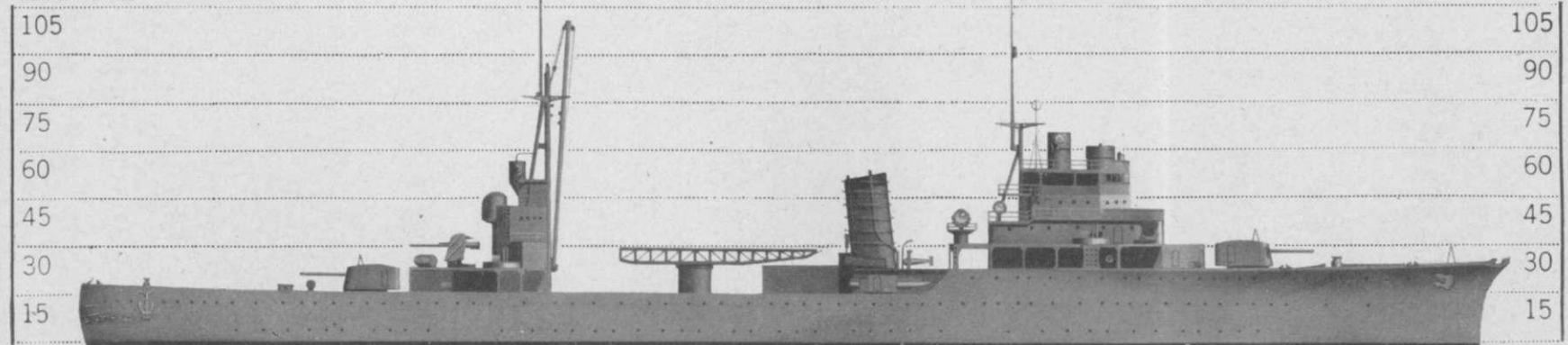
↑ TENRYU—1935



ONI 41-42 RESTRICTED
CONDENSED AND PRINTED FOR FM 30 50, NAVAER 00-80V-57
HEIGHT OF OBSERVER

OFFICIALLY RATED AS TRAINING CRUISERS

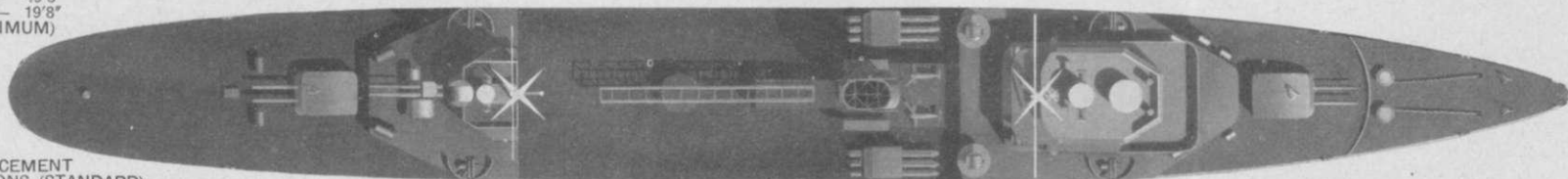
KATORI CLASS—CL 18-20
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

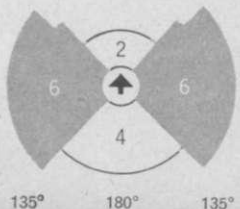
LENGTH—452' OA, 440' WL
BEAM— 49' 3"
DRAFT— 19' 8"
(MAXIMUM)



DISPLACEMENT
6,000 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY

49° 42° 0° 42° 49°



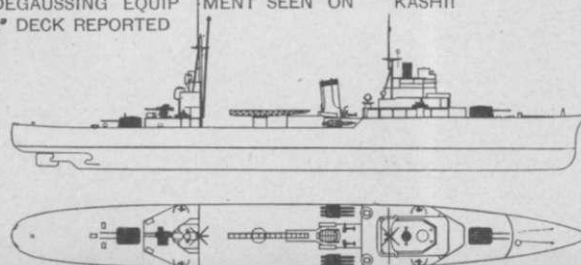
ARMAMENT	MAX. ELEV.	MAX. RANGE (HORIZONTAL)	MAX. RANGE (VERTICAL)
4-5.75 (50)	30°	19,000 YARDS	
2-5" (50)	85°	18,000 YARDS	20,000 FEET
4-21" TORPEDO TUBES			
1 CATAPULT—1 SCOUT OBSERVATION			

PROPULSION

DESIGNED HP— 8,000
DESIGNED SPEED—18 KNOTS (ANNOUNCED)

PROTECTION

DEGAUSSING EQUIPMENT SEEN ON KASHII
2ND DECK REPORTED



KATORI CLASS





KATORI CLASS—CL 18-20

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

KATORI—CL18
KASHIMA (KASIMA)—CL19
KASHII (KASHI)—CL20

BEGUN
1938
1938
1938

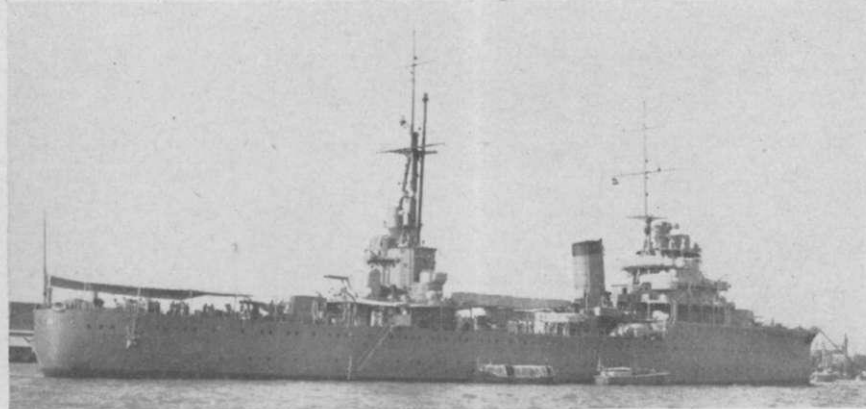
COMPLETED
4/15/40
5/15/40
1941

ONI 41-42

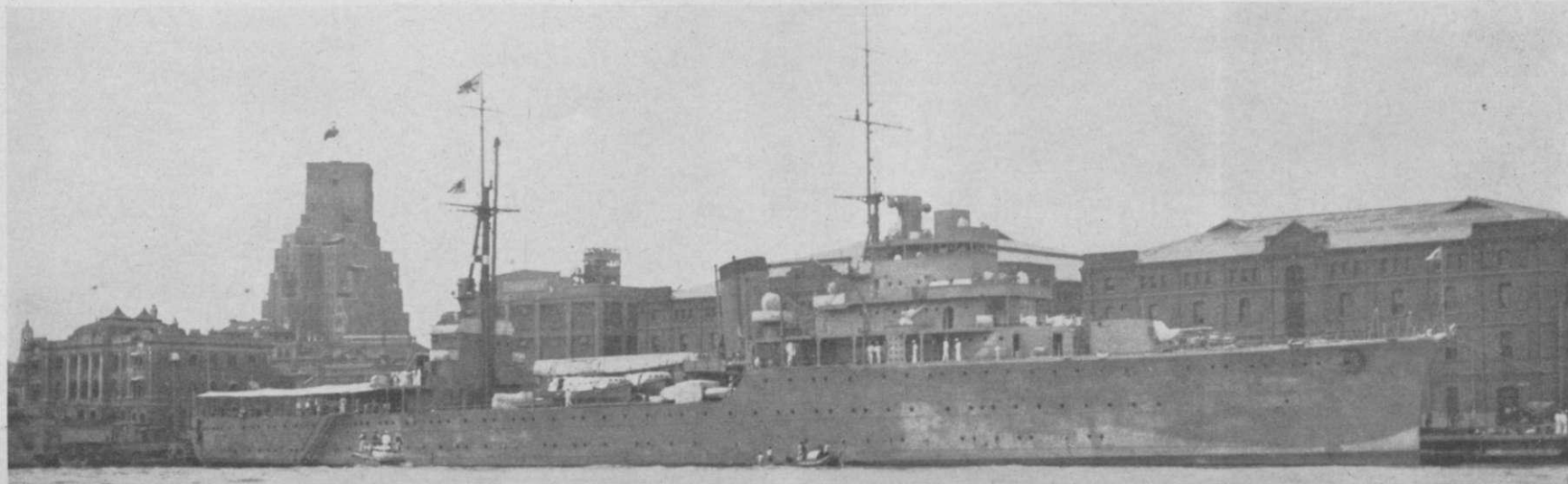
RESTRICTED



↑ JUNE 28, 1940



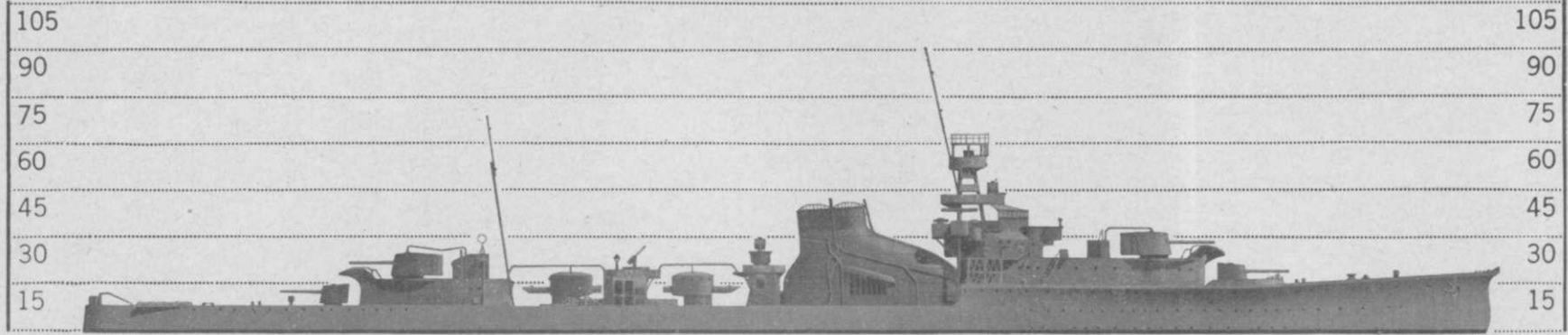
↓ SEPT., 1940 ↑



ONI 41-42RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVALR 00-80V-57**YUBARI—CL 14**

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

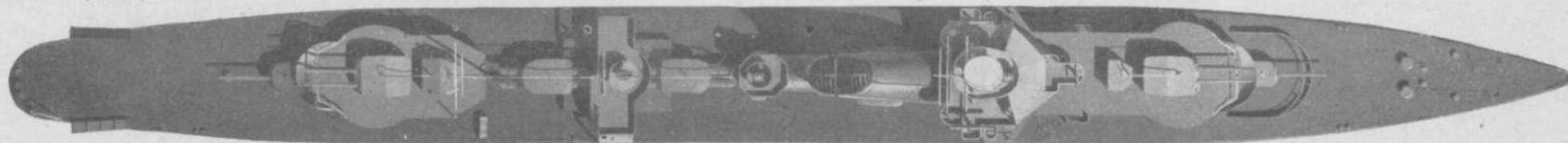
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—463' OA—459' WL
 BEAM— 39'6"
 DRAFT— 11.8" (MEAN)



DISPLACEMENT—2,890 TONS (STANDARD)—3,100 TONS (NORMAL)

DENSITY OF FIRE
MAIN BATTERY

29° 0° 29°



137° 160° 180° 160° 137°

ARMAMENT

6—5"5 (50)
 1—3" (40)
 4—21" TORPEDO TUBES

MAX. ELEV.

45°
 85°
 50 MINES

MAX. RANGE (HORIZONTAL)

20,000 YARDS
 9,000 YARDS

MAX. RANGE (VERTICAL)

20,000 FEET

PROPULSION

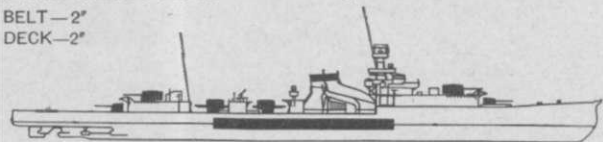
MACHINERY— GEARED TURBINES
 BOILERS— EIGHT KAMPON
 FUEL— OIL, 820 TONS

DESIGNED H.P.—57,000 DESIGNED SPEED—33 KNOTS

ENDURANCE— 5,500 MILES @ 10 KNOTS—1,400 MILES @ 33 KNOTS

PROTECTION

BELT—2"
 DECK—2"





YUBARI—CL 14

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

BEGUN
6/5/22

COMPLETED
7/21/23

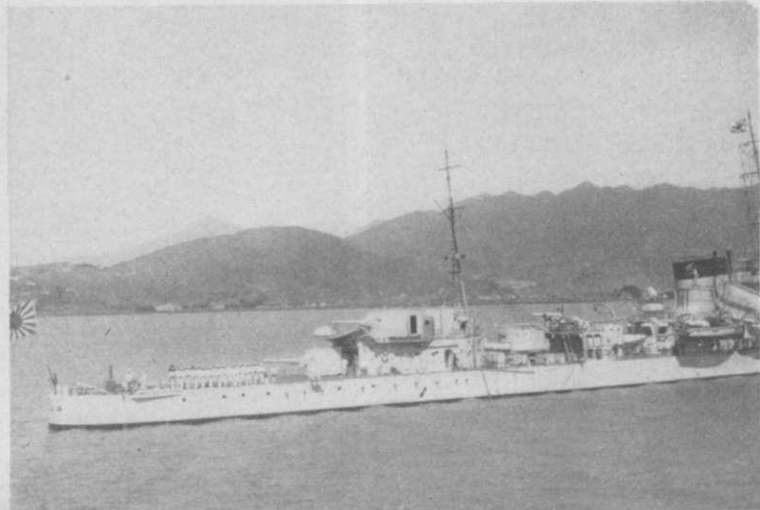
ONI 41-42
RESTRICTED



↓ 1936

↑ 1937

1939 ↓

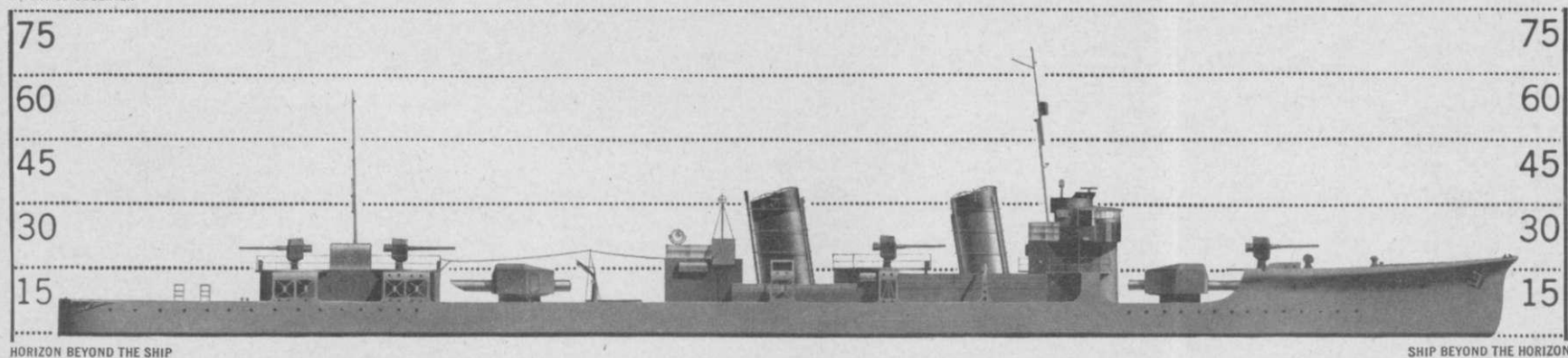


ONI 41-42 RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57
HEIGHT OF OBSERVER

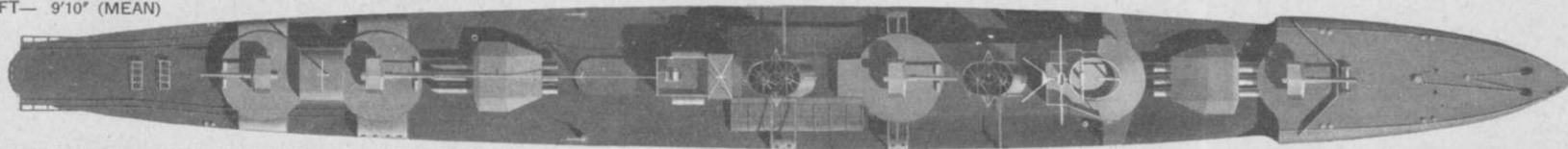
**KAMIKAZE CLASS-DD 16-24 SIMILAR WITH
TORPEDO ARMAMENT VARIATION.**

MUTSUKI CLASS—DD 25-36

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JUNE, 1943



LENGTH—336'6" OA—331' WL
BEAM— 30'
DRAFT— 9'10" (MEAN)



DISPLACEMENT—1,315 TONS (STANDARD)—1,445 TONS (NORMAL)

ARMAMENT

4-47 (45) AA	MAX. ELEV.	RANGE (HORIZONTAL)
2-1.4 AA		19,000 YDS.
6-21" TORPEDO TUBES (TRIPLE MOUNTS) (DD 16-24—TWIN MOUNTS)		
FITTED FOR MINESWEEPING		
50(?)—MINES, 14 DEPTH CHARGES		

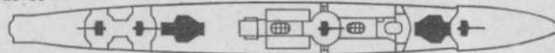
PROPULSION

MACHINERY—	FOUR PARSONS DOUBLE SHAFT GEARED TURBINES.
BOILERS—	FOUR KAMPON FUEL— OIL, 350 TONS
DESIGNED HP—	38,500
DESIGNED SPEED—	34 KNOTS
PROPELLERS—	2

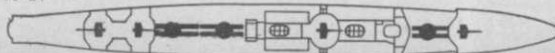
PROTECTION

SPLINTER PROTECTION ON BRIDGES, MAIN BATTERY AND TORPEDO TUBES. WELL COMPARTMENTED. CAN REMAIN AFLOAT AND ON EVEN KEEL WITH THREE OF LARGEST COMPARTMENTS FLOODED.

DD 25-36



DD 16-24



12 MUTSUKI CLASS DD 25-36



9 KAMIKAZE CLASS DD 16-24



MUTSUKI CLASS—DD 25-36

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION —JUNE, 1943

ONI 41-42

RESTRICTED

MUTSUKI— DD 25
 SATSUKI— DD 26
 KISARAGI— DD 27
 YAYOI— DD 28
 UZUKI— DD 29
 FUMITSUKI— DD 30
 KIKUTSUKI— DD 31
 MINATSUKI— DD 32
 NAGATSUKI— DD 33
 MIKATSUKI— DD 34
 MOCHITSUKI— DD 35
 YUZUKI— DD 36

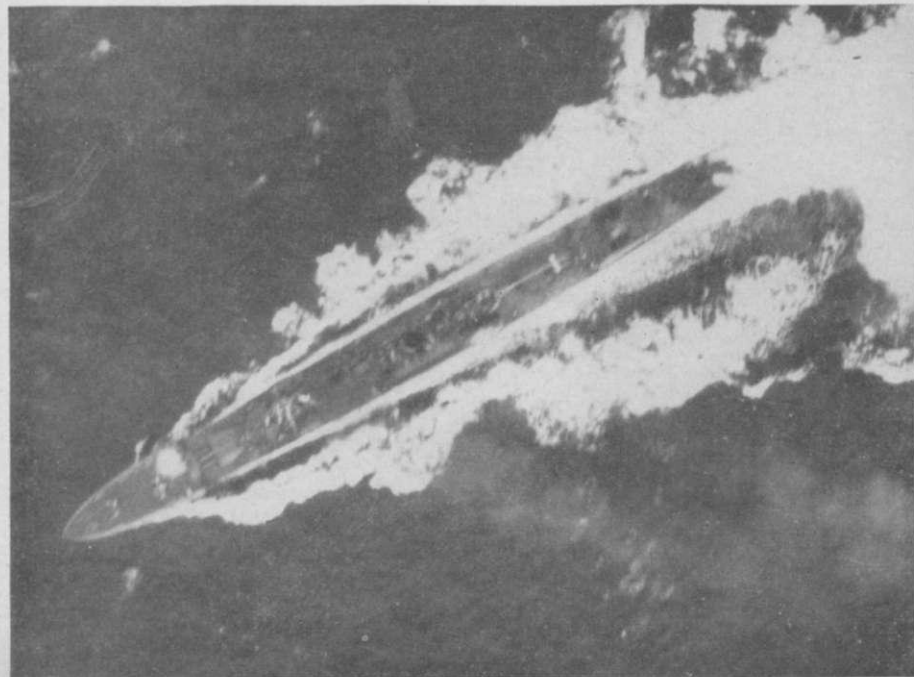
COMPLETED

3/25/26
 11/15/25
 12/21/25
 8/28/26
 9/14/26
 7/ 3/26
 11/20/26
 3/22/27
 4/30/27
 5/ 7/27
 10/31/27
 7/25/27

KAMIKAZE— DD 16
 ASAKAZE— DD 17
 HARUKAZE— DD 18
 MATSUKAZE— DD 19
 ASANAGI— DD 20
 HATAKAZE— DD 21
 OITE— DD 22
 HAYATE— DD 23
 YUNAGI— DD 24

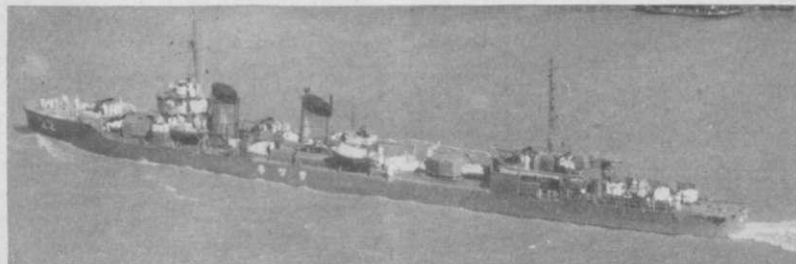
COMPLETED

28/12/22
 16/ 6/23
 31/ 5/23
 5/ 4/24
 29/12/24
 30/ 8/24
 30/10/25
 21/12/25
 24/ 4/25



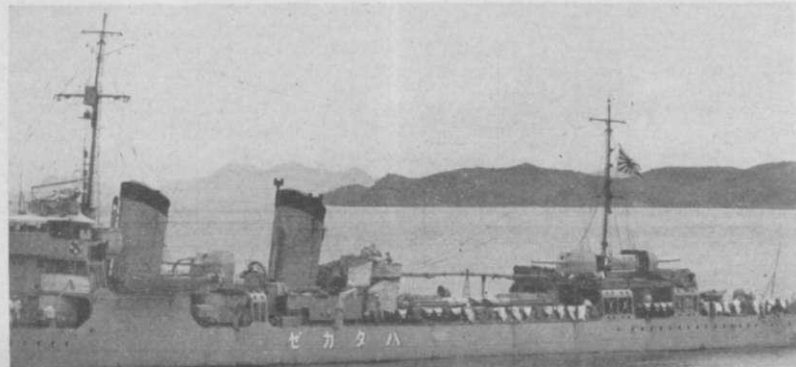
↑ NAGATSUKI 1/15/41

SATSUKI 8/18/37 ↓

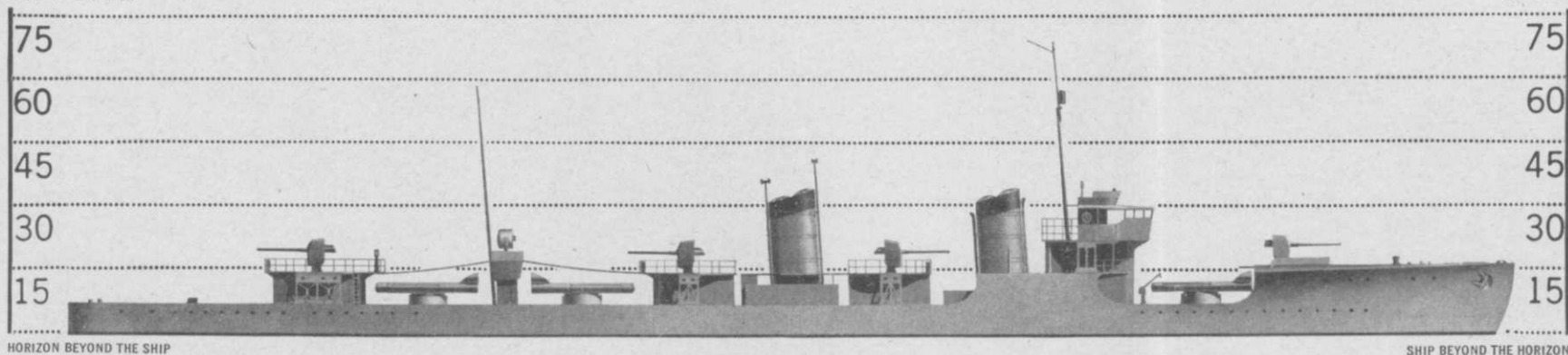


← 9/11/42

HATAKAZE (KAMIKAZE CLASS) 5/40 ↓



HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—336'6" OA
BEAM— 29'3"
DRAFT— 9'6" (MEAN)



DISPLACEMENT—1215 TONS (STANDARD) 1345 (NORMAL)

ARMAMENT

4-4.7" SHIELDS
2-1" AA
6-21" TORPEDO TUBES 10 TORPEDOES CARRIED
50-MINES; 14?-DEPTH CHARGES
2 ?-30" SEARCHLIGHTS
FITTED FOR MINESWEEPING

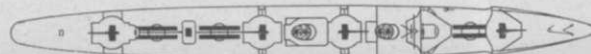
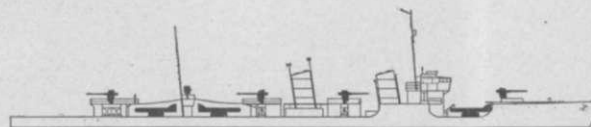
MAX. ELEV. 45°
RANGE (HORIZONTAL) 19,000 YDS.

PROPULSION

MACHINERY— 4 PARSONS
BOILERS— 4 KAMPON
DESIGNED HP—38,500
ENDURANCE— 4,100 @ 15 KNOTS

FUEL— OIL 315 TONS
DESIGNED SPEED—34 KNOTS
—900 @ 34 KNOTS

PROTECTION—SPLINTER PROTECTION FOR BRIDGE AND GUNS



15 MINEKAZE CLASS



MINEKAZE CLASS—DD 1-15

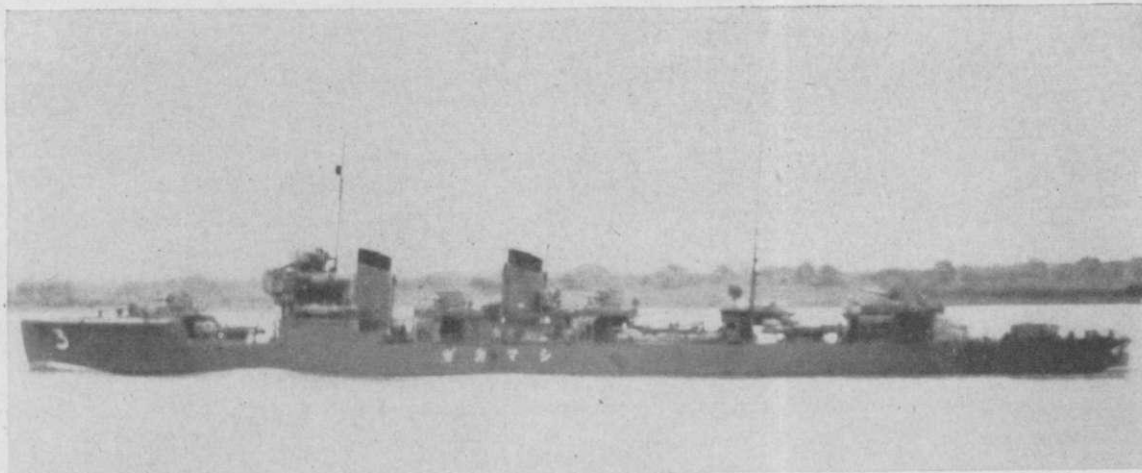
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JUNE, 1943

ONI 41-42

RESTRICTED

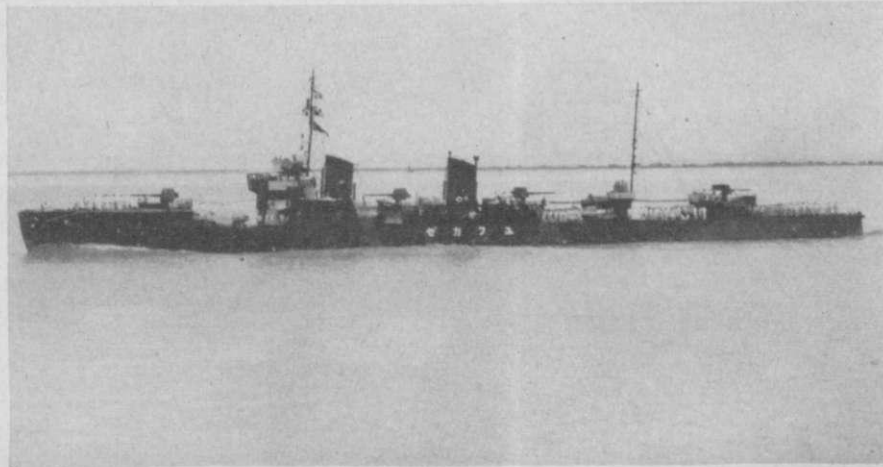
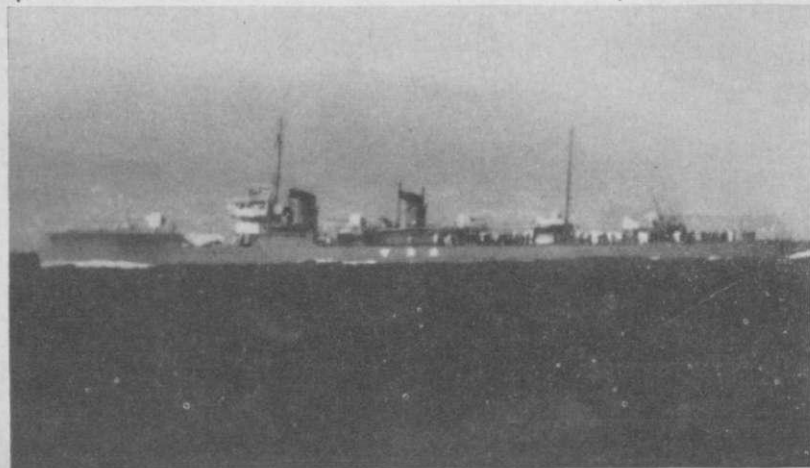
COMPLETED

MINEKAZE DD-1	1920
OKIKAZE DD-2	1920
SHIMAKAZE DD-3	1920
SAWAKAZE DD-4	1920
HAKAZE DD-5	1920
YAKAZE DD-6	1920
AKIKAZE DD-7	1921
YUKAZE DD-8	1921
HOKAZE DD-9	1921
SHIOKAZE DD-10	1921
TACHIKAZE DD-11	1921
NADAKAZE DD-12	1921
NAMIKAZE DD-13	1922
NUMAKAZE DD-14	1922
NOKAZE DD-15	1922
↓ HOKAZE—1939	



↑ 1938

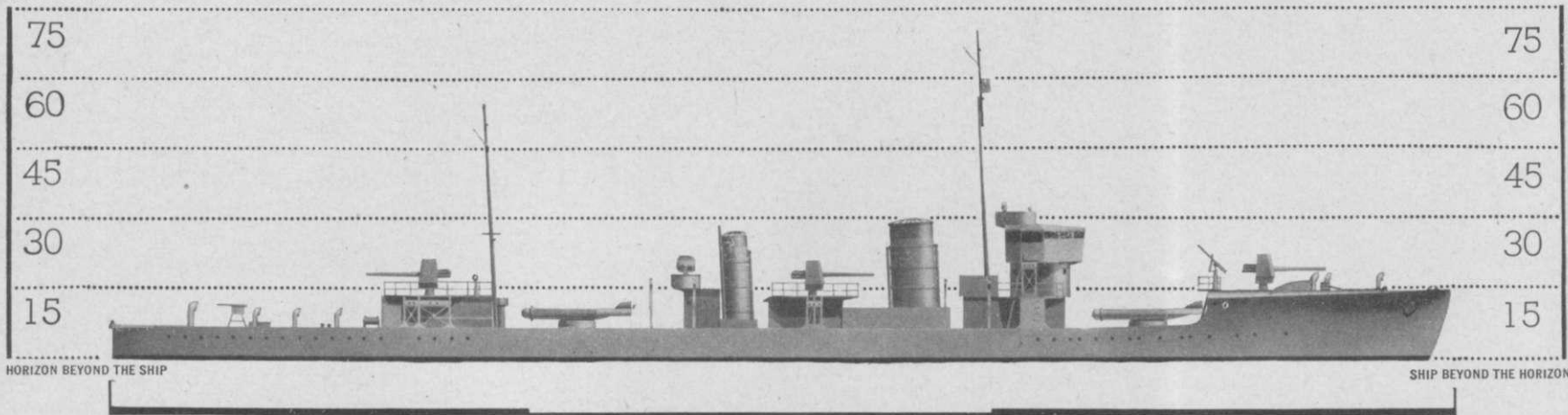
YUKAZE 8/26/37 ↓



ONI 41-42 RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57
HEIGHT OF OBSERVER

MOMI CLASS—ODD-4-22
IDENTICAL IN APPEARANCE

WAKATAKE CLASS—ODD-23-29
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JUNE, 1943



LENGTH—287' OA; 282' WL
BEAM— 26'6"
DRAFT— 8'3"



DISPLACEMENT—770 (M)—820 (W) TONS STANDARD

ARMAMENT

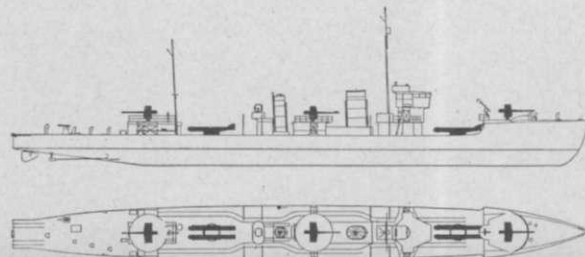
3-4.7" (45)
2-AAMG
4-21" TORPEDO TUBES
10 DEPTH CHARGES
SOME HAVE BEEN CONVERTED FOR MINELAYING

MAX. ELEV.
40°

MAX. RANGE (HORIZONTAL)
19,000 YARDS

PROPULSION

MACHINERY— PARSONS GEARED TURBINE
BOILERS— 3 KAMPON
FUEL— OIL —275 TONS
DESIGNED HP—21,500
MAX. SPEED— 31.5



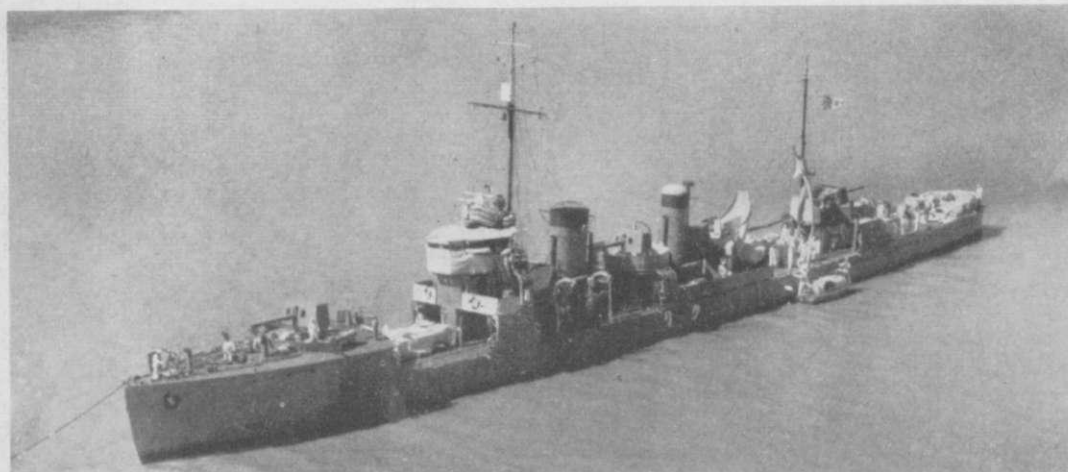


WAKATAKE CLASS—ODD-23-29

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JUNE, 1943

ONI 41-42

RESTRICTED



↑ KURI—8/18/37

HASU—8/18/37 ↓



WAKATAKE CLASS—ODD-23-29

ODD-23	WAKATAKE
ODD-24	KURETAKE
ODD-25	SANAYE
ODD-26	ASAGAO
ODD-27	FUYO
ODD-28	KARUKAYA
ODD-29	YUGAO

COMPLETED

1922
1922
1923
1923
1923
1923
1923
1923

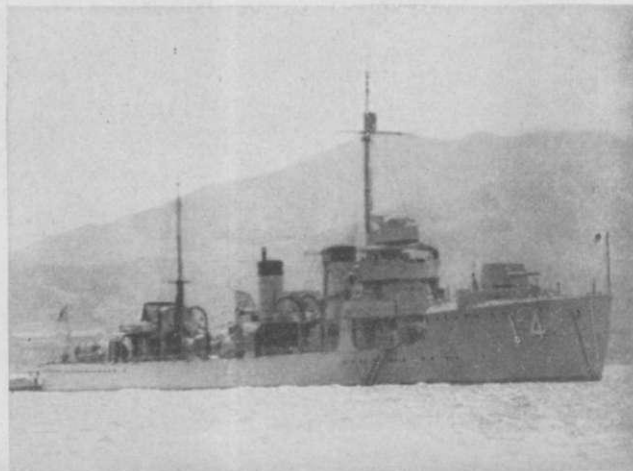
MOMI CLASS—ODD-4-22

ODD- 4	NASHI
ODD- 5	TAKE
ODD- 6	KAKA
ODD- 7	KURI
ODD- 8	NIRE
ODD- 9	AOI
ODD-10	KIKU
ODD-11	KAKI
ODD-12	TSUGA
ODD-13	HAGI

COMPLETED 1919-1923

ODD-14	SUSUKI
ODD-15	FUJI
ODD-16	ASHA
ODD-17	TSUTA
ODD-18	HASU
ODD-19	HISHI
ODD-20	TADE
ODD-21	YOMOGI
ODD-22	SUMIRA

HAGI—10/36 ↓



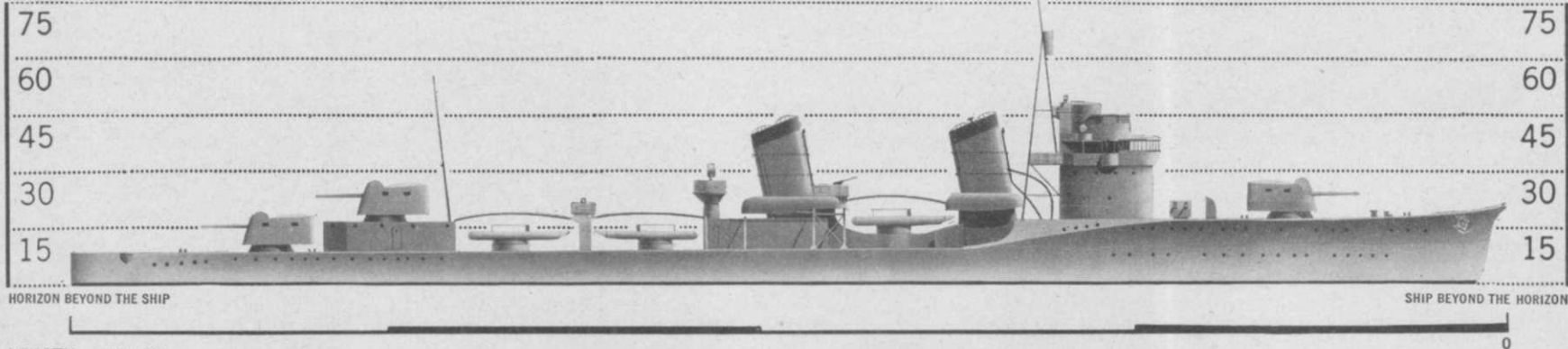
ONI 41-42 RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

FUBUKI CLASS—AMAGIRI GROUP—DD 45-55

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942



HEIGHT OF OBSERVER



LENGTH—379'6" OA
BEAM— 33'9"
DRAFT— 9'9" (NORMAL)



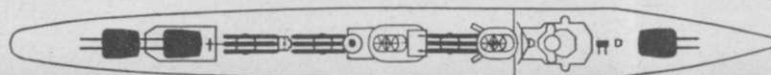
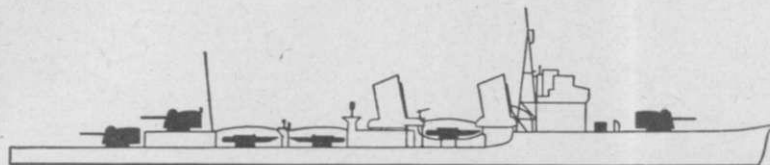
DISPLACEMENT—1,700 TONS (STANDARD)—1,850 TONS (NORMAL)

ARMAMENT

	MAX. ELEV.	RANGE
6-5" (50)	85°	18,000 YD.
2-AAMG		
9-21" TORPEDO TUBES, TRIPLE MOUNTS		
14 DEPTH CHARGES		

PROPULSION

MACHINERY—	2 PARSONS
BOILERS—	4 KAMPON
FUEL—	OIL, 500 TONS
DESIGNED HP—	40,000
DESIGNED SPEED—	34 KNOTS
ENDURANCE—	1,100 @ 34 KNOTS
	4,700 @ 15 KNOTS



FUBUKI CLASS



SHINONOME GROUP—DD 37-44



AMAGIRI GROUP—DD 45-55



HIBIKI GROUP—DD 56-59



FUBUKI CLASS—AMAGIRI GROUP—DD 45-55

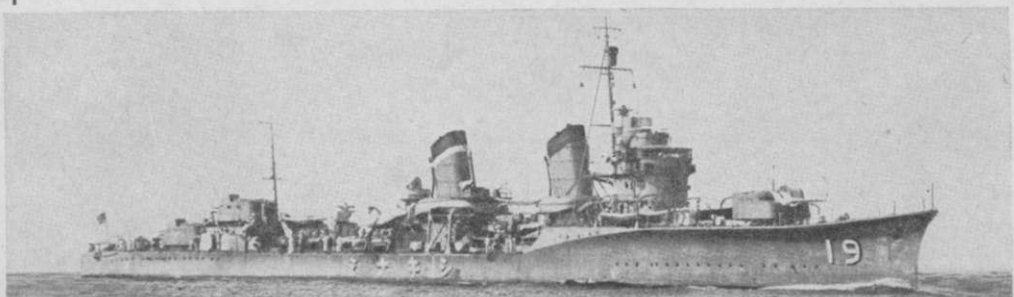
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

ONI 41-42

RESTRICTED



↑ OBORO



↑ SHIKINAMI

URANAMI ↓

DD 45—AMAGIRI
DD 46—SHIKINAMI
DD 47—AYANAMI
DD 48—ASAGIRI
DD 49—URANAMI
DD 50—YUGURI
DD 52—USHIO
DD 53—OBORO
DD 54—AKEBONO
DD 55—SAZANAMI

BEGUN

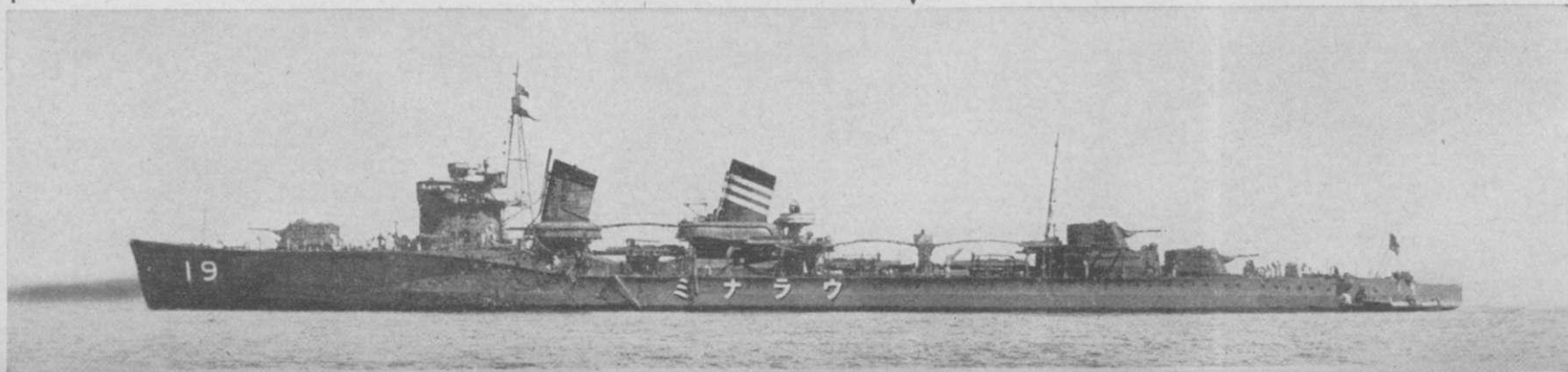
11/28/28
7/6/28
1/20/28
12/12/28
4/28/27
4/1/29
12/24/29
11/29/29
10/25/29
2/21/30

COMPLETED

11/10/30
12/24/29
4/30/30
6/30/30
6/30/29
12/3/30
11/14/31
10/31/31
7/31/31
5/19/32

(SIKINAMI)

(USIO)



ONI 41-42RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57**SHIGURE CLASS—DD 66-75**

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

**ARMAMENT**

5- 5" (50) AA (2 TWINS AND 1 SINGLE)
 2 AAMG
 8-21" TORPEDO TUBES (QUADS)
 ? MINES 16 DEPTH CHARGES

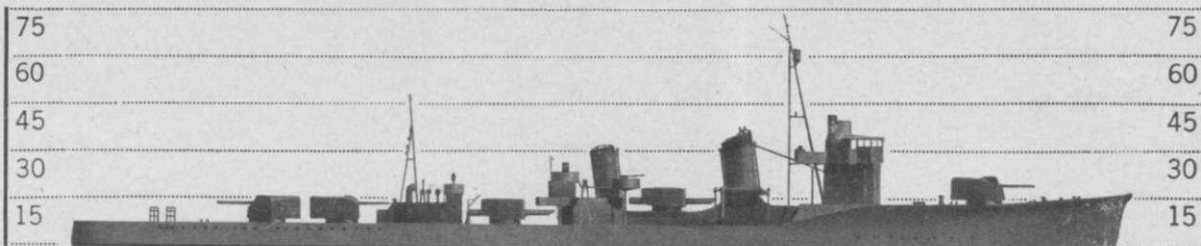
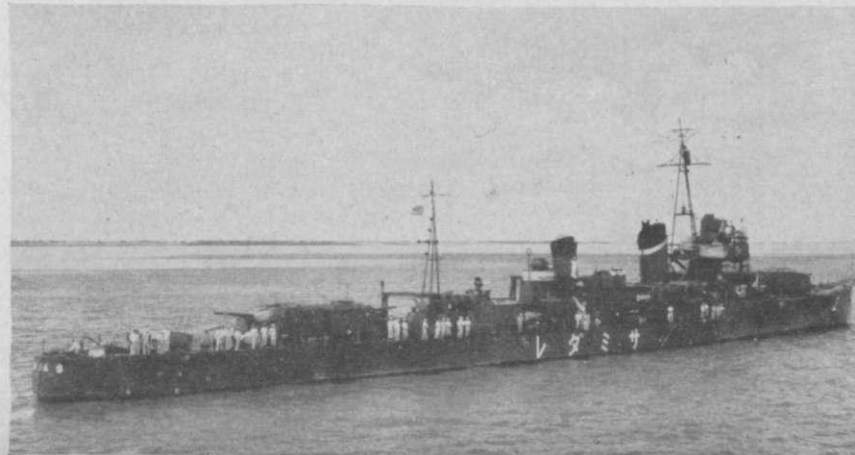
PROPULSION

MACHINERY— GEARED TURBINES
 BOILERS— FOUR KAMPON
 FUEL— OIL, 500
 DESIGNED HP— 37,000
 DESIGNED SPEED—34 KNOTS
 ENDURANCE— 6,000 MILES @ 15 KNOTS
 1,020 MILES @ 34 KNOTS

10 SHIGURE CLASS—DD 66-75



↓ SAMIDARE—SEPTEMBER 1937



LENGTH—341'3" OA 335'5" WL
 BEAM— 31'9"
 DRAFT— 9'3" (MEAN)



DISPLACEMENT—1,368 TONS (STANDARD)

KAWAKAZE ↓



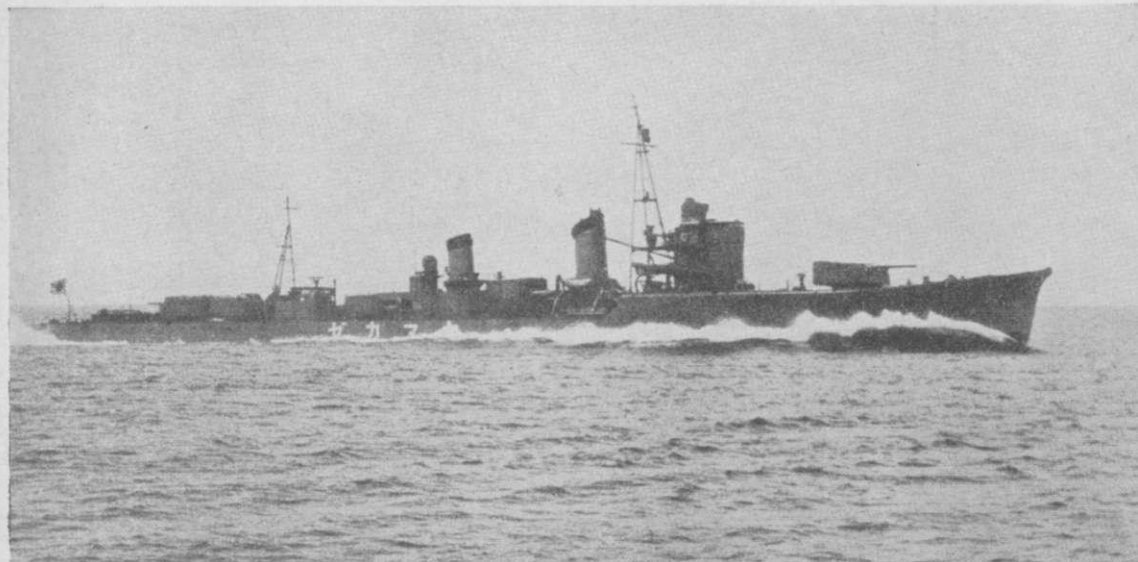


SHIGURE CLASS—DD 66-75

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JULY, 1943

ONI 41-42

RESTRICTED



	BEGUN	COMPLETED
SHIGURE— DD 66	12/9/33	9/7/36
SHIRATSUYU—DD 67	11/14/33	8/20/36
MURASAME— DD 68	2/1/34	1/7/37
YUDACHI— DD 69	10/16/34	11/1/36
HARUSAME— DD 70	2/3/35	9/?/37
SAMIDARE— DD 71	12/19/34	2/3/37
YAMAKAZE— DD 72	5/25/35	5/?/37
SUZUKAZE— DD 73	7/7/35	5/?/37
KAWAKAZE— DD 74	4/25/35	5/?/37
UMIKAZE— DD 75	4/5/35	5/31/37

↑ YAMAKAZE—9/38

↓ SAMIDARE—8/16/37—SHANGHAI

↓ YUDACHI—8/16/37—SHANGHAI ↓

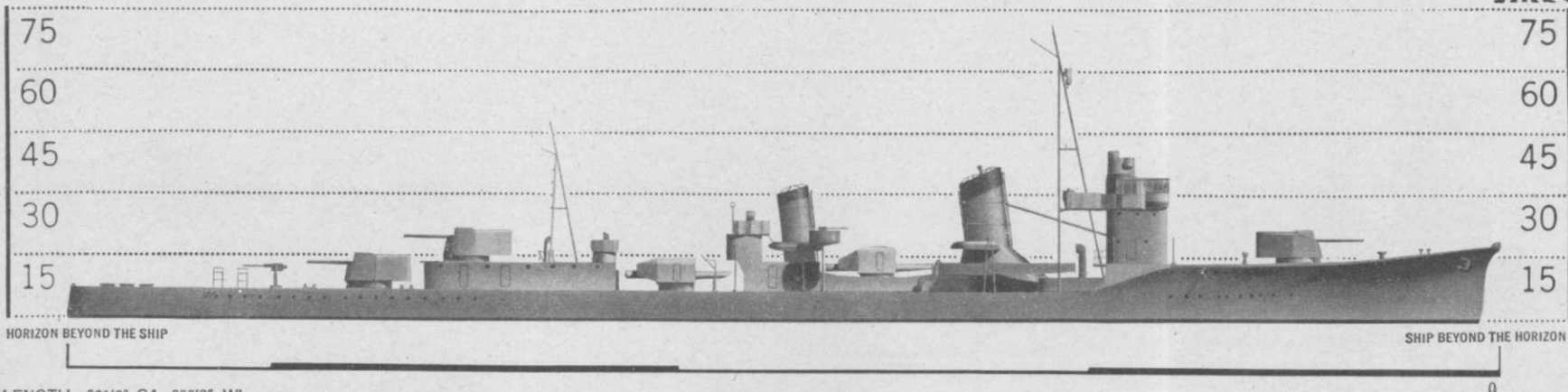


● ONI 41-42

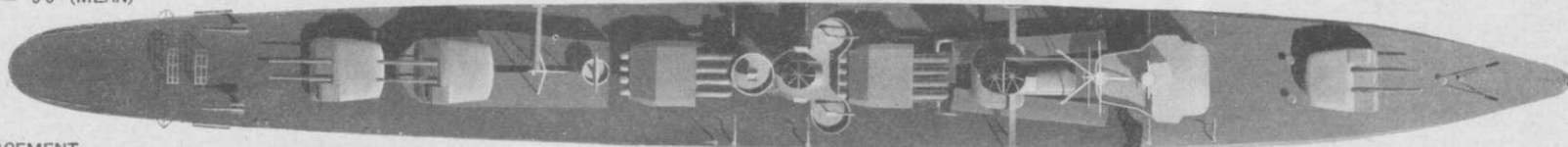
RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

ASASHIO CLASS—DD 76-85

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943



● LENGTH—361'6" OA, 356'2" WL
BEAM—33'4"
DRAFT—9'0" (MEAN)



DISPLACEMENT
1,500 TONS (STANDARD)

ARMAMENT

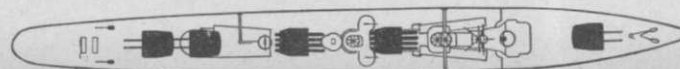
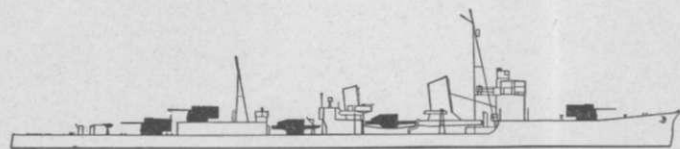
MAX. ELEV.

MAX. RANGE

6-5" TWIN MOUNTS
2 M.G.
8-21" TORPEDO TUBES (POSSIBLY 24")
14 (?) DEPTH CHARGES

PROPULSION

MACHINERY—	GEARED TURBINES
BOILERS—	THREE KAMPON
FUEL—	OIL, 500 TONS
DESIGNED HP—	38,000
DESIGNED SPEED—	34 KNOTS
ENDURANCE—	5,700 MILES @ 10 KNOTS
	960 MILES @ 34 KNOTS



10 ASASHIO CLASS—DD 76-85



KAGERO CLASS—DD 86-117
BELIEVED SIMILAR

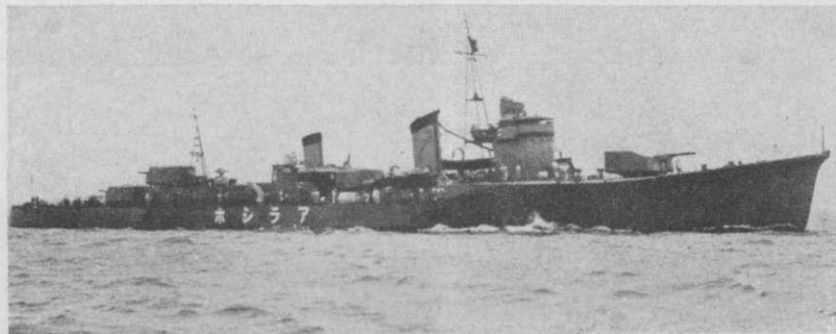
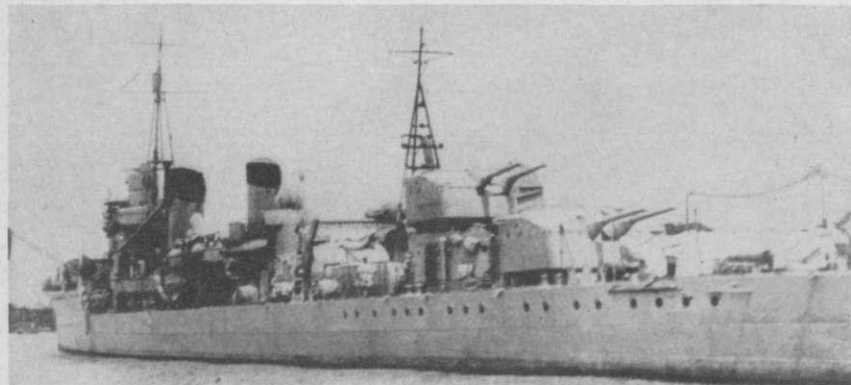


ASASHIO CLASS—DD 76-85

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

ONI 41-42

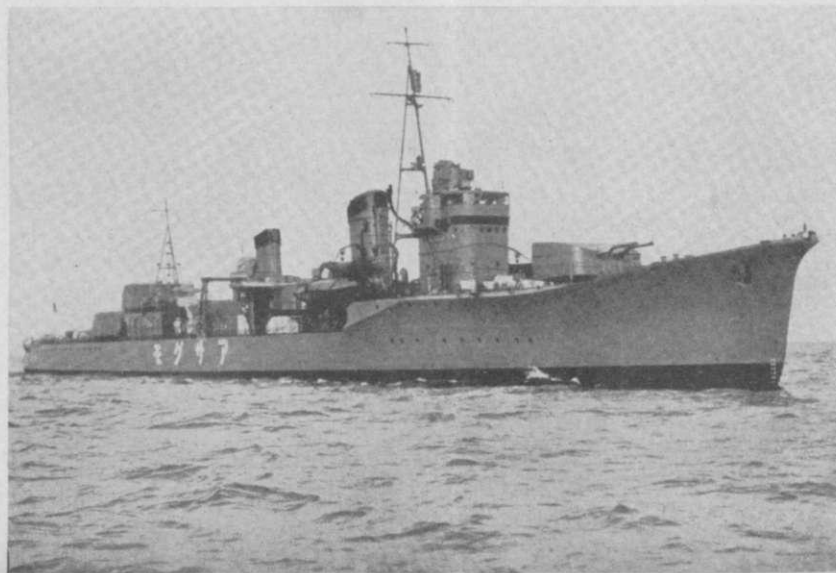
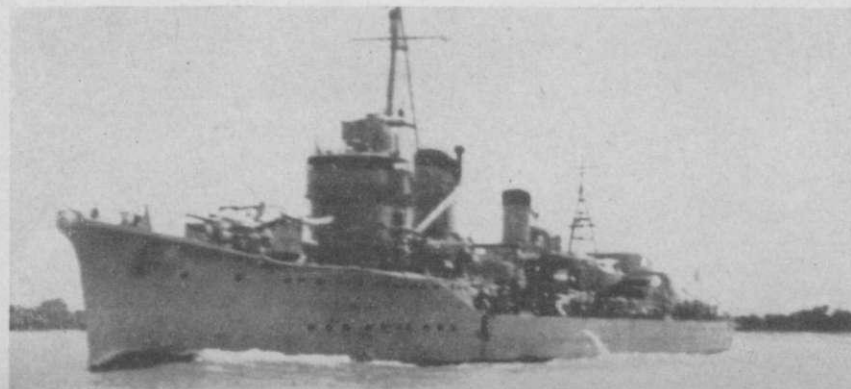
RESTRICTED



↑ ARASHIO 12/38

ASAGUMO 11/38 ↓

	BEGUN	COMPLETED	
ASASHIO— DD 76	9/ 7/35	8/31/37	
ARASHIO— DD 77	10/ 1/35	11/ 37	
OSHIO— DD 78	8/ 5/36	10/31/37	
MICHISHIO— DD 79	11/ 5/35	11/ 37	
ASAGUMO— DD 80	12/23/36	3/38	REPORTED WAR LOSS
YAMAGUMO— DD 81	11/ 4/36	3/38	REPORTED WAR LOSS
MINEGUMO— DD 82	1937	1938	
NATSUGUMO— DD 83	7/ 1/36	2/10/38	
KASUMI— DD 84	12/ 1/36	6/28/39	
ARARE— DD 85	3/ 5/37	4/15/39	



ONI 41-42

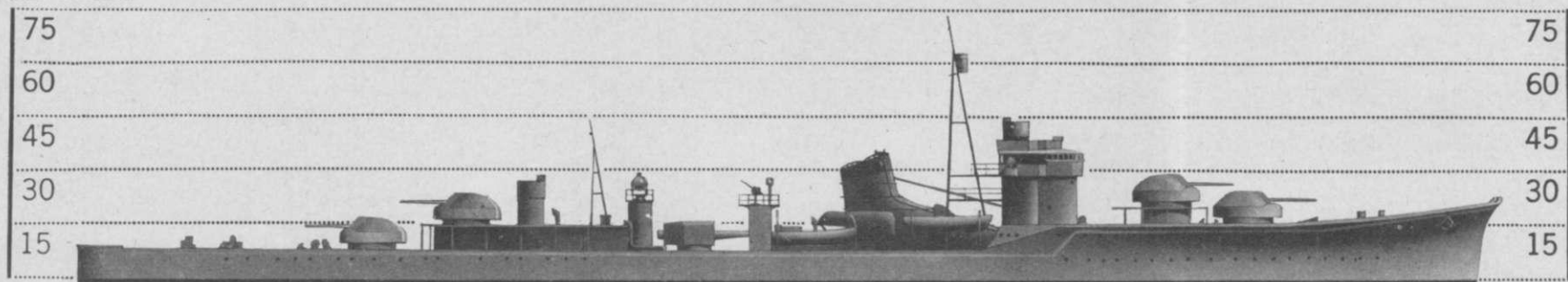
RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

TERUTSUKI CLASS*—DD III—

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—MARCH, 1943



HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—405' OA
BEAM —37'
DRAFT —?

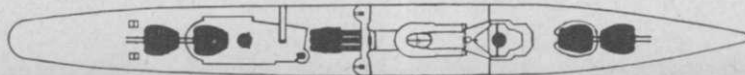
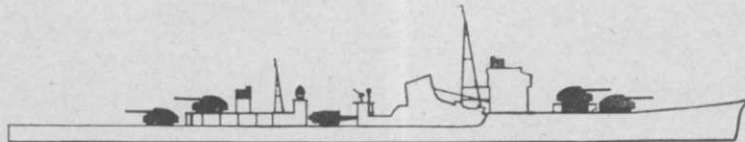


DISPLACEMENT—2,300 TONS (STANDARD)

ARMAMENT

8-5" (50) DUAL PURPOSE TWINS
? SMALL AA GUNS
3-21" OR 24" 5 TORPEDO TUBES
ONE OR MORE SETS OF RELOADS

DESIGN AND ARMAMENT SUGGESTS ESCORT OR SCREENING DUTIES



PROPULSION

DESIGNED SPEED—34 KNOTS (E)
THIS DATA ESTIMATED FROM PHOTOGRAPHIC
MATERIAL AND DESIGN TRENDS.



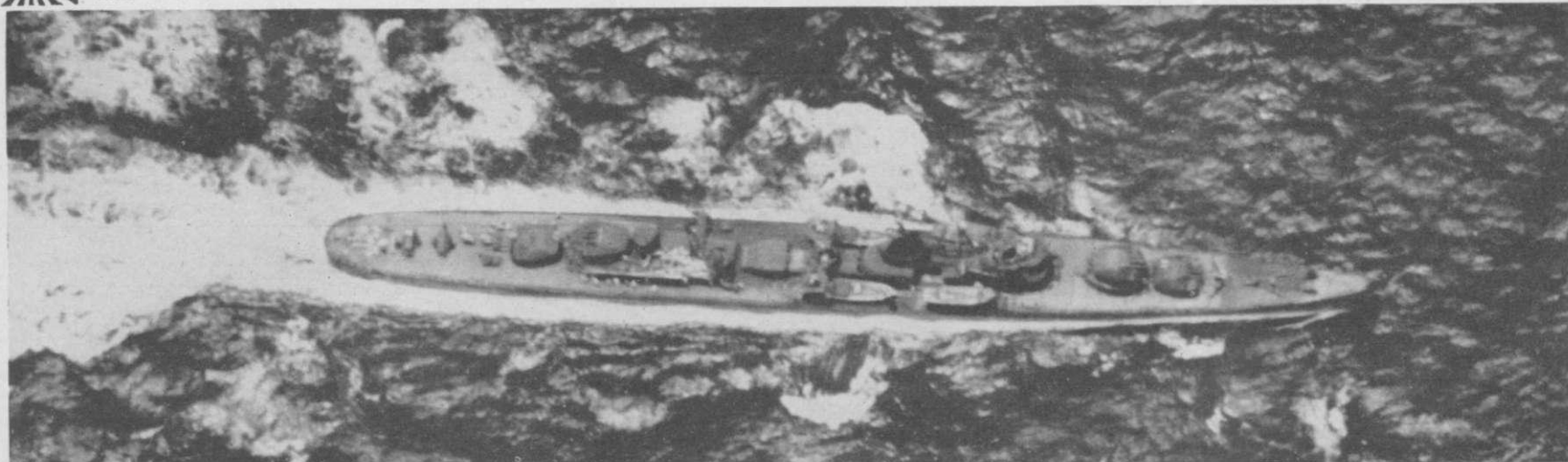
TERUTSUKI CLASS*—DD III—

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JANUARY, 1943

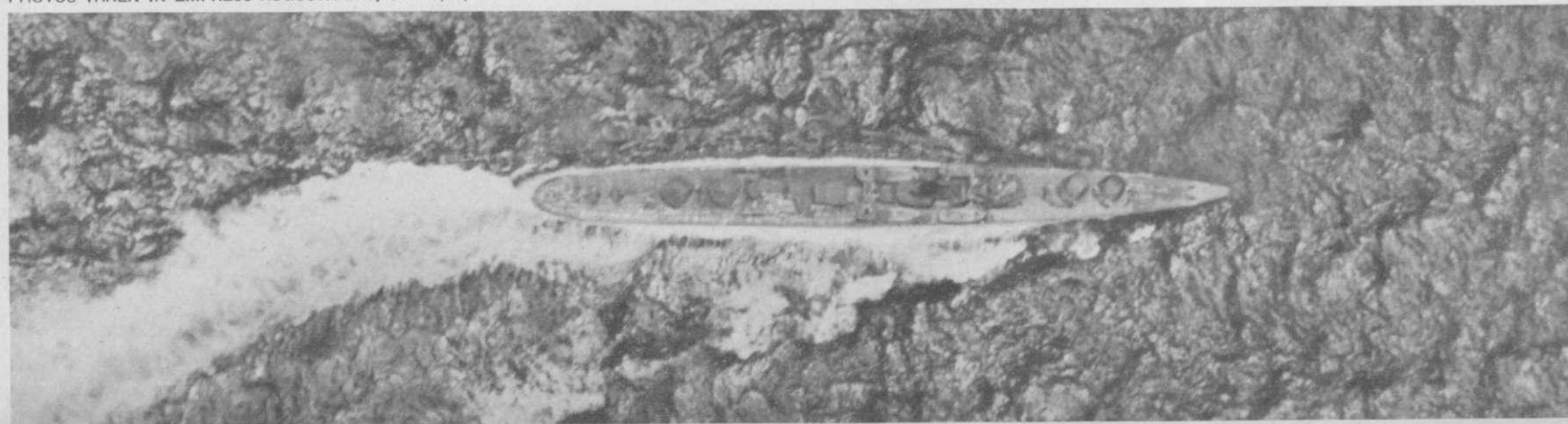
COMMISSIONED: 8/42
NUMBER, NAME OF SISTERS UNKNOWN

ONI 41-42

RESTRICTED



PHOTOS TAKEN IN EMPRESS AUGUSTA BAY, SWP 9/29/42



ONI 41-42 RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

FUBUKI CLASS—SHINONOME GROUP—DD 37-44

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—NOVEMBER, 1942



ARMAMENT

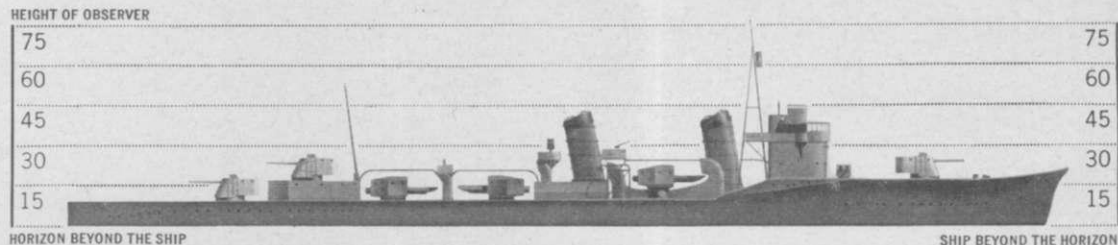
6-5" (50) TWIN TURRETS
2-AAMG
9-21" TORPEDO TUBES, TRIPLE MOUNTS
14 DEPTH CHARGES
SOME FITTED FOR MINELAYING

MAX. ELEV. 85°
RANGE 18,000 YD.

PROPULSION

MACHINERY— 2 PARSONS
BOILERS— 4 KAMPON
FUEL— OIL, 500 TONS
DESIGNED HP— 40,000
DESIGNED SPEED— 34 KNOTS
ENDURANCE— 1100 @ 34 KNOTS
4700 @ 15 KNOTS

LENGTH—379'6" OA
BEAM —33'9"
DRAFT —9'9" (NORMAL)

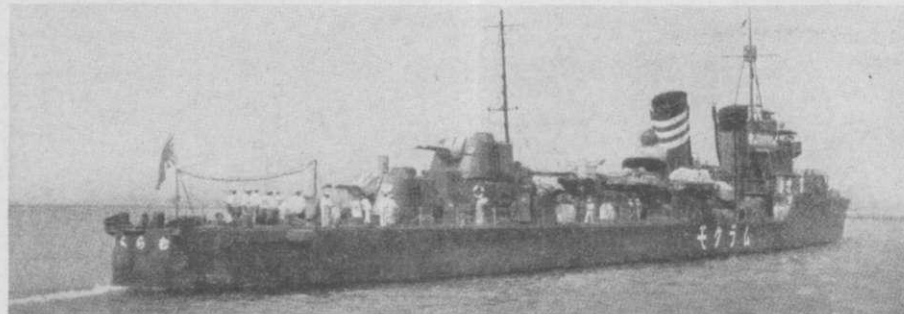
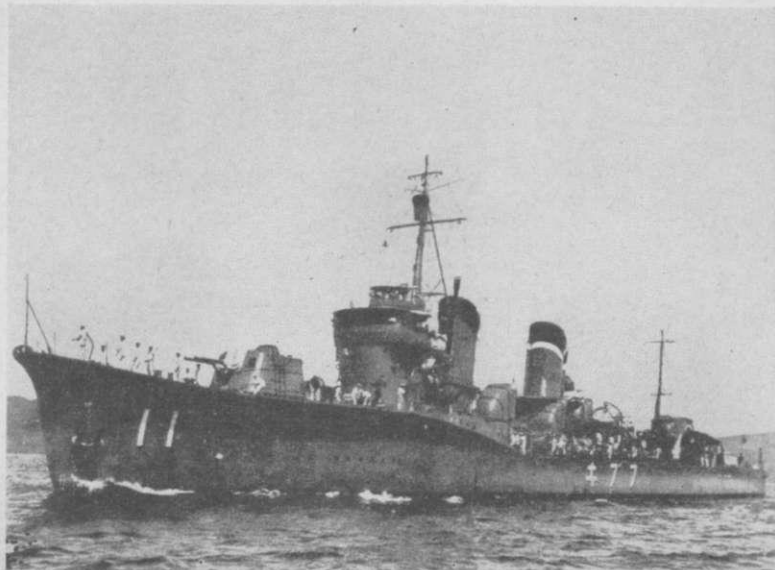


HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON



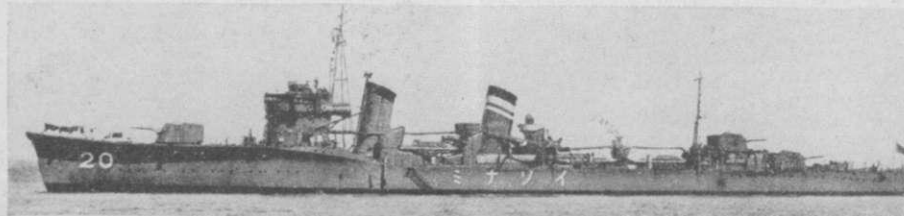
DISPLACEMENT—1,700 TONS (STANDARD)—1,850 TONS (NORMAL)



← FUBUKI

MURAKUMO ↑

ISONAMI 1934 ↓



ONI 41-42 RESTRICTED

FUBUKI CLASS—HIBIKI GROUP—DD 56-59

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942



ARMAMENT

6-5" (50) TWIN TURRETS

2-AAMG

9-21" TORPEDO TUBES, TRIPLE MOUNTS

14 DEPTH CHARGES

MAX. ELEV.

85°

RANGE

18,000 YD.

PROTECTION

GUN HOUSES, SPLINTER SHIELDS,
& TORPEDO-CREW SHIELDS

PROPULSION

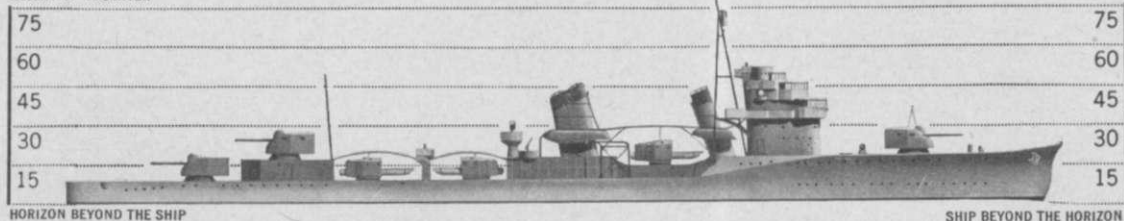
MACHINERY— 2 PARSONS
BOILERS— 4 KAMPON
FUEL— OIL, 500 TONS
DESIGNED HP— 40,000
DESIGNED SPEED— 34 KNOTS
ENDURANCE— 1100 @ 34 KNOTS
4700 @ 15 KNOTS

LENGTH—379'6" OA

BEAM —33'9"

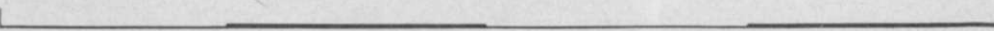
DRAFT —9'9" (NORMAL)

HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

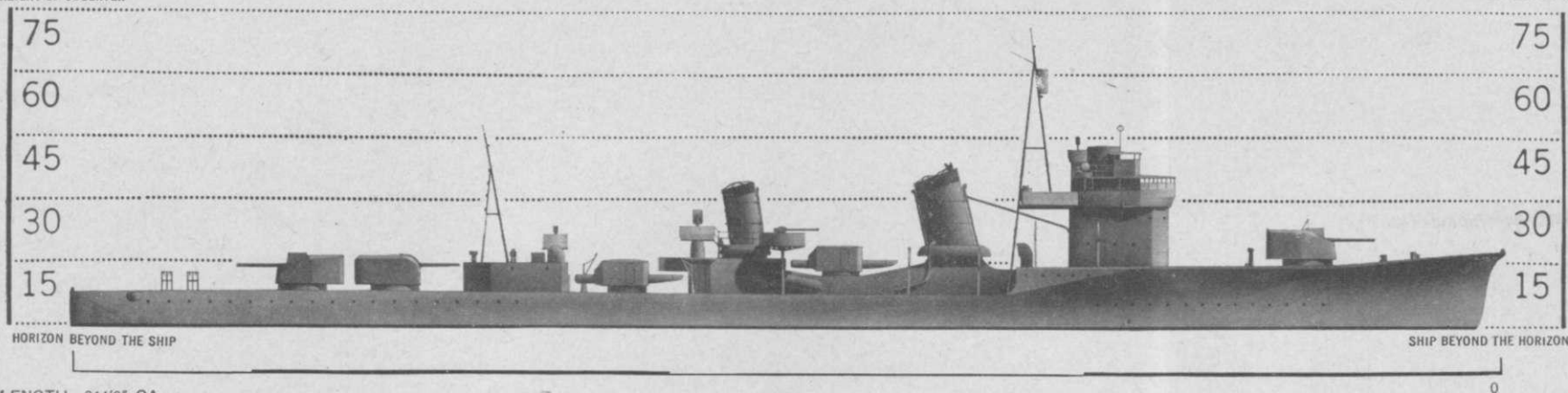


DISPLACEMENT—1,700 TONS (STANDARD)—1,850 TONS (NORMAL)

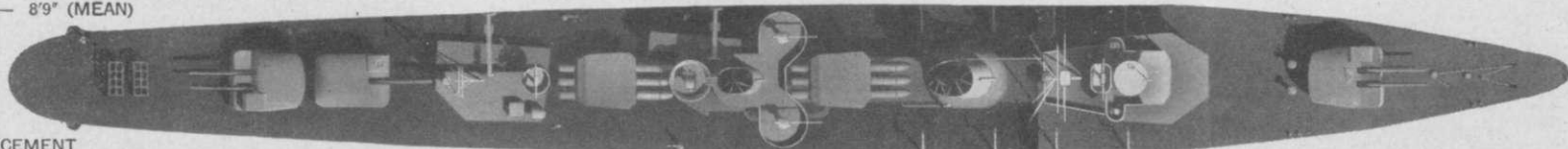


↑ IKAZUCHI

HEIGHT OF OBSERVER



LENGTH—344'0" OA
BEAM— 32'6"
DRAFT— 8'9" (MEAN)



DISPLACEMENT
1368 (STANDARD)

ARMAMENT

5-5" (50)	MAX. ELEV. 45°	RANGE 19,000 YDS.
2 AAMG		
6-21" TORPEDO TUBES, TRIPLE MOUNTS.		—14 DEPTH CHARGES

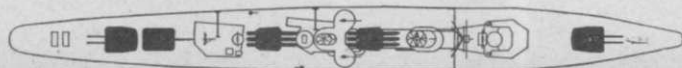
ORIGINALLY FITTED WITH SUPERFIRING GUNHOUSES FORWARD AND ONE AFT. TO IMPROVE STABILITY THE HIGH SINGLE MOUNT FORWARD WAS MOVED AFT, THE BRIDGE CUT DOWN, AND TORPEDO BATTERY REDUCED.

PROPULSION

MACHINERY—GEARED TURBINES
BOILERS— 3 KAMPON
FUEL— OIL, 500 TONS
DES HP— 37,000
ENDURANCE—1020 @ 34 KNOTS—6000 @ 15 KNOTS
PROPELLERS—2
DES SPEED—34 KNOTS

PROTECTION

LIGHT SPLINTER PROTECTION (1/8") FOR GUN HOUSES AND TORPEDO CONTROL STATIONS. ELECTRIC WELDING USED.



6 HATSUHARU CLASS



- HATSUHARU— DD 60
- HATSUSHIMO—DD 61
- NENOHI— DD 62
- WAKABA— DD 63
- ARIAKE— DD 64
- YUGURE— DD 65



HATSUHARU CLASS—DD 60-65

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—APRIL, 1943

	BEGUN	COMPLETED
HATSUHARU —DD60	5/14/31	9/30/33
HATSUSHIMO—DD61	1/31/33	9/27/34
NENOHI —DD62	12/15/31	9/30/33

	BEGUN	COMPLETED
WAKABA—DD63	12/12/31	10/31/34
ARIAKE —DD64	1/14/33	3/25/35
YUGURE—DD65	4/ 9/33	3/30/35

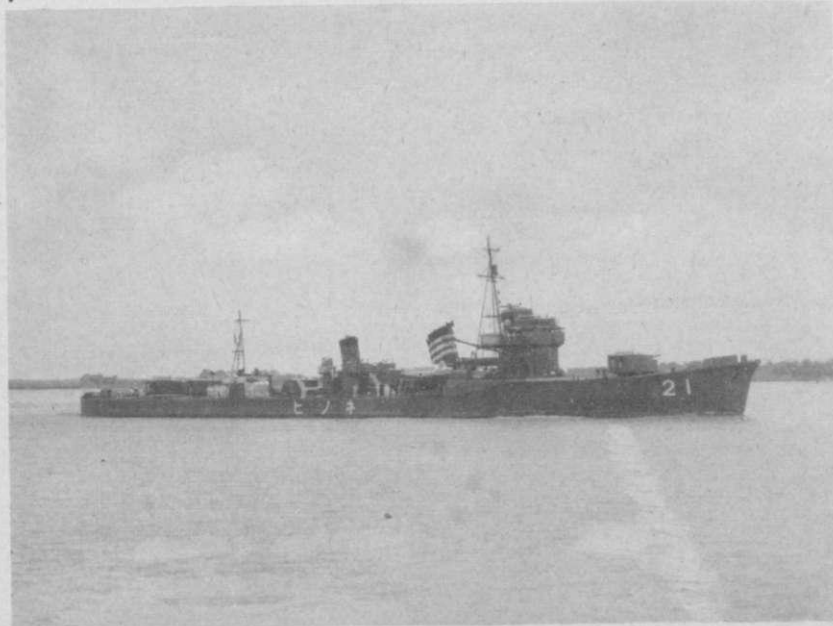


↓ NENOHI—8/18/37



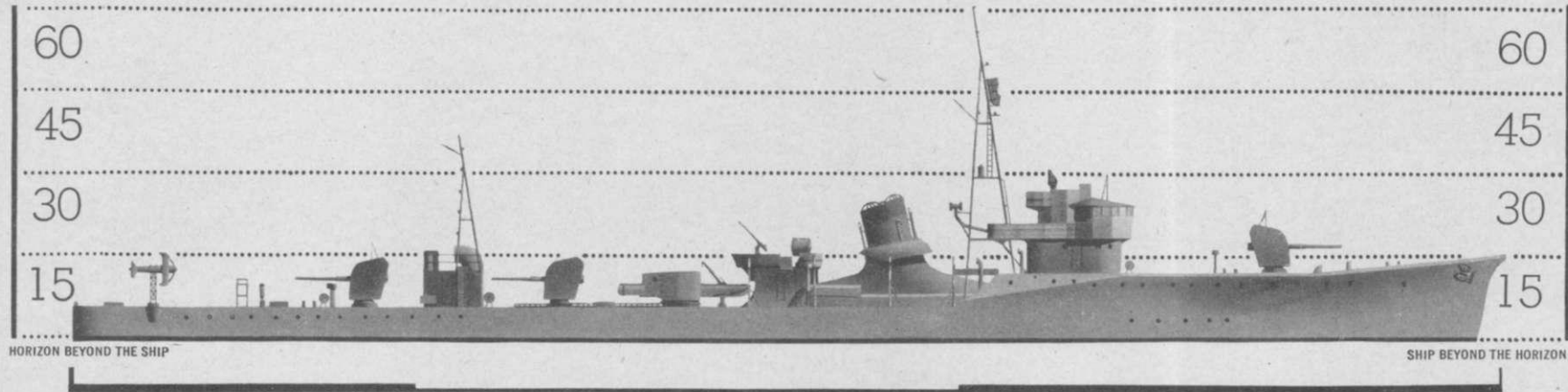
↑ 1941—YUGURE—8/16/37 ↑

HATSUSHIMO—8/18/37 ↓





HEIGHT OF OBSERVER



LENGTH—268'6" OA
BEAM— 25'10"
DRAFT— 6'9" (MEAN)



DISPLACEMENT—527-595 TONS (STANDARD)

ARMAMENT

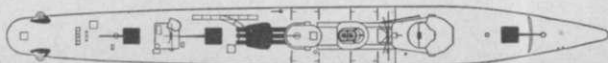
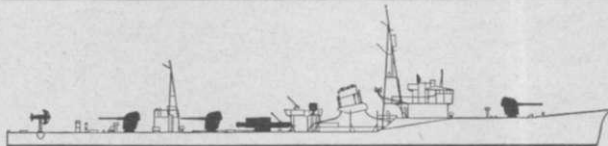
3-4.7
1-2-AAMG
3-21" TORPEDO TUBES

MAX. ELEV.
85°

MAX. RANGE (HORIZONTAL)
19,000 YDS.

PROPULSION

MACHINERY— 2 PARSONS
BOILERS— 2 KAMPON
FUEL— OIL 100-150 TONS
DESIGNED HP— 7,000-9,000
DESIGNED SPEED—26-28 KNOTS



4 CHIDORI CLASS



8 OTORI CLASS



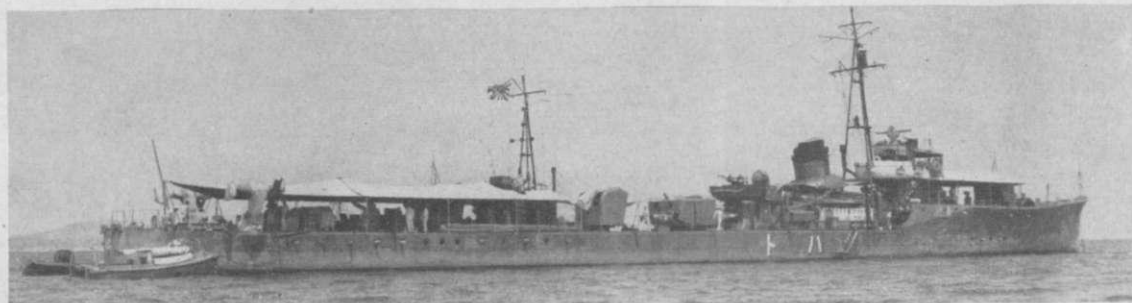
CHIDORI CLASS—TB 1-4

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JUNE, 1943

ONI 41-42

RESTRICTED

CHIDORI CLASS	BEGUN	COMPLETED
CHIDORI— TB 1	10/13/31	11/20/33
MANAZURU—TB 2	12/22/31	11/31/34
TOMOZURU—TB 3	11/11/32	2/24/34
HATSUKARI—TB 4	4/ 6/33	7/15/34
OTORI CLASS		
OTORI— TB 5	11/ 8/34	10/10/36
HAYABUSA—TB 6	12/19/34	12/27/36
HIYODORI—TB 7	11/26/34	12/20/36
KASASAGI —TB 8	3/ 4 /35	1/15/37
HATO— TB 9	5/28/36	8/ 7 /37
SAGI— TB 10	5/20/36	7/31/37
KARI— TB 11	5/11/36	9/20/37
KIJI TB 12	10/24/35	7/31/37



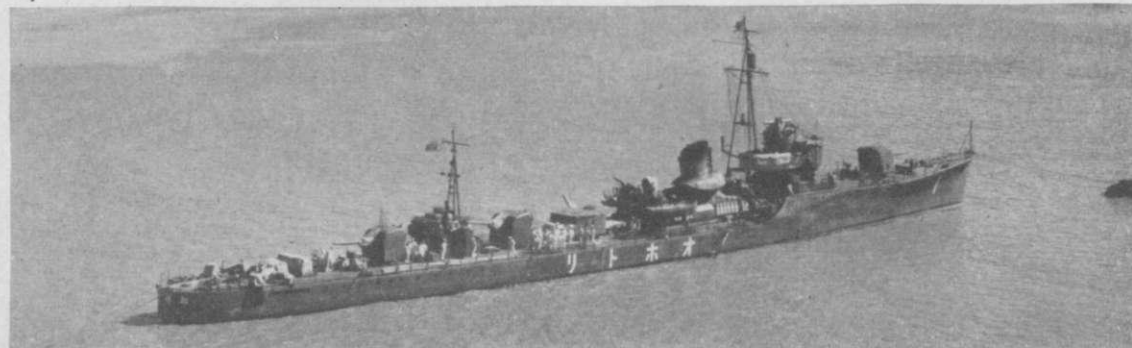
↓ HATSUKARI—TB 4

8/18/37



↑ HATO—TB 9—12/1/39

OTORI—TB 5—8/18/37 ↓



GERMAN NAVAL VESSELS



**SIMPLIFIED
SILHOUETTES**



BATTLESHIPS-BB



TIRPITZ



SCHARNHORST
GNEISENAU

HEAVY CRUISERS-CA



ADMIRAL HIPPER
PRINZ EUGEN



ADMIRAL SCHEER



LUTZOW

AIRCRAFT CARRIERS-CV



GRAF ZEPPELIN

LIGHT CRUISERS-CL



KÖLN



NÜRNBERG

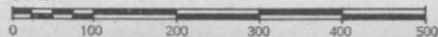


LEIPZIG



EMDEN

SCALE



DESTROYERS-DD



MAASZ CLASS



"NARVIK"-ROEDER CLASS



WOLF-MÖWE CLASS

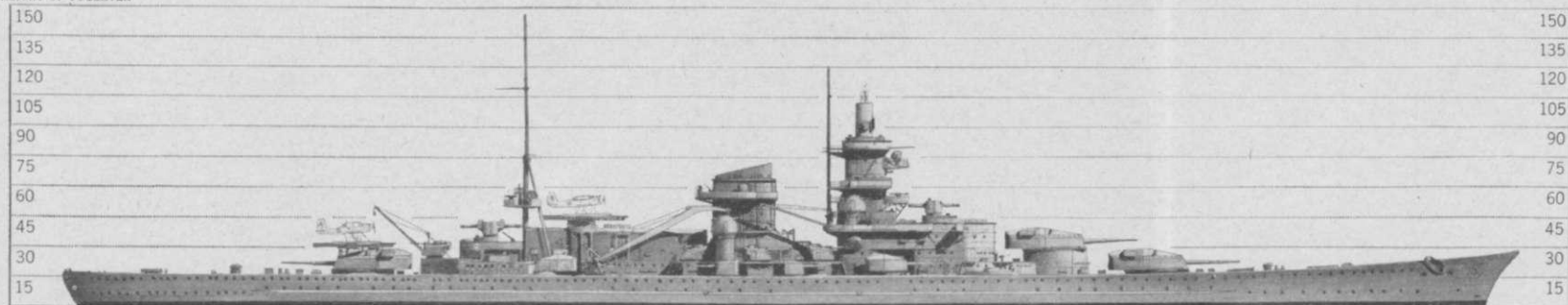


T-1 CLASS



M-1 CLASS

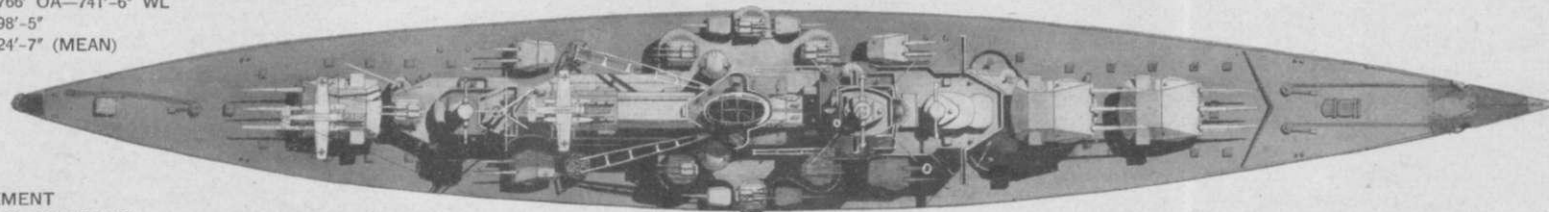
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

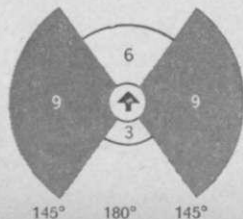
LENGTH 766' OA—741'-6" WL
BEAM 98'-5"
DRAFT 24'-7" (MEAN)



DISPLACEMENT
26,000 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY

36° 0° 36°



ARMAMENT

9-11" TRIPLE TURRETS
12-5'9" (8 IN TWIN TURRETS)
(4 IN SINGLE SHIELDS)
14-4" TWIN A.A. SHIELD

16 PLUS SMALLER A.A.
2 CATAPULTS, 4 SEAPLANE SCOUTS

MAX. ELEV.

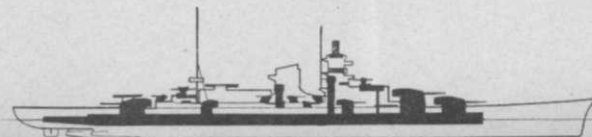
42.5°
60°
70°
(SLANT)

RANGE

37,000 YD.
27,000 YD.
17,000 YD.

PROTECTION

BELT—12"6 MAIN—7"8 LOWER—(UNDER WATER)
TURRETS—14'3" FACE PLATES—10"6 SIDES—6"2 CROWNS
BARBETTES 10"
CONNING TOWER
SECONDARY BATTERY 2" (MAX.) ON TURRETS AND BARBETTES
DECKS—2" SECOND DECK 5'9" TO 4" THIRD DECK
THICKEST OVER VITALS.



KNOTS RPM

.....	350
.....	300
30 1/4	275
.....	250
.....	245
27	240
.....	220
23	200
18	160
.....	150
12 1/2	120
.....	80

DES. SPD 28 KTS
DES. HP 80,000



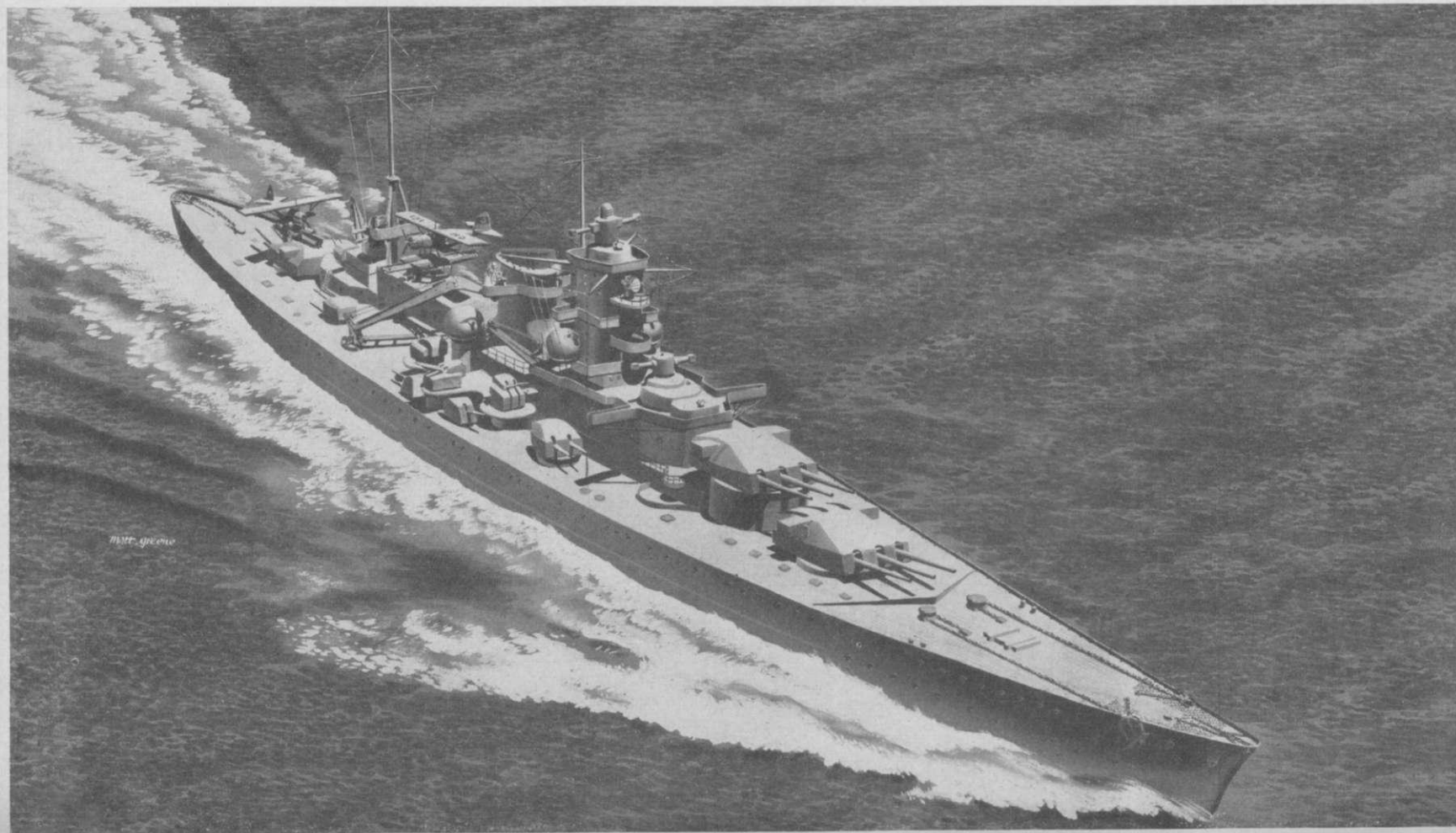
SCHARNHORST—BB 2

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JULY, 1942

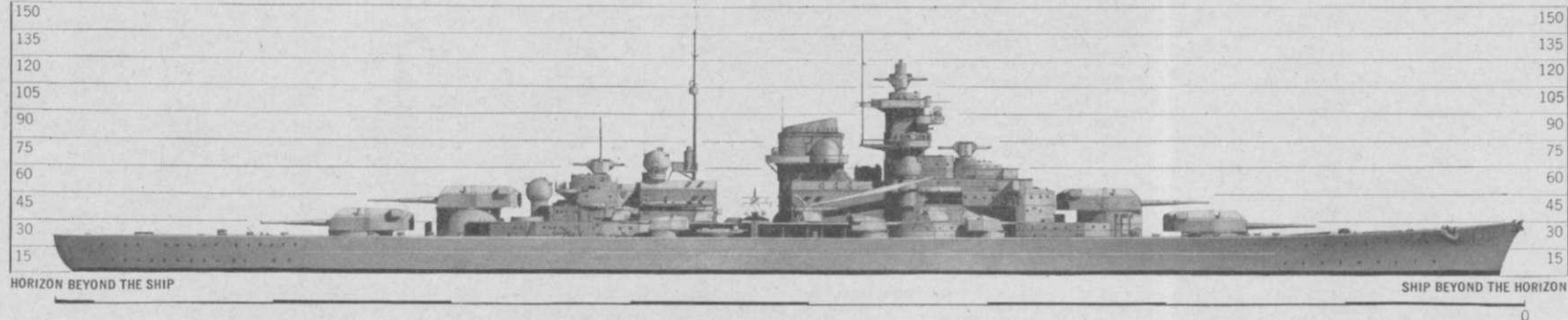
BEGUN FEBRUARY 14, 1934. COMPLETED JANUARY 7, 1939
SISTER SHIP—GNEISENAU BB 1

ONI 204

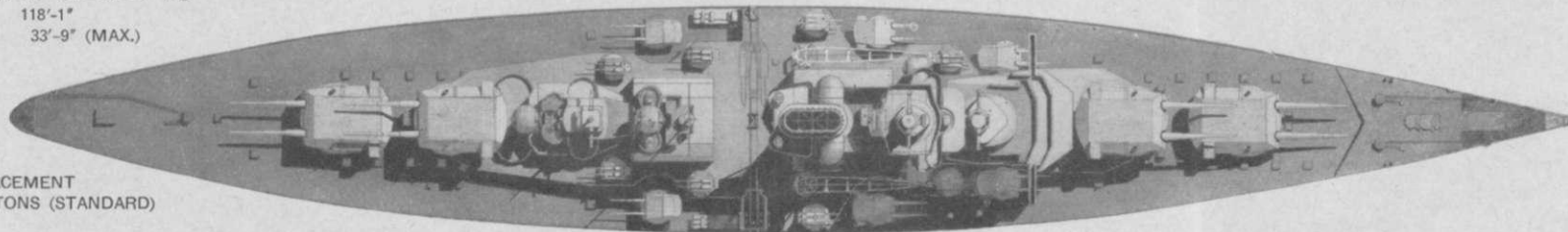
RESTRICTED



HEIGHT OF OBSERVER

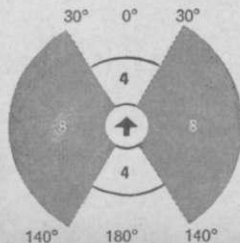


LENGTH 817' OA—792'-4" WL
BEAM 118'-1"
DRAFT 33'-9" (MAX.)



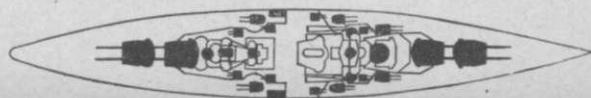
DISPLACEMENT
41,500 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY



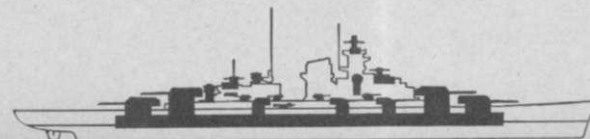
ARMAMENT

8-15"	TWIN TURRET	40-45°	41,500 YD.
12-5.9"	TWIN TURRET	45°	27,000 YD.
16-4.1"	TWIN A.A. SHIELD	70°	17,000 YD.
		(SLANT)	YD.
40	SMALLER A.A.		
6-21" TORPEDO TUBES (TRIPLES)			
4 SEAPLANE SCOUTS 2 CATAPULTS (ATHWARTSHIPS)			



PROTECTION

BELT—13" MAIN 5.7" UPPER
TURRETS—13.8" FACE PLATES 7.9" SIDES 6" CROWNS
CONNING TOWER 12.6"
BARBETTES 13.8"
SECONDARIES 2" (MAX.) ON TURRETS AND BARBETTES
DECKS—2" MAIN DECK 4.75"—3.2" THIRD DECK
THICKEST OVER VITALS



KNOTS R.P.M.

.....	300
.....	275
.....	250
.....	245
31	240
30	220
.....	200
.....	160
.....	150
.....	120
.....	80

DES. SPD. DES. H.P.
30 1/4 KTS 150,000

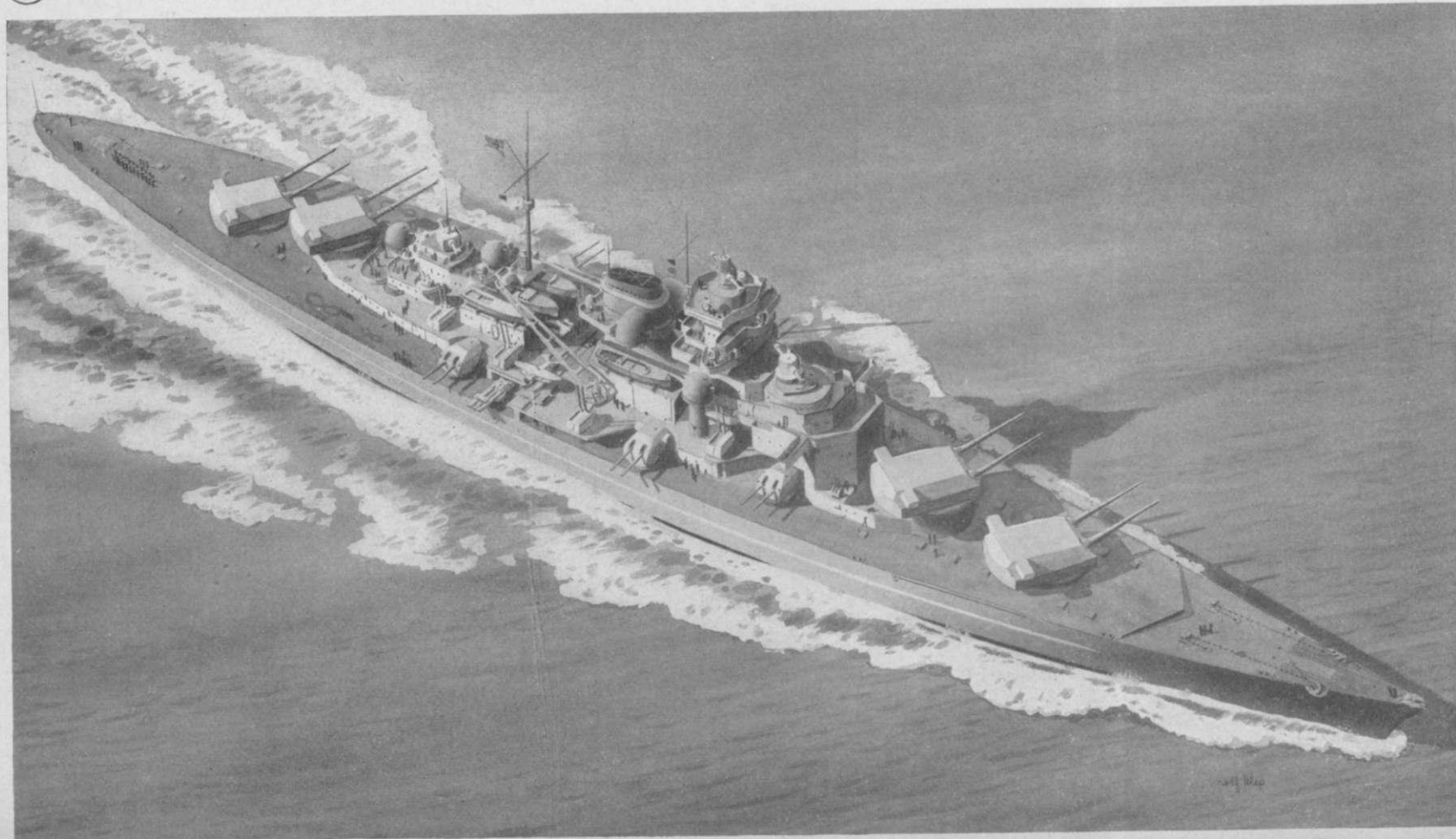


TIRPITZ—BB4

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1942

BEGUN—OCTOBER 24, 1936. COMPLETED—NOVEMBER 10, 1940
SISTER SHIP—BISMARCK—SUNK MAY 27, 1941

ONI 204
RESTRICTED



ONI 204 RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

GRAF ZEPPELIN—CV1 

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—SEPTEMBER, 1942

HEIGHT OF OBSERVER



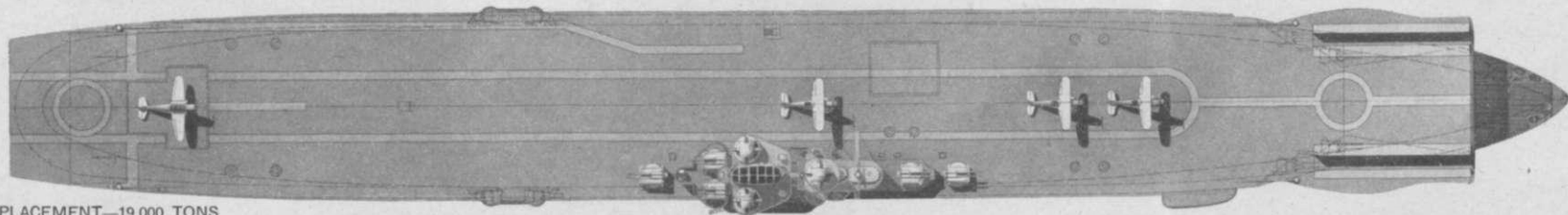
HORIZON BEYOND THE SHIP

LENGTH—820' WL 850' OA (EST)

BEAM —88'-7"

DRAFT —18'-4"

SHIP BEYOND THE HORIZON



DISPLACEMENT—19,000 TONS

ARMAMENT

16-5"9

10-4"1

18-1"46 AA

4-0"79 AA

AIRCRAFT—40 (OFFICIAL)

PROTECTION

BELT—2-1/2"

CASEMATES FOR 5"9 GUNS

PROPULSION

HP —110,000

SPEED—32 KNOTS



IT IS KNOWN THAT CERTAIN SUPERSTRUCTURAL FEATURES, INCLUDING AA BATTERY DISPOSITION, VARY FROM THESE DRAWINGS, WHICH ARE BELIEVED SUBSTANTIALLY CORRECT FOR HULL PROPORTION AND GENERAL OUTLINE. DETAILS OF PROFILES, AIR VIEWS AND TARGET ANGLES AWAIT BETTER RECONNAISSANCE PHOTOGRAPHS.



GRAF ZEPPELIN—CV1

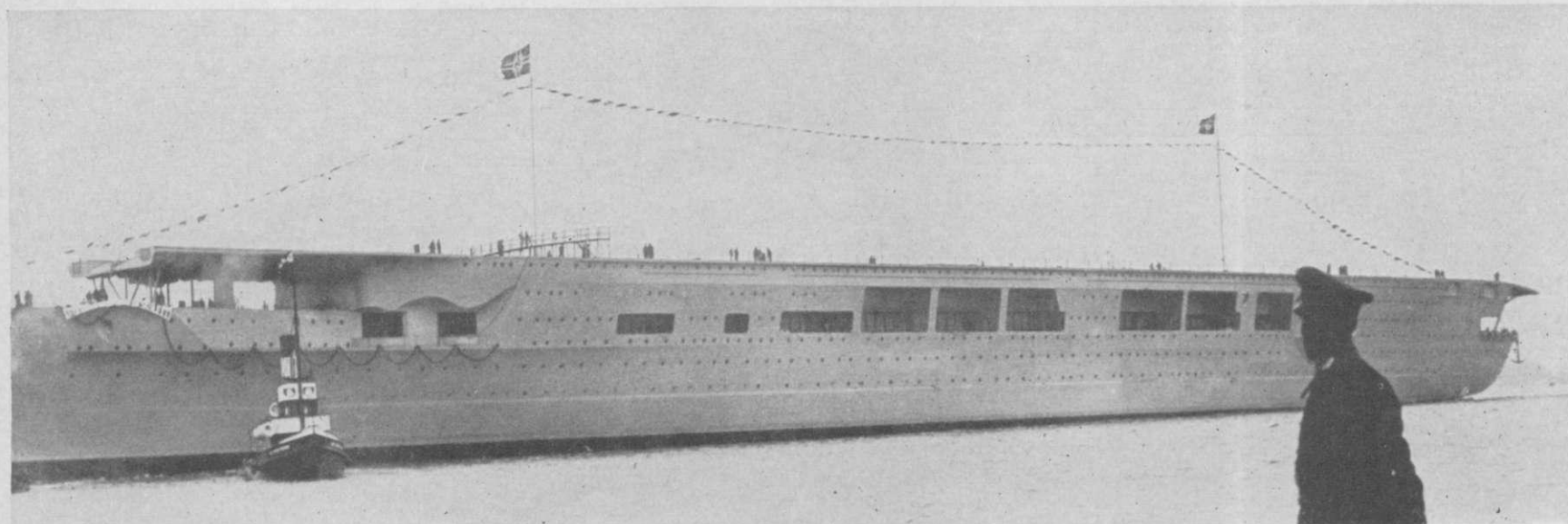
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—SEPTEMBER, 1942

BEGUN—DECEMBER 1, 1936

DATA ON GERMAN CARRIERS IS LACKING IN SEVERAL IMPORTANT
DETAILS, INCLUDING COMPLETION DATE OF GRAF ZEPPELIN.

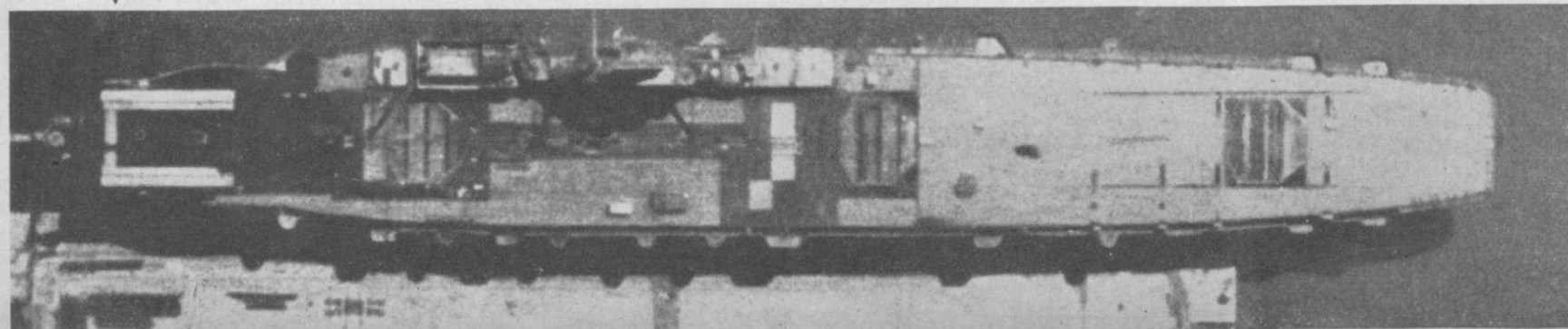
ONI 204

RESTRICTED



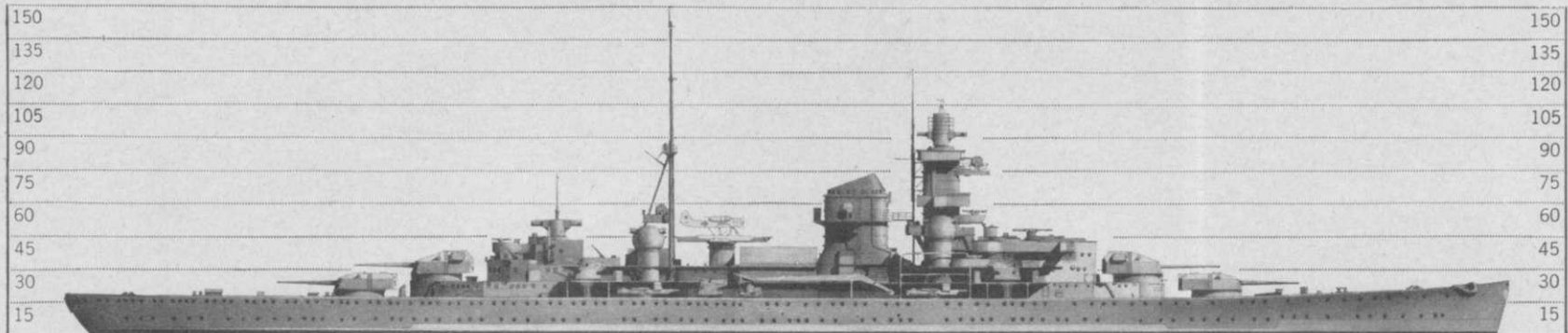
R.A.F., 1941 ↓

DECEMBER 8, 1938 ↑





HEIGHT OF OBSERVER

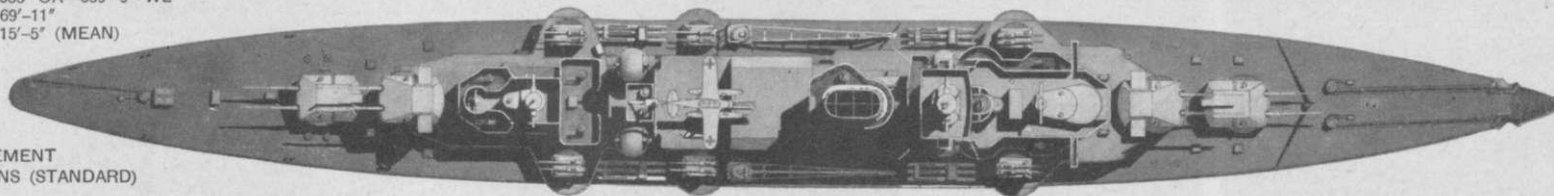


HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

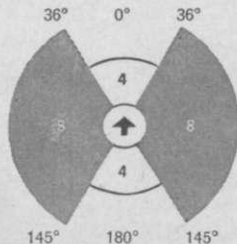
0

LENGTH 655' OA—639'-9" WL
BEAM 69'-11"
DRAFT 15'-5" (MEAN)



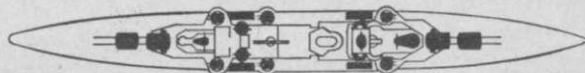
DISPLACEMENT
10,000 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

8-8" TWIN TURRETS
12-4"1 (D.P.)
12 (PLUS) A.A.
12-21" TORPEDO TUBES (TRIPLES)
1 CATAPULT, 3 SEAPLANE SCOUTS



MAX. ELEV

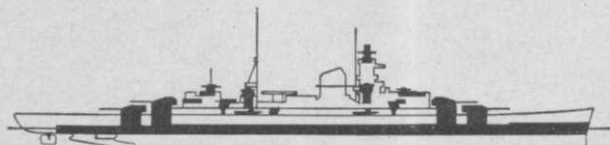
70°
(SLANT)

RANGE

17,000 YD.

PROTECTION

BELT—4" (ESTIMATED)
TURRETS
CONNING TOWER—2"
RANGEFINDERS—2"
DECKS—THIRD DECK—3/4"



KNOTS

RPM

.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80

DES. SPD
32 KTS

DES. HP
95,000



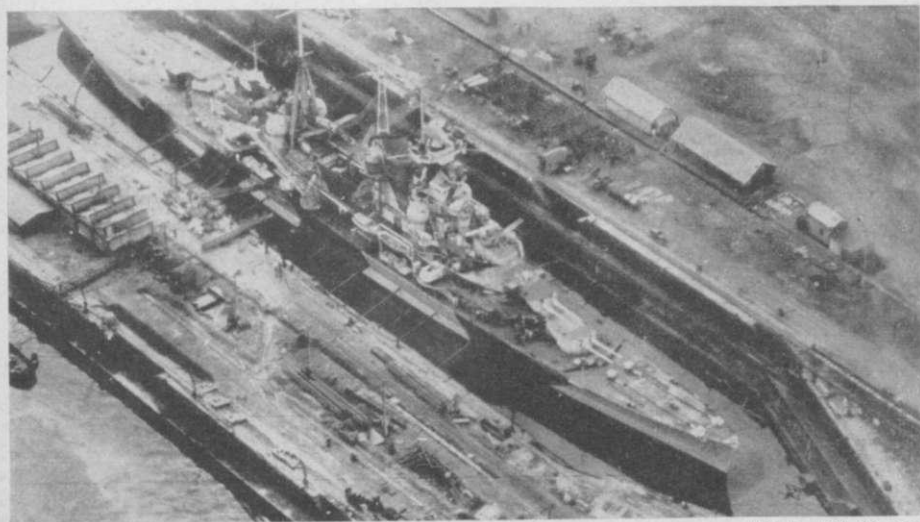
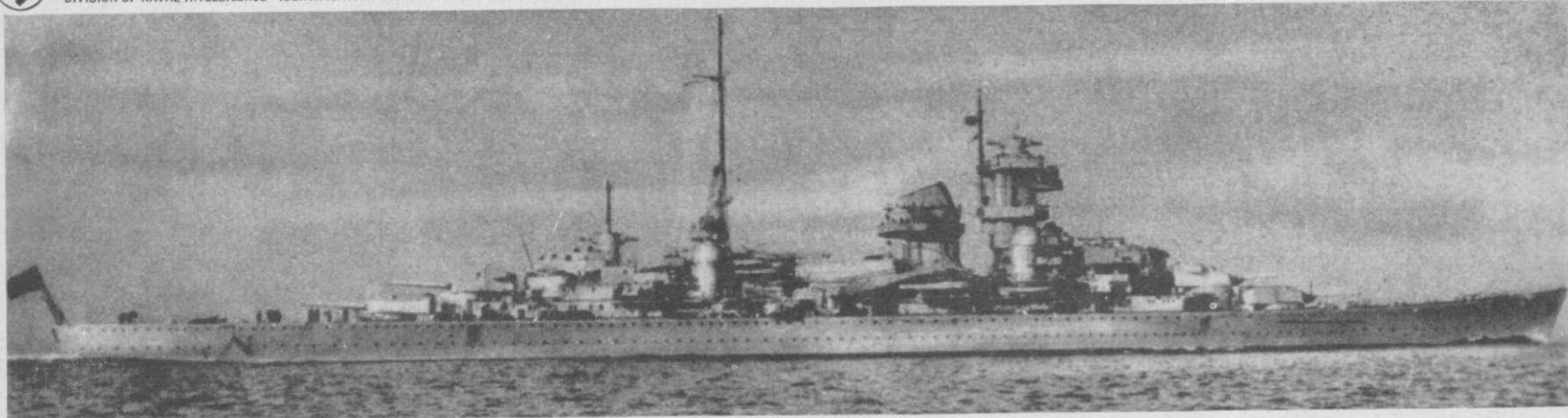
ADMIRAL HIPPER—CA1

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JULY, 1942

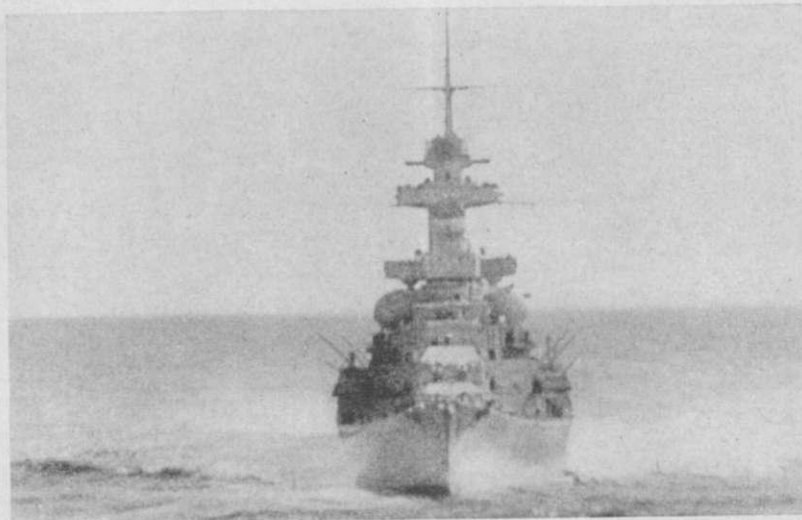
BEGUN—JAN. 18, 1935 COMPLETED—APR. 29, 1939
SISTER SHIPS—EUGEN, SEYDLITZ, EX-LÜTZOW (SOLD TO RUSSIA)
BLÜCHER (SUNK APRIL 9, 1940)

ONI 204

RESTRICTED

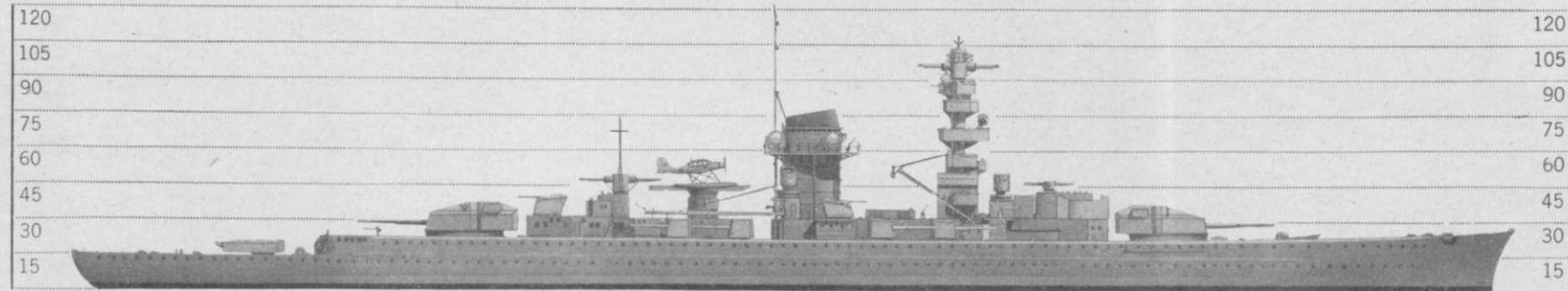


R.A.F. JAN. 26, 1941





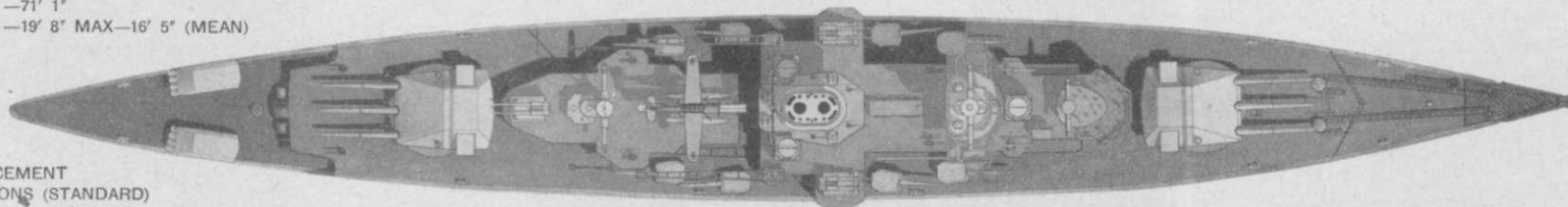
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

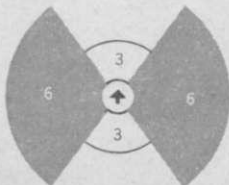
SHIP BEYOND THE HORIZON

LENGTH—617' 8" OA—596' 2" WL
BEAM —71' 1"
DRAFT —19' 8" MAX—16' 5" (MEAN)



DISPLACEMENT
10,000 TONS (STANDARD)
13,483 TONS (NORMAL)

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

6-11" (50) TRIPLE TURRETS
8-5.9" (50) TWIN
6-4.1 AA TWIN
8-1.46 AA TWIN
TORPEDOES 8-21"
AIRCRAFT—2 FLOAT PLANES, 1 CATAPULT

MAX. ELEV

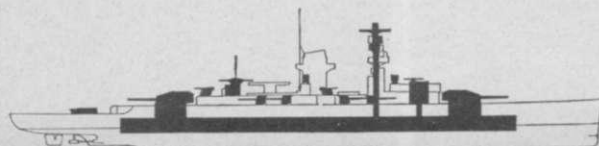
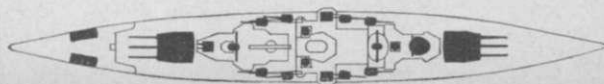
40°
30-40°
85°

RANGE

36,100 YD.
27,000 YD.

PROTECTION

BELT—4" AMIDSHIPS TAPERING TO 2" FORWARD AND AFT
TURRETS—7" FACE PLATE—2" SIDES—5" TO 3" TOP
BARBETTES—4"
CONNING TOWER—5" WITH 3" TOP
DECKS—1" MAIN DECK; 1½" SECOND DECK, 3" OVER VITALS
UNDERWATER PROTECTION VERY COMPLETE;
EXTERNAL BULGES



KNOTS R.P.M.

.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
25	160
20	150
15	120
10	80

DES SPD DES HP
28 KTS 54,000



ADMIRAL SCHEER—CA 7

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—SEPTEMBER, 1942

BEGUN—
COMPLETED—
SISTER SHIPS—LÜTZOW—CA6
(EX-DEUTSCHLAND)

SEPTEMBER 6, 1931
NOVEMBER 12, 1934

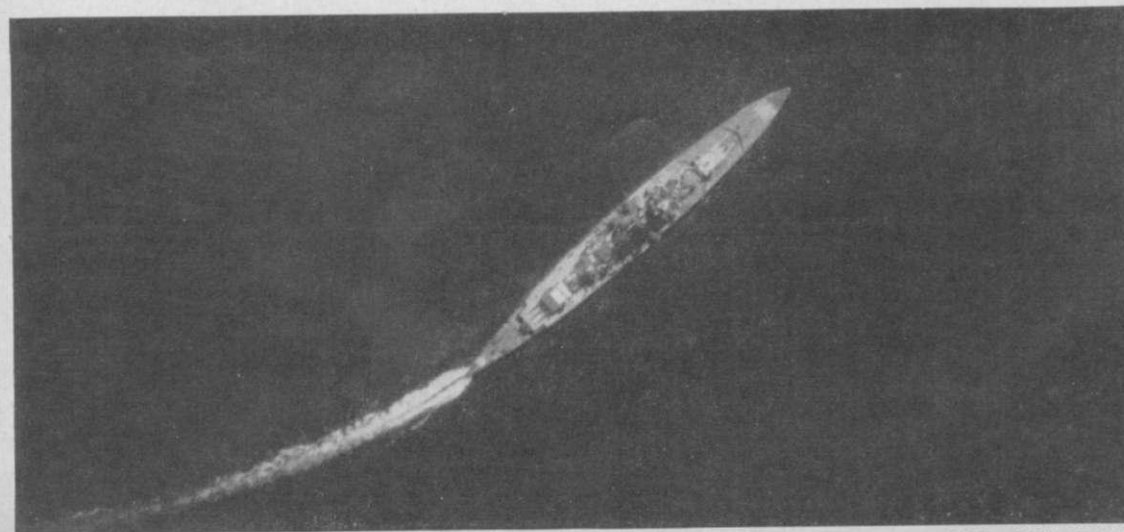
ADMIRAL GRAF SPEE—CA8
(SUNK DECEMBER 17, 1939)

ONI 204

RESTRICTED



1941

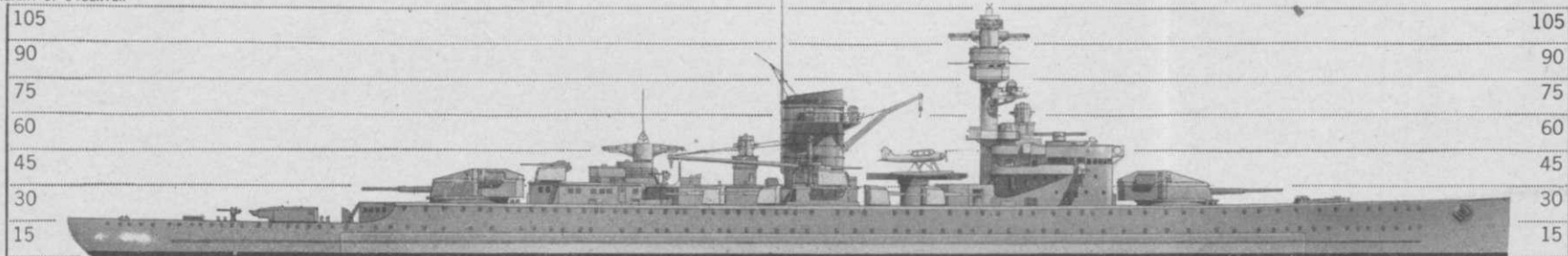


R.A.F.—APRIL 30, 1942



1941

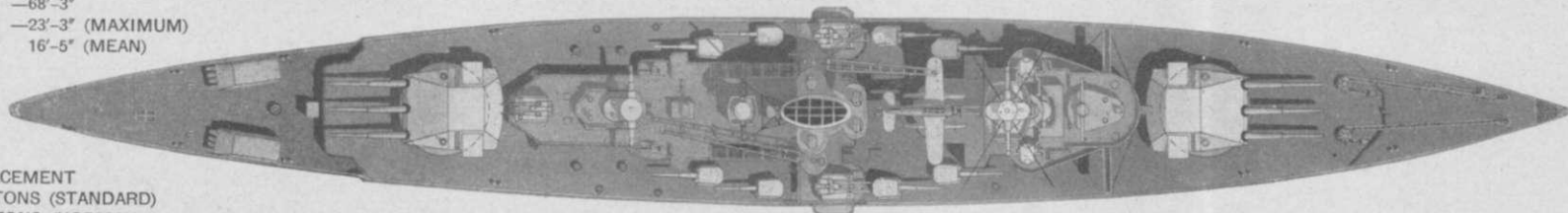
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

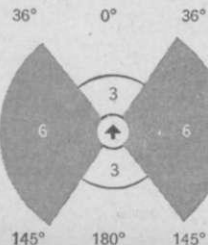
SHIP BEYOND THE HORIZON

LENGTH—609'-3" OA—596'-2" WL
BEAM —68'-3"
DRAFT —23'-3" (MAXIMUM)
16'-5" (MEAN)



DISPLACEMENT
10,000 TONS (STANDARD)
13,483 TONS (NORMAL)

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

6-11" 50 CAL. 40°
8-5.9 50 CAL. 30-40°
6-4.1 AA TWIN MOUNTS 85°
8-1.46 AA TWIN MOUNTS
8-21" TORPEDO TUBES (QUADRUPLE)
AIRCRAFT—2 FLOAT PLANES;
1 CATAPULT

MAX. ELEV.

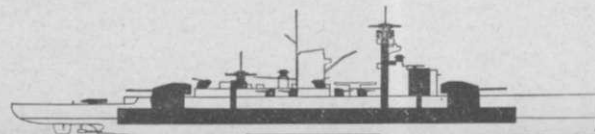
RANGE

36,000 YD.
27,000 YD.



PROTECTION

BELT— 4" WITH 1½" INTERNALLY
TURRETS— 4" BASES
5½" FACES
2-3" SIDES
CONNING TOWER—5" DECKS—1½"—2½"
2" ROOF 3" OVER VITALS
UNDERWATER PROTECTION VERY COMPLETE
EXTERNAL BULGES



KNOTS R.P.M.

.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80

DES. SPD. DES. H.P.
28 KTS. 54,000



LÜTZOW—CA6

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—SEPTEMBER, 1942

BEGUN—MAY 2, 1929. COMPLETED—JAN. 4, 1933

SISTER SHIPS: ADMIRAL SCHEER—CA7

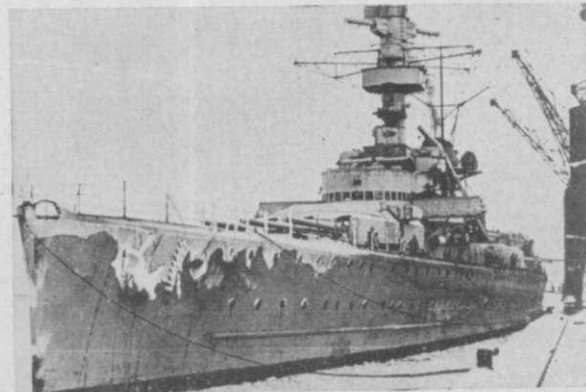
ADMIRAL GRAF SPEE—SUNK DECEMBER 17, 1939

ONI 204

RESTRICTED

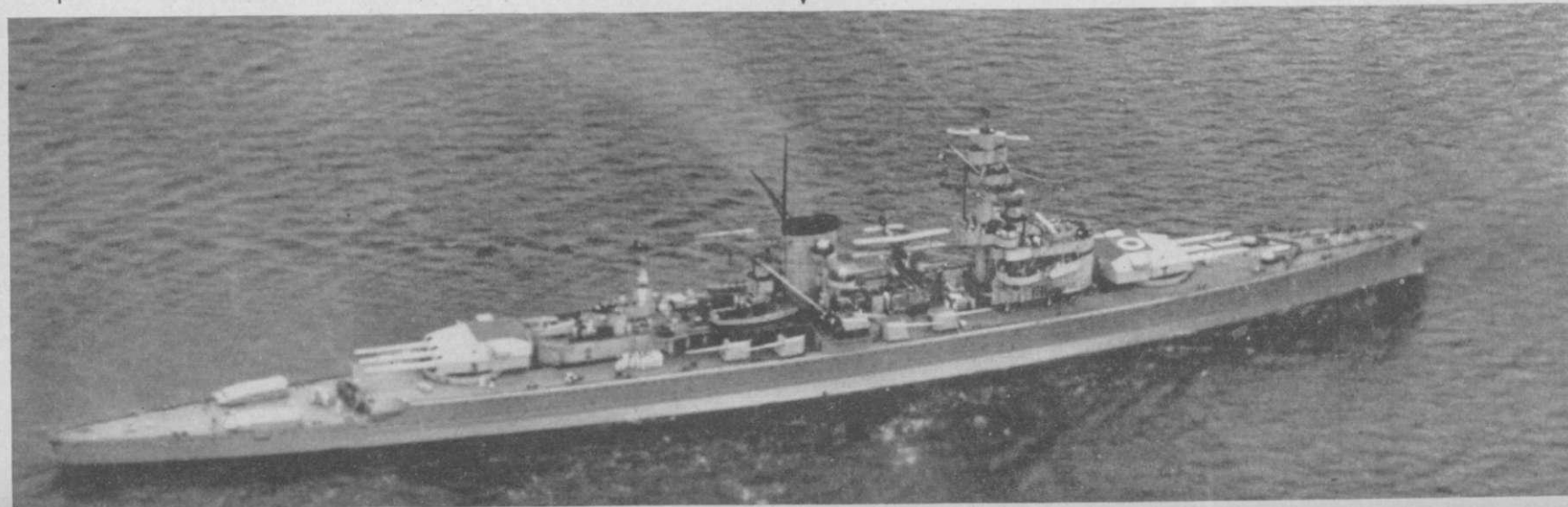


1937 ↑



1939-40 ↑

1937 ↓



ONI 204

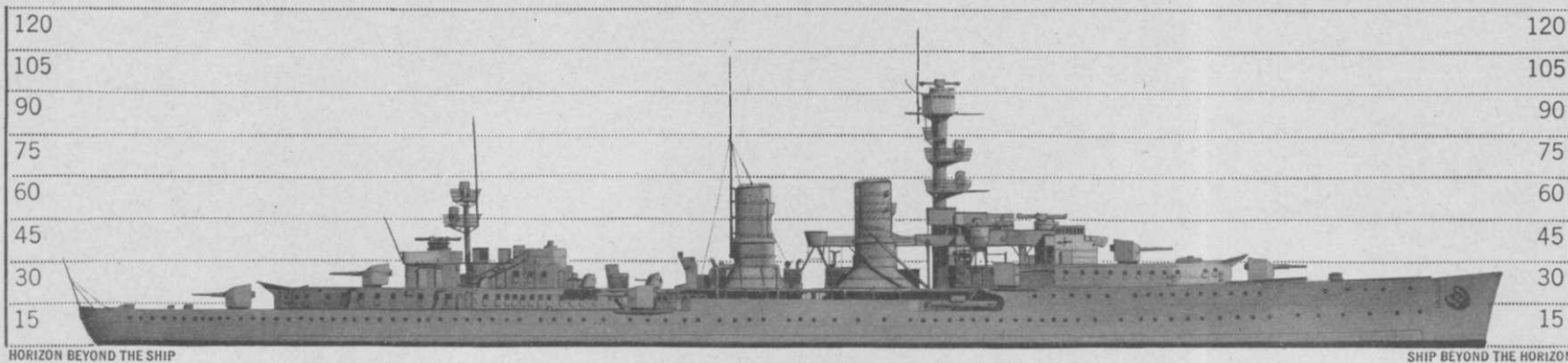
RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

EMDEN—CL1



DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1942

HEIGHT OF OBSERVER

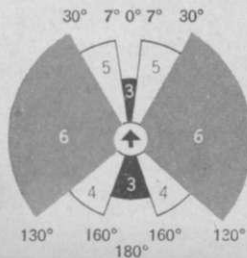


LENGTH 508½' OA—493¼' WL
BEAM 47'
DRAFT 17½'



DISPLACEMENT
5,400 TONS

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

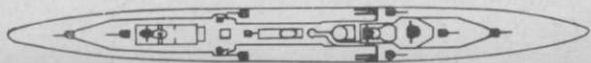
8-5.9 SINGLE SHIELDS
3-3.5 A.A.
4-M.G.
4-19.7 TORPEDO TUBES

MAX. ELEV.

27°

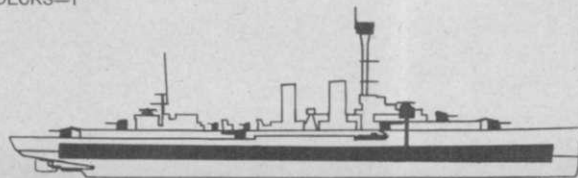
RANGE

18,750 YD.



PROTECTION

BELT—2" AMIDSHIPS, TAPERING TO 1½" AT ENDS
TURRETS—NONE, WEATHER SHIELDS ONLY
CONNING TOWER—4"
SECONDARY BATTERY—3" TO 4" VERT. SIDES
2" GUN HOUSES
DECKS—1"



KNOTS R.P.M.

.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80

DES. SPD DES. HP
29 KTS 46,500



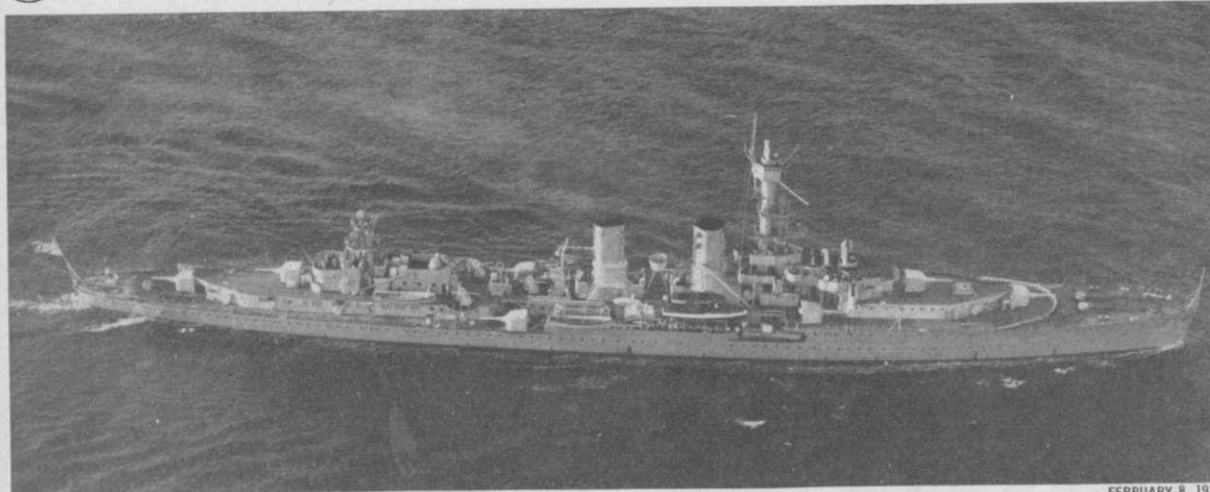
EMDEN—CL1

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1942

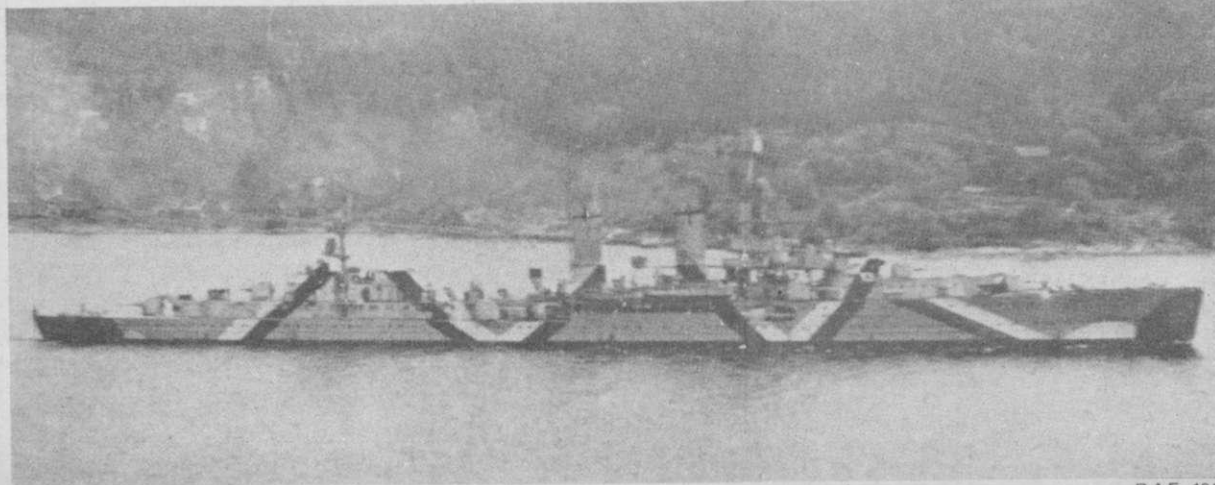
BEGUN—DECEMBER, 1921. COMPLETED—OCTOBER, 1925
USED AS SEA-GOING TRAINING SHIP FOR CADETS

ONI 204

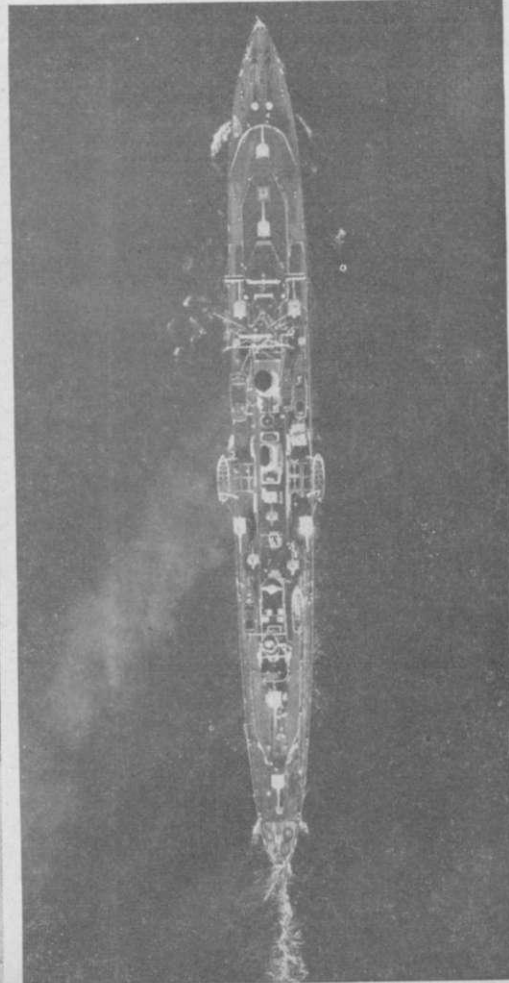
RESTRICTED



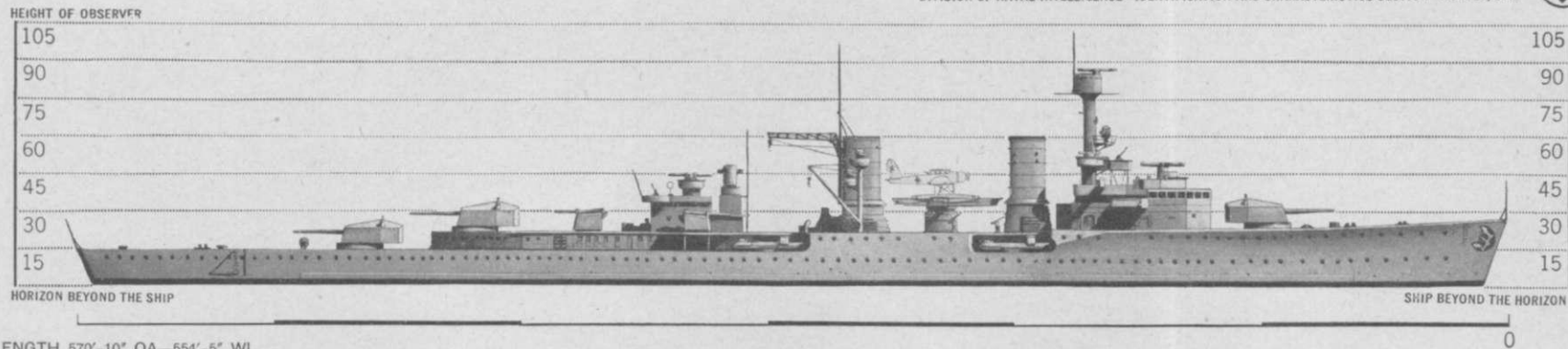
FEBRUARY 8, 1936



R.A.F. 1941



FEBRUARY 8, 1936



LENGTH 570'-10" OA—554'-5" WL
BEAM 49'-10"
DRAFT 17'-8" (FULL LOAD)



DISPLACEMENT
6,000 TONS (STANDARD)

**DENSITY OF FIRE
MAIN BATTERY**

46° 10° 9° 19°
0°



ARMAMENT

9-5"9 TRIPLE TURRETS
6-3"5 TWIN A.A. SHIELDS
18 (PLUS) SMALLER A.A.
12-21" TORPEDO TUBES (TRIPLES)
1 CATAPULT, 2 SEAPLANE SCOUTS

MAX. ELEV.

40°
80°

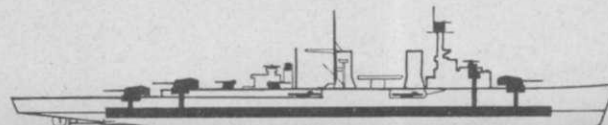
RANGE

27,000 YD.



PROTECTION

BELT—2" TAPERING TO 1½" AT ENDS
TURRETS—1½" FACE PLATES, 1¼" SIDES, ¾" BACK WALL
BARBETTES—
CONNING TOWER—3"—4"
DECKS—2" (MAX.)
POOR UNDERWATER PROTECTION



KNOTS R.P.M.

-----	420
-----	400
-----	350
-----	300
-----	275
-----	250
-----	245
-----	240
-----	220
-----	200
-----	160
-----	150
-----	120
-----	80

DES. SPD
32 KTS

DES. HP
65,000

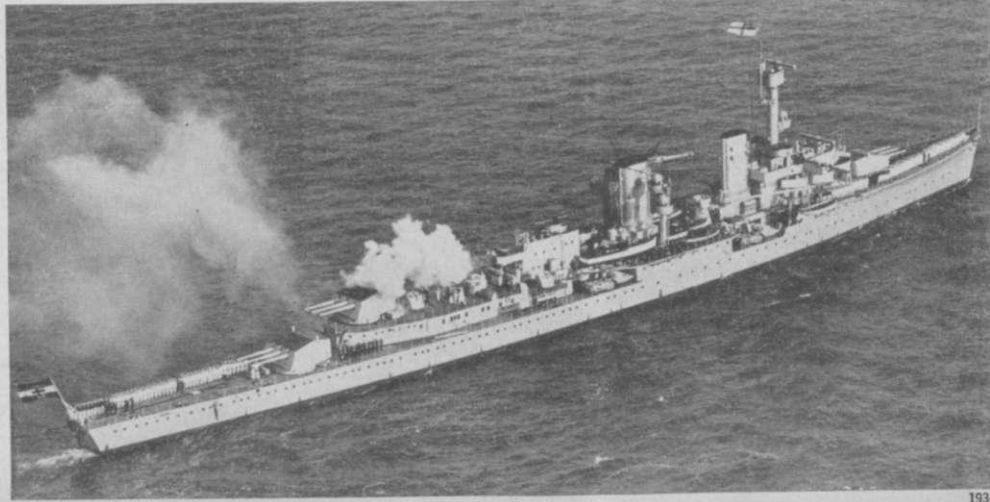
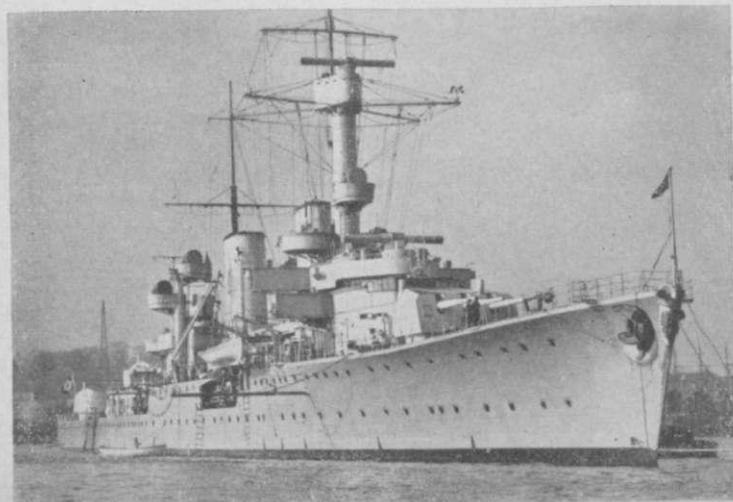
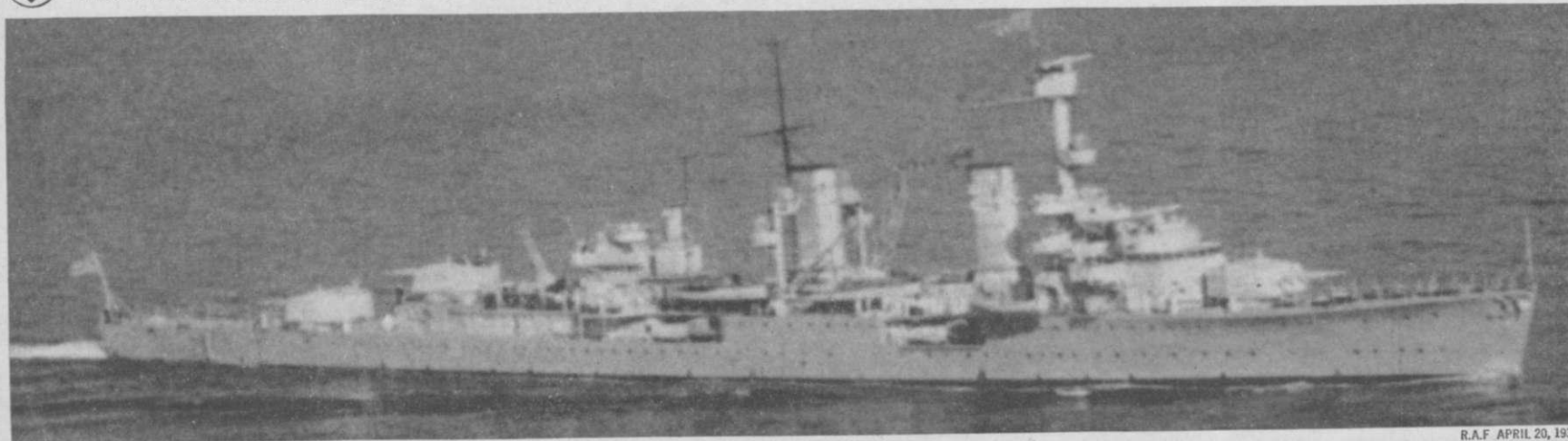


KÖLN—CL4

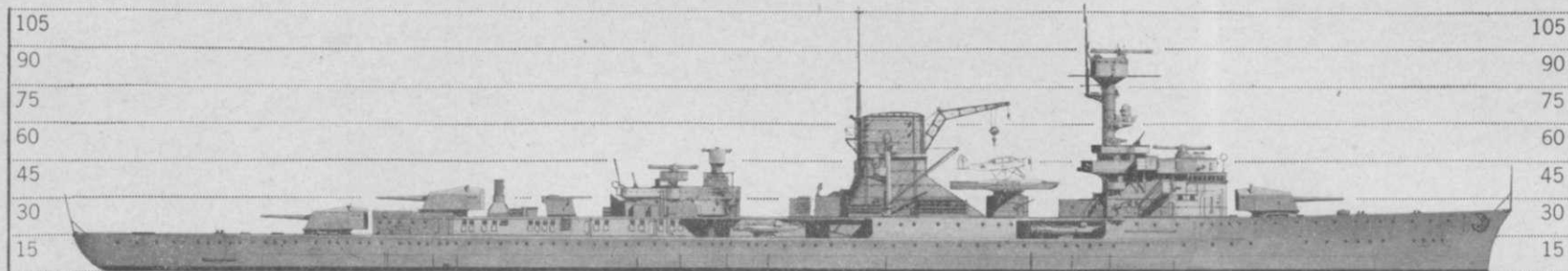
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1942

BEGUN—AUGUST 7, 1926. COMPLETED—JANUARY 15, 1930
SISTER SHIPS—KARLSRUHE (SUNK), KOENIGSBERG (SUNK)

ONI 204
RESTRICTED



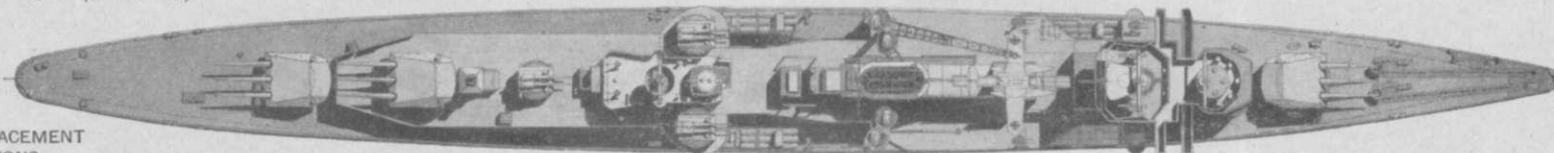
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

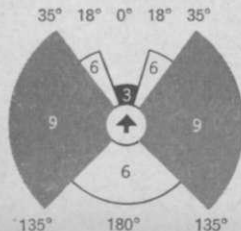
SHIP BEYOND THE HORIZON

LENGTH 581' OA—554'-7" WL
BEAM 53'-5"
DRAFT 15'-7" (STANDARD)



DISPLACEMENT
6,000 TONS

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

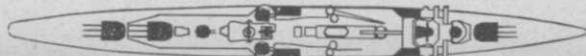
- 9-5⁹/₁₆ TRIPLE TURRETS
- 6-3⁵/₁₆ H.A. TWIN TURRETS
- 8-14⁵/₁₆ A.A. TWIN TURRETS
- 12-21" TORPEDO TUBES (TRIPLE)
- 1 CATAPULT, 2 SEAPLANE SCOUTS

MAX. ELEV.

- 50°
- 80°

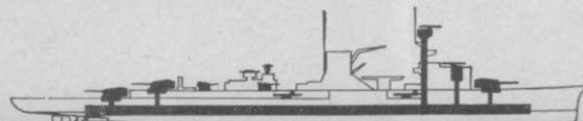
RANGE

20,000 YD.



PROTECTION

- BELT—4" BEHIND BULGE
- TURRETS—1¹/₂" FACE PLATES—1¹/₄" SIDES—3¹/₄" BACK WALL
- BARBETTES—
- F.C. TOWER—4"
- SECONDARY BATTERY—
- DECKS—3¹/₄" TO 1¹/₂"



KNOTS RPM

32	400
29	350
26	300
22	250
20	245
18	200
13 ¹ / ₂	150

DES. SPD
32 KTS

DES. HP
TURBINES
60,000
DIESEL
12,000



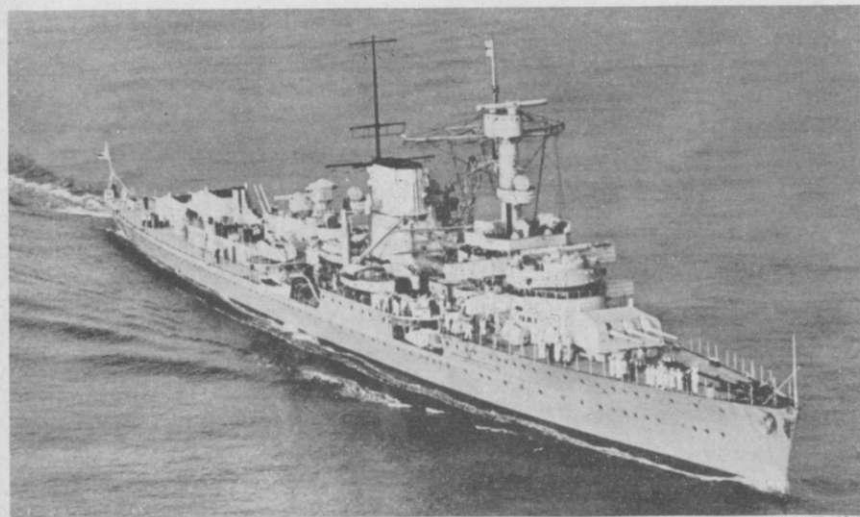
LEIPZIG—CL5

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1942

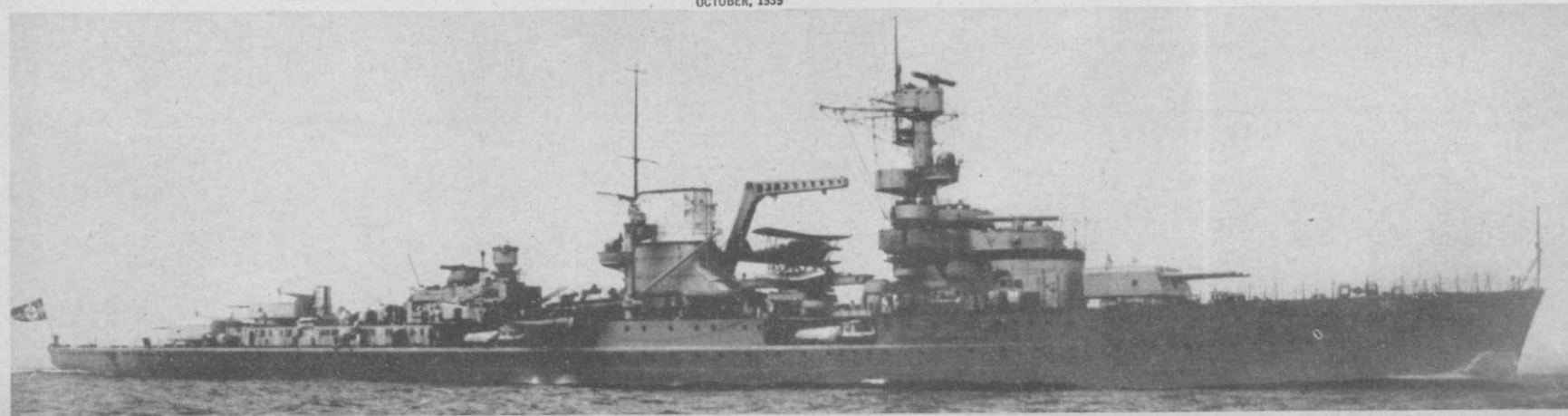
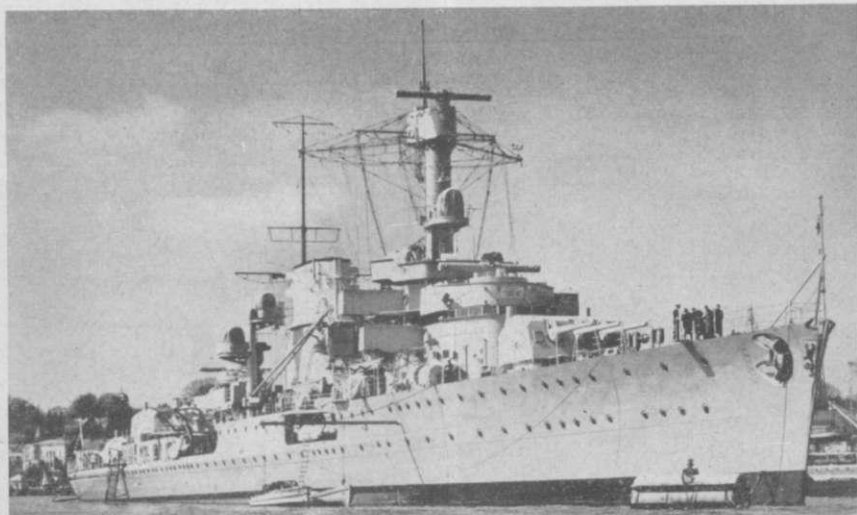
BEGUN—APRIL 18, 1928. COMPLETED—OCTOBER 8, 1931

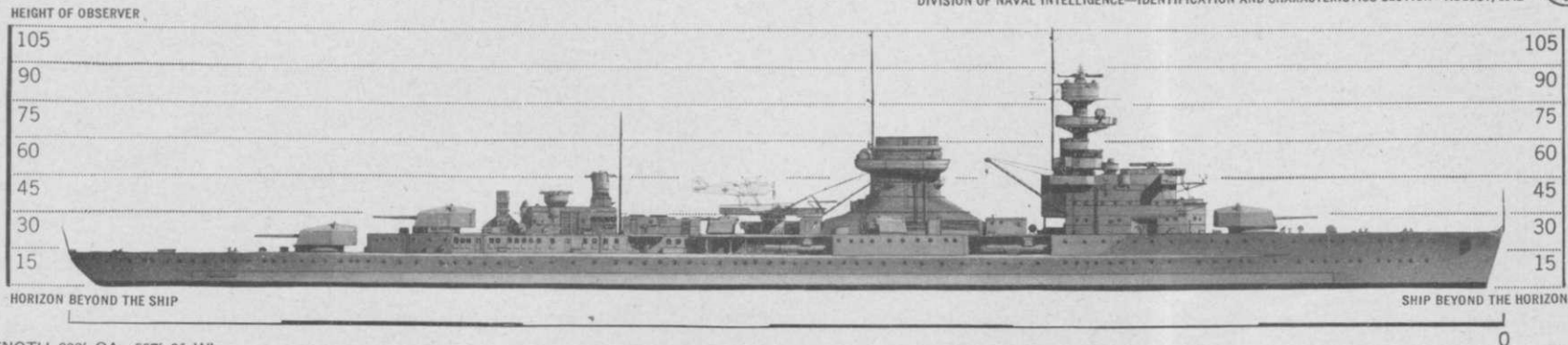
ONI 204

RESTRICTED



OCTOBER, 1939

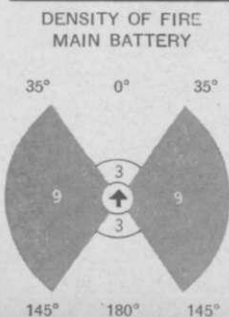




LENGTH 603' OA—557' 9" WL
BEAM 54'
DRAFT 14'-3" (MEAN)



DISPLACEMENT
6,000 TONS (STANDARD)



ARMAMENT

- 9-5"9 TRIPLE TURRETS
- 8-3"5 H.A. TWIN TURRETS
- 8-1"46 A.A. TWIN TURRETS
- 12-21" TORPEDO TUBES (TRIPLE)
- 1 CATAPULT, 2 SCOUT OBSERVATION

MAX. ELEV.

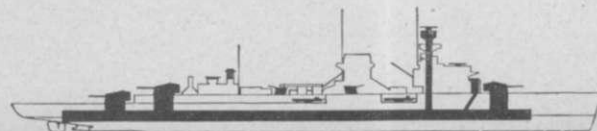
- 50°
- 80°

RANGE
20,000 YD.



PROTECTION

- BELT—1 3/4" AMIDSHIP
- TURRETS— 1 1/2" FACE PLATES
1 1/4" SIDE PLATES
3/4" REAR WALL
- BARBETTES—
- F.C. TOWER—4"
- DECKS— 3/4" TO 1 1/2"
- UNDER WATER PROTECTION VERY COMPLETE



KNOTS R.P.M.

-----	420
-----	400
-----	350
-----	300
-----	275
-----	250
-----	225
-----	200
-----	175
-----	150
-----	125
-----	100

DES. SPD 32 KTS. DES. HP 72,000



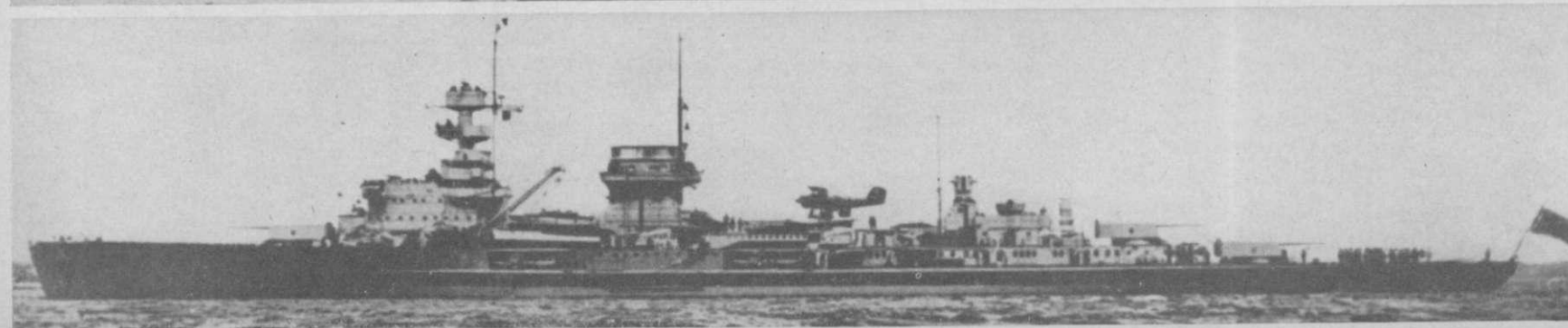
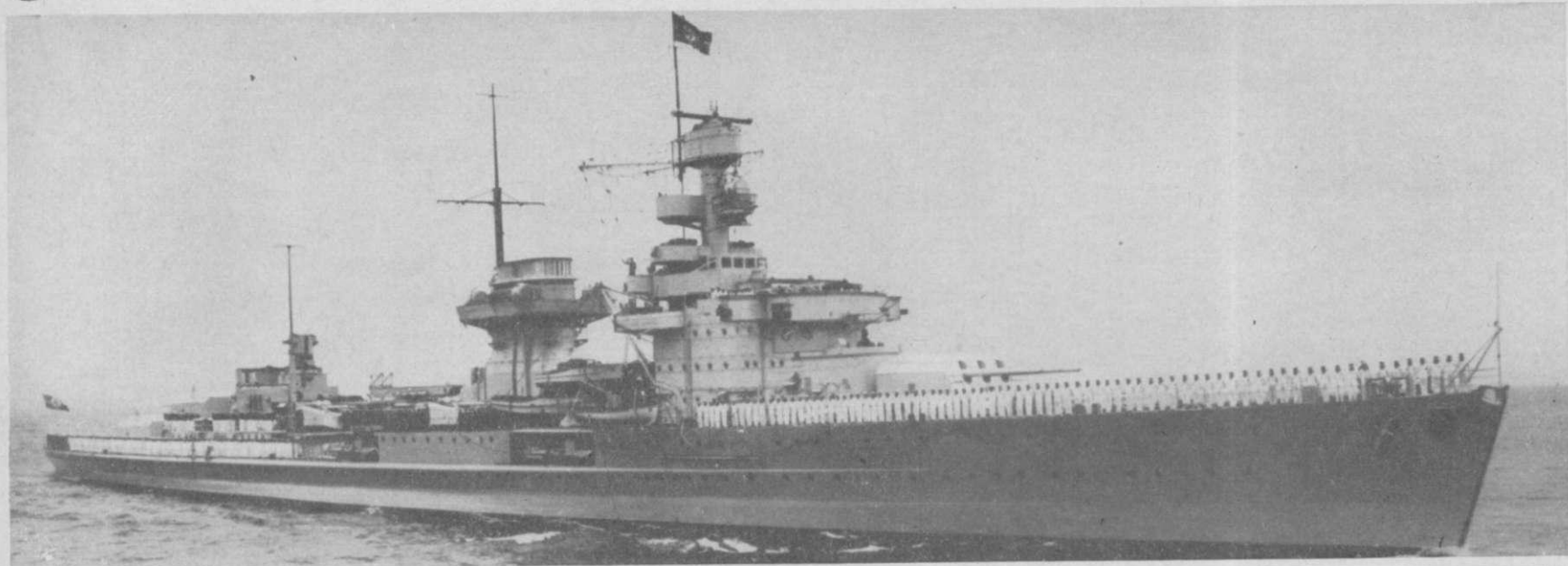
NURNBERG—CL6

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1942

BEGUN—APRIL 11, 1933. COMPLETED—FEBRUARY 11, 1935

ONI 204

RESTRICTED



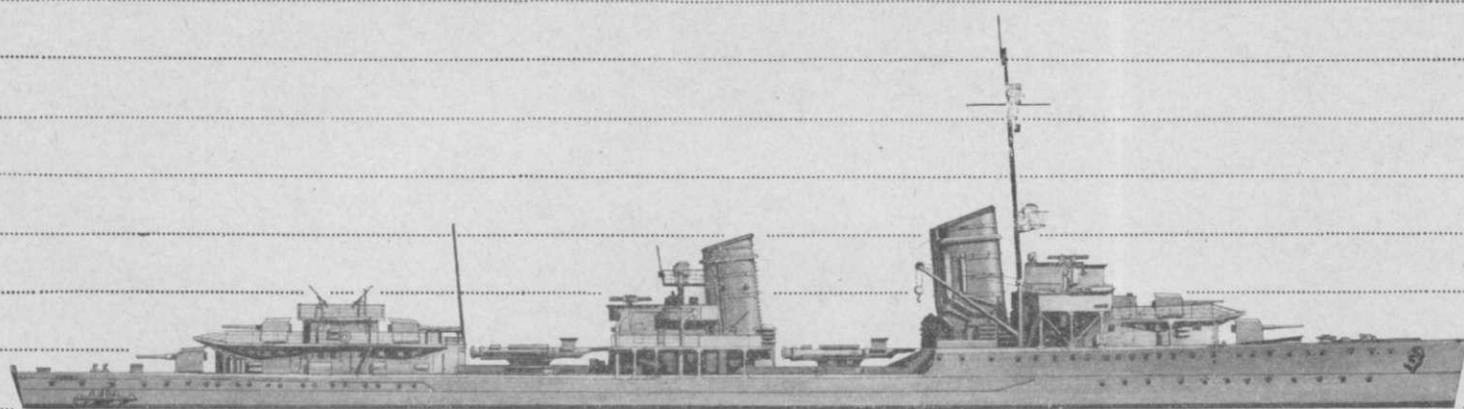


HEIGHT OF OBSERVER

105
90
75
60
45
30
15

HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON



LENGTH—381' OA—374' WL
BEAM —37'-1"
DRAFT —9'-2" (MEAN)

0



DISPLACEMENT 1,625 TONS (STANDARD)

ARMAMENT

5-5" GUN SHIELDS
4-1¹/₄ AA
2-0⁷/₈ AA
8-21" TORPEDO TUBES (QUADRUPLE)
MAY CARRY MINES



PROPULSION

BOILERS— H.P. WATER TUBE
DESIGNED H.P.— 50,000
DESIGNED SPEED—36 KTS.

KNOTS	R.P.M.
35	420
.....	400
30 ¹ / ₂	350
26 ³ / ₄	300
.....	275
23	250
.....	245
.....	240
.....	220
19	200
.....	160
14	150
.....	120
.....	80



MAASZ CLASS—DD4-16

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—SEPTEMBER, 1942

SISTER SHIPS

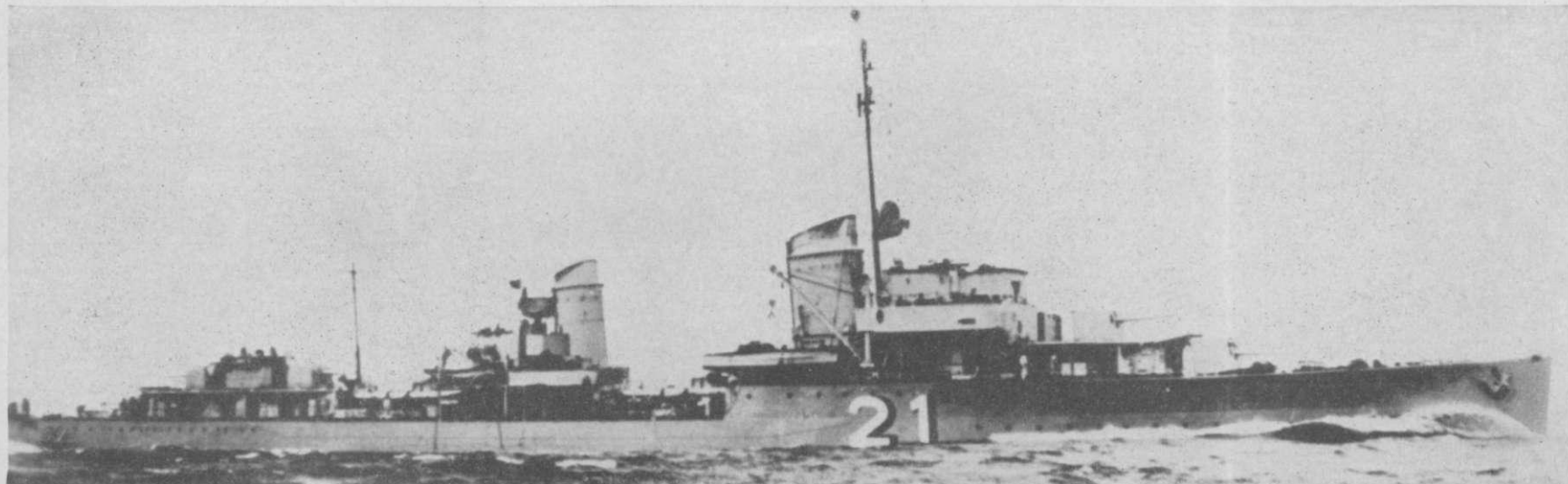
RICHARD BEITZEN
PAUL JACOBI
THEODOR RIEDEL
HERMANN SCHOEMANN

BEGUN COMPLETED

—DD4 1935	5/13/37	HANS LODY	—DD10 1935	9/17/38
—DD5 7/15/35	6/29/37	FRIEDRICH IHN	—DD14 4/35	4/9/38
—DD6 7/18/35	7/6/37	ERICH STEINBRINCK	—DD15 4/35	6/8/38
—DD7 1935	9/15/37	FRIEDRICH ECKOLDT	—DD16 1935	8/2/38

ONI 204

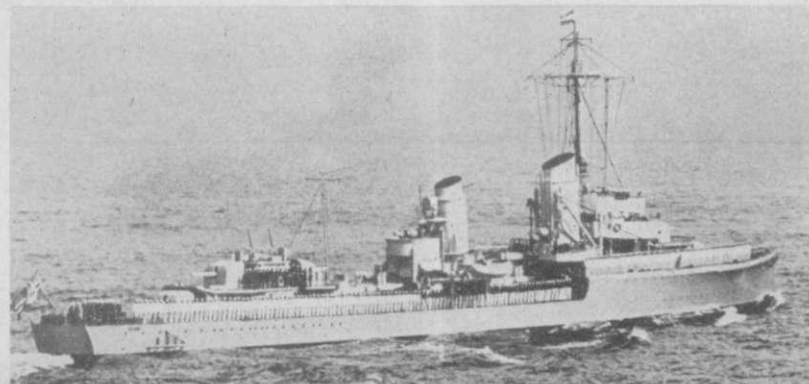
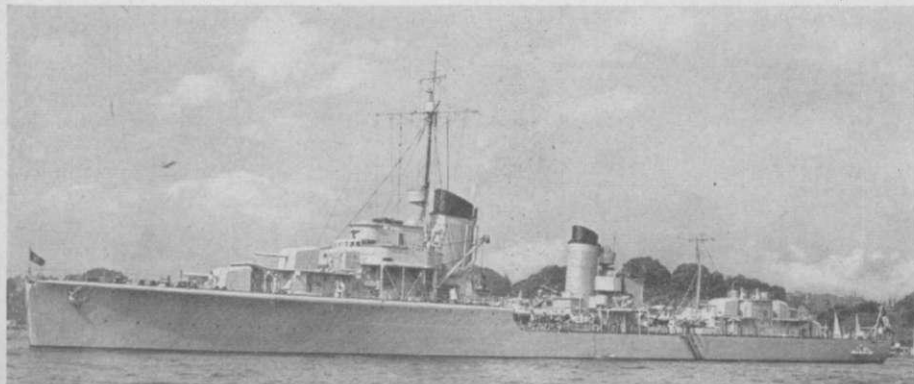
RESTRICTED



LEBERECHT MAASZ ↓

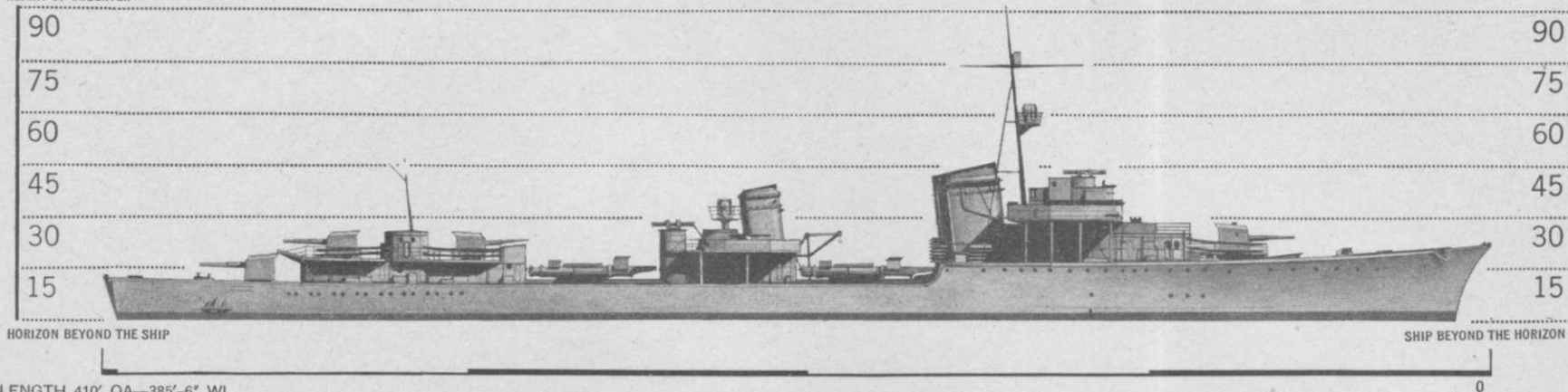
PAUL JACOBI—1939 ↑

8/22/38 ↓

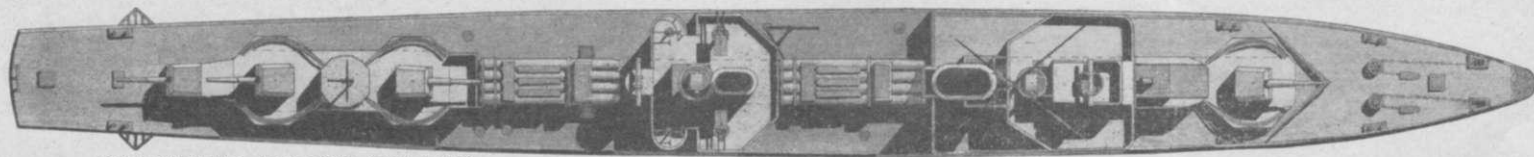




HEIGHT OF OBSERVER:



LENGTH 410' OA—385'-6" WL
BEAM 39'-4"
DRAFT 9'-6" (MEAN)



DISPLACEMENT—1,870 TONS (STANDARD)

ARMAMENT

- 4-5⁹ GUN SHIELDS
- 4-1⁴/₁₆ AA
- 4-0⁷/₈ MG
- 8-21" TORPEDO TUBES (QUADRUPLE)
- SOME BOATS HAVE 6 TUBES, TRIPLED

PROPULSION

DESIGNED H.P.—55,000
DESIGNED SPEED—36 KTS.

NOTES

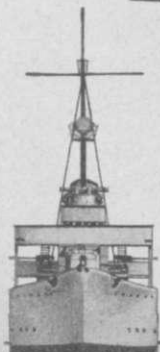
SLIGHTLY ENLARGED ROEDERS; DISTINGUISHABLE BY A SINGLE SHIELD GUN FORWARD.

5⁹ GUN BATTERY ADOPTED TO ENGAGE OPPOSING CRUISERS IN NORWEGIAN WATERS; GERMANS REPORTED REFERRING TO THEM AS "CONVOY DESTROYERS."

ADDITIONAL GERMAN DESTROYERS OF IDENTICAL DIMENSIONS HAVE BEEN OBSERVED; DESIGN CLASSES, NAMES AND NUMBERS UNREPORTED. SOME MOUNT A TWIN GUN HOUSE FORWARD WITH LIGHT AA IN LIEU OF A SHIELD GUN ON THE FANTAIL; OTHERS HAVE SUPERFIRING GUNS FORE AND AFT WITH LIGHT AA ABAFT 2ND NEST OF TUBES.

KNOTS R.P.M.

.....	420
.....	400
.....	350
.....	300
.....	275
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80



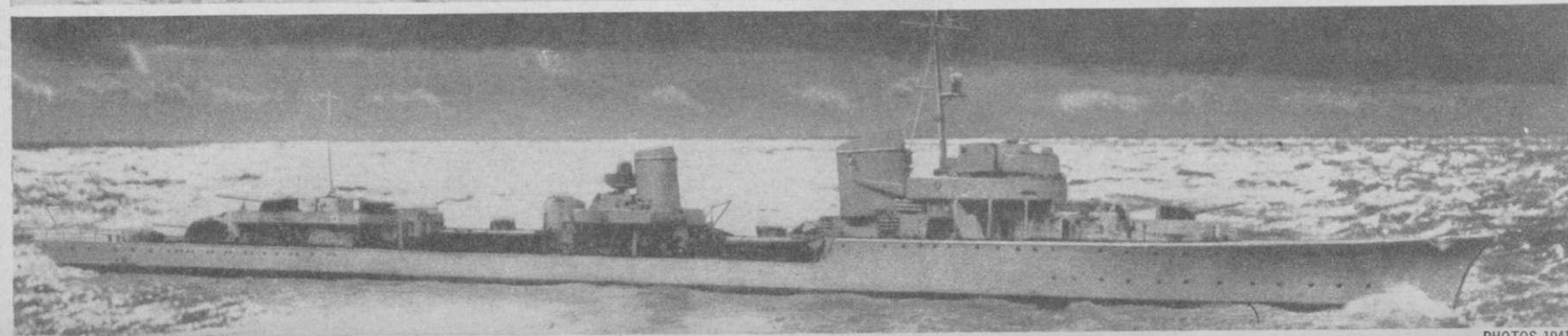
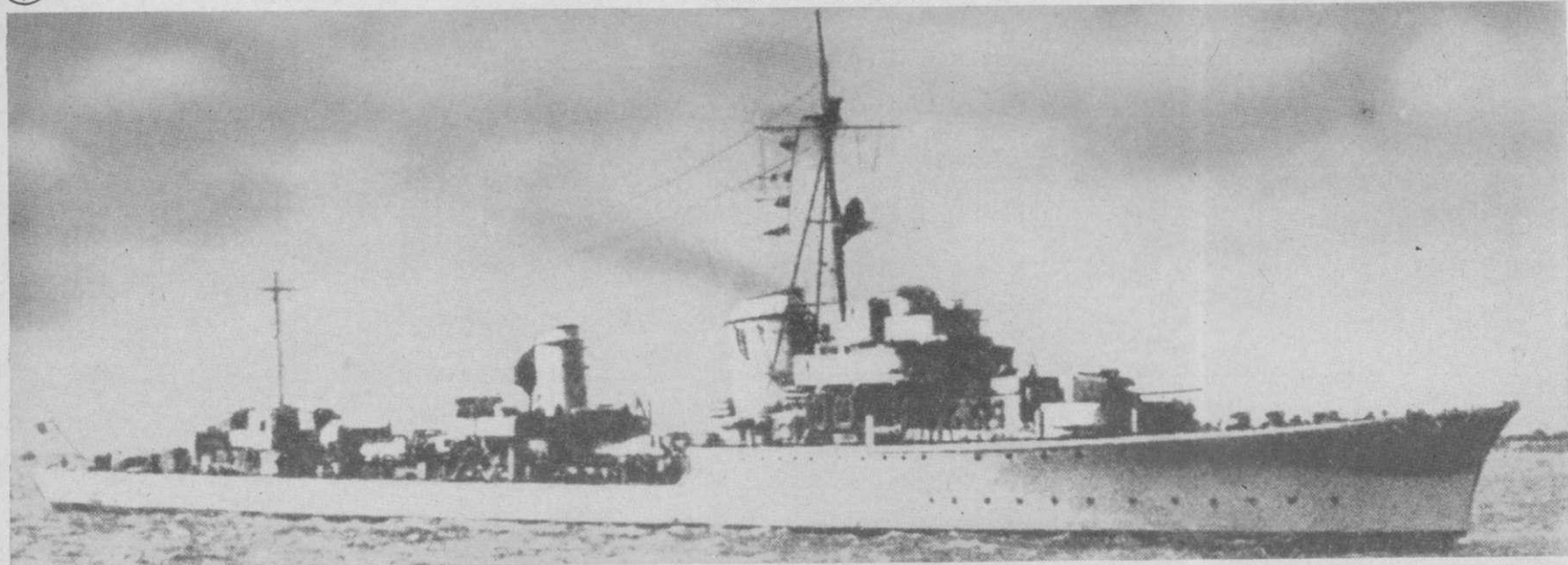


"NARVIK" CLASS—DD 23-43

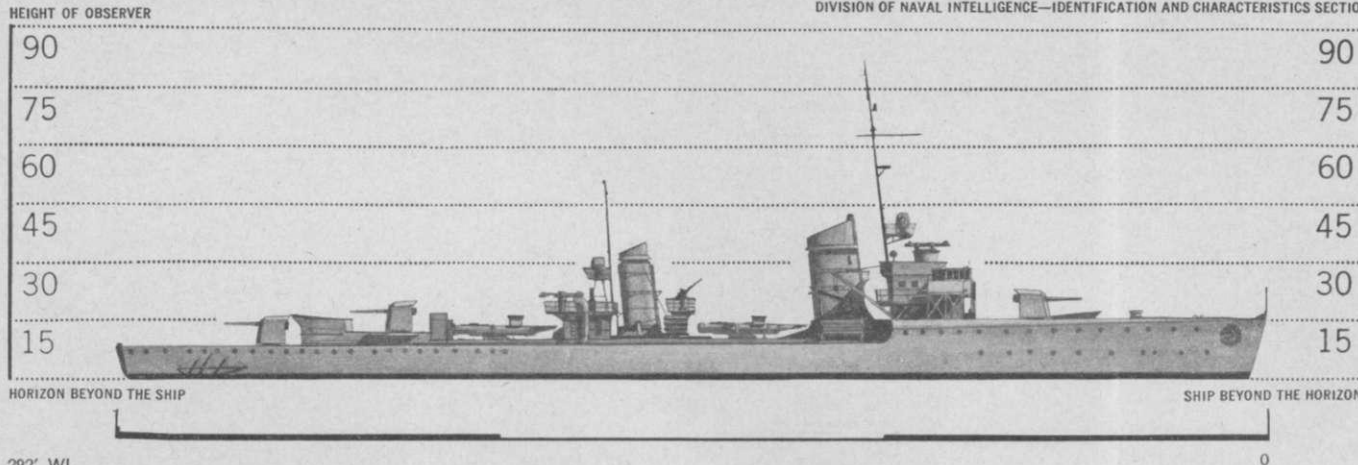
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1942

BEGUN—1939. COMPLETED—1940
NAMES AND NUMBERS UNREPORTED; "NARVIK" IS TEMPORARY CLASS DESIGNATION DERIVED FROM A "NARVIK FLOTILLA" COMPRISED OF THESE BOATS.
SISTER SHIPS—Z-23 (BRUNO HEINEMAN) Z-24-43

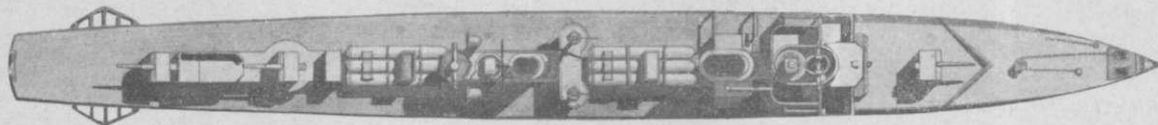
ONI 204
RESTRICTED



PHOTOS-1941



LENGTH 304' OA—292' WL
BEAM 28'-3"
DRAFT 8'-8" (MAXIMUM)



DISPLACEMENT
800 TONS (STANDARD)



ARMAMENT	MAX. ELEV.	RANGE
3-4" DP SHIELDS	70°	
2-1" AA		
6-21" TORPEDO TUBES (TRIPLE)		

PROPULSION	
BOILERS—	3 SCHULTZ-THORNYCROFT "MARINE" TYPE
FUEL—	OIL 338 TONS
DESIGNED H.P.—	25,000
DESIGNED SPEED—	34 KNOTS
ENDURANCE—	2,200 AT 20 KTS

NOTES
BUILT AS A "DESTROYER" UNDER
TERMS OF VERSAILLES TREATY.
UNSATISFACTORY FOR DESTROYER
WORK.
REPORTED TO HAVE BOW RUDDER.

KNOTS	R.P.M.
.....	420
.....	400
.....	350
.....	300
.....	275
.....	250
.....	245
.....	240
.....	220
.....	200
.....	160
.....	150
.....	120
.....	80





WOLF CLASS—TB 7-12

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—SEPTEMBER, 1942

SISTER SHIPS
ILTIS TB 8
JAGUAR TB 9

BEGUN
3/19/27
5/ -/27

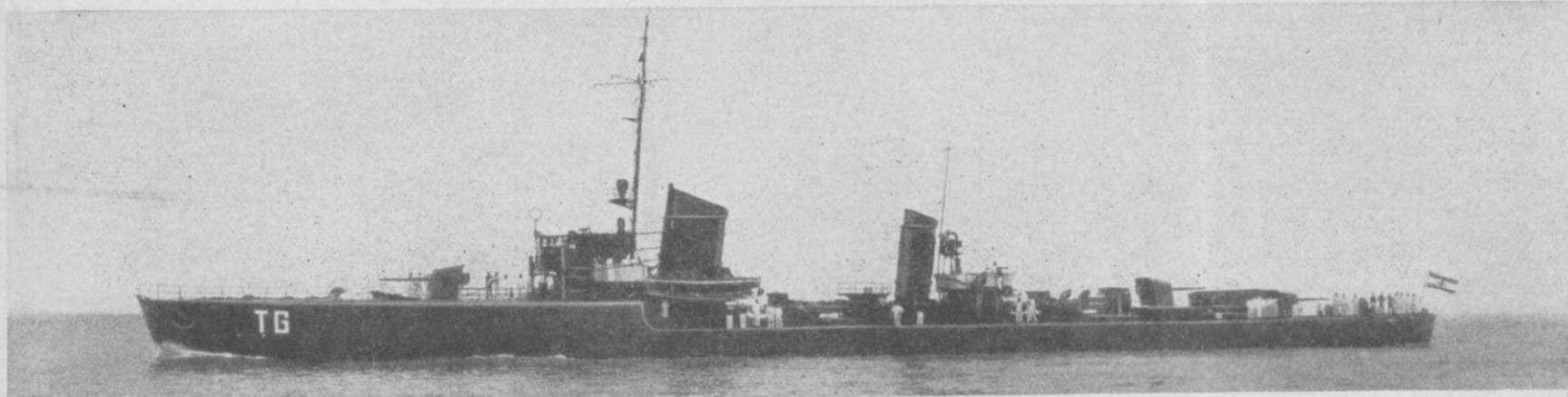
COMPLETED
10/1/28
6/1/29

LEOPARD TB 10
TIGER TB 12

5/ -/27
3/26/27

8/15/29
1/15/29

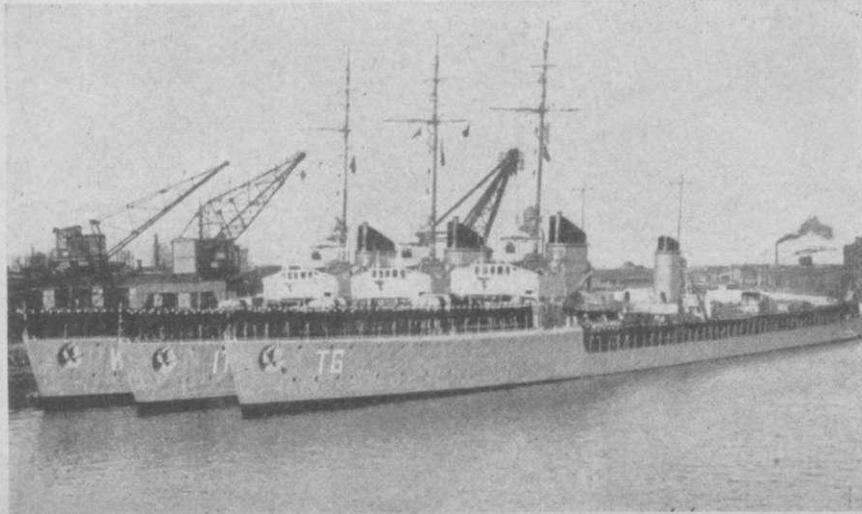
ONI 204
RESTRICTED



WOLF, ILTIS & TIGER—JUNE, 1937 ↓

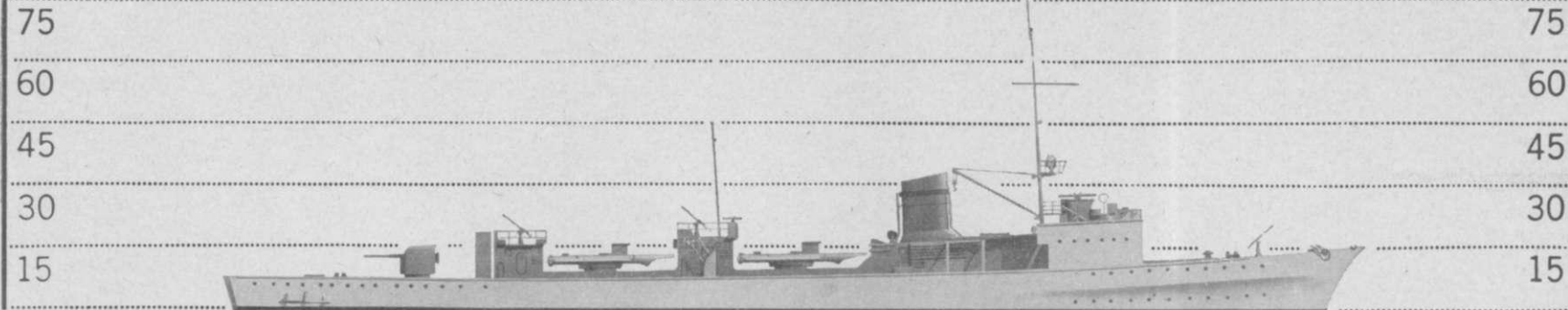
TIGER—1931 ↑

LEOPARD 6/16/41 ↓





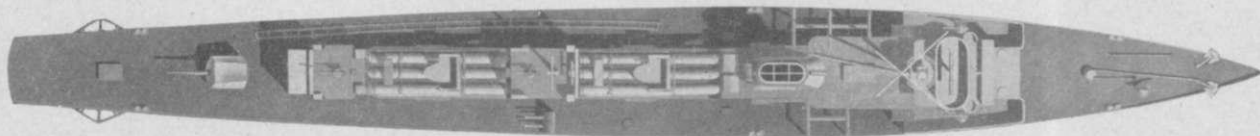
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—279'8" OA—257'1" WL
BEAM —28'3"
DRAFT —6'3" (MEAN)



DISPLACEMENT
600 TONS (STANDARD)

ARMAMENT

1-4"1 (SHIELDED)
1-1"46
5-AAMG
6-21" TORPEDO TUBES

MAX. RANGE

PROPULSION

GEARED TURBINES
HIGH PRESSURE WATER TUBE
BOILERS
H.P.—22,000
DESIGNED SPEED—36 KNOTS

NOTES

EMPLOYMENT
—SCREENING MAJOR SURFACE UNITS
—"STIFFENING" COASTAL CONVOY
ESCORTS AND PATROL FLOTILLAS
—COVER **AM** AND AIRCRAFT RESCUE
VESSELS

DANGEROUS OPPONENTS AT LOW VISI-
BILITY BECAUSE OF LOW SILHOUETTE
AND HEAVY TORPEDO BATTERY

KNOTS RPM

.....	480
.....	460
.....	440
.....	420
.....	400
.....	380
.....	360
.....	340
.....	320
.....	300
.....	280
.....	260
.....	240
.....	220
.....	200
.....	180
.....	160
.....	140



T1 CLASS TB-13-42

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—AUGUST, 1942

BEGUN—1936. COMPLETED—1938-1940
SISTER SHIPS TB-T1-T19

TB 32-42 BELIEVED SIMILAR

ONI 204

RESTRICTED



ITALIAN NAVAL VESSELS



**SIMPLIFIED
SILHOUETTES**



BATTLESHIPS-BB



LITTORIO CLASS



CAVOUR CLASS



DORIA CLASS

HEAVY CRUISERS-CA



BOLZANO



GORIZIA

LIGHT CRUISERS-CL



MONTECUCCOLI CLASS



GARIBALDI CLASS



LUIGI CADORNA



REGOLO CLASS

DESTROYERS-DD



NAVIGATORE CLASS



TURBINE CLASS

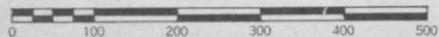


SPICA CLASS



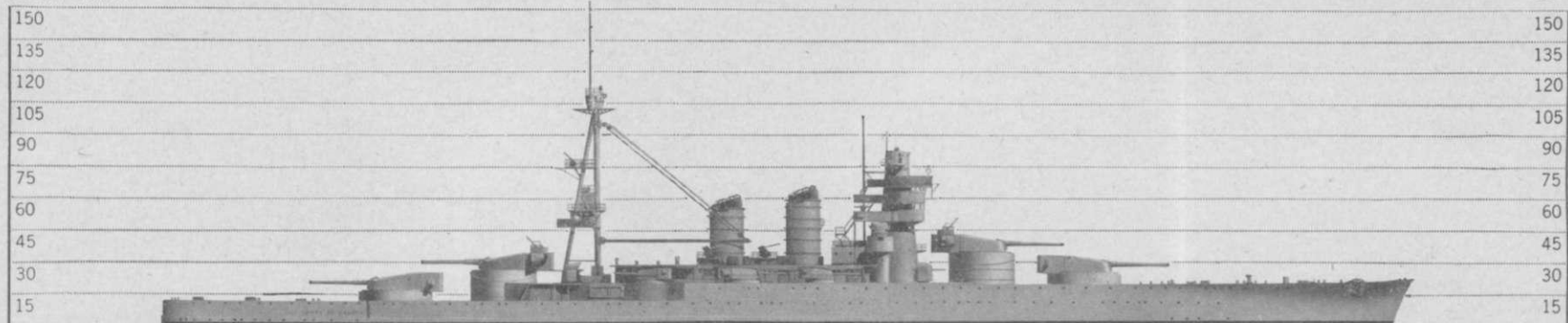
GRECALE-AVIERE CLASS

SCALE





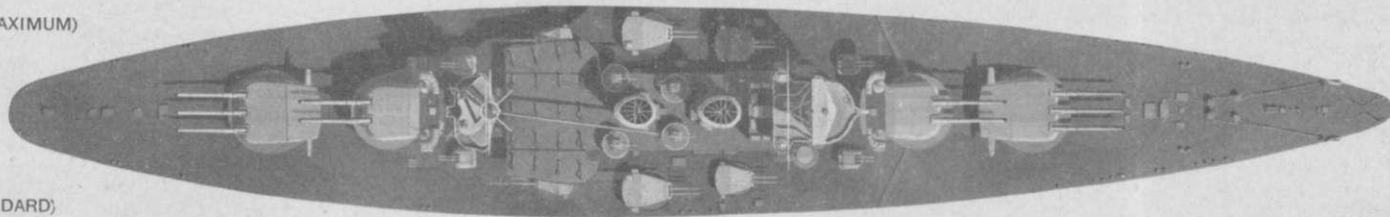
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

LENGTH—611'7" OA—597'1" WL
BEAM— 91'10"
DRAFT— 32'6" (MAXIMUM)



DISPLACEMENT
23,622 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY

28° 0° 28°



ARMAMENT

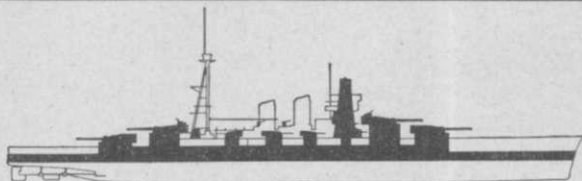
	MAX. ELEV.	RANGE
10-12" TRIPLE, DOUBLE TURRETS	25°	31,000 YD.
12-4" TWIN TURRETS	45°	19,000 YD.
8-3" AA TWIN MOUNTS	90°	
4 SCOUT OBSERVATION PLANES		

PROTECTION

BELT— 9 3/4"—8": 5" ENDS
TURRETS— 11" BARBETTES—9 1/2"
CONNING TOWER—11" ? DECK—3"

PROPULSION

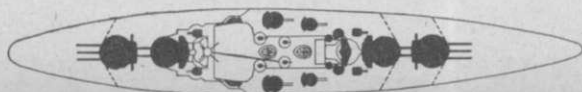
MACHINERY—BELLUZZO
BOILERS— EIGHT, 3 DRUM TYPE FUEL—OIL, 2,000 TONS
DES HP— 75,000 DES SPEED—27 KNOTS
ENDURANCE—1,700 @ 24 KNOTS 4,500 @ 10 KNOTS



CAVOUR CLASS



CONTE DI CAVOUR—BB 2



GIULIO CESARE—BB 3



CAVOUR CLASS—BB 2, 3

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—FEBRUARY, 1943

CONTE DI CAVOUR—BB 2
GIULIO CESARE— BB 3

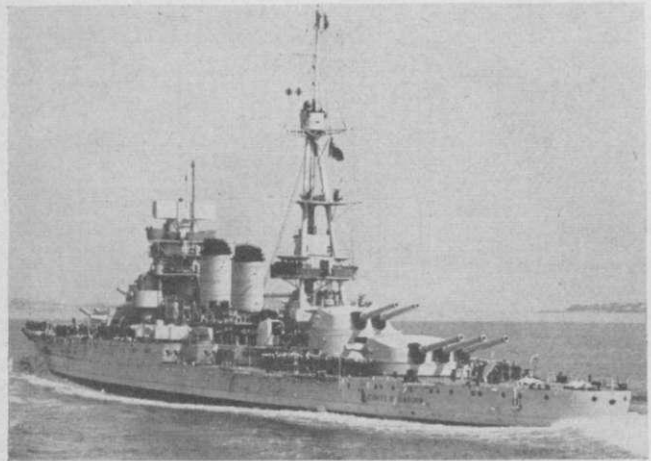
BEGUN
8/10/10
6/23/10

COMPLETED
1/1915
11/29/13

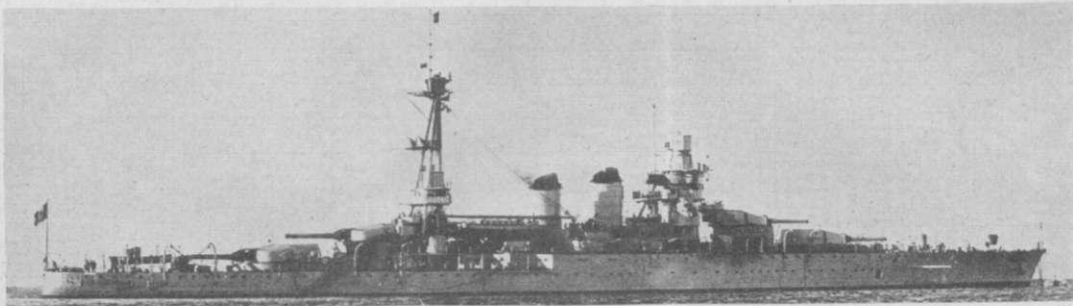
RECONSTRUCTED
1933—1937
1933—1937

ONI 202

RESTRICTED

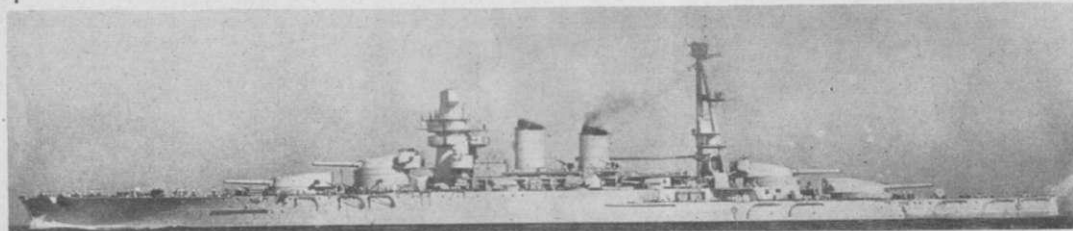


↑ CAVOUR 1939 ↓

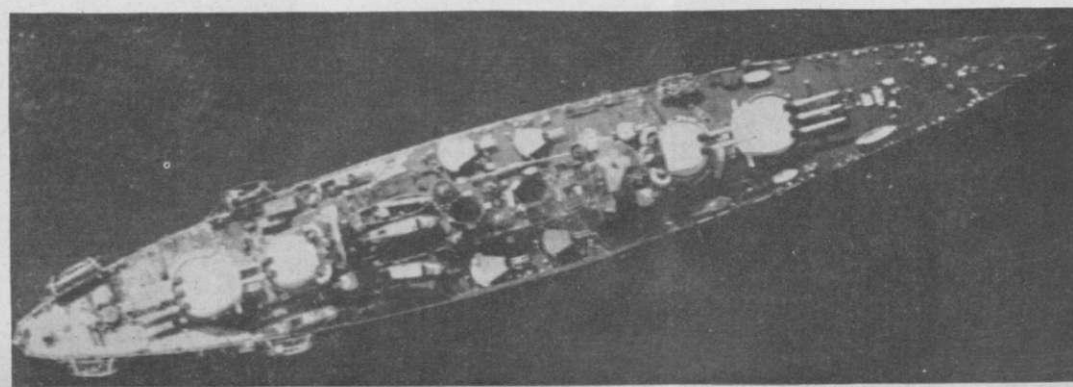
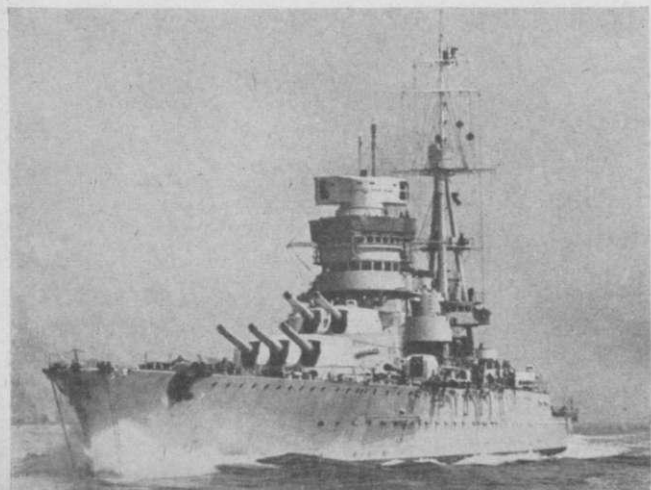


↑ CESARE 1938

CAVOUR 1938 ↓

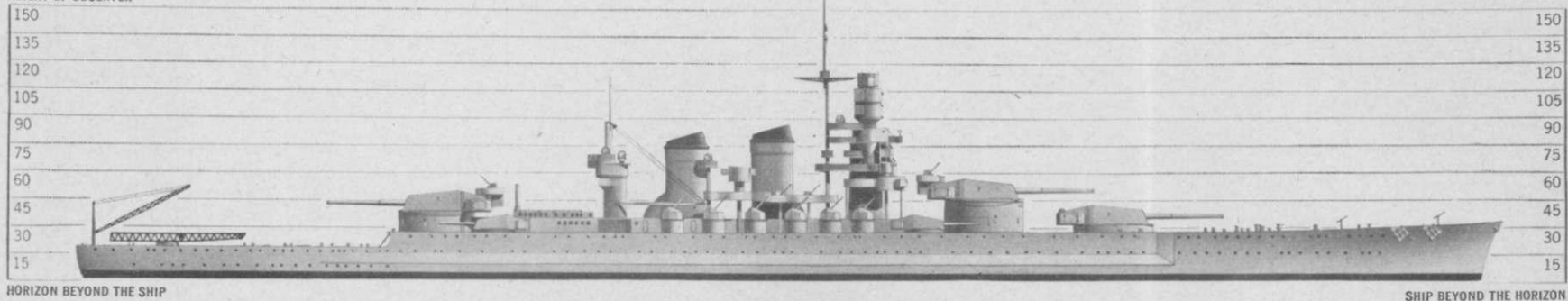


CAVOUR 1941 ↓

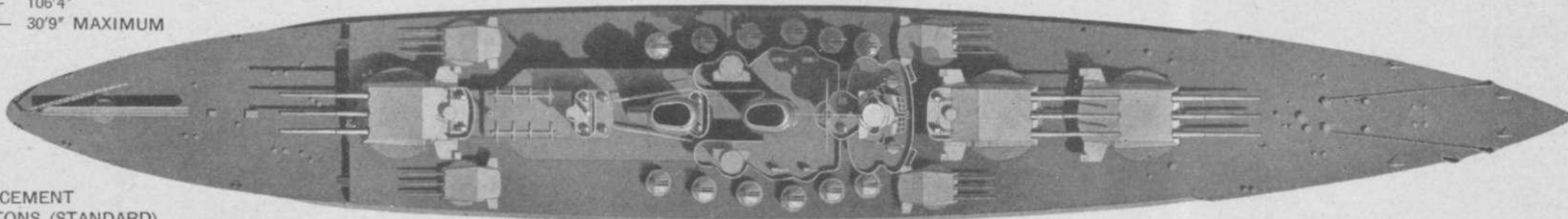




HEIGHT OF OBSERVER



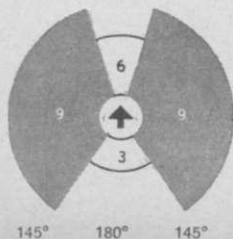
LENGTH—775'7" OA—762'4" WL
BEAM— 106'4"
DRAFT— 30'9" MAXIMUM



DISPLACEMENT
35,000 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY

17° 0' 17°



ARMAMENT

9-15" (50) TRIPLE TURRETS
12- 6" (55) TRIPLE TURRETS
12-3.5" (48) AA
1 CATAPULT; 3 SCOUT OBSERVATION PLANES

MAX. ELEV.

RANGE

35,000 YD.

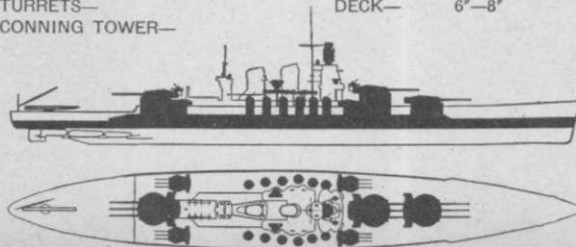
15,000 YD.

PROPULSION

MACHINERY— PARSONS
BOILERS— HIGH PRESSURE WATER-TUBE, 3 DRUM
TYPE
FUEL— OIL, 4,000 TONS
DESIGNED HP— 130,000
DESIGNED SPEED— 30 KNOTS
ENDURANCE— 2800 @ 30 KNOTS
10,000 @ 15 KNOTS
12,000 @ 10 KNOTS

PROTECTION

BELT— 9"–12" BARBETTES—
TURRETS— DECK— 6"–8"
CONNING TOWER—



LITTORIO CLASS





LITTORIO CLASS—BB 11-14

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

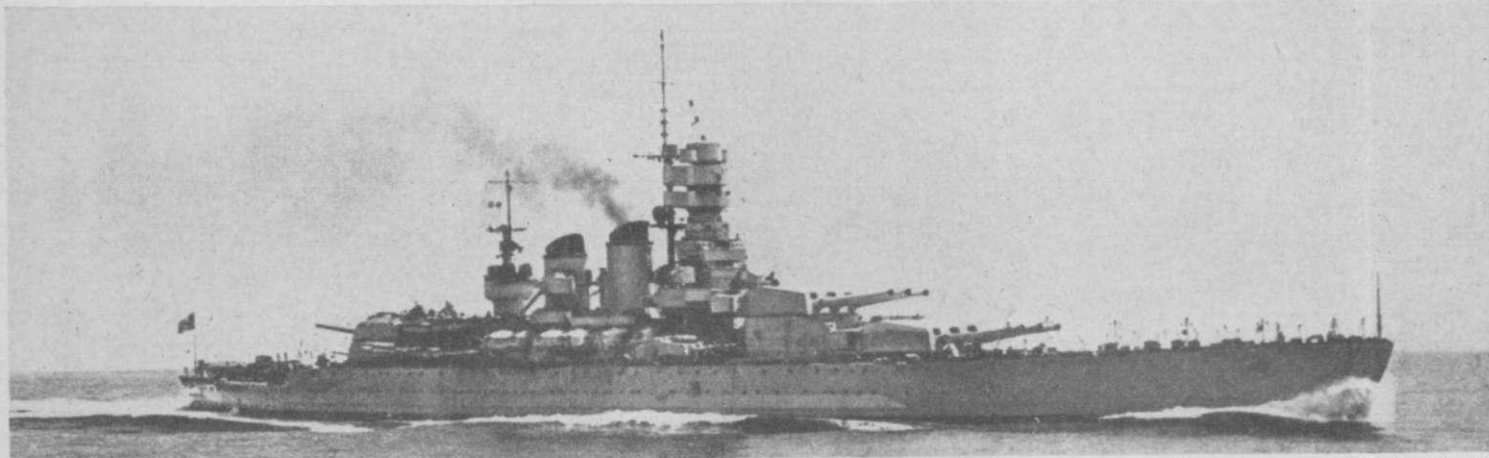
LITTORIO—	BB11
VITTORIO VENETO—	BB12
IMPERO—	BB13
ROMA—	BB14

BEGUN	10/28/34
	10/28/34
	5/14/38
	9/18/38

COMPLETED	5/1/40
	4/30/40
BUILDING	BUILDING
BUILDING	BUILDING

ONI 202

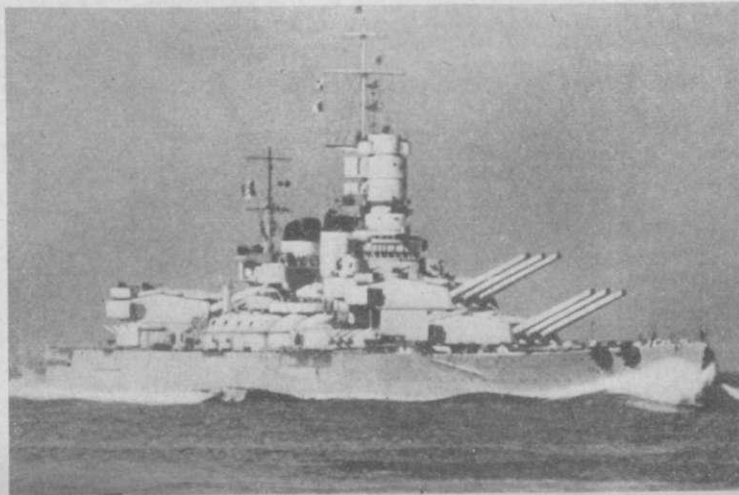
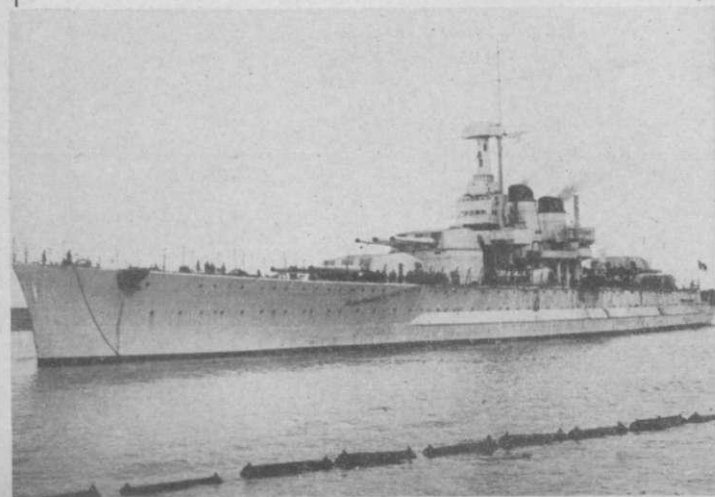
RESTRICTED



↑ 1940

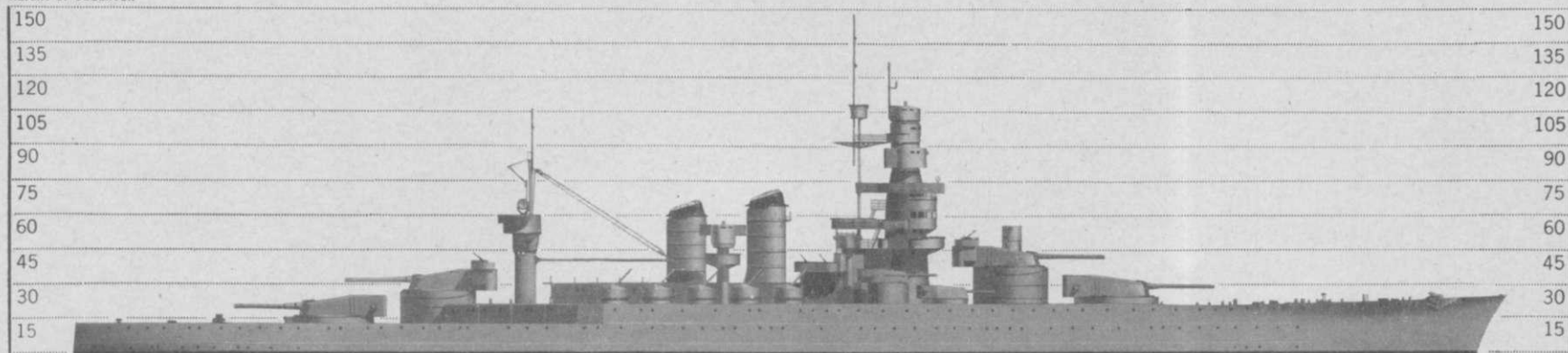
ON TRIALS ↓

OCT. 20, 1940 →





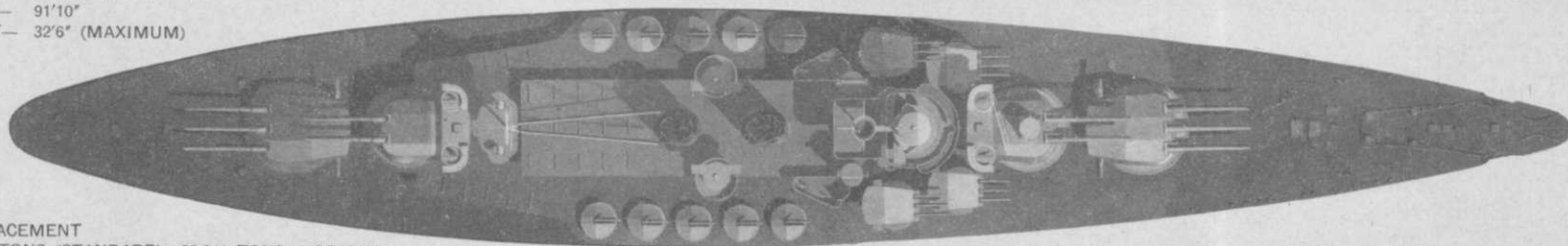
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

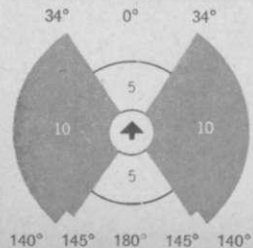
SHIP BEYOND THE HORIZON

LENGTH—611'7" OA—597'1" WL
BEAM— 91'10"
DRAFT— 32'6" (MAXIMUM)



DISPLACEMENT

23,622 TONS (STANDARD)—22,341 TONS (NORMAL)



ARMAMENT

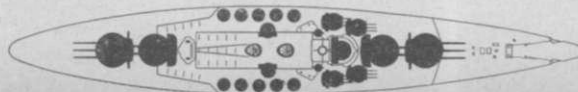
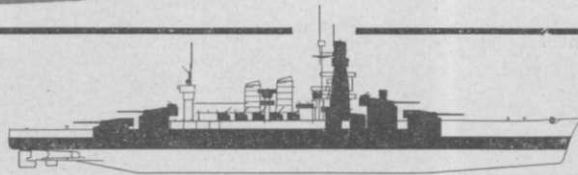
10—12"6"
12—5"3
10—3"5
2 CATAPULTS; 40V

PROTECTION

BELT—9¾"—8"; 5 ENDS
TURRETS—11"
CONNING TOWER—11"
BARBETTES—9½"
DECK—3"

PROPULSION

MACHINERY—BELLUZO GEARED TURBINES
BOILERS—EIGHT, 3-DRUM TYPE FUEL—OIL, 2,000 TONS
DESIGNED HP—75,000 DESIGNED SPEED—27 KNOTS



DORIA CLASS



ANDREA DORIA—BB 5



CAIO DUILIO—BB 6

ONI 202

RESTRICTED

ANDREA DORIA—BB5
CAIO DUILIO —BB6

BEGUN 3/24/12
2/24/12
COMPLETED 3/13/16
5/19/15
RECONSTRUCTED 1937—1939
1937—1939
BOTH SHIPS HAVE BEEN ALTERED DURING 1940.

DORIA CLASS—BB 5-6



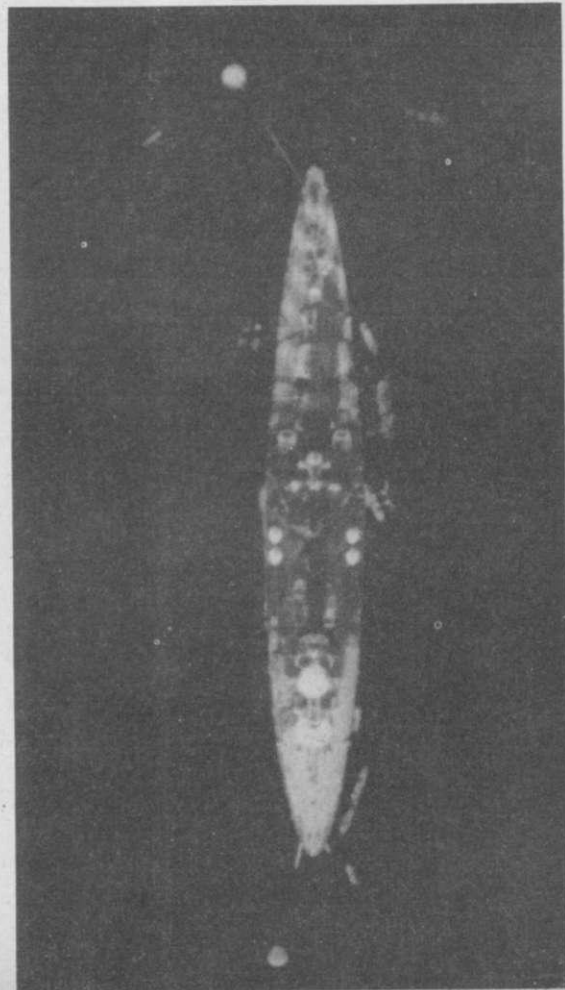
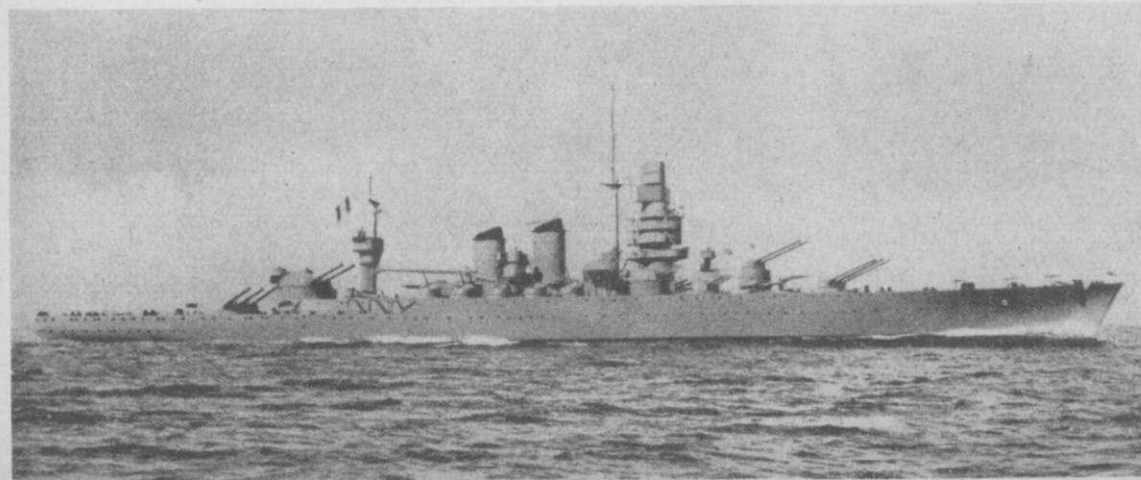
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942



↑ DUILIO

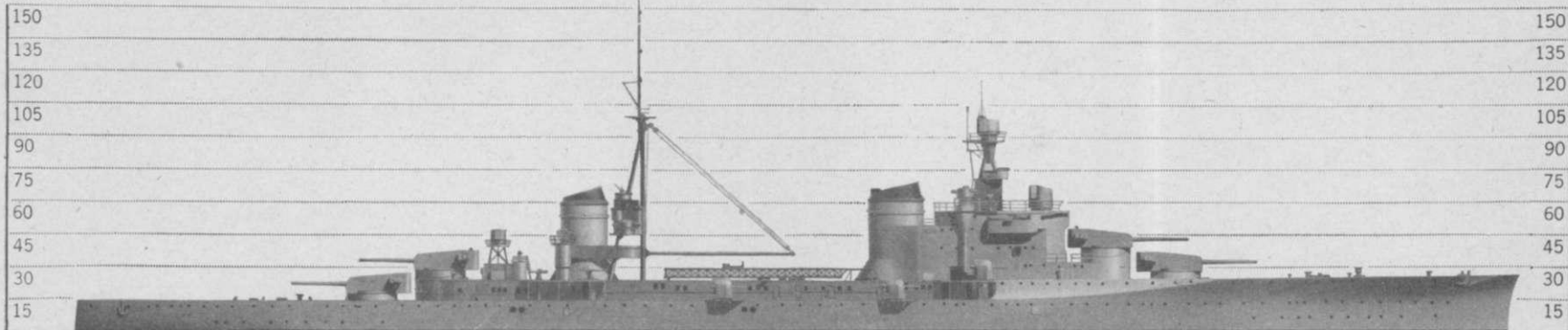
DORIA ↓ 9/26/41

DORIA—1939 →

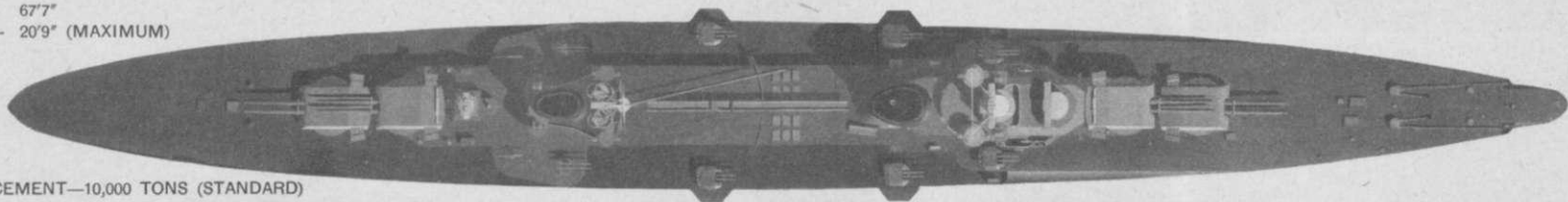




HEIGHT OF OBSERVER



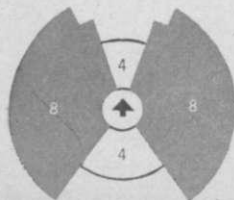
LENGTH—646'3" OA—637'6" WL
BEAM— 67'7"
DRAFT— 20'9" (MAXIMUM)



DISPLACEMENT—10,000 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY

27° 19° 0° 19° 27°



144° 180° 144°

ARMAMENT

- 8—8" (53) 4 TWIN TURRETS
- 12—3.9" (47) DOUBLE MOUNTS
- 8—1.46" AA 8—AAMG
- 8—21" TORPEDO TUBES
- 1 CATAPULT; 2 SCOUT OBSERVATION PLANES

MAX. ELEV.
40°

RANGE
32,810 YD.

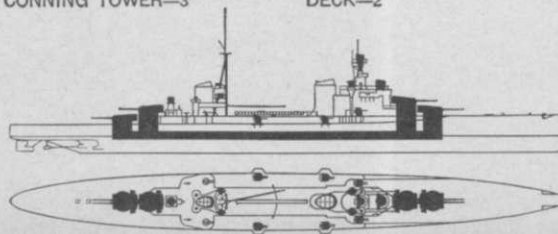
PROPULSION

- MACHINERY— 4 PARSONS GEARED TURBINES
- BOILERS— 10 ANSALDO 3-DRUM TYPE
- FUEL— OIL, 3,000 TONS
- DESIGNED HP— 150,000
- DESIGNED SPEED—36 KNOTS
- ENDURANCE— 16,000 @ 10 KNÖTS — 2,000 @ 36 KNOTS

PROTECTION

- BELT—2-3/4"
- CONNING TOWER—3"

- TURRETS—3"
- DECK—2"



BOLZANO—CA 7



BOLZANO—CA 7

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

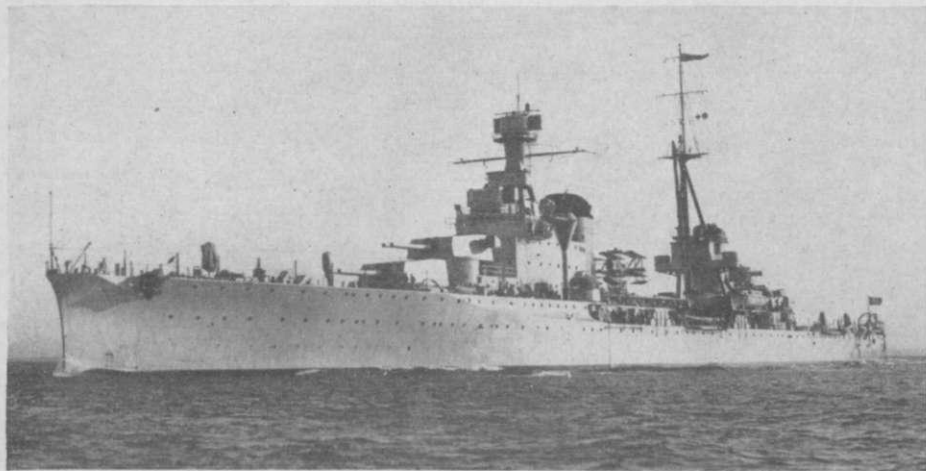
BOLZANO—CA7

BEGUN
6/11/30

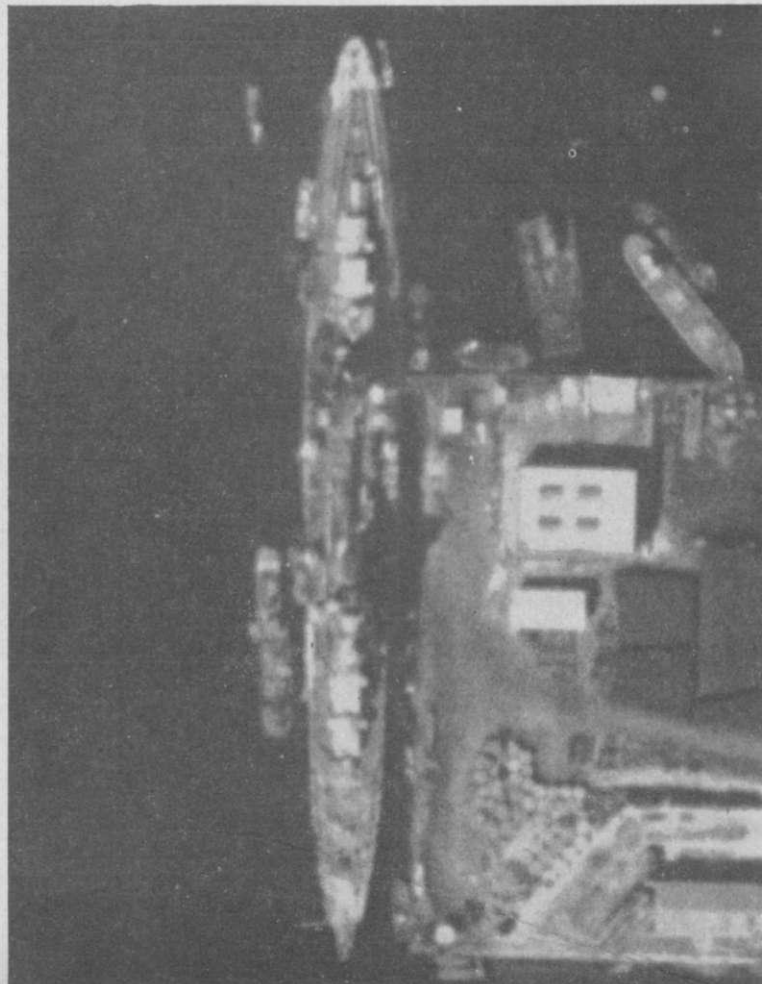
COMPLETED
8/19/33

ONI 202

RESTRICTED

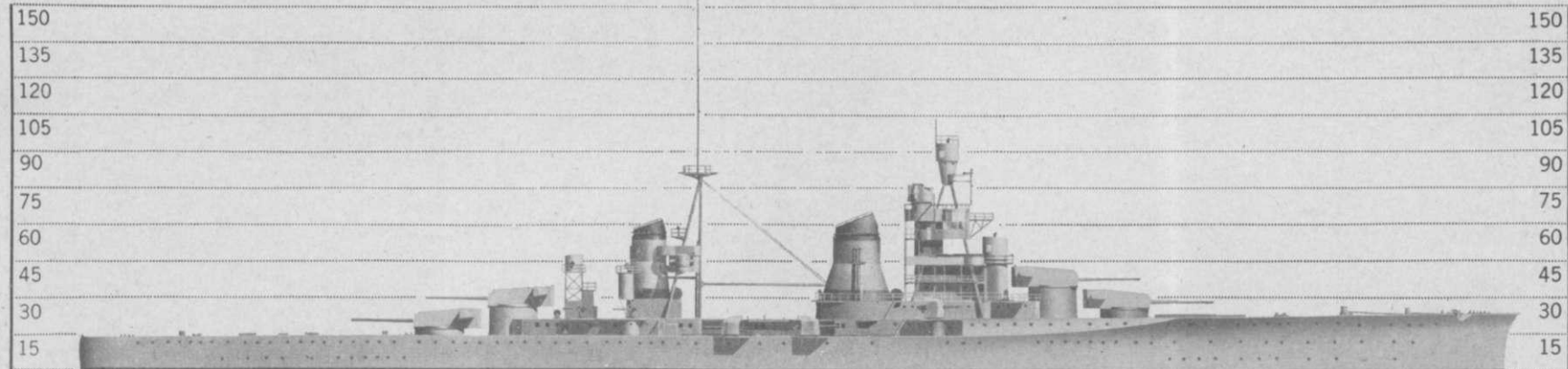


↑ 1936 ↓





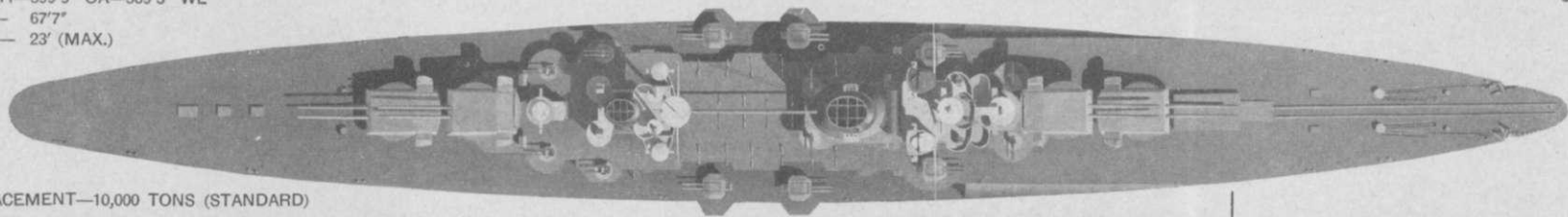
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

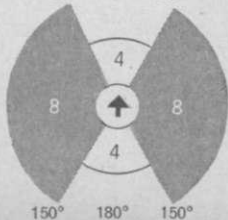
SHIP BEYOND THE HORIZON

LENGTH—599'9" OA—589'5" WL
BEAM— 67'7"
DRAFT— 23' (MAX.)



DISPLACEMENT—10,000 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY
29° 0° 29°



ARMAMENT

8-8" (53) IN PAIRS
12-3"9 (47) TWIN MOUNTS
8-1"46 AA TWIN MOUNTS
1 CATAPULT; 2 SCOUT OBSERVATION PLANES

MAX. ELEV.
40°
86°

RANGE
32,810 YD.
11,000 YD.

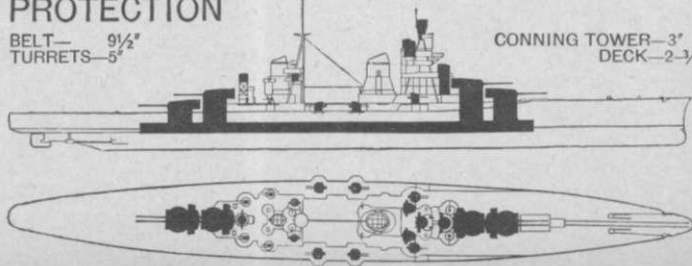
PROPULSION

MACHINERY— TWO PARSONS GEARED TURBINES
BOILERS— EIGHT, THREE-DRUM TYPE
FUEL— OIL, 1,450 TONS
DESIGNED HP— 95,000
DESIGNED SPEED— 32 KNOTS
ENDURANCE— 14,000 @ 10 KNOTS
2,500 @ 32 KNOTS

PROTECTION

BELT— 9 1/2"
TURRETS— 5"

CONNING TOWER— 3"
DECK— 2-3/4"





GORIZIA—CA 5

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—FEBRUARY, 1943

GORIZIA—CA 5
SISTER SHIPS—ZARA—CA 3; FIUME—CA 4; POLA—CA 6—ALL SUNK

BEGUN
3/ /30

COMPLETED
12/23/31

ONI 202

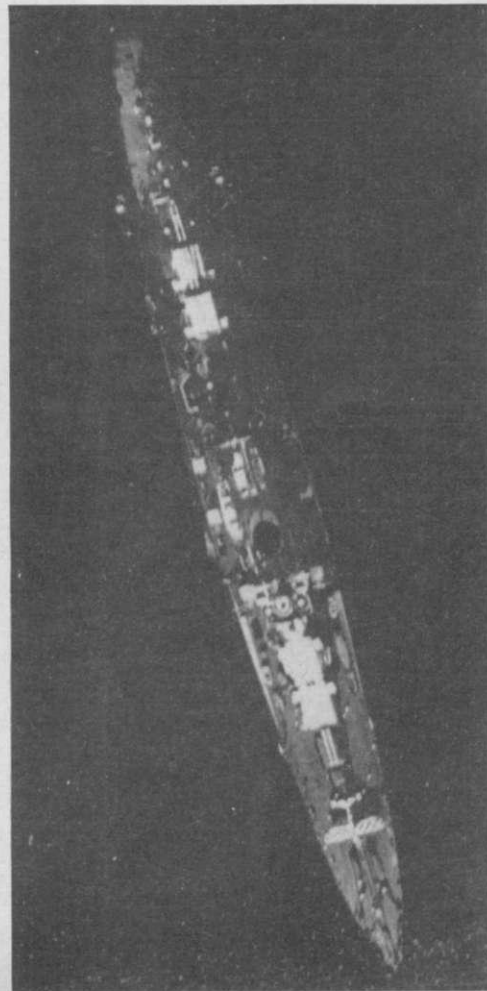
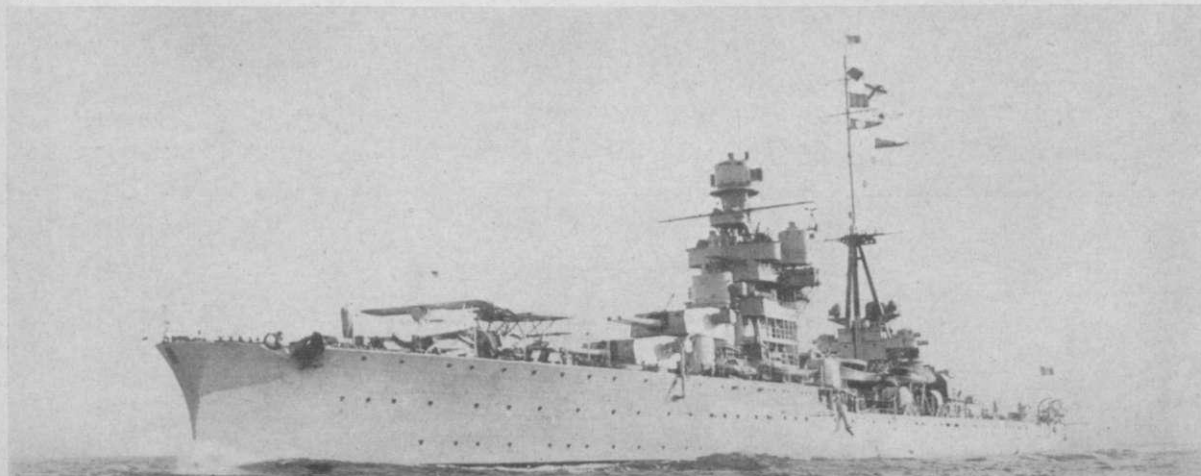
RESTRICTED



↑ 1936

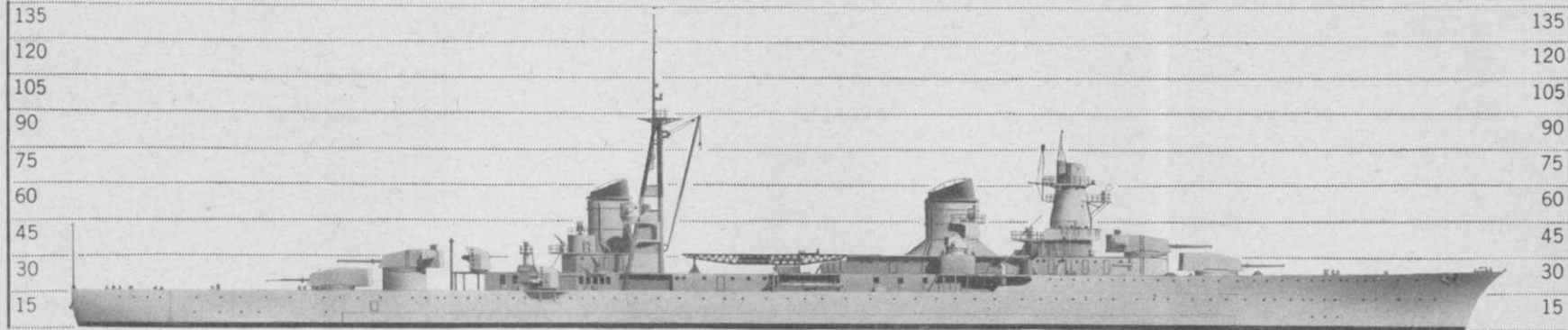
ZARA (SUNK) ↓

3/28/41 →





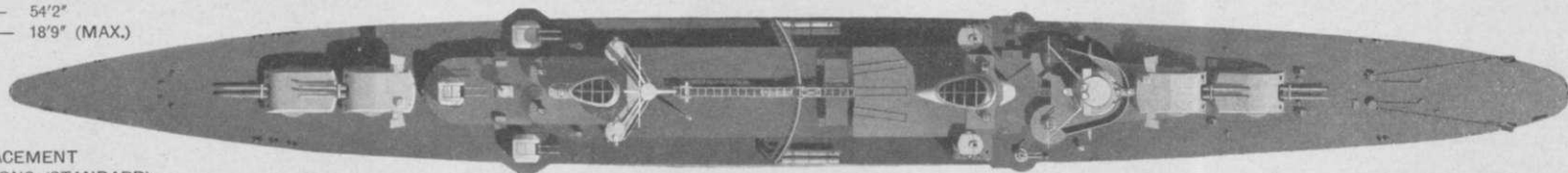
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

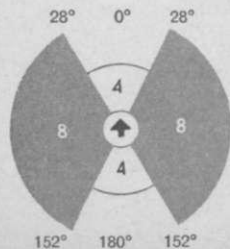
SHIP BEYOND THE HORIZON

LENGTH—597'9" OA—577'2" WL
BEAM— 54'2"
DRAFT— 18'9" (MAX.)



DISPLACEMENT
6,941 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY



ARMAMENT

- 8-6" (53) TWIN MOUNTS
- 6-3"9 (47) A.A.
- 4-21" TORPEDO TUBES
- 1 CATAPULT; 3 SCOUT OBSERVATION PLANES
- 16 DEPTH CHARGES

MAX. ELEV.

RANGE

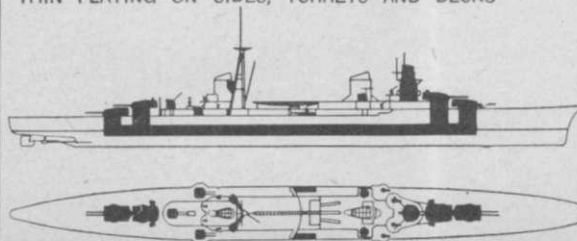
- 23,000 YD.
- 15,000 YD.

PROPULSION

- MACHINERY— BELLUZZO & PARSONS
- BOILERS— SIX OF 3-DRUM TYPE
- FUEL— OIL, 500/1200 TONS
- DESIGNED HP—106,000 DESIGNED SPEED—37 KNOTS
- ENDURANCE— 2,700 @ 37 KNOTS
- 15,000 @ 15 KNOTS
- 18,000 @ 10 KNOTS

PROTECTION

- BELT—2.5" DECK—1.5"
- THIN PLATING ON SIDES, TURRETS AND DECKS



MONTECUCCOLI CLASS:



MONTECUCCOLI—CL 15



ATTENDOLO—CL 16



MONTECUCCOLI CLASS—CL 15, 16

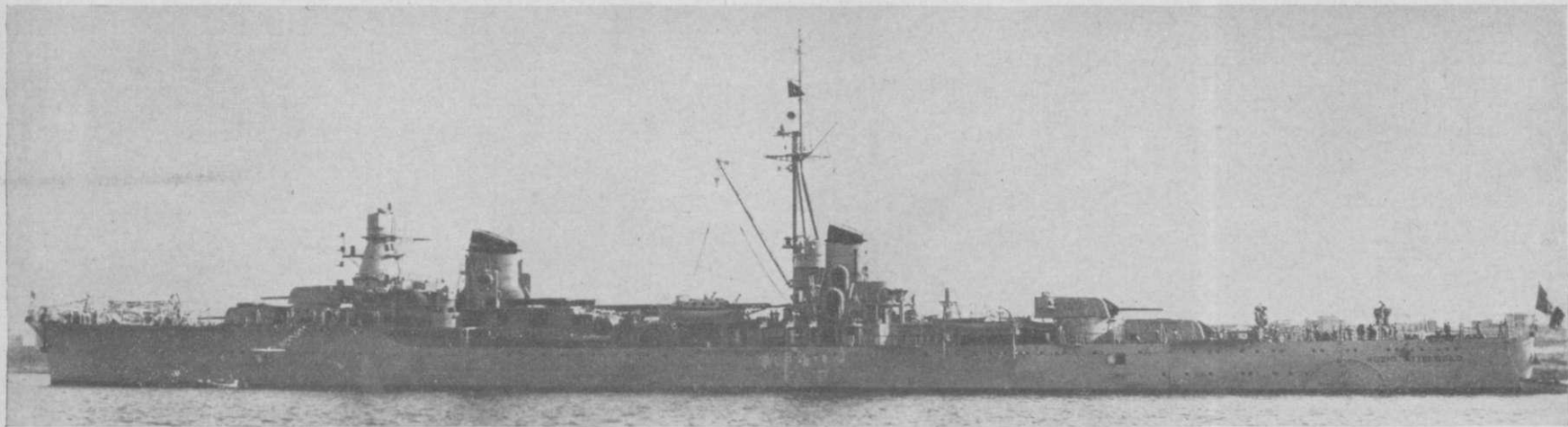
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

MONTECUCCOLI—CL15
ATTENDOLO— CL16

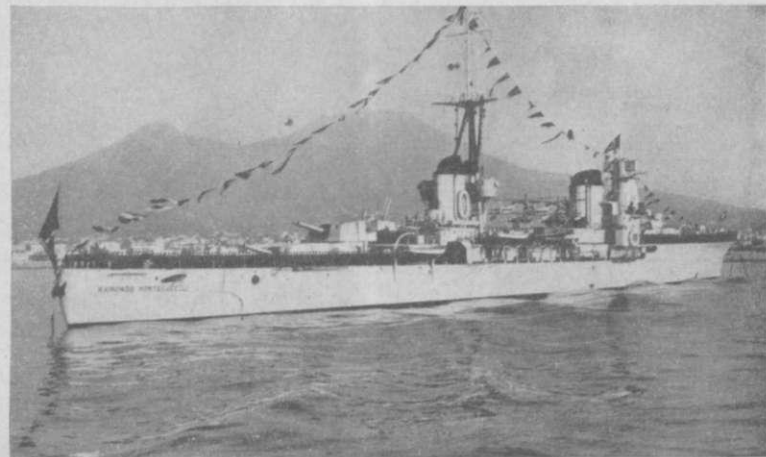
BEGUN
10/1931
9/1931

COMPLETED
7/1935
8/1935

ONI 202
RESTRICTED



↑ ATTENDOLO—1936

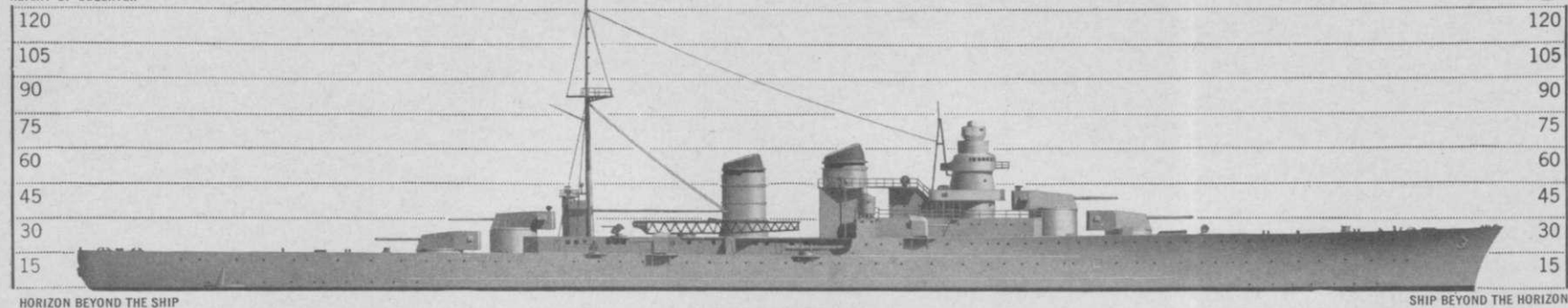


ONI 202RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57**GARIBALDI CLASS CL 19, 20**

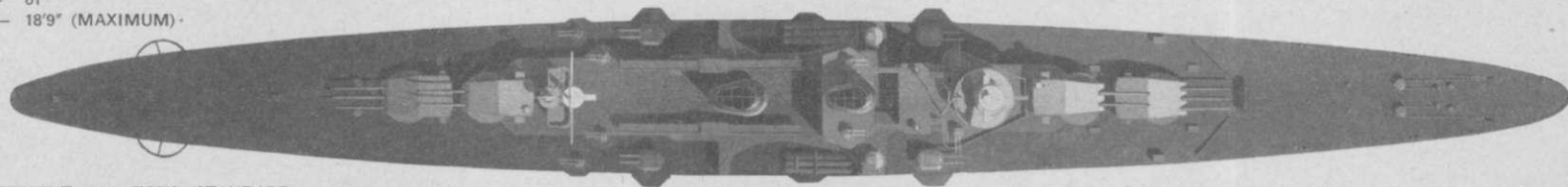
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JUNE 1943



HEIGHT OF OBSERVER



LENGTH—613'9" OA—593'2" WL
 BEAM— 61'
 DRAFT— 18'9" (MAXIMUM)



DISPLACEMENT—7874 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY

32° 0° 32°



145° 180° 145°

ARMAMENT

10-6" (55)
 8-3'9" (47) TWIN MOUNTS
 8-1'46" (54) AA
 6-21" TORPEDO TUBES
 108 BOLLO OR 94 ELIA OR 80 P200 MINES
 2 CATAPULTS; 4 SCOUT OBSERVATION PLANES

MAX. ELEV.

55°

RANGE

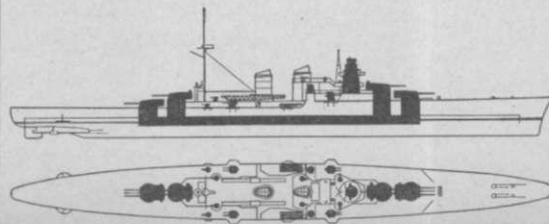
PROPULSION

MACHINERY— PARSONS GEARED TURBINES
 BOILERS— EIGHT, 3-DRUM TYPE
 FUEL— OIL, 3,000 TONS
 DESIGNED HP— 100,000
 DESIGNED SPEED— 35 KNOTS
 ENDURANCE— 18,000 @ 10 KNOTS—2,700 @ 35 KNOTS

PROTECTION

BELT— 1½"-3"
 CONNING TOWER—1"

TURRETS—1"
 DECK— 1½"



2 GARIBALDI CLASS



GIUSEPPE GARIBALDI—CL19

LUIGI DI SAVOIA, DUCA
DEGLI ABRUZZI—CL20



GARIBALDI CLASS—CL19-20

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—DECEMBER, 1942

GIUSEPPE GARIBALDI

-CL19

BEGUN

12/27/33

COMPLETED

12/20/37

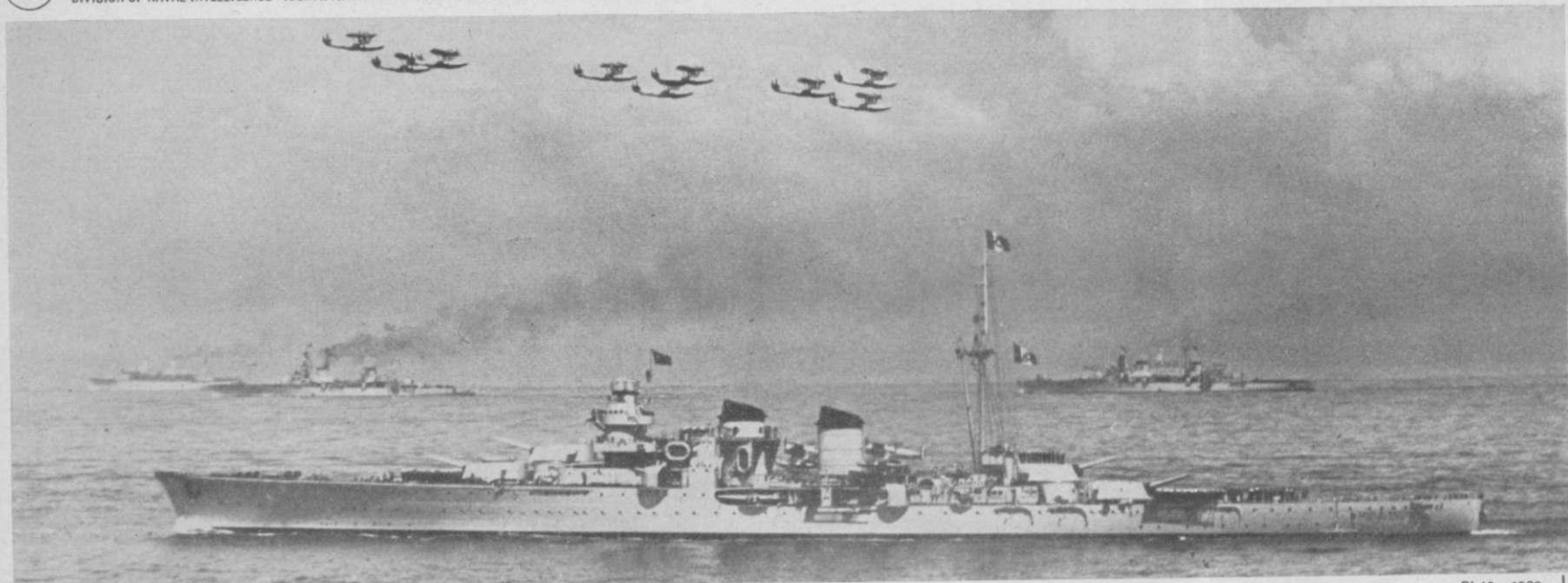
ONI 202

RESTRICTED

LUIGI DI SAVOIA, DUCA DEGLI ABRUZZI—CL20

12/28/33

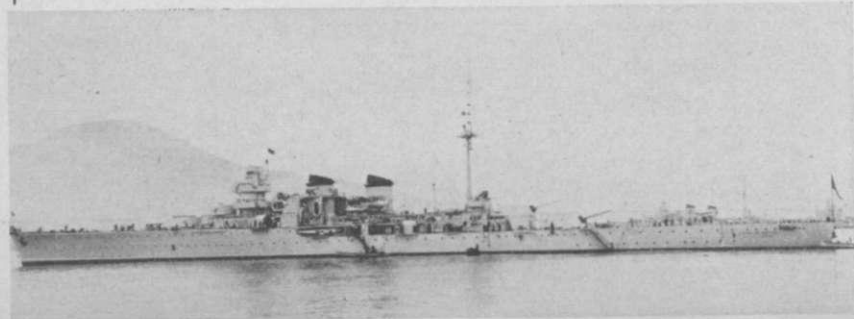
9/12/37



↑ CL20

CL20—6/30/40 ↓

CL19—1938 ↓



ONI 202 RESTRICTED
CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57

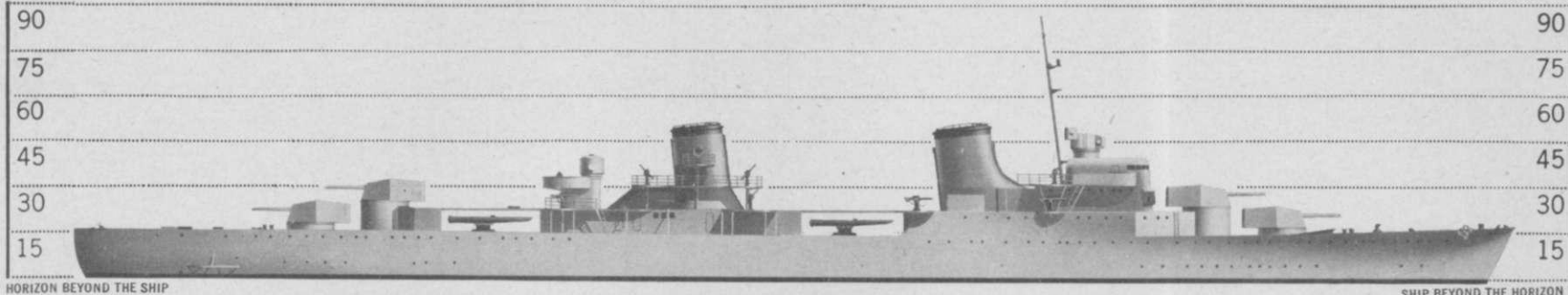
-2 UNITS COMPLETED
-3 FITTING OUT
-1 COMPLETING AS CVL

REGOLO CLASS—CL 23-34

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JULY, 1943



HEIGHT OF OBSERVER



LENGTH—465' OA
BEAM— 44'9"
DRAFT—15'3" (MAX.)



DISPLACEMENT—3,362 TONS (STANDARD)

ARMAMENT

8-5"3 TWIN MOUNTS
6-2"57
16-AAMG
8-21" TORPEDO TUBES
7-MINES, DEPTH CHARGES
AIRCRAFT ACCOMMODATION REPORTED

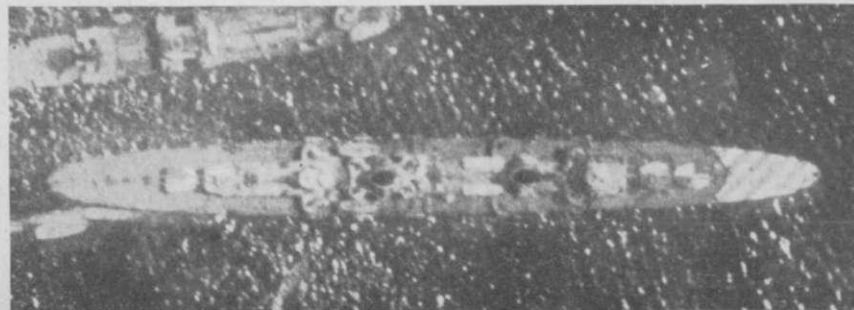
MAX. ELEV.

MAX. RANGE

PROPULSION

MACHINERY—
FUEL— OIL—1000 TONS
DESIGNED HP—120,000
ENDURANCE— 6800 @ 10 KTS—1000 @ 41 KTS

BOILERS—
DESIGNED SPEED— 41 KNOTS



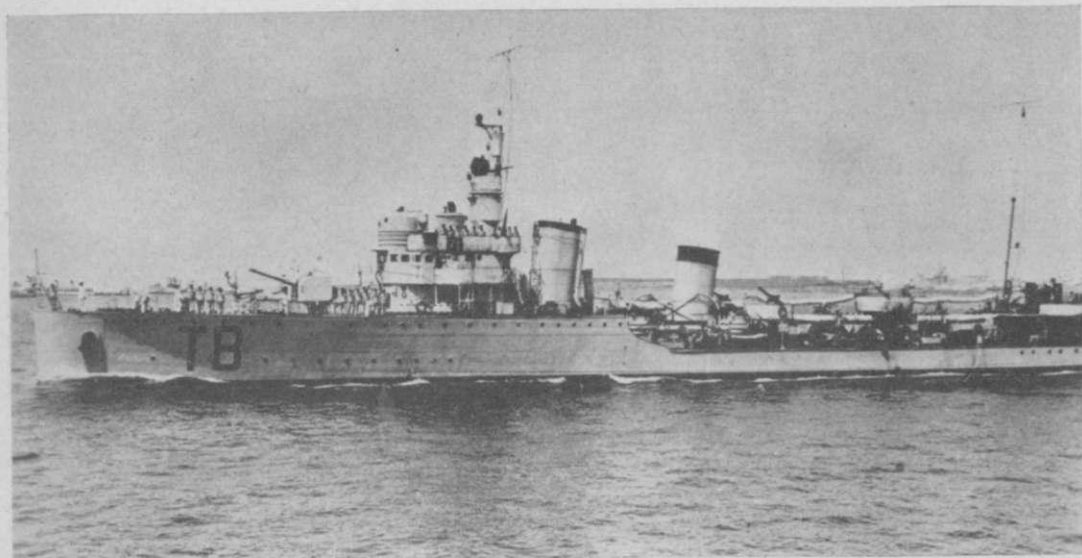


TURBINE CLASS—DD 76-83

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—FEBRUARY, 1943

ONI 202

RESTRICTED



LENGTH—307'3" OA—302'6" WL
BEAM— 30'2"
DRAFT— 9'6"

DISPLACEMENT—1,092 TONS (STANDARD)

ARMAMENT

4-4.7 (45)
6-21"

MAX. ELEV.

34°

RANGE

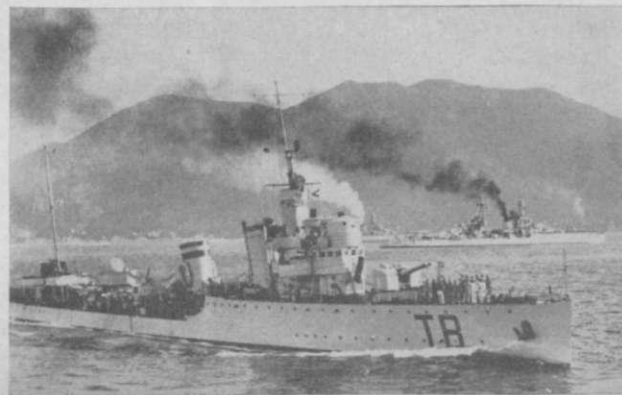
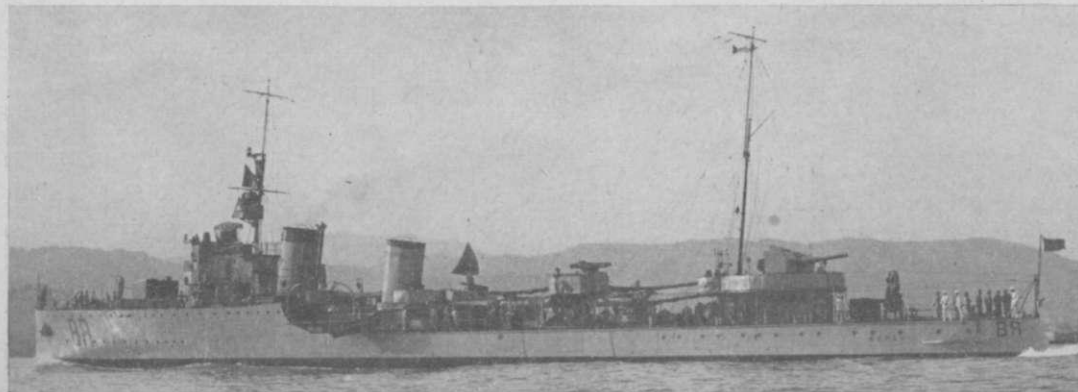
17,000 YD.

52 BOLLO OR 50 ELIA OR 36 P200

PROPULSION

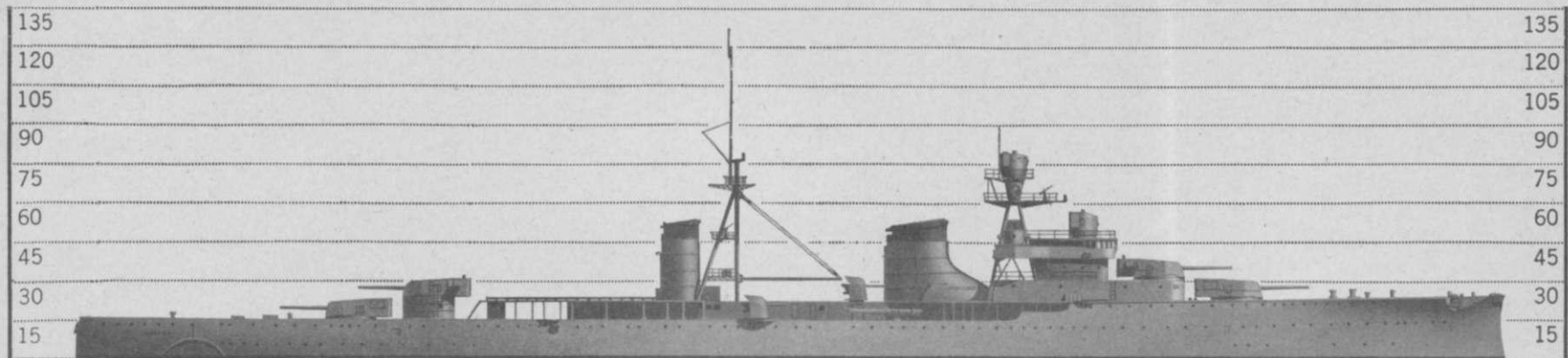
MACHINERY— PARSONS GEARED TURBINES
BOILERS— 3 EXPRESS BOILERS, WITH SUPERHEATERS
FUEL— OIL, 270 TONS
DESIGNED HP— 40,000
DESIGNED SPEED—36 KNOTS
ENDURANCE— 2800 @ 15 KNOTS

	BEGUN	COMPLETED
TURBINE DD 76	1925	1927
EURO DD 80	1925	1927





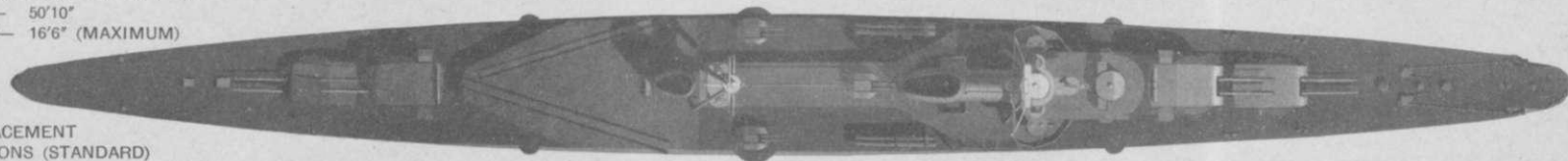
HEIGHT OF OBSERVER



HORIZON BEYOND THE SHIP

SHIP BEYOND THE HORIZON

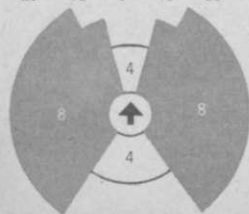
LENGTH—555'7" OA—547'1" WL
BEAM— 50'10"
DRAFT— 16'6" (MAXIMUM)



DISPLACEMENT
5,008 TONS (STANDARD)

DENSITY OF FIRE
MAIN BATTERY

29° 15° 0° 15° 29°



146° 180° 146°

ARMAMENT

8-6" (53)
6-3.9 (47) AA
8-1.46 AA
4-21" TORPEDO TUBES
138 BOLLO OR 118 ELIA OR 84 P200 MINES
2 CATAPULTS; 2 SCOUT OBSERVATION PLANES

MAX. ELEV.

45°
89°
70°

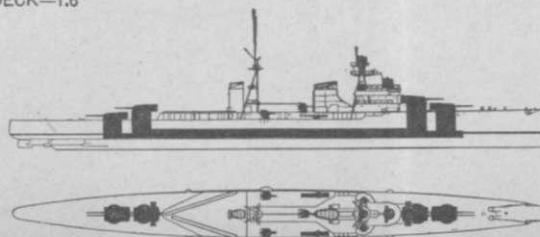
RANGE
33,000 YD.

PROPULSION

MACHINERY— 2 PARSONS GEARED TURBINES
BOILERS— SIX, 3-DRUM TYPE
FUEL— OIL, 500/1000 TONS
DESIGNED HP— 95,000
DESIGNED SPEED— 37 KNOTS
ENDURANCE— 2,500 MILES @ 25 KNOTS

PROTECTION

BELT—1.25"
DECK—1.6"



LUIGI CADORNA—CL 13



LUIGI CADORNA—CL 13

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—FEBRUARY, 1943

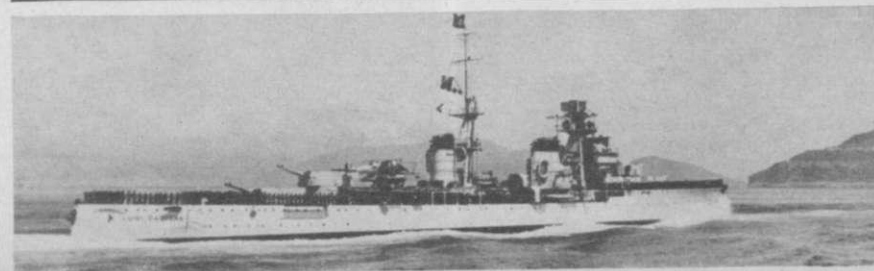
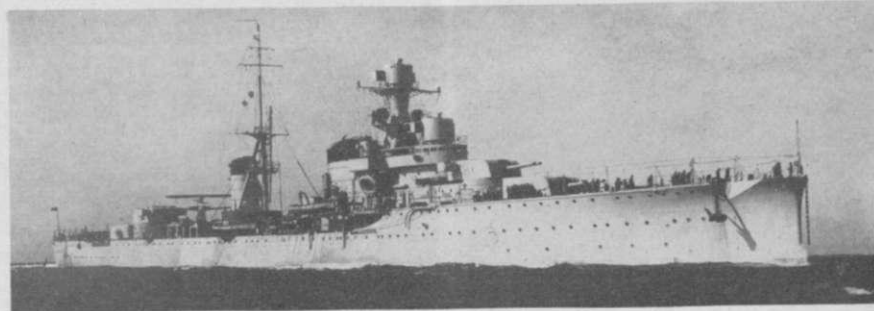
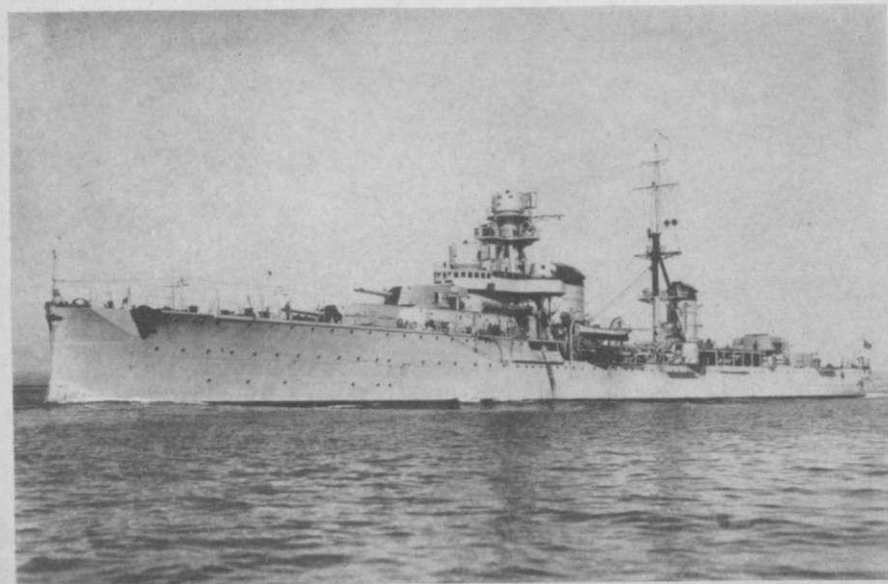
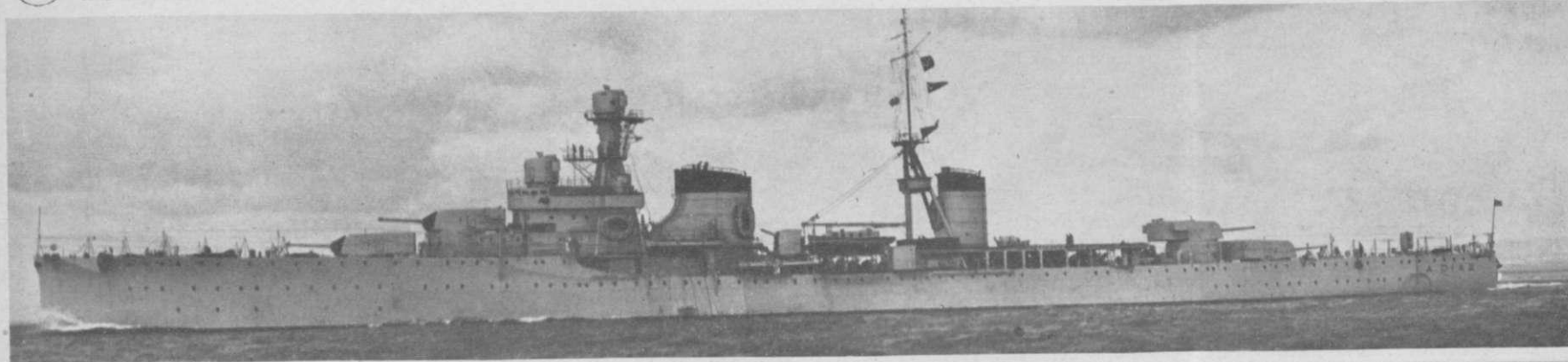
LUIGI CADORNA—CL 13
ARMANDO DIAZ—CL 14

BEGUN
9/19/30

COMPLETED
8/10/33

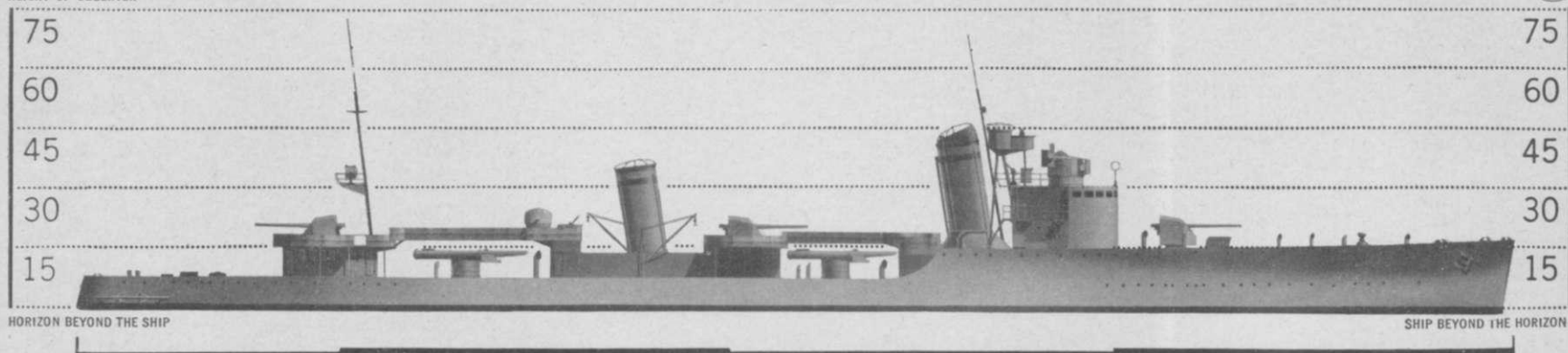
SUNK

ONI 202
RESTRICTED

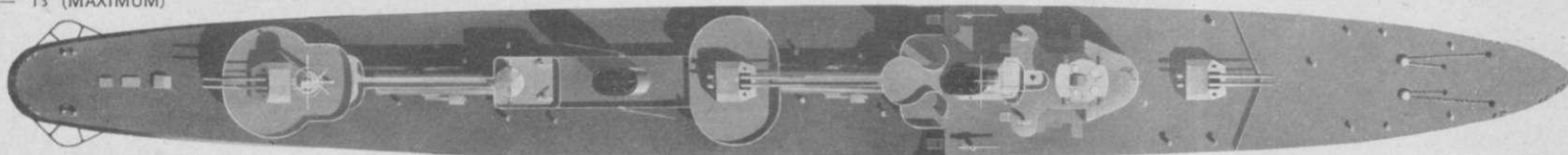




HEIGHT OF OBSERVER



LENGTH—353'5" OA—346'3" WL
BEAM— 33'6"
DRAFT— 13' (MAXIMUM)



DISPLACEMENT—1,628 TONS (STANDARD)—1,978 TONS (NORMAL)

ARMAMENT

6-4"7 (50) TWIN MOUNTS
4-1"46 AA
2-? 2 PDR MULTIPLE
8-0.79" AA
4-AAMG
4-21" TORPEDO TUBES
58 BOLLO, OR 56 ELIA, OR 36 P200 MINES CARRIED

MAX. ELEV.
50°

RANGE
21,000 YD.

PROPULSION

MACHINERY— 2 PARSONS
BOILERS— 4 ODERO
FUEL— OIL, 500 TONS
DESIGNED HP— 50,000
DESIGNED SPEED—38 KNOTS
ENDURANCE— 5,000 @ 20 KNOTS



8 NAVIGATORE CLASS



NAVIGATORE CLASS—DD 84-95

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JULY, 1943

4 OR MORE UNITS SUNK

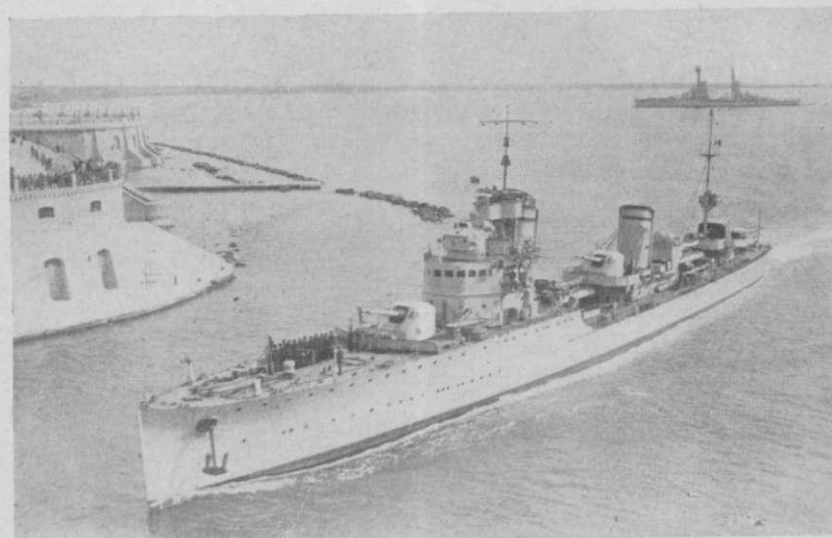
ONI 202

RESTRICTED

		BEGUN	COMPLETED
NICOLO ZENO—	DD 84	6/ 5/27	1/30/30
UGOLINO VIVALDI—	DD 87	5/16/27	3/30
LANZEROTTO MALOCELLO—	DD 89	8/30/27	1/30/31
ANTONIOTTO USODIMARE—	DD 90	6/ 1/27	11/21/29
ANTONIO DA NOLI—	DD 91	7/27/27	12/29/29
EMANUELE PESSAGNO—	DD 93	10/ 9/27	3/30
NICOLOSO DA RECCO—	DD 94	12/14/27	5/20/30
ANTONIO PIGAFETTA—	DD 95	12/29/28	5/1/31

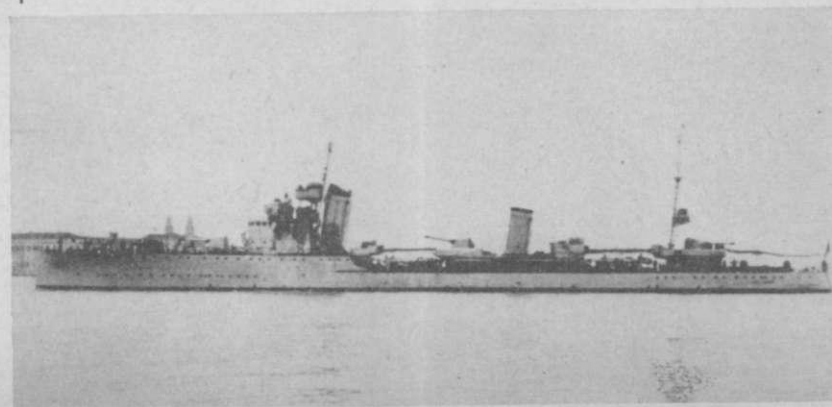
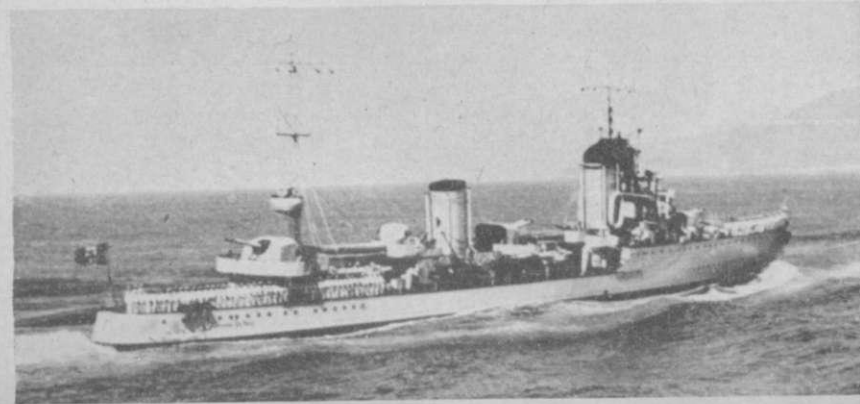


↑ UGOLINO VIVALDI—DD 87



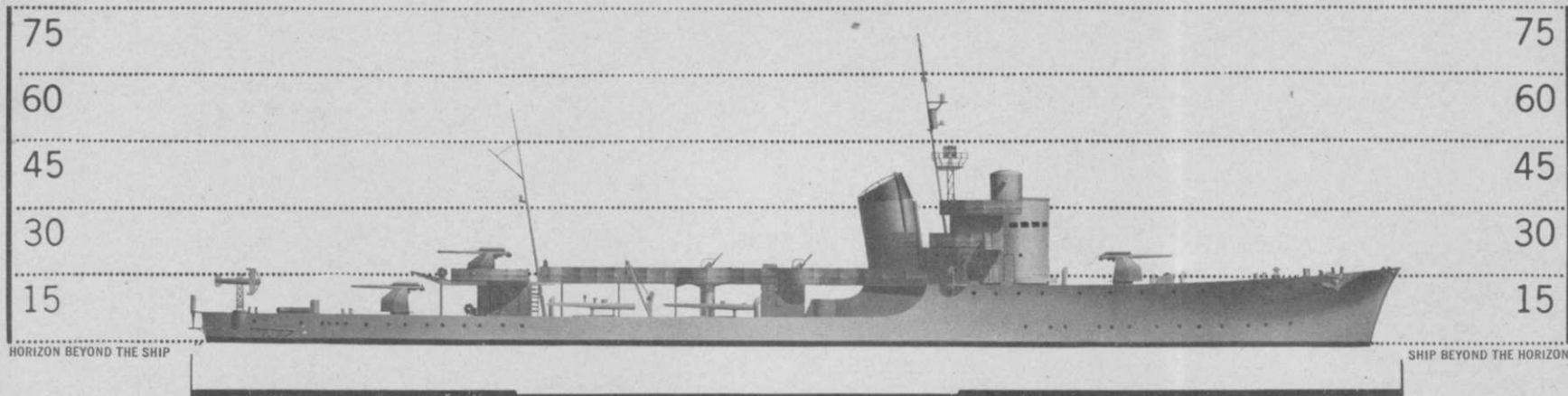
ANTONIO DA NOLI—DD 91 ↓

↑ ANTONIOTTO USODIMARE

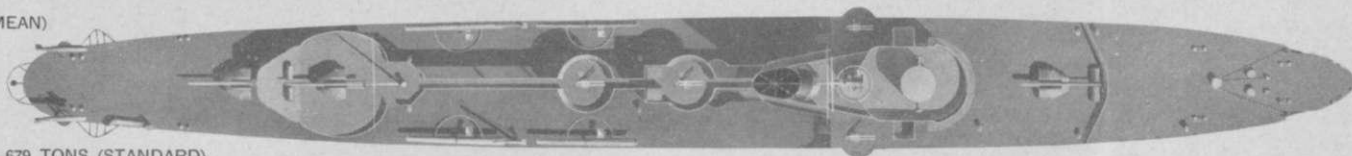




HEIGHT OF OBSERVER



LENGTH—267'2"—268'10" OA
BEAM— 26'11"
DRAFT— 7'2"—7'7" (MEAN)



DISPLACEMENT—652—679 TONS (STANDARD)

ARMAMENT—	MAX. ELEV.	RANGE
3-3"9 (47) DP	85°	
6-1"46 AA TWINS		
4-17"7 TORPEDO TUBES		
28 BOLLO, ELIA OR HARLE—OR 18 P200 MINES CARRIED		

3-3"9 (47) DP

85°

6-1"46 AA TWINS

4-17"7 TORPEDO TUBES

28 BOLLO, ELIA OR HARLE—OR 18 P200 MINES CARRIED

PROPULSION—

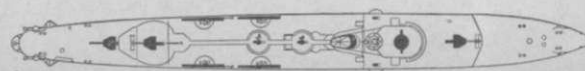
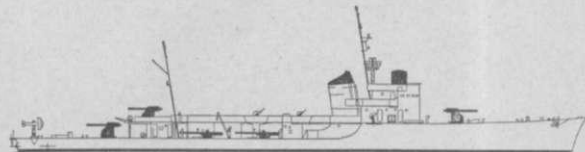
MACHINERY— 2 SETS TOSI GEARED TURBINES

BOILERS— TWO—3 DRUM TYPES

FUEL— OIL

DESIGNED HP— 19,000

DESIGNED SPEED—34 KTS.



11 SPICA CLASS



12 PARTENOPE CLASS



TB 12-43

DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—JULY, 1943

SPICA CLASS—TB 12-27
PARTENOPE CLASS—TB 28-43

11 UNITS
12 UNITS

COMPLETED—1936-'37
COMPLETED—1938

AN UNKNOWN NUMBER RECENTLY SUNK

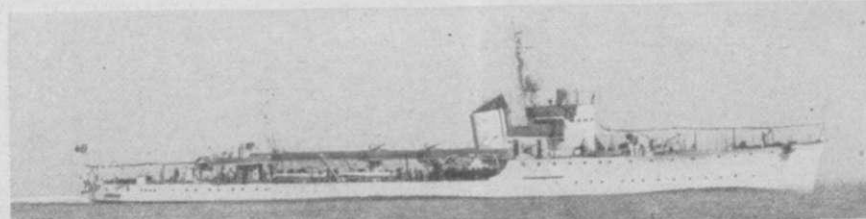
ONI 202

RESTRICTED



↑ LIBRA—TB 31 ↓

CIRCE—TB 43 ↓

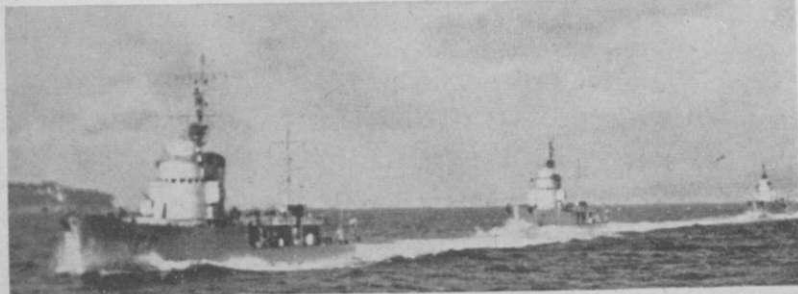


↑ CENTAURO—TB 14



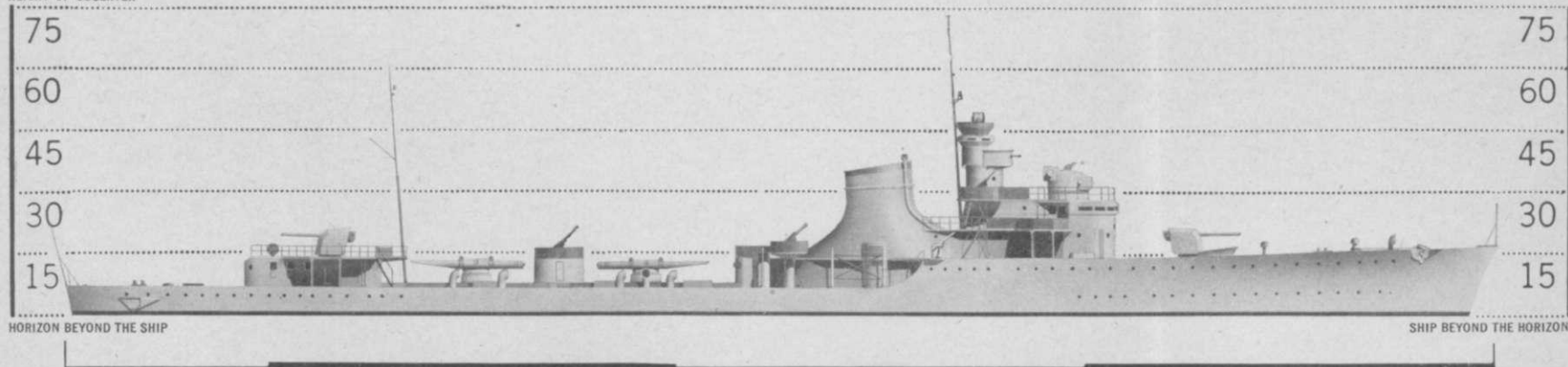
↑ VEGA—TB 27

CASSIOPEA—TB 19 ↓

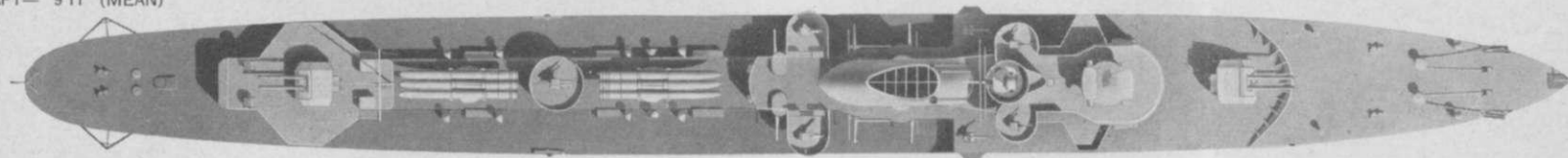




HEIGHT OF OBSERVER



LENGTH—350'1" OA—333'4" WL
BEAM— 33'4"
DRAFT— 9'11" (MEAN)



DISPLACEMENT—1,449 TONS (STANDARD)

ARMAMENT

4-4.7 (50) TWINS
4-1.46 AA
4-AAMG
6-21" TORPEDO TUBES
32 TO 64 MINES
DEPTH CHARGES CARRIED

MAX. ELEV.

RANGE
21,000

PROPULSION

MACHINERY— 2 SETS PARSONS GEARED TURBINES
BOILERS— 3 BOILERS, 3-DRUM TYPE
FUEL— OIL, 250 TONS
DESIGNED HP 44,000
DESIGNED SPEED—38 KNOTS
ENDURANCE— 450 E @ 38 KNOTS
5000 @ 12 KNOTS

KNOTS

RPM

.....	400
.....	375
.....	350
.....	325
.....	300
.....	275
.....	250
.....	225
.....	200
.....	175
.....	150
.....	125
.....	100
.....	75
.....	50
.....	25



GRECALE CLASS—DD 104, 105

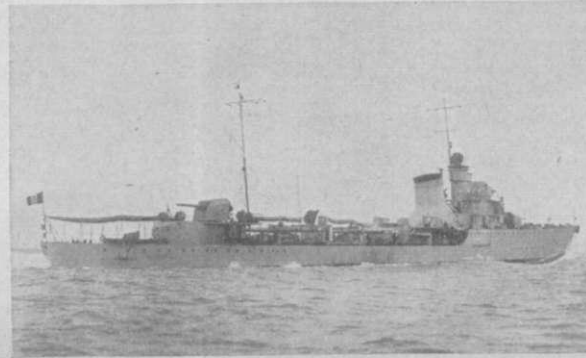
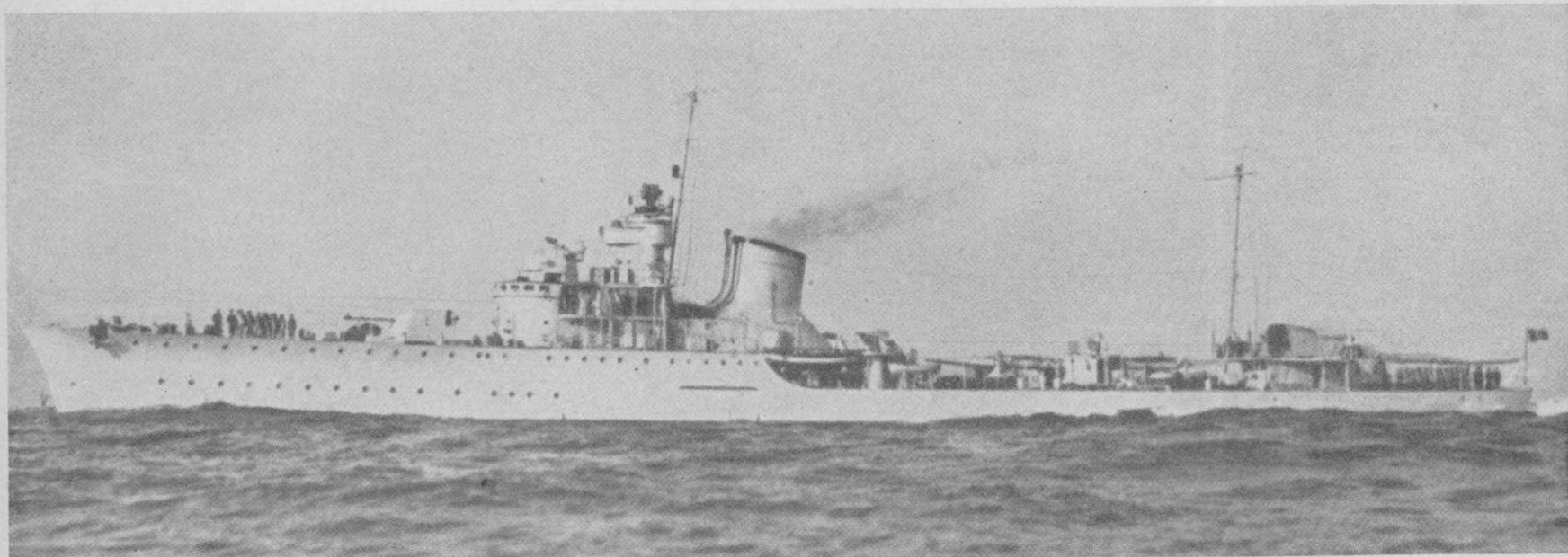
DIVISION OF NAVAL INTELLIGENCE—IDENTIFICATION AND CHARACTERISTICS SECTION—FEBRUARY, 1943

GRECALE—DD 104
SCIROCCO—DD 105

BEGUN
9/25/31
9/29/31

COMPLETED
11/15/34
10/21/34

ONI 202
RESTRICTED



**MISCELLANEOUS
VESSELS**

MISC.

272A

