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.

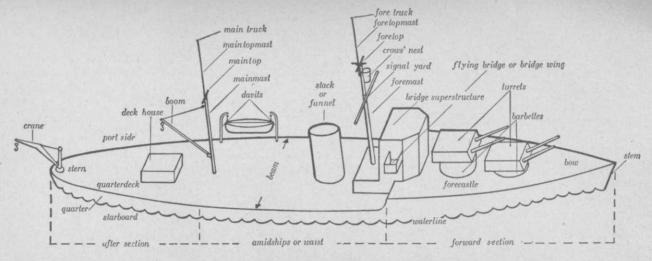
As in aircraft recognition, the salient recognition characteristics are shown in their simplest form by silhouettes. If this silhouette is further simplified into its basic masses, we obtain a silhouette where the minor details have disappeared, leaving only the real recognition features. It should be 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 1/16 of a second.



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; transversly.

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.

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 aff)__ 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.

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

ATTRIBUTES OF FIGHTING SHIPS

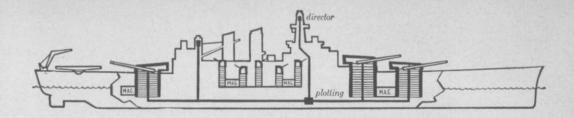
A ship, to be classed as a fighting ship, must be capable of inflicting damage and of sustaining or avoiding damage. She must possess sufficient speed and maneuverability to execute her mission and the capacity to proceed independently to a scene of action. The type of a warship is determined by the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

ARMAMENT

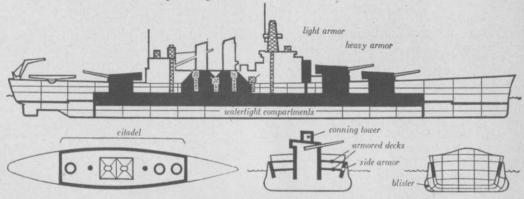
Capacity to "dish it out" is a primary attribute of fighting ships. Ships may be designed to inflict damage by shells from their guns, torpedoes from their tubes, bombs from aircraft they may carry, or by depth charges or mines. Battleships and cruisers are essentially gun ships,

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.

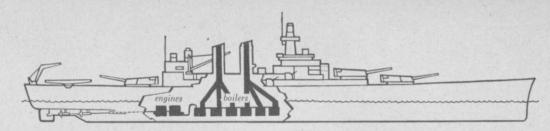


maneuverability in themselves constitute factors of protection in smaller types in which armament and protection have been sacrificed for these qualities, while submarines depend for protection largely on their ability to make themselves invisible by submerging.

MOBILITY

Most fighting ships are propelled by highpressure 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

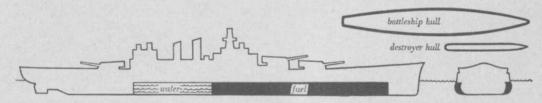


units. Carriers are designed for speed, with corresponding sacrifice of armor. Cruisers' speed will range from 30 knots, which will permit a heavy cruiser to operate with the fleet and outrun most battleships, to speeds of over 40 knots in lighter types. Speed is essential to a destroyer's functions 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

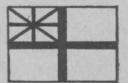


often operate with battle fleets or in convoy, must also carry provisions for such work, subject to limitations of size, while submarines are required to remain in enemy waters for extended periods. It will, therefore, be seen that sea keeping is a very important factor in the design of all more important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

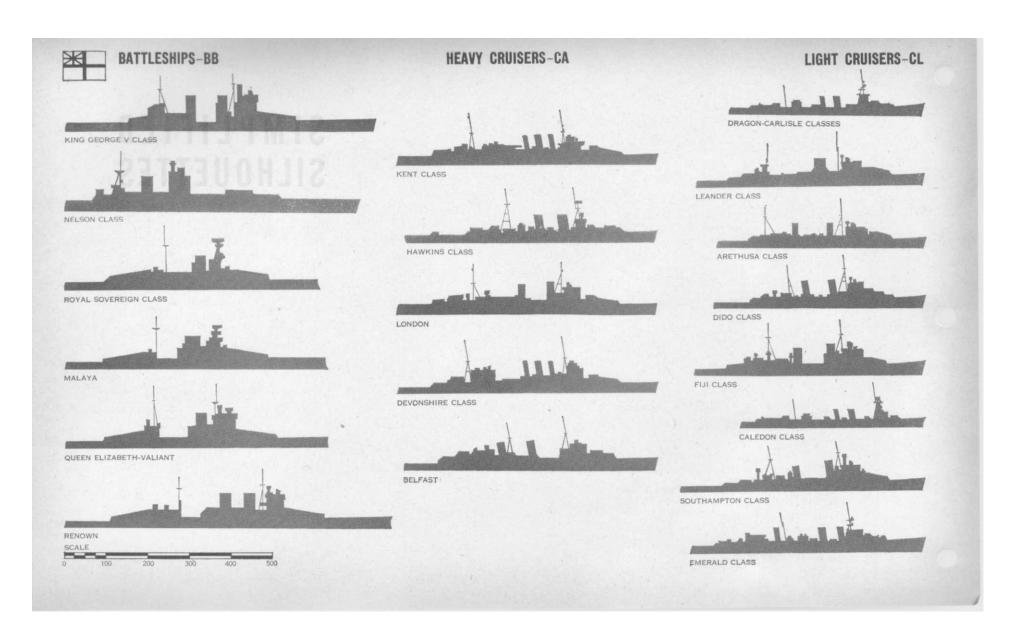
The bulky hull of the battleship (above) reflects capacity to accommodate provision for sea repair and for storage of immense quantities of fuel, water, food, ships stores, and lubricating oil, while the proportions of destroyer hulls indicate limitations in sea-keeping capacity inherent in their type.

UNITED KINGDOM NAVAL VESSELS

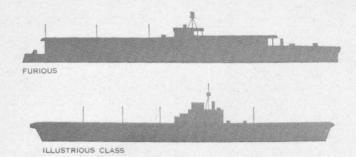




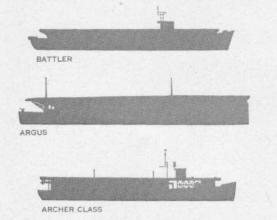
SIMPLIFIED SILHOUETTES



AIRCRAFT CARRIERS-CV



AUXILIARY AIRCRAFT CARRIERS-CVE



SCALE 0 100 200 300 400 500

DESTROYERS-DD





J-K-N CLASSES L-M CLASSES SIMILAR



HUNT CLASS



TRIBAL



O-T CLASSES



A-I CLASS



TOWN (4 STACK) CLASS



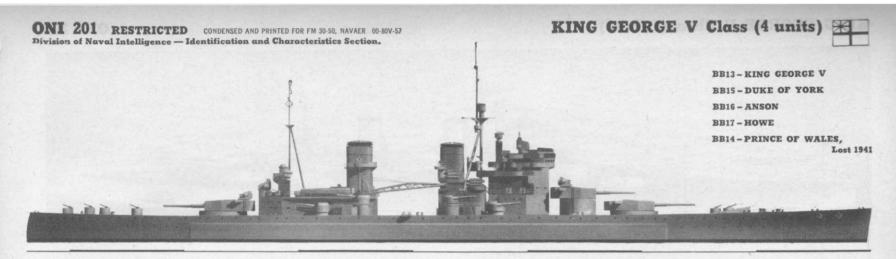
CODRINGTON CLASS



V-W WAIRS CLASSES



WALLACE-DOUGLAS SAGUENAY CLASSES



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.

KING GEORGE V Class (4 units)

ONI 201



DUKE OF YORK

July 1942



DUKE OF YORK

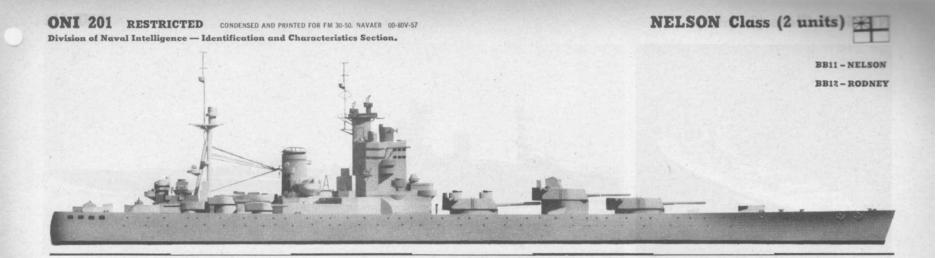


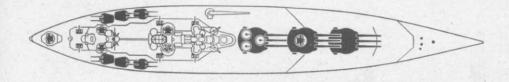


July 1942 KING GEORGE V



DUKE OF YORK





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

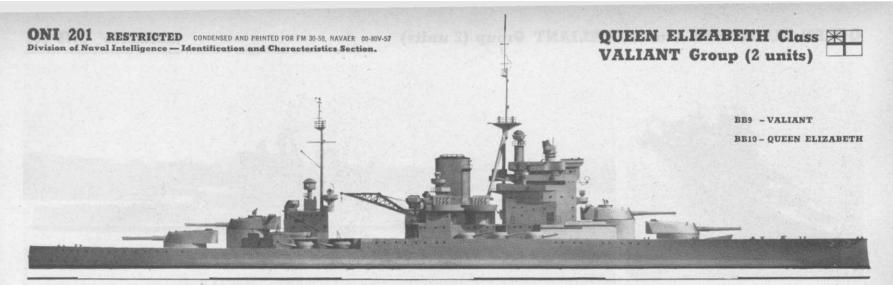


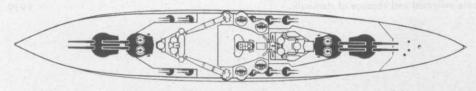
RODNEY

1941

RODNEY







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: 6341/2' (W. L.). BEAM: 104'

DISTINGUISHING FEATURES:

- · Massive tower bridge; tripod foremast stepped close abalt 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.

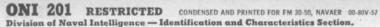
1939



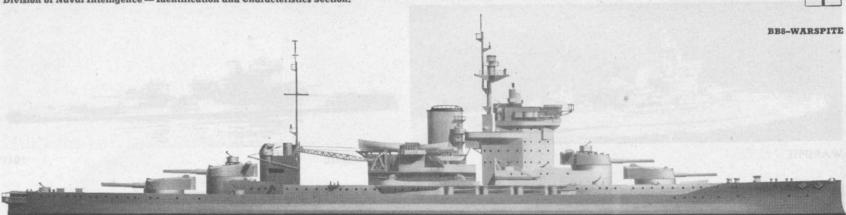
VALIANT

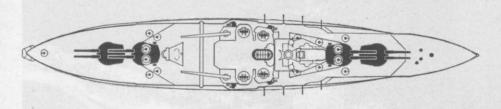
April, 1940

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



QUEEN ELIZABETH Class — 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: 6341/2' (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)

QUEEN ELIZABETH Class — WARSPITE

ONI 201



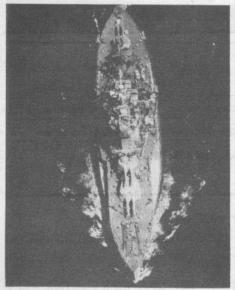


WARSPITE

Nov. 1942

WARSPITE

1941





WARSPITE

Nov. 1942

WARSPITE

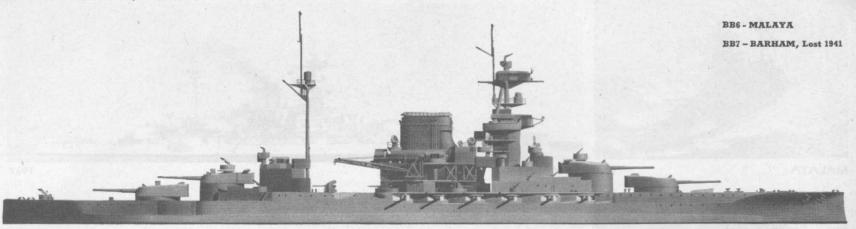
Nov. 1942

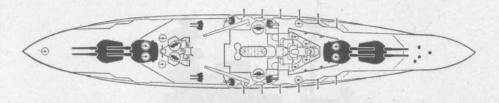
QUEEN ELIZABETH Class — MALAYA Group (1 unit)

ONI 201 RESTRICTED

Division of Naval Intelligence — Identification and Characteristics Section.







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: 6341/2' (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:

SCHARNHORST (Ger. - BB) TIRPITZ (Ger. - BB)

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

QUEEN ELIZABETH Class — MALAYA Group (1 unit)

ONI 201

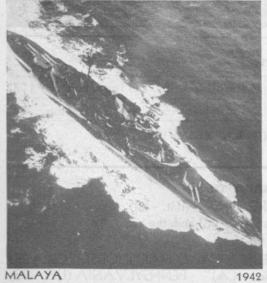




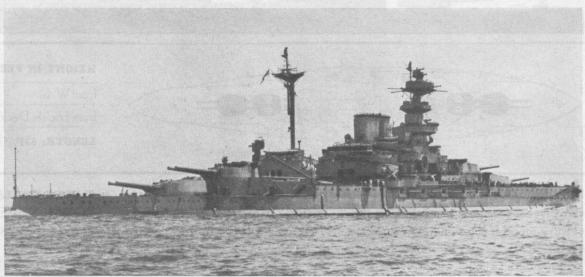


MALAYA

1937



MALAYA

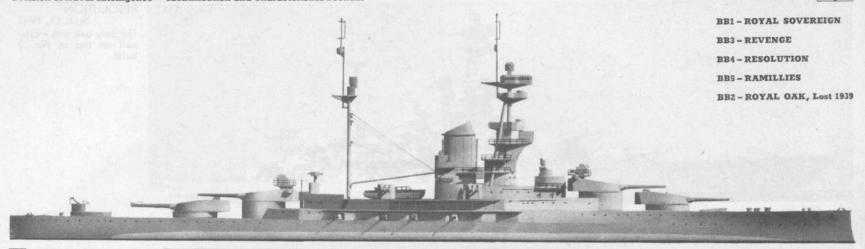


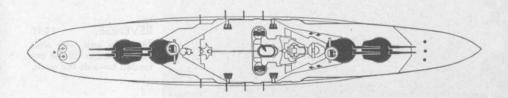
MALAYA-note aircraft hangar abaft stack.

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ROYAL SOVEREIGN Class (4 units)







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: 6141/2' (W.L.). BEAM: 1021/2'

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) SCHARNHORST (Ger. – BB) HIPPER Class (Ger. - CA)

ROYAL SOVEREIGN Class (4 units)

ONI 201



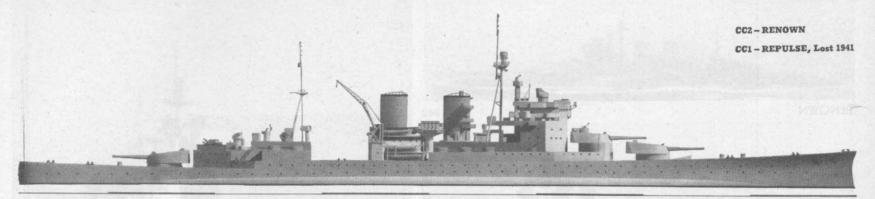
RESOLUTION
Sept. 11, 1941
The only unit with a catapult on top of No. 3
turret.

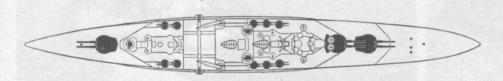


REVENGE 1941 The only unit with after edge of upper bridge extended towards the stack.

REPULSE Class (1 unit—RENOWN)







HEIGHT IN FEET:

from W. L.	to Top of Stack $-84\frac{1}{2}$	to Top of Foretop - 123'
from Foc'sle Deck	to Top of Stack - 59½	to Top of Foretop - 98'

LENGTH: 7871/2' (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)

ONI 201



1942 RENOWN

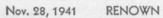


RENOWN - note aircraft hangars abaft second stack.

1942



RENOWN

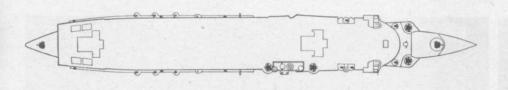


Nov. 28, 1941









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).

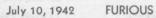
CV3 FURIOUS ONI 201

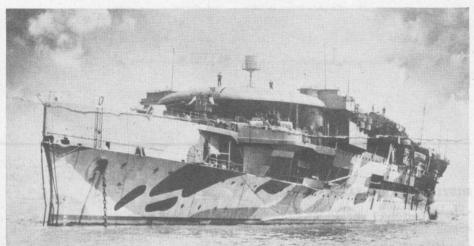


FURIOUS Nov. 7, 1940



FURIOUS





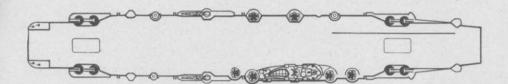
FURIOUS

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ILLUSTRIOUS Class (4 units)







HEIGHT IN FEET:

from W. L.	to Flight Deck - 40'	to Top of Stack - 91½
from Flight Deck	to Top of Stack - 513/4	

LENGTH: 710' (W. L.). BEAM: 951/2' (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



1940



INDOMITABLE

1942



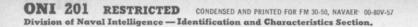
May 1941

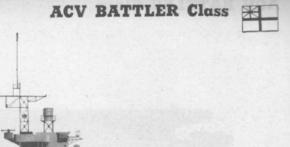


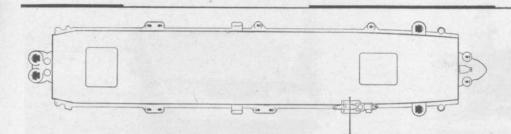
INDOMITABLE

Nov. 21, 1941

ILLUSTRIOUS







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

LENGTH: 4951/2' (O. A.). BEAM: 691/2' (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).

ACV BATTLER Class

ONI 201



FENCER (above and below)

Mar. 26, 1943



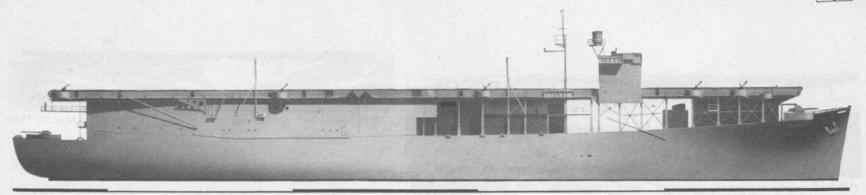


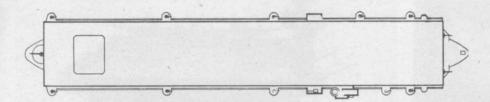


BATTLER

ACV ARCHER Class







HEIGHT IN FEET:

from W. L.	to Flight Deck -	52'	to Top of Isl. Lantern-85'
from Flight De	ck to Top of Isl. Lantern	-32'	

LENGTH: 492' (O. A.). BEAM: 691/2' (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 ARGUS (Brit. ACV) Typical Japanese Carrier design elevator near stern.

STRONG SIMILARITY TO:

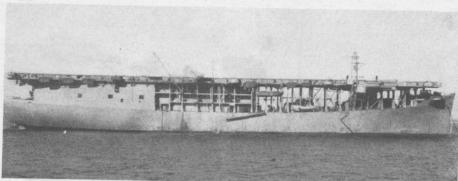
ARCHER to U.S.S. LONG ISLAND (ACV)

Rest of Class to

BATTLER Class (Brit. – ACV) BOGUE Class (U.S. – ACV)

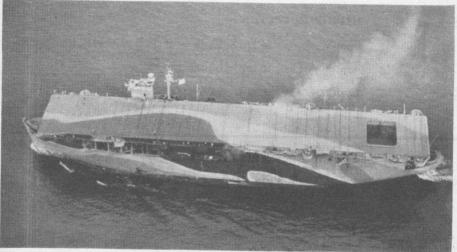
RESEMBLANCE TO:

(from a distance).



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

Dec. 21, 1941



DASHER

July 24, 1942

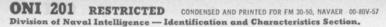


May 28, 1942

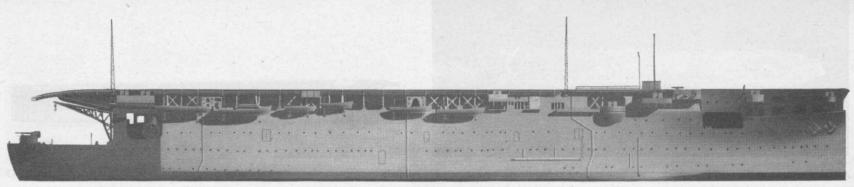


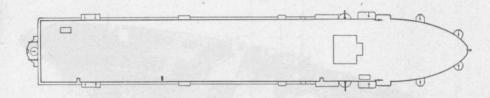
BITER

Sept. 1942









Average Height of Flight Deck	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)

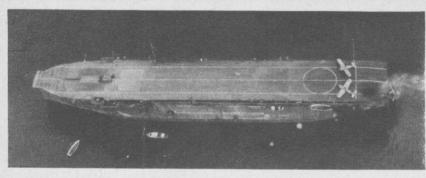
RESEMBLANCE TO:

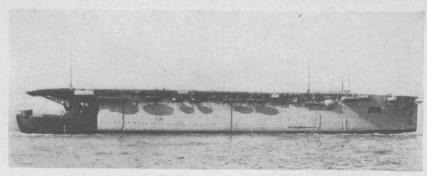
British and U.S. Auxiliary Aircraft-Carriers.

Typical Japanese Carrier Design (from a distance).

ACV1 ARGUS

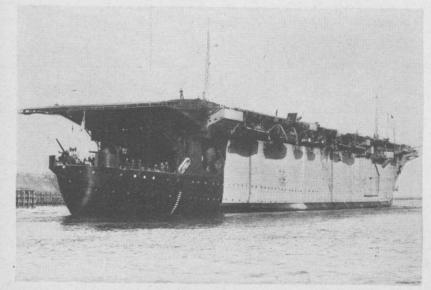
ONI 201





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

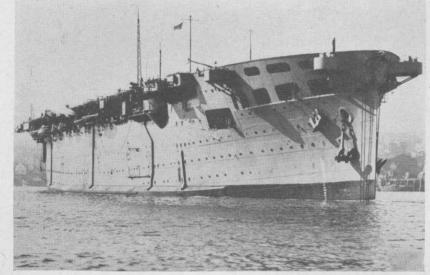
Jan. 1943



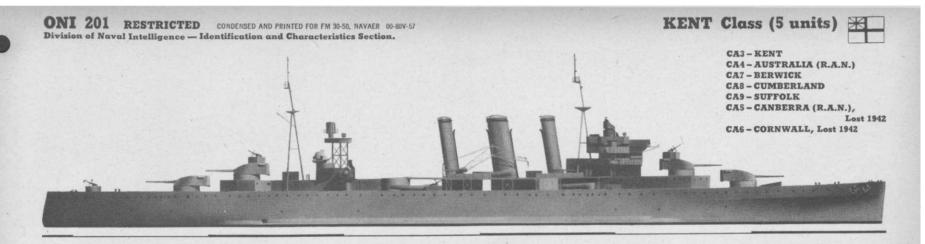


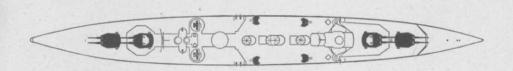
Jan. 1943





Jan. 1943





from W. L.	to Top of Stack – 79'	to Top of Bridge $-73\frac{1}{2}$
from Foc'sle Deck	to Top of Stack - 53½'	to Top of Bridge $-45\frac{1}{2}'$

LENGTH: 624' (W. L.). BEAM: 681/2'

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.

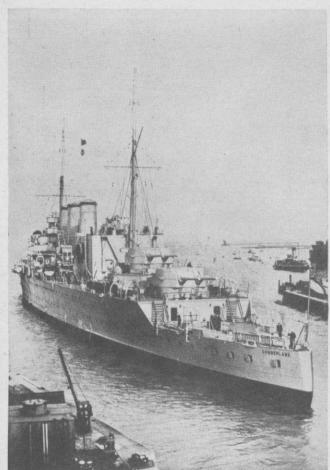
STRONG SIMILARITY TO:

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

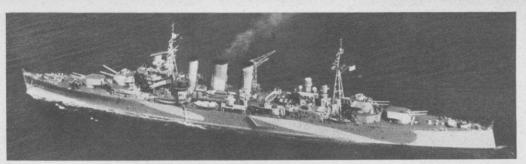
RESEMBLANCE TO:

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

KENT Class (5 units) ONI 201



CUMBERLAND - note cut-away quarterdeck.



BERWICK 1942



BERWICK — hangar and catapult amidships have been removed.



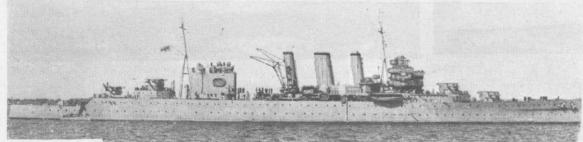
AUSTRALIA — the only unit with pole masts and her heavy A.A. battery mounted on the main deck instead of on the shelter deck.

Aug. 1942

KENT Class (5 units)



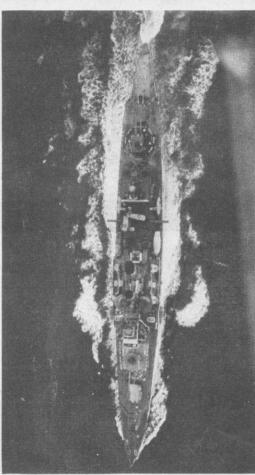
KENT March 1942



SUFFOLK July 1940



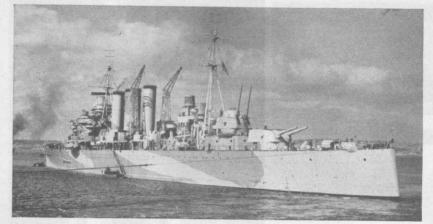
SUFFOLK - note low quarterdeck.



Sept. 1942 CUMBERLAND

KENT Class (5 units)

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





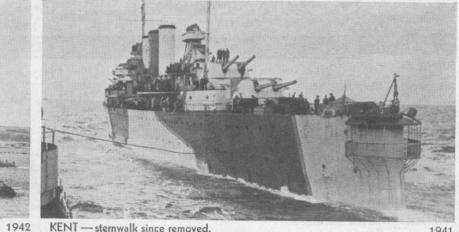
BERWICK

1942 . KENT

Oct. 1942







KENT - sternwalk since removed.

1941

ONI 201 RESTRICTED

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

Krolk Class (1 unit)

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



DEVONSHIRE Class

CA10 - DEVONSHIRE

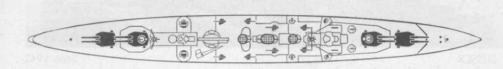
CA11 - SUSSEX

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 $-61\frac{1}{2}$
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:

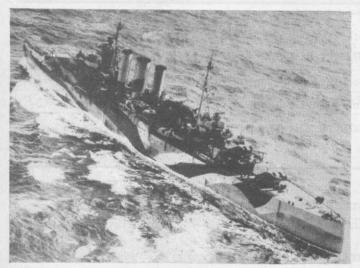
ADELAIDE (Australia - CL)

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

ONI 201



SUSSEX 1942





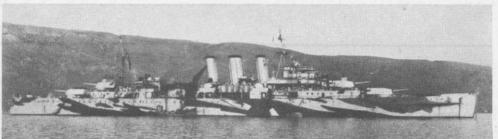
SHROPSHIRE

April 1942



SUSSEX

Sept. 1942



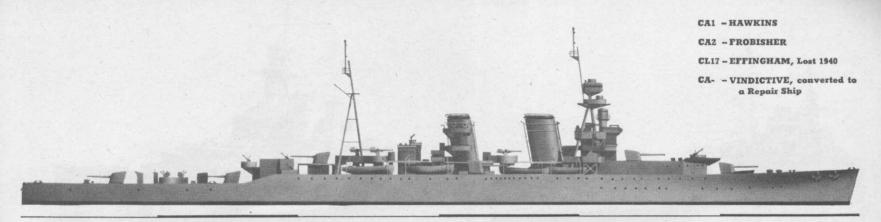
SUSSEX

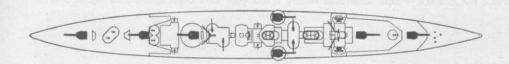
1942

NORFOLK

Dec. 1942

HAWKINS Class (2 units) \mathbb{H}





HEIGHT IN FEET:

from W. L.	to Top of Stack $-62\frac{1}{2}$	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:

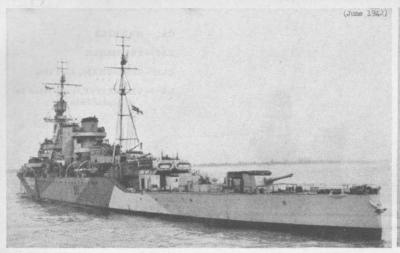
CALEDON Class (Brit. – CL) RENOWN (Brit. – CC)
ADVENTURE (Brit. – CM) SUMATRA (Netherlands – CL)

RESEMBLANCE TO:

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

HAWKINS Class (2 units)







HAWKINS

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



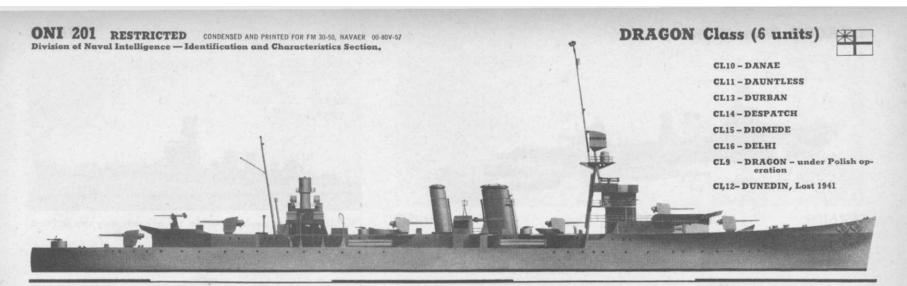


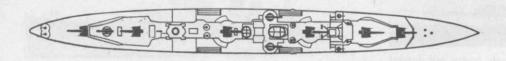
June 1942



HAWKINS

June 1942





from W. L.	to Top of Stack $-47\frac{1}{2}$	to Top of Foretop – 76'
from Foc'sle Deck	to Top of Stack - 27'	to Top of Foretop - 55½

LENGTH: 466' (W. L.). BEAM: 461/2'

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)

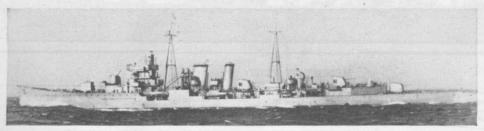
DRAGON Class (6 units)

ONI 201



DESPATCH

July 1942



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



DESPATCH - note "Trawler Bow"

July 1942



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



DAUNTLESS - note bow.

1942



DAUNTLESS

ONI 201 RESTRICTED CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57 Division of Naval Intelligence — Identification and Characteristics Section.

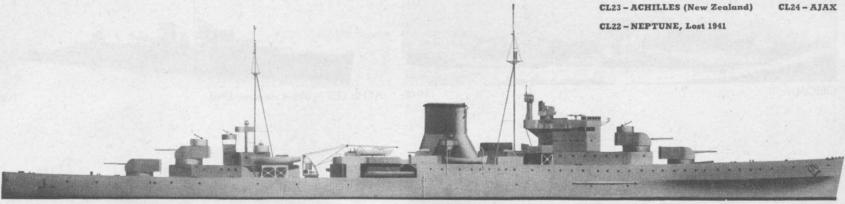
LEANDER Class (4 units)

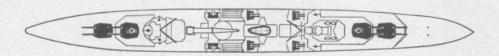


CL20 - LEANDER (New Zealand)

CL21 - ORION

CL23 - ACHILLES (New Zealand)





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: 5541/2' (O. A.). BEAM: 551/2'

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



ACHILLES — tripod masts not fitted.

1941



AJAX Nov. 1942



AJAX

Nov. 1942

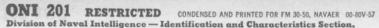


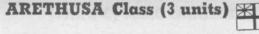
ORION

Feb. 1942

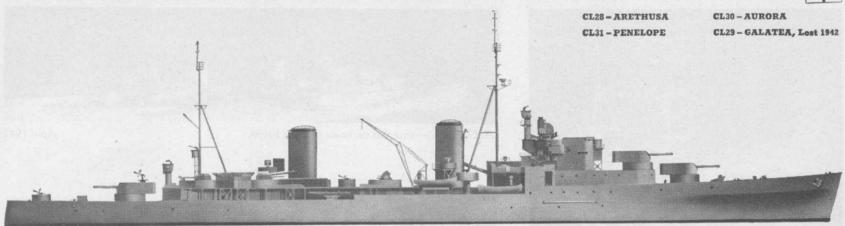
AJAX

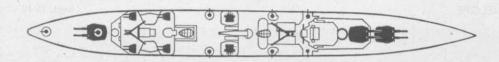
Nov. 1942











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.

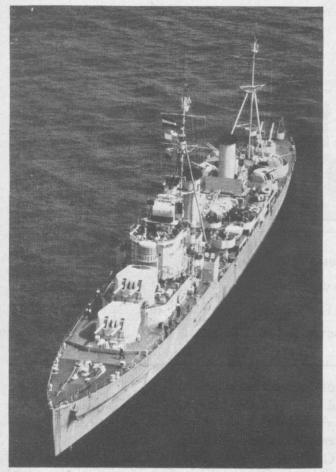
STRONG SIMILARITY TO:

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)







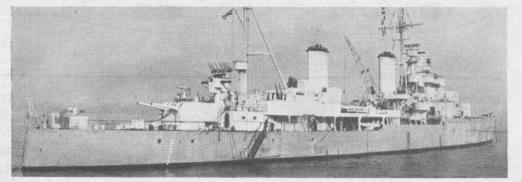
ARETHUSA — note that stacks are of equal height.

April 1942



PENELOPE

Sept. 1942



PENELOPE

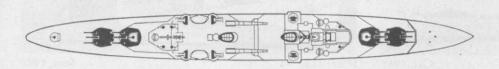
Sept. 1942

ONI 201 RESTRICTED CONDENSED AND PRINTED FOR FM 30-50, NAVAER 00-80V-57 Division of Naval Intelligence — Identification and Characteristics Section.

SOUTHAMPTON Class (5 units)







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: 621/4'

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) LONDON (Brit. – CA)

RESEMBLANCE TO:

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



SHEFFIELD

Sept. 1942



BIRMINGHAM - has continuous flare to bows.

Sept. 1940



LIVERPOOL

Oct. 1941



SHEFFIELD

Sept. 1942

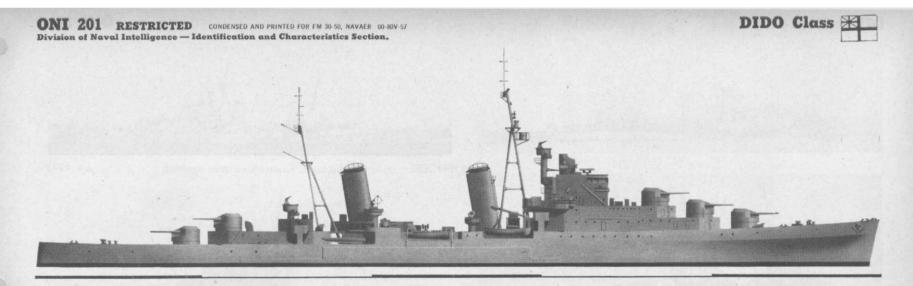


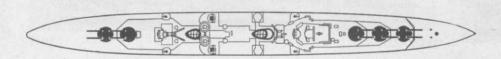
LIVERPOOL

Oct. 1941



Aug. 1941





LENGTH: 512' (O. A.). BEAM: 501/2'		
from Foc'sle Deck	to Top first Stack-40'	to Top f'w'd Director—51'
from W. L.	to Top first Stack-62'	to Top f'w'd Director—73'

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) UGANDA Class (Brit. – CL) LONDON (Brit. – CA) BELFAST (Brit. – CL)

DIDO Class

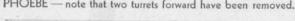














EURYALUS 1941

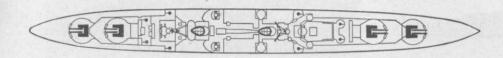


ARGONAUT

1942







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

LENGTH: 512' (O. A.). BEAM: 501/2'

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) PENSACOLA Class (U.S. – CA)

ARETHUSA Class (Brit. - CL) HOBART (Australia – CL)

RESEMBLANCE TO:

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



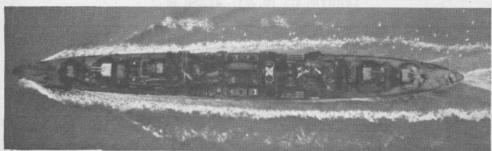








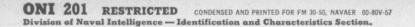




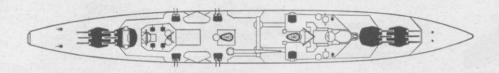


CHARYBDIS

Feb. 1943







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

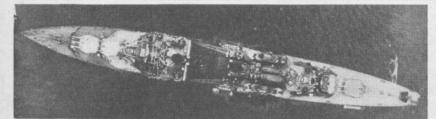




BERMUDA 1942

BERMUDA

1942





JAMAICA

KENYA

1941