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# THE NAVY

The magazine of the Navy League of Australia  
(Registered in Australia for transmission by post as a Periodical)

Vol. 31

NOVEMBER-DECEMBER-JANUARY, 1969-1970

No. 4

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The views expressed in articles appearing in this publication are those of the authors concerned. They do not necessarily represent the views of the editor, the Navy League, or official opinions or policy.

Published by the Navy League of Australia, 66 Clarence Street, Sydney, N.S.W., 2000; Tel.: 39-6531  
Postal Address: Box 1719, O.P.O., Sydney, N.S.W., 3001

All Correspondence Should be Directed to the Editor  
EDITOR: Dennis P. Trickett, Esq., Box C178, Clarence Street Post Office, Sydney, N.S.W., 2000, Australia.

### ADVERTISING AND PUBLICATION: PERCIVAL PUBLISHING CO. PTY. LTD.

SYDNEY	MELBOURNE	ADELAIDE	BRISBANE	PERTH	HOBART
106 Handerson Rd.	17 Elizabeth St.	17 Currie St.	546 Queen St.	53 St. George's Tce	152 Collins St.
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## U.S. NAVY TO GET MULTI-MISSION "DREAM SHIPS"

A revolutionary new family of huge amphibious assault ships — hailed as "dream ships" by Marine Corps General Lewis W. Walt — will join the United States Navy fleet, starting in 1973, to give it a more powerful tactical punch.

Officials say the nine new ships amphibious assault ships is expected to join the fleet in 1975. The ships will be "the fastest as well as the most versatile, efficient, flexible, manoeuvrable and reliable amphibious ships ever designed."

Each of the unique multi-purpose ships will perform the missions which currently require four different types of vessels.

As large as one of America's larger aircraft carriers, each ship will combine the features of an amphibious assault ship, the amphibious transport dock, the amphibious cargo ship, and the dock landing ship, into one modern ship capable of transporting and putting ashore an entire Marine Battalion Landing Team (about 2,000 men) and its combat equipment. Helicopters and landing craft will be used to put the Marines ashore.

First of the ships, due to be completed in 1973 at the world's most modern shipyard — a new \$130 million automated facility — will cost \$114 million. The last of the nine

Secretary of Navy John Chafee said the ships will enable the Navy to delete from its five-year building program some 21 specialised amphibious ships for which funds would have been requested from Congress. "Additionally," he said, "we will be able to retire some older ships, including three ESSEX-type carriers, which had been converted for use as amphibious assault ships."

The new ships will be in the 20-knot class, will have a shallow draft and be able to pass through the Panama Canal. Incorporated into the design are new safety features to protect the crew and embarked Marines as well as the ship.

The steam propulsion plant is the most fully automated ever installed on a warship and can be controlled from a central, remote location. Command and control systems will include semi-automated communications systems.

Facilities for all-weather traffic and approach control of helicopters on the deck and boats at the rear waterline outlet are provided. The ship is equipped with five-inch guns and missiles for defence against surface and air attacks.

Crewmen and Marines will live in air-conditioned spaces. A fully-equipped gymnasium will be available for use as a training and recreation area. Troops may be conditioned to either tropical or arctic weather at the flick of a switch in the special acclimatised gym.

Medical facilities will permit the transfer of casualties from helicopters landing on the deck to "sick bay" in less than one minute via a special elevator. "Sick bay" includes three operating rooms and facilities to handle up to 300 patients under combat conditions.

The new amphibious assault ship will be about 820 feet long and have a beam of approximately 106 feet. It will be able to handle four landing craft, and will be equipped with high-speed cargo loading and unloading facilities.

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## "The Civilian Arm of the Navy"

The principal objective of the Navy League of Australia is to stress the vital importance of Sea Power to the Commonwealth of Nations and the important role played by the Royal Australian Navy.

The League, in conjunction with the Commonwealth Naval Board, administers the Australian Sea Cadet Corps, by providing finance and technical sea training for boys who intend to serve in the Naval or Merchant Services, also to those sea-minded boys, who do not intend to follow a sea career, but who given this knowledge will form

a valuable reserve for the Naval Service.

We invite you to swell our ranks and so keep up to date with Maritime Affairs to help to build an ever-increasing weight of informed public opinion. The Navy League will then become widely known and exercise an important influence in the life of the Australian Nation.

The League consists of Fellows and Associates. All British subjects who support the objectives of the League are eligible for membership. Members receive copies of the League's magazine "The Navy".

### DIVISIONS

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March 6, 1968. Farewell inspection of T.S. ADELAIDE Sea Cadets by Chief of Naval Staff, Vice-Admiral Sir Alan W. R. McNicoll. Pictured with S.C. Liout. Marcus Koch, Commanding Officer of T.S. ADELAIDE Sea Cadet Unit.

## The Navy League of Australia

(South Australian Division)

## Annual General Meeting

Held on 20 May, 1969 at 8 p.m.

### PRESIDENT'S REPORT

It is my pleasure to present to you this report for the last year. The year, I feel, has been reasonably successful and a certain amount of money has been raised.

We have three units under our control, T.S. ADELAIDE, T.S. FLINDERS and T.S. GAMBIER.

All three units are running well although T.S. FLINDERS is down on numbers due only to lack of

instructors, and this is becoming a constant problem with this unit.

### MEMBERSHIP

This is a factor which is not improving mainly because we have little to offer for membership but due to increasing calls by Naval Vessels we are in the process of trying to give each of our enthusiastic members a chance to go

on visiting ships for a party but this of course takes time.

### COMMITTEE

Without this enthusiastic band of helpers we would not get by. We have a wonderful group who seem to enjoy their work at all times and get on so well together. We welcome Miss Penny Wardle to our ranks as our new Secretary as she was not at our last A.G.M.

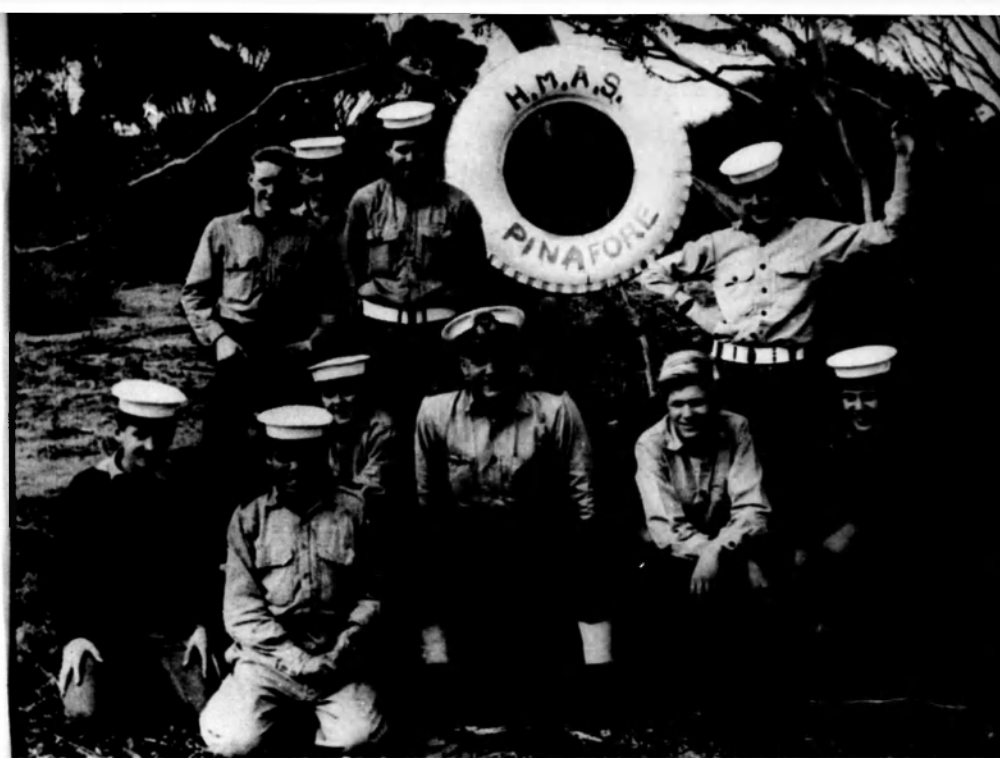
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Particular thanks must go to our Vice-President, Mr. Jim Byfield and his wife — both their efforts were well beyond the call of duty.

#### NAVY

We are most fortunate in having in Adelaide one of the outstanding N.O.I.C.'s of our time — Commander Lancaster has done more to help us, our cause, and the Navy than anyone could believe. He appears to be on duty 24 hours a day to assist us and I feel the Navy should be proud to have such an officer to bring the service to such a high level in this State.

#### NAVY BENEVOLENT FUND

This was administered by Mr. Max Dunn and Mr. Bill Thomas and many needy ex-servicemen were assisted over the past year.

#### FEDERAL CONFERENCE

I attended, on behalf of the South Australian Division, the Annual Conference in Canberra and I am pleased to report rationalisation is proceeding quite well at this stage.

#### FUND RAISING

We are negotiating at this time to buy two 14 foot fibreglass launches and now have \$1,200 towards this end which was assisted by the donation of \$100 each from two of our members who wish to remain anonymous and a further \$300 from B.P. Australia Limited. An amount of \$200 is still required to buy the boats and this will be raised, I hope, in the next month.

#### SOCIAL ACTIVITIES

We entertained many ships over the year and these include H.M.A.S. ANZAC, OTWAY, SYDNEY, QUEENBOROUGH, HAWK, CURLEW, GULL and U.S.S. JOHN R. PERRY, and thoroughly enjoyed ourselves doing it. We also combined with the Naval Association for Navy Week as we will do again this year.

Sea trials were made by Commander Lancaster last weekend and he seems well satisfied with the results.

The Minister of Navy, Mr. Kelly, accepted honorary membership during the year and has attended our functions regularly.

I finish with a final vote of thanks to you all for your support.

(Sgd.) T. Francis Matters.  
President

#### OUR COVER

An Ikara Missile  
Frames H.M.A.S.  
VAMPIRE

(R.A.N. Photograph)





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fun with  
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LAGER**



NAVY SKYHAWKS  
REFUELLING

# Defence Report, 1969

Presented to Parliament by the then Minister For Defence,  
THE HONOURABLE ALLEN FAIRHALL, M.P.

## THE NAVY

The Royal Australian Navy has reached a position of strength unprecedented in peacetime. The ship-building programme which began early in the sixties is now nearing completion. The last ships in the programme, the destroyer escort H.M.A.S. SWAN and the fourth Obcron-class submarine H.M.A.S. ONSLOW are expected to commission in 1969-70, while the sixth destroyer escort H.M.A.S. TORRENS is expected to commission towards the end of 1970.

At June 30, 1969, the R.A.N. had 50 ships of various types in service, having taken delivery of 12 more patrol boats during the previous financial year and the third Oberon-class submarine, H.M.A.S. OVENS. In addition, the flagship H.M.A.S. MELBOURNE recommissioned early in 1969 and embarked new aircraft after an extended refit.

The R.A.N. has in service a balanced fleet and the Navy's continued modernisation programme in recent years has significantly increased its firepower, flexibility and surveillance capability. Missiles for use against aircraft and submarines are fitted and proven.

### THE ROLE

Broadly, the role of the R.A.N. is the control of the sea areas in pursuit of Australia's strategic interests. The Navy is responsible for the following tasks, which it may undertake, where appropriate, with sister services:

The detection and destruction of enemy forces which threaten our control of the sea areas or which are making use of the sea for purposes inimical to our interests.

The provision of offensive and defensive support to friendly forces.

The protection of military shipping and merchant

shipping which is vital to the national economy. The provision of seaward security of ports and anchorages supporting our own and allied operations.

The provision of support facilities and ancillary services as required.

In addition, the Navy's functions include hydrography, oceanography, trials and research, search and rescue and fishery surveillance.

### OVERSEAS ACTIVITIES

#### Vietnam

The Royal Australian Navy has maintained one guided missile destroyer in the Vietnam area as an integrated unit of the U.S. Navy's Seventh Fleet since March, 1967. The ships which have undertaken this commitment are H.M.A.S. PERTH, H.M.A.S. HOBART and H.M.A.S. BRISBANE.

HOBART and PERTH, in two periods of service each, have fired a total of 40,000 rounds from their five-inch guns. Both ships frequently commanded U.S. Navy task units while operating off the Vietnamese coast. BRISBANE was first deployed to the area in April, 1969, for six months duty. H.M.A.S. HOBART was awarded a U.S. Navy Unit Commendation for her 1967 service and H.M.A.S. PERTH for her 1967-68 service. The Darling-class destroyer H.M.A.S. VENETTA will relieve H.M.A.S. BRISBANE on station in September, 1969.

The R.A.N. has maintained its commitment of eight helicopter pilots, four observers, four aircrewmembers and 30 groundstaff to an integrated R.A.N.-U.S. Army assault helicopter company in South Vietnam since October, 1967. The company, which provides helicopter support to Allied ground forces in South Viet-



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nam, has operated with considerable success, pilots flying as many as 140 combat hours a month. During the year eight R.A.N. helicopter pilots were lent to the R.A.A.F. for service in No. 9 Squadron, Vung Tau, in support of the Australian Task Force in Vietnam.

A clearance diving team has been attached to U.S. Naval forces in South Vietnam since March, 1967, while an R.A.N. detachment has served in the Australian National Line cargo ship JEPARIT since March, 1967.

By 30 June, 1969, the troop transport H.M.A.S. SYDNEY had made 14 return passages to Vietnam since mid-1965. In the past financial year she made three passages to Vung Tau, from Adelaide, Sydney and Townsville, carrying Australian troops and equipment.

#### Strategic Reserve

The R.A.N. continues to deploy two ships to the Far East Strategic Reserve under the operational control of the Royal Naval Commander Far East Fleet. Ships which served in the reserve during 1968-69 are H.M.A.S. DERWENT, DUCHESS, VAMPIRE, PARRAMATTA, STUART and VENDETTA.

#### EXERCISES

In July and August, 1968, six units of the R.A.N. took part in exercises off New Zealand with New Zealand, British and United States ships. In September and October, 1968, 26 R.A.N. ships took part in a combined land, sea and air exercise involving units of the Australian, British, New Zealand and United States navies off the Queensland coast. In February-March, 1969, personnel of the above navies took part in an exercise in the Naval control of shipping, conducted from Canberra.

In April, 1969, the minehunter H.M.A.S. CURLEW and the minesweepers H.M.A.S. HAWK and H.M.A.S. GULL took part in a minesweeping exercise conducted by the Royal Malaysian Navy in the West Malaysia area. The Royal Navy and the Royal Thai Navy also participated.

In May, 1969, eight R.A.N. ships took part in the SEATO Exercise SEA SPIRIT in the South China Sea. Other nations participating were the United States, United Kingdom, the Philippines, Thailand and

New Zealand. The exercise was terminated when H.M.A.S. MELBOURNE and the U.S.S. FRANK E. EVANS collided on 3 June, 1969.

In July, 1968, the submarine H.M.A.S. OXLEY exercised with the Royal New Zealand Navy — an example of the close co-operation which exists between the two navies.

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- |                                  |   |
|----------------------------------|---|
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| 4 River-class destroyer escorts: | H.M.A. Ships YARRA, PARRAMATTA, STUART and DERWENT  |
| 2 Coastal Mine-sweepers:         | H.M.A. Ships HAWK and GULL  |
| 1 Minehunter:                    | H.M.A.S. CURLEW   |
| 3 Submarines:                    | H.M.A. Submarines OXLEY, OTWAY and OVENS  |
| 16 Patrol Boats:                 | H.M.A. Ships ATTACK, ADVANCE, ASSAIL, SAMARALAITAPE, LAE, MADANG, LADAVA, AWARE, ARDENT, BARBETTE, BARRICADE, BUCCANEER, BANDOLIER, BAYONET and BOMBARD |

#### Training ships

- |  |  |
|--|--|
| 1 Battle-class destroyer:              | H.M.A.S. ANZAC   |
| 1 Queenborough-class destroyer escort: | H.M.A.S. QUEENBOROUGH  |
| Operational Reserve                    |  |
| 2 Coastal Mine-sweepers:               | H.M.A. Ships IBIS and TEAL                                       |
| 1 minehunter:                          | H.M.A.S. SNIPE   |
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- 1 River-class destroyer escort: H.M.A.S. SWAN (due for completion late 1969)
- 1 Ohcron-class submarine: H.M.A.S. ONSLOW (due for completion late 1969)
- 1 River-class destroyer escort: H.M.A.S. TORRENS (due for completion late 1970)

### THE FLEET AIR ARM

- Squadrons
- HT 723: Helicopter pilot training and search and rescue duties. Iroquois and Scout helicopters.
- VC 724: Various types of aircraft involved in fixed-wing fighter pilot training, communications and Fleet requirement flying and trials. Sea Venom, Vampire trainers. TA4G Skyhawk trainers and A4G Skyhawk aircraft.
- HT 725: Anti-submarine helicopter operational training and Fleet requirement duties. Wessex 31B helicopters.
- VF 805: Front-line fighter squadron. A4G Skyhawk aircraft.
- VS 816: Front-line fixed wing anti-submarine squadron. S2E Tracker aircraft.
- HS 817: Front-line helicopter anti-submarine squadron. Wessex 31B helicopters.
- VC 851: Tracker training squadron for pilots, observers and aircrewmembers. Twin-engine conversion, communication and Fleet requirement flying. S2E Tracker and Dakota aircraft.

### OCEANOGRAPHIC RESEARCH AND SURVEYING

During the latter part of 1968, the surveying ship, H.M.A.S. MORESBY resumed the survey of the shipping routes in North West Australia. By the use of the hyperbolic Hi-Fix System to establish control for her surveying motorboats, MORESBY was able to increase her output by half. A considerable area was surveyed in the vicinity of the Monte Bello Islands,



H.M.A.S. PERTH, one of three of Australia's guided missile destroyers

H.M.A.S. PARRAMATTA, one of four Type 12 Destroyer Escorts built in Australian shipyards, with another two still building



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the Dampier Archipelago and in Mermaid Strait. During the first part of 1969, MORESBY underwent a long refit at Garden Island.

The small surveying vessel H.M.A.S. PALUMA continued the survey of the inner shipping route in the northern part of the Barrier Reef.

The oceanographic research ship H.M.A.S. DIAMANTINA continued to carry out cruises for the C.S.I.R.O. and university scientists as well as naval scientific investigations in conjunction with the Royal Navy and the U.S. Navy. H.M.A.S. KIMBLA carried out independent scientific cruises.

Further surveys in the Coral Sea were carried out with the Division of National Mapping using the minesweepers H.M.A.S. HAWK and H.M.A.S. GULL. A detached survey was undertaken by H.M.A.S. BASS with the assistance of R.A.N. Reserve personnel in Tasmania.

In the Hydrographic Office, Sydney, production of new "metric" charts has begun and the first such charts cover the North West Australian coast. Eventually all Australian charts will have soundings in metres.

## NEW TITLES, SHIPS, AIRCRAFT

The titles of R.A.N. Fleet squadrons became all-Australian on 1 January, 1969. Previously R.A.N. squadrons carried Royal Navy titles. The style of painted hull numbers on H.M.A. Ships was changed from a combined letter-numerical combination to an all-number system on front-line vessels and a modified letter-hull system on support ships.

The R.A.N.'s third guided missile destroyer H.M.A.S. BRISBANE completed a programme of work-up training off the west coast of the United States under the direction of the Commander U.S. Fleet Training Group Pacific in 1968. BRISBANE arrived in Brisbane city on 16 October, 1968. She began serving with the U.S. Seventh Fleet in April, 1969.

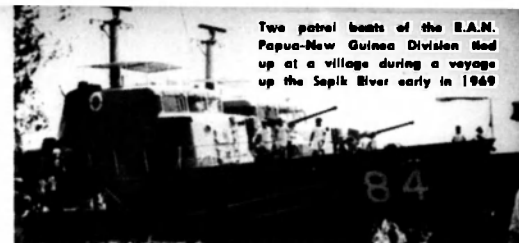
Australia's third Oberon-class submarine, H.M.A.S. OVENS, commissioned on 18 April, 1969, in Scotland. She completed work-ups in the United Kingdom before sailing for delivery voyage to Australia to join H.M.A.S. OXLEY and H.M.A.S. OTWAY at the submarine base H.M.A.S. PLATYPUS in Sydney. A fourth Oberon-class submarine H.M.A.S. ONSLOW is expected to arrive in Australia towards the end of 1970. The sailing of H.M.A.S. TRUMP for the United Kingdom from H.M.A.S. PLATYPUS on 10 January, 1969, marked the end of 20 years of co-operation between the R.A.N. and the R.N. Submarine Branch and the end of the 4th Submarine Division.

Two River-class destroyer escorts are nearing the final stages of building in Australian yards. H.M.A.S. TORRENS is being built at Cockatoo Island Dockyard, Sydney, and H.M.A.S. SWAN at Williamstown Naval Dockyard, Melbourne. SWAN is expected to commission in late 1969 and TORRENS in late 1970.

At 30 June, 1969, a total of 20 patrol boats were in service with the R.A.N.

## CONVERSIONS

The modernisation of the weapons systems in the Daring-class destroyers H.M.A.S. VAMPIRE and H.M.A.S. VENDETTA will take place in 1970 and 1971 respectively. Conversion of H.M.A.S. SNIPE to a minehunter began in April, 1969. H.M.A.S. CURLEW commissioned in the new role of minehunter in December, 1968.



Two patrol boats of the R.A.N. Papua-New Guinea Division tied up at a village during a voyage up the Sepik River early in 1969

## PERSONNEL

A total of 16,943 officers, sailors, W.R.A.N.S. and members of the R.A.N.N.S. were serving in the Permanent Naval Forces on 30 June, 1969. The estimated strength on 30 June, 1970, is 17,360. The officer strength on 30 June, 1969, was 1,931 and will rise to an estimated 2,100 in the next year.

The intake of junior recruits will be progressively increased from 600 to 800 a year between January and June, 1970.

The R.A.N. College at Jervis Bay in 1968 completed the first year of degree courses in science and engineering for selected cadets. In 1969 cadets successful in the first-year courses began studying at the University of New South Wales in Sydney. The college had a record intake of cadets in January, 1969.

The R.A.N. continues to provide five officers and a small number of sailors on loan to the Royal Malaysian Navy and trains R.M.N. personnel in Australia.

## Papua-New Guinea

Four officers of the Papua-New Guinea Division who joined in December, 1966, are at present undergoing sea training in R.A.N. ships as part of the R.A.N. Supplementary List seamen midshipmen training programme. An additional three officers who joined in December, 1968, are at present being given 12 months academic training at H.M.A.S. TARANGAU, Manus Island.

A further 39 recruits entered the P.N.G. Division in 1968-69, bringing the total number of new recruits to 7 officers and 130 sailors. Forty-eight older members continue to serve with the division at H.M.A.S. TARANGAU. These personnel are included in the total R.A.N. strength shown above.

Four P.N.G. Division apprentices began 18 months' training at the R.A.N. Apprentice Training Establishment, H.M.A.S. NIRIMBA, in January, 1969. Thirty-three P.N.G. sailors were serving in four patrol boats deployed in the New Guinea area on 30 June, 1969.

## Fleet Air Arm

The operational A.S.W. Tracker and Skyhawk squadrons have been formed with crews largely trained in Australia by R.A.N. officers who were trained in the U.S.A. and Canada. These two squadrons, together with the A.S.W. helicopter squadron form the Carrier Air Group for H.M.A.S. MELBOURNE.

## W.R.A.N.S.

On 30 June, 1969, a total of 29 officers and 625 Wrens carried out a wide variety of naval duties at shore establishments.

A Women's Royal Australian Naval Service Reserve came into being on 11 July, 1969. It will have an eventual strength of 600 reservists who will be available, if required, for full-time service. A total of 13 W.R.A.N.S.R. members are serving full-time

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with the W.R.A.N.S.  
Naval Reserve Forces

On 30 June the Naval Reserve Forces had a strength of 3,971 officers and sailors. In addition there were 1,114 members of the R.A.N. Emergency Reserve. A total of 201 Reservists were serving full-time with the R.A.N.

Continued interest by members of the Reserve backed up by a successful training programme resulted in 94 per cent of R.A.N. Reserve personnel completing periods of continuous training in 1968-69. Reservists received the patrol boats H.M.A.S. ARCHER, ARROW, AIDROIT and ACUTE. More than 100 training cruises have been carried out in these ships as well as in the general purpose vessels H.M.A.S. BASS and H.M.A.S. BANKS attached to the Reserves in Hobart and Adelaide.

### Civil Personnel

A total of 11,138 civilians were employed by the Department of the Navy on 30 June, 1969. Approximately half of the civilian employees work at the Garden Island and Williamstown Dockyards.

### BUILDINGS, WORKS AND HOUSING

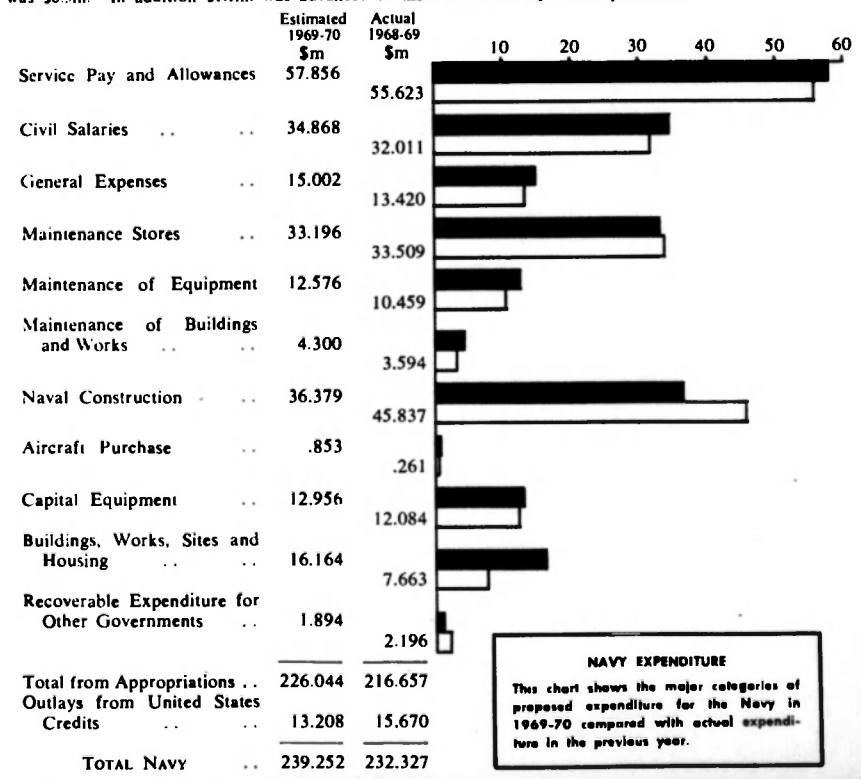
Expenditure on buildings and works during 1968-69 was \$6.5m. In addition \$1.1m. was advanced to the

	Estimated 1969-70 \$m	Actual 1968-69 \$m
Service Pay and Allowances	57.856	55.623
Civil Salaries .. ..	34.868	32.011
General Expenses .. ..	15.002	13.420
Maintenance Stores .. ..	33.196	33.509
Maintenance of Equipment	12.576	10.459
Maintenance of Buildings and Works .. ..	4.300	3.594
Naval Construction .. ..	36.379	45.837
Aircraft Purchase .. ..	.853	.261
Capital Equipment .. ..	12.956	12.084
Buildings, Works, Sites and Housing .. ..	16.164	7.663
Recoverable Expenditure for Other Governments .. ..	1.894	2.196
Total from Appropriations ..	226.044	216.657
Outlays from United States Credits .. ..	13.208	15.670
TOTAL NAVY .. ..	239.252	232.327

States under the Commonwealth-States Housing Agreement towards the cost of 321 houses and flats for Naval personnel.

Major projects begun during the year included workshop facilities for submarine refitting (\$4.7m.) and the reconstruction of Sutherland Wharf at Cockatoo Island Dockyard; improvements to engineering service workshops and other miscellaneous facilities including cranes at Garden Island Dockyard; a new avionics workshop at H.M.A.S. ALBATROSS; additional barracks accommodation, sick bay and dental centre, utility building and engineering services at H.M.A.S. LEEUWIN; four apprentices' barracks blocks and wardroom at H.M.A.S. NIRIMBA, an additional sleeping block for junior sailors at H.M.A.S. CERBERUS and additional W.R.A.N.S.' accommodation at H.M.A.S. HARMAN.

As at 30 June, 1969, 2,879 married quarters throughout Australia and New Guinea were available for R.A.N. personnel and their families, with an additional 334 in process of completion. Provision has been made in 1969-70 for \$3.063m. to be advanced to the States under the Commonwealth-States Housing Agreement towards the cost of 428 married quarters for rental by Naval personnel.



NAVY EXPENDITURE  
This chart shows the major categories of proposed expenditure for the Navy in 1969-70 compared with actual expenditure in the previous year.

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Four FIDO's streak across the sky as an English boy sounds "Last Post" — the final act in a story that began 24 years ago when a B-17 returning to England crashed. Switch from crashed plane activated transatlantic signal at dedication to unveil monument (right foreground).



## The Saga of a B-17

In a mountainous realm of skylarks and peat bogs in northeast England a group of boys assembled around a modest memorial to commemorate a touching war-time rescue.

It was a tale of two countries, two shepherds, two dead American airmen and a heroic collie that unfolded on the Cheviot, a 2,600-foot-high peak in a bleak Northumberland grazing ground for sheep.

At a signal from New York, the memorial (a twisted aircraft propeller mounted in concrete) was unveiled and the British boys who built it talked by transatlantic telephone with survivors of the World War II plane it commemorates.

This story was supplied by Mr. L. W. Lane, a "Navy" reader who works for the Micro Switch and Special Avionics Products Division of The Honeywell Organisation.

Events leading to the ceremony began last summer when boys from St. Michael's Church Choir Club in the village of Alnwick unearthed a B-17 Flying Fortress that had crashed on December 16, 1944.

The club was formed to provide a creative outlet for members. One club project was the investigation of the nearly 100 American, British and German bombers which crashed in the area during the war.

Two members of the U.S. Army Air Force B-17 crew died in the crash in the Cheviots. Seven were rescued and they were all on hand for a reunion in New York which was tied to the unveiling ceremony in Northumberland.

Rummaging the wreckage, buried under years of undergrowth and peat, the boys found two microswitches from the bombardier's panel.

The switches were sent to the Honeywell Micro-switch Division, Freeport, Ill., where tests revealed

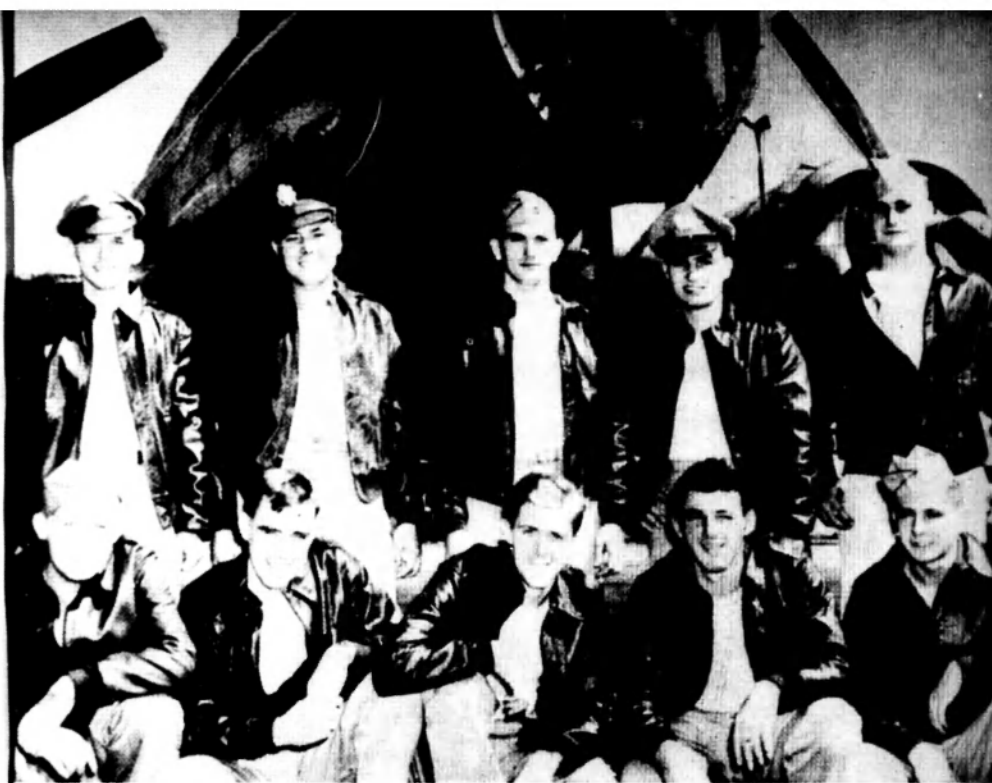
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Crew of B-17 No. 44-6504. Standing (left to right): George Kyle, Jr. (pilot), James Hardy (co-pilot), Fred Malcolm, Sr. (navigator), Flight Officer Kneiskovich (bombardier, who did not fly on the mission), Ernest Schieferstein (flight engineer). Kneeling: Frank Turner, Jr. (nose gunner-toggler), Joel Berly (radio operator), William Kaufmann (waist gunner), Howard Delaney (tail gunner), and George Smith (ball turret gunner).

one of them was still in working order.

In the meantime the boys in Alnwick — they call themselves the Reivers, an ancient name for border raiders — embarked on the arduous task of building a memorial.

Cement was carried up the rugged terrain to the site chosen for the memorial.

One propeller was freed from the wreckage and planted in concrete — where it now points toward the grave of the buried bomber.

The inscription on the memorial reads: "Erected by the St. Michael's Church Choir Club, The Reivers, to the men of the U.S.A.A.F. who fought for our freedom, 1941-1945."

Buried beneath the peat with the slumbering Fort was a remarkable tale of civil and military heroism, which gradually has been sifted out on both sides of the Atlantic.

The B-17, No. 44-6504 (it was too new to have a name), was on its third mission out of Molesworth, England, when it crashed in the snow and the fog of the Cheviots.

The target was Ulm, Germany, and the weather was expected to clear over the continent.

Joining the 360th Bomb Squadron and later the 303rd Bomb Group, the aircraft and its nine-man crew flew across the channel.

When the weather failed to clear by mid-morning the mission was recalled.

Following bad-weather procedure, the planes broke formation on their return route and were ordered to land separately at various bases to avoid mid-air collisions.

The planes were ordered to drop their bomb loads into the North Sea. B-17 44-6504 was carrying a full load of a new explosive called RDX.

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The Aircraft Commander, 2nd Lt. George A. Kyle, Staunton, Va., executed a 180-degree turn back toward England, at the same time beginning his descent. When he came through the clouds, his aircraft was alone.

On several occasions he requested headings, only to discover the signals were coming from German transmitters. Twice he found himself headed toward France.

The weather became so heavy it was impossible to orient himself to drop the bombs. Snow flurries became a raging blizzard. Ice coated the wings of the plane. Kyle descended to 3,000 feet in an effort to find a hole in the clouds.

For several hours Kyle tried to contact homing beacons and to orient the B-17 by sun or landmarks. At about 12.30 p.m. radio operator Joel A. Berly, Clemson, S.C., got a vague fix which indicated the plane was over northern England.

Ten minutes later he confirmed the fix and contacted Molesworth for a direction signal home.

Tension eased as the plane headed south toward Molesworth at 3,000 feet.

But at 1.15 p.m. the West Hill of the Cheviot, at 2,600 feet one of the highest points in England, suddenly loomed out of the snow.

Kyle jerked back on the stick. But it was too late. The Flying Fort struck.

The Pilot's instinctive gesture saved most of the crew. The big plane skidded across the bog that makes up the West Hill. The peat served as a cushion and absorbed the shock and filled the dangerous bomb bay.

The nose section crumpled on impact, instantly killing bombardier Frank R. Turner, Jr., Columbia, S.C., and navigator Fred Holcombe, Swannanoa, N.C.

Flames erupted in the bomb bay. Incendiary bombs exploded and touched off fluid from ruptured hydraulic and fuel lines. An engine on the right wing exploded in fire. But the super-sensitive RDX bombs did not go off. As they tumbled from their shackles they were buried in the peat.

Survivors remember hearing sporadic explosions of .50 calibre ammunition as they scrambled to escape.

Flight engineer and top-turret gunner Ernest Schieferstein, Forest Hills, N.Y., was in the radio compartment advising the crew to put on their parachutes when the plane struck.

His head struck a bulkhead and he was knocked out. When he recovered minutes later he remembered crash procedure and crawled out the side door to the right wing to await other members of the crew.

Kyle, suffering a shattered jaw, and flight officer James H. Hardy, co-pilot, Snow Hill, N.C., soon joined him. Hardy later was awarded the Soldier's Medal for dragging Kyle out of the plane with him.

At this point the three survivors assumed the other crew members were dead. There were no sounds of life and they expected the bombs to explode momentarily.

Wandering down the side of the Cheviot they found a farm house, but were nearly shot by a farmer who saw their green flying suits and took them to be German paratroopers.

The airmen quickly dispelled his fears and Hardy was given a ride on a motorbike in town to find help.



Members of the Reivers, a boys' club in Alnwick, Northumberland, England, unearthed the wreckage last year. The B-17 had crashed and exploded on the West Hill of the Cheviot on December 16, 1944. The parts of the aircraft shown here were discovered six feet under the peat which had covered them for 23 years.

An ambulance soon arrived at the farm house and Kyle, Hardy and Schieferstein were taken to the Royal Air Force first aid station near Berwick.

Back at the B-17, Berly had gone unnoticed as he tried to put the bomb bay fire out. In the process he jammed his foot through the plywood flooring and became entangled in a mass of peat.

Waist gunner William R. Kaufman, Chicago, regained consciousness in time to pull Berly free. He then helped ball turret gunner George P. Smith, Louisville, Ky., from the plane. Kaufman received the Soldier's Medal for rescuing Berly.

Outside the aircraft the three found tail gunner Howard F. Delaney, Watertown, N.Y., wandering

Tattered prop was clue that led to the buried wreckage. A cairn holds a single blade from the propeller as a monument honouring all American airmen who died during W.W. II. An inscription plaque reads "From St. Michael's Church Choir Club, the Reivers, to the men of the U.S.A.F. who fought for our freedom, 1941-1945."





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around in the deep snow. He was bleeding from a severe head wound.

The four quickly decided to abandon the aircraft and they found shelter in a ditch 100 yards away. There, several hours later, Smith looked up to find a collie licking his face.

The dog's barking brought two shepherds, John Dagg and Frank Moscrop to the ditch. They had been searching in the storm with Dagg's collie Sheila for survivors.

She led the group through the blizzard to Dagg's cottage and just as they reached the door the plane blew up with a window-shattering explosion.

Dagg's daughter ran two miles through the storm to the nearest telephone to summon help. Later in the night the four men were taken to the same R.A.F. hospital that their crewmates had found earlier.

Kyle, the most seriously hurt, was transferred the next day to a larger R.A.F. hospital at Newcastle.

Turner and Holcombe were buried at the American cemetery in Cambridge. The other six survivors convalesced until January when they reported to their squadron at Molesworth.

They were promptly given rest leave, but as they passed through London, Smith collapsed on the train platform with spinal meningitis.

During his stay at the 150th Station Hospital, another unusual drama unfolded. Smith "died" and was taken to the morgue.

The last doctor to examine him before an autopsy was a Major Hill, who noticed that Smith's tag indicated he was from Louisville, Hill's home town.

The doctor decided to listen to Smith's heart once more and detected a faint beat. He managed to revive him, and when the war ended Smith had fully recovered and was on his way to the Pacific theatre.

After completing their rest leave, Schieferstein, Berly, Kaufman and Delaney returned to flying status and each flew another 10 or 11 missions. They participated in some of the first American encounters with German jet fighters.

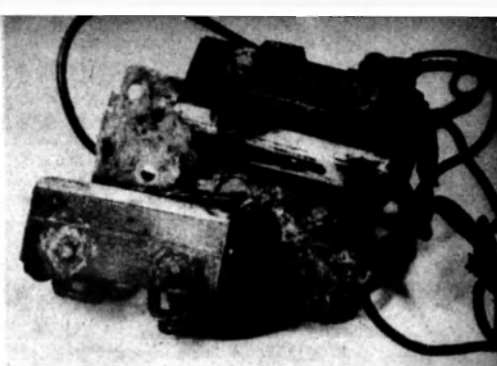
Kyle was invalided back to the United States in April.

Hardy returned to flying and was determined to complete his combat tour in record time. He managed to fly 27 more times and became the only member of the crash crew to complete his 30 missions.

In one of the last major air strikes of the European war — to Pilsen, Czechoslovakia, Hardy led 8th Air Force planes to the target.

By February, 1946, all seven surviving members of the crew had returned to civilian status. But their story was not over. That same year, Mrs. Frank R. Turner, Sr., bereaved mother of the dead bombardier, wrote Dagg to thank him and the dog for their efforts. She wrote that her son's death had come just three months before his only son was born at home in Columbia, S.C. She asked that if the collie ever had puppies, she would like to buy one.

A few months later the Royal Air Force flew Sheila's first puppy to South Carolina as a gift. Named Tibbie, the dog lived for 11 years as the adopted town pet in Columbia.



It all started with these — two Micro Switch basic switches from the bombardiers' panel of a B-17 which crashed in Northumberland, England, December 16, 1944. After the crash and explosion, the switches remained buried under six feet of peat until unearthed by the English boys' club in the summer of 1967. Transatlantic ceremonies on May 29, 1968, linked the monument dedication, via the switch at lower left, with a New York City reunion of the seven survivors of the B-17 crash.

Dagg and Moscrop were awarded the British Empire Medal in July, 1945, at ceremonies on the Cheviot — and Sheila became the first civilian dog ever awarded the Dickin Medal for animal heroism.

Dagg's medal was his second for rescue efforts during the war.

It was Turner's son, Roderick Turner Merritt, 23, in New York with the seven survivors and high-ranking military guests who actually unveiled by remote control the memorial on the Cheviot.

By pressing the microswitch found by the boys, he set an impulse racing 3,500 miles to slip the blue and yellow drape from the memorial.

Among those participating in the transatlantic hookup from New York, were retired Generals Carl A. Spaatz and Ira Eaker, Air Vice-Marshal David Crowley-Milling, R.A.F. Air attache in Washington, Honeywell vice-president James S. Locke and members of the B-17 crew.

High up in the Cheviots the dedication was pronounced by the Rev. Canon W. T. Hinkley, vicar of St. Michael's Church, Alnwick.

The choir boys who dug up the B-17 and erected the monument then sang "Hills of the North Rejoice" and Reiver leader Bill Dunn read a tribute to U.S. airmen.

Last member of the B-17 crew to speak from New York was plane commander Kyle, who turned over the microswitch to Turner's son for the remote unveiling.

On the Cheviot, Last Post was sounded on a bugle by a bare-headed Reiver as four F100 fighters from the 20th Tactical Fighter Wing at Wethersfield, England, streaked across the sky.

Then, as the planes faded from sight, the Reivers turned the monument-topped hill back to the wind and skylarks.

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## LETTERS TO THE EDITOR..

43 Churchill Road,  
Killara,  
2 August, 1969  
The Editor,  
The Navy,  
Box C178,  
Clarence Street Post Office,  
Sydney, N.S.W. 2000  
Dear Sir,

The naming of ships after Australian cities and towns provides the basis for an excellent relationship between the town and the ship. Therefore, it seems unfortunate that some of the previous names are not being perpetuated and new names of no particular significance are

being introduced.

For example when the six Ton-class minesweepers were purchased from the Royal Navy, there was an excellent opportunity to give each one an association with an Australian city or town in each of the six States and carry on some of the names of the Bathurst Class ships.

There could have been a second GERALDTON, SHEPPARTON, LAUNCESTON and ROCKHAMPTON and the other two could have been named after New South Wales and South Australian towns, such

as Singleton, Smithton, Angaston, Brighton, etc.

Most of the names of the Fast Patrol Craft have no particular Australian significance except for the New Guinea craft, so if there is to be a repeat class, perhaps some of the 56 Bathurst Class names can be given to them and thus stimulate public interest in the Navy.

Yours faithfully,  
(Sgd.) E. BRYDEN-BROWN.

(I would be pleased to print reader's views and suggestions concerning this subject.—Editor).

## Attention Navy Men

A number of Naval Cadet Units are in need of additional Officers and Petty Officer Instructors with Service background to instruct Cadets. Anyone who may be prepared to give of his time on Saturday afternoons is asked to please contact the Cadet Liaison Officer, Lieutenant McPherson, H.M.A.S. WATSON, Telephone 37-1311, extension 256, between 0800 and 1530 for further particulars.

The Units concerned are:—

Unit  
T.S. ALBATROSS  
T.S. HAWKESBURY  
T.S. PARRAMATTA  
T.S. SIRIUS  
T.S. SHOPSHIRE  
T.S. WARREGO  
T.S. SYDNEY  
T.S. CONDOMINE  
T.S. TOBRUK

Location  
Wollongong  
Gosford  
Rydalmere  
Arnccliffe  
Canterbury  
Hunter's Hill  
Snapper Island  
Manly  
Newcastle

Cadets range from 14 to 19 years of Age and Units Parade on Saturdays.

## KOREA VETERANS TO TOUR SOUTH EAST ASIA, 1970

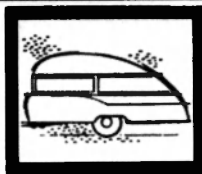
Members of the Korea and South East Asia Forces Association of Australia are planning a commemorative tour of Japan and Korea in June, 1970, to mark the twentieth anniversary of the outbreak of the Korean War on 25 June, 1950.

The tour is to leave Sydney by air on 31 May, 1970, returning on 27 June, after visiting Singapore

Malaysia, Thailand, Cambodia, Hong Kong, Japan and Korea. A visit to Expo 70 in Japan is to be included and the tour will culminate in attendance at celebrations marking the dedication of the Korean International War Museum at Seoul on 25 June.

Arrangements for the tour are being made by Warringah Inter-

national Travel Service, of Warringah Mall Brookvale. All members who served in Malaya, Japan or Korea, their wives, and members of kindred bodies are welcome to take part in the tour. Full details may be obtained from Mr. Courtney at 1549 Pittwater Rd., North Narrabeen, N.S.W., 2101, telephone: 913-7966.



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# AUSTRALIAN SEA CADET CORPS & R.A.N.R. SCHOOL CADETS NEWS

NEW SOUTH WALES DIVISION

Annual Report to the Navy League of Australia  
New South Wales Division for the Year Ended 30 June, 1969

The Australian Sea Cadet Corps and the Royal Australian Naval Reserve School Cadets are now administered by the one authority and can be said to be totally integrated. In this report the term Naval Cadet Force will, therefore, embrace both these segments to allow the whole to be reviewed.

The past year has been one of frustration in that the objectives of the Cadet Force in New South Wales have, of necessity, had to be curtailed because of rationalisation. Until rationalisation becomes a reality it is doubtful if there will be any upsurge in motivation within the Units. An air of expectancy continues to prevail which to some extent tends to detract from getting on with the job. None the less it is fully realised by the Officers, Instructors and for that matter the Cadets that rationalisation does not mean the end of their worries or that financial assistance in the form of new buildings will materialise. Far from it, they have accepted that the first Commonwealth building from the date of the new organisation is unlikely to appear for at least 7 years. However, personnel do want to know exactly where they stand, particularly as it is over 4 years since rationalisation was first propounded and until this comes about a state of flux will prevail.

The number of Units is 12, incorporating 6 Metropolitan Units, 3 Country Units and 3 School Units. The strength of the Cadet Force remains constant at a figure of 600 which includes Officers, Instructors and Cadets. Two Units still require housing as a matter of urgency and the Navy League have set aside funds to assist them when formalities relating to leases and building plans are finalised.

Several Schools are anxiously awaiting Naval Board approval to open a Naval Reserve School Cadet

Unit. However, with the possible exception of one, it is most unlikely that approval will be given to form any new Units until rationalisation takes effect.

There is a need for additional adult personnel preferably with Service background to instruct Cadets and avenues are being explored to obtain more assistance from the Citizen Naval Force. Pleas placed in "The Navy" magazine and "Navy News" brought forth some response but not sufficient to meet requirements. Unfortunately, National Service has taken its toll of some of our younger and most promising Instructors.

Over the past 12 months, 30 personnel from the Cadet Force have entered the R.A.N. and 6 the R.A.N.R. New South Wales is proud of their contribution to the Service and it speaks well of the calibre of our Cadets that 3 went to the College at Jervis Bay and 2 as Supplementary List entries to H.M.A.S. CERBERUS.

Weekend training opportunities in H.M.A. Ships and Establishments have been many but the problem of a suitable location to accommodate at the one time somewhere in the region of 200 Cadets has still to be overcome. The matter becomes more acute each year and cannot be put to one side indefinitely. We have an obligation to Cadets to give them the opportunity for at least 7 days continuous training in a nautical atmosphere. The other Services provide this amenity for their Cadets and obviously we must do likewise. The Snapper Island Training Depot has been leased by the Cadet Force for Cadets to undergo continuous training and is an ideal location. However, accommodation is limited although this problem could be overcome.

Close liaison has been maintained with the Army and Air Force Cadet

Headquarters which has resulted in a valuable exchange of information and thoughts. By invitation, visits have been made to Singleton to view the type and the extent of the training given to Army Cadets.

It is most gratifying to be able to report that New South Wales has been declared a Hot Weather Area for the Cadet Force. This long-awaited decision has done much to lift the morale of Cadets. When summer routine is in force they will, when training in ships and establishments, now be able to appear in the rig of the day. This is much more conducive to achieving a sense of belonging. The issue of items of tropical dress is progressively taking place.

In addition to the usual local commitments by Cadet Units these other activities took place:— Guard of Honour of 48 Cadets for Legacy Memorial Service, Opening Day Ceremony at Royal Motor Yacht Club, Assistance at Navy Day Church Services, Flag bearers at Annual Seafarers' Service in St. Andrew's Cathedral, Education Week March, Australia Day Celebrations in the Domain.

Annual events held were the Small Bore Rifle Championships, Athletics Meeting, Sailing Regatta and Swimming Carnival.

The representative of the Flag Officer-in-Charge, East Australia Area, carried out his annual inspection of all units. T.S. TOBRUK (Newcastle Unit) was declared the "Most Efficient" Unit in New South Wales and thus completed the hat-trick. Special mention was made of T.S. CONDRAMINE (Manly Unit) who, despite a lack of a building of any description to accommodate personnel, continues to hold the interest of Cadets and achieve a very high standard of training. A most creditable performance.

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An AT HOME was given by the Senior Officer and Officers in H.M.A.S. WATSON to entertain those who provide help and facilities to the Cadet Force. This function was very well supported — Rear-Admiral D. C. Wells was the Guest of Honour.

Boards have been held regularly in H.M.A.S. WATSON to examine Officers and Instructors for promotion and to determine the suitability of personnel seeking appointment to the Cadet Force.

Her Majesty the Queen awarded

the Cadet Forces Medal to Lieutenant-Commander Hampson of T.S. SYDNEY (Snapper Island) and Lieutenant Causer of T.S. SHROPSHIRE (Canterbury Unit).

The Cadet Force extends its sincere appreciation to those of you who have rendered assistance, material or otherwise. The following deserve special mention:— Admiral Showers and Lieutenant Commander Andrews, of the Navy League, and in H.M.A.S. WATSON, Staff Officer Reserves Commander Graham, and my Cadet Liaison

Officer Lieutenant McPherson.

We are basically a voluntary organisation and I feel it is fitting to close this report by referring to my Officers and Instructors. I want to say that without their loyalty and devotion to the cause and for which they receive very little remuneration, the Cadet Force in New South Wales could not maintain the high standard that has come to be expected of it.

L. MACKAY-CRUISE,  
Commander R.A.N.R.,  
Senior Officer.

### Report on training and activities undertaken by the Australian Sea Cadet Corps and the R.A.N.R. School Cadets for the quarter ending:

#### (A) 30 June, 1969.

Continuous training periods of 7 days duration were undertaken as follows:—

St Ives High School Naval Reserve Cadet Unit—H.M.A.S. *Penguin*, 5-11 May—General Seamanship.

In addition a special course lasting 8 days was conducted at sea in H.M.A.S. *Queenborough* for 6 Cadets

considered potential Cadet Officers. Two Cadets were selected from the Naval Reserve School Units at Sydney Grammar School, Scots College, and St. Ives High School.

Weekend training took place in the following ships and establishments:—

H.M.A.S. <i>Anzac</i>	11-13 April
H.M.A.S. <i>Albatross</i>	11-13 April
H.M.A.S. <i>Stalwart</i>	11-13 April
H.M.A.S. <i>Parramatta</i>	18-20 April
H.M.A.S. <i>Stalwart</i>	18-20 April
H.M.A.S. <i>Queenborough</i>	25-27 April
H.M.A.S. <i>Melbourne</i>	2-4 May
H.M.A.S. <i>Queenborough</i>	2-4 May
H.M.A.S. <i>Parramatta</i>	2-4 May
H.M.A.S. <i>Queenborough</i>	23-25 May
H.M.A.S. <i>Stalwart</i>	23-25 May
H.M.A.S. <i>Anzac</i>	30 May-1 June
H.M.A.S. <i>Creswell</i>	30 May-1 June
H.M.A.S. <i>Albatross</i>	13-15 June

T.S. <i>Sirius</i> (Arncliffe Unit)
T.S. <i>Condamine</i> (Manly Unit)
T.S. <i>Sydney</i> (Snapper Island Unit)
T.S. <i>Parramatta</i> (Parramatta Unit)
T.S. <i>Warrego</i> (Hunter's Hill Unit)
T.S. <i>Parramatta</i> (Parramatta Unit)
T.S. <i>Warrego</i> (Hunter's Hill Unit)
T.S. <i>Hawkesbury</i> (Gosford Unit)
T.S. <i>Tobruk</i> (Newcastle Unit)
T.S. <i>Albatross</i> (Wollongong Unit)
T.S. <i>Hawkesbury</i>
T.S. <i>Tobruk</i>
T.S. <i>Shropshire</i>
Scots College R.A.N.R. Cadet Unit
Sydney Grammar School R.A.N.R. Cadet Unit
T.S. <i>Shropshire</i>
T.S. <i>Warrego</i>
plus Cadets from Scots College and Sydney Grammar School

The Representative of the Flag Officer-in-Charge, East Australia Area, Commander K. Graham, M.B.E., R.A.N. accompanied by the Senior Officer, carried out the 1969 Annual Inspection of the following Units:—

T.S. <i>Shropshire</i>	Saturday 12 April
T.S. <i>Tobruk</i>	Saturday 19 April
T.S. <i>Sirius</i>	Saturday 3 May
T.S. <i>Sydney</i>	Saturday 10 May
T.S. <i>Albatross</i>	Saturday 17 May
T.S. <i>Condamine</i>	Saturday 7 June
Sydney Grammar School Naval Reserve Cadet Unit	Wednesday 11 June
T.S. <i>Hawkesbury</i>	Saturday 14 June
Scots College Naval Reserve Cadet Unit	Friday 20 June

Annual 'efficiency' shoots were conducted in H.M.A.S. *Watson* for T.S. *Warrego*, T.S. *Sydney*, T.S.

*Parramatta*, T.S. *Sirius*, T.S. *Shropshire* and T.S. *Condamine*.

On Thursday 24 April the Senior Officer of the Naval Cadet Force, New South Wales, gave the Anzac Oration at the South Sydney Boys' High School.

Sea Cadet Lieutenant E. L. Causer, the Commanding Officer of T.S. *Shropshire*, was presented in May with the Cadet Forces Medal. The presentation was made by the Flag Officer-in-Charge, East Australia Area, Rear Admiral D. C. Wells.

Visits were made by the Senior Officer and the Cadet Liaison Officer to Woolooware High School, Woolooware and Barrenjoey High School, Avalon, to discuss the applications made by the Headmasters to the Naval Board to form Naval Reserve School Cadet Units.

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The Senior Officer and the Officers of the Naval Cadet Force, New South Wales, held an "At Home" in H.M.A.S. *Watson* on Friday 16 May by courtesy of the President and the Mess Committee, Admiral D. C. Wells, the Flag Officer-in-Charge, East Australia

Area, was the Guest of Honour.

Examination of Cadets for promotion to higher rank (Cadet Leading Seaman or Cadet Petty Officer) was carried out in H.M.A.S. *Penguin* on Saturday 21 June.

## (B) 30 September, 1969.

A continuous training period of 8 days duration was carried out on Snapper Island by the Sydney Grammar School Naval Reserve Cadet Unit from 18 to 26 August. The facilities of Sydney Training Depot Snapper Island, the sponsoring organisation of T.S. SYDNEY, were hired by the Department of

H.M.A.S. SUPPLY 18-20 July  
H.M.A.S. GULL 25-27 July  
H.M.A.S. ANZAC 8-10 August

Sydney Training Depot, Snapper Island 19-20 August  
H.M.A.S. STALWART 22-24 August  
H.M.A.S. QUEENBOROUGH 22-24 August  
H.M.A.S. QUEENBOROUGH 29-31 August  
H.M.A.S. YARRA 5-7 September  
H.M.A.S. SUPPLY 5-7 September  
H.M.A.S. STALWART 12-14 September  
H.M.A.S. STALWART 19-21 September

the Navy and this experiment proved quite successful. There are certain limitations particularly in relation to water and hygiene amenities but these could be overcome.

Weekend training took place in the following ships and establishments—

St. Ives High School Unit  
St. Ives High School Unit  
T.S. WARREGO  
St. Ives High School Unit  
Scots College Unit  
T.S. CONDRAMINE, St. Ives High School Unit  
T.S. ALBATROSS  
T.S. TOBRUK  
T.S. SYDNEY, St. Ives High School Unit  
T.S. CONDRAMINE  
T.S. PARRAMATTA, St. Ives High School Unit  
T.S. TOBRUK

For the purpose of achieving uniformity in procedures and general organisation within Units, a special weekend training seminar for all Officers and Instructors was conducted in H.M.A.S. WATSON, on Saturday 2 and Sunday 3, August.

St. Ives High School Naval Reserve Cadet Unit led the Education Week School Cadet Parade through the City of Sydney on Tuesday, 12 August.

In August, the Senior Officer of the Naval Cadet Force N.S.W. spent 4 days with the Army at Singleton studying the activities and facilities provided for Army Cadets while undergoing continuous training.

A Guard of Honour of 48 Cadets was provided on Legacy Sunday, 31 August, when the representative of the Flag Officer-in-Charge East Australia Area inspected legates prior to their annual Memorial Service in the Dockyard Chapel, Garden Island.

Officers, Instructors, and Cadets of T.S. CONDRAMINE paraded at the Royal Motor Yacht Club, Point Piper, for the Opening Day Ceremony on Saturday, 6 September.

The Director of Naval Reserves inspected T.S. TOBRUK (Newcastle Unit) the Most Efficient Unit in New South Wales on Sunday, 14 September, 1969. The Director is carrying out his annual inspections of the Most Efficient Unit in each State to determine which Unit will be declared the Most Efficient in the Commonwealth.

The Annual Church Parade took place on Sunday, 21 September, 1969, at Garden Island. Prior to the service the New South Wales Division was inspected by Commodore B. W. Mussared, A.D.C., representing the Flag Officer-in-Charge East Australia Area. After the service, Commodore Mussared took the salute at a march past led by the band of the Royal Australian Naval Reserve. Over 300 Officers, Instructors and Cadets were on parade.

Cadets will be provided to assist at Navy Day Commemorative Church Services on Sunday, 28 September.

L. MACKAY-CRUISE,  
Commander R.A.N.R. Senior Officer.

## Contributions Invited

The editor invites persons to submit articles, photographs and drawings (black ink) for inclusion in the magazine, but regrets that no payment can be made for contributions submitted. Contributions should be addressed: The Editor, "The Navy", Box C178, Clarence Street Post Office, Sydney, N.S.W., 2000, Australia.

The Editor, does not hold himself responsible for manuscripts, though every effort will be made to return those with which a stamped and addressed envelope is enclosed.



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For further information please contact the Divisional Senior Officer in your State, using the Form provided below.

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## Navy League of Australia

### Active Year for Victorian Division

Members of the Victorian Division of the League have had the opportunity of taking part in a number of events during the last twelve months.

The main Social and fund-raising function was the ANNUAL NAVY LEAGUE DINNER-DANCE, held 3 October, 1968, and attended by about 500 people. His Excellency the Lieutenant Governor and Dame

Mary Herring were Guests of Honour. The second Naval Member (Rear Admiral Peek) and Mrs Peek, and the Federal President of the League (Mr John Howse) were amongst interstate guests welcomed by the Division President, Mr Geoff Evans and the President of the Women's Committee, Mrs John Plunkett-Cole.

To show his appreciation of their

hard work the President entertained 40 members of the Women's Committee, and their husbands, at his home prior to Christmas.

Several smaller functions to provide funds for the Sea Cadets were also arranged by the Women's Committee, one of the most enjoyable being a "Games Evening" attended by seventy people in the home of Mr and Mrs Ian Glen.



Photograph taken after the Minister for the Navy, The Honourable C. B. Kelly, M.P., had presented the trophy for the "Most Efficient Unit in Australia" to T.S. Melbourne.  
(Photo by Courtesy of The Sun News Pictorial)

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### COMMEMORATIVE OCCASION

Members of the League and the Sea Cadet Corps attended or took part in several commemorative events during the year, including the Naval Association Service at Christ Church, South Yarra on 29 September (at which the President read the Second Lesson), and the Seafarers Service at St Paul's Cathedral (Sea Cadets carried the flags of the Shipping Companies) and Shrine of Remembrance Service on 6 October.

The League was represented at the Shrine on Remembrance Day, and at functions celebrating Australia Day, the Battle of the Coral Sea, and on several "Naval occasions" provided by the Lord Mayor of Melbourne.

The President was also an official guest at a Dinner given by the Company of Master Mariners in Melbourne, an indication of the growing links between the Merchant Service and the League.

These events are listed to show that the League continues to play a part in the official and social life of the community. In the country centres containing Sea Cadet Units, Commanding Officers and members of the Australian Sea Cadet Corps performed a similar function in their own areas.

### SECRETARY FOR THE NAVY, NEW COMMODORE SUPERIN- TENDENT OF TRAINING ARE LEAGUE GUESTS

The Executive Committee of the League met regularly throughout the year and on two occasions entertained distinguished guests — The Secretary of the Navy, Superintendent of Training, Commodore Ian Purvis, in March.

The League appreciates these opportunities of meeting and talking with senior members of the Royal Australian Navy.

### APPEAL TO SHIPPING COMPANIES FOR FINANCIAL ASSISTANCE

The Division continues to be hard-pressed to meet its existing commitments to the Sea Cadet Corps, let alone to assist Units at Bendigo, Portland and in the Latrobe Valley, to obtain urgently needed premises.

Keeping in mind the particular purpose of the Sea Cadet Corps—to encourage and train young men who are interested in the sea as a

career, or simply as a hobby, the Division proposes to seek the financial assistance of those Merchant Companies who depend upon an efficient Merchant Service for the successful prosecution of their business, or who operate their own ships. This appeal commenced in July, 1969.

### THE AUSTRALIAN SEA CADET CORPS, VICTORIAN DIVISION

The seven Victorian Units of the A.S.C.C. have been kept busy during the past twelve months, over and above normal weekly training periods.

Sea training in H.M.A. Ships was again limited by Naval commitments, but it was possible for a number of Cadets to take passage to Adelaide in H.M.A.S. Sydney, as well as to make several shorter voyages in smaller vessels.

The number of visits to Ships of the Royal Australian Navy and other Navies calling at Victorian ports increased during the year. Special arrangements are normally made by the Naval authorities for Sea Cadets to see visiting warships at times when they are not open to the public; this enables the Cadets to see and learn a good deal more than would otherwise be the case.

Training courses were carried out

in H.M.A.S. *Cerberus* for Cadets and for Instructors.

### "MOST EFFICIENT" VICTORIAN AND AUSTRALIAN SEA CADET UNIT

Apart from taking part in the annual events mentioned previously, Sea Cadets from country and metropolitan Units paraded together on two occasions in H.M.A.S. *Lonsdale*.

The first ceremony (in November, 1968) involved the transfer of custody of the Sea Cadet Colour from T.S. *Barwon* to T.S. *Melbourne*, which had displaced *Barwon* as the "most efficient" Unit in the Victorian Division (See Photo). The Reviewing Officer on this occasion was the Naval Officer-in-Charge, Victoria, Commodore J. H. Dowson, C.B.E., who took the opportunity of announcing that T.S. *Melbourne* had gained the added distinction of being the most efficient Unit in the Commonwealth.

The Navy League of Australia Trophy awarded annually to the most efficient Australian Sea Cadet Corps was presented at a combined Parade in May, 1969, the Minister for the Navy (The Hon. C. R. Kelly, M.P.) making the presentation and giving the address.

A busy year is concluded, and we look forward to the following year with interest in the activities ahead.

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## Nautical Notes from all Compass Points

*By "Sonar"*

### CANADA ANOTHER SUBMARINE FROM U.S.A.

Despite the fact that all three of the British-built Canadian submarines of the Oberon class are now completed and in commission, Canada still apparently feels the need for a fourth submarine for anti-submarine warfare training, for another elderly submarine has recently been acquired from the United States Navy.

She is the U.S.S. ARGONAUT (SS 475), which was stricken from the U.S. Naval Register on 2 December, 1968, and sold to Canada as a replacement for the old Canadian submarine GRILSE (SS 71), formerly the U.S.S. BURRFISH (SSR 312), of the converted Balao class.

The ARGONAUT was commissioned on the same date as H.M.C.S. RAINBOW, thus at once perpetuating the name both of the cruiser sold to Canada in 1910 and the Chatham-built submarine sunk in 1940; H.M.C.S. GRILSE was taken out of service on the same date to be returned to the U.S.A. in 1969.

TAKE IN PHOTO 'A' & caption  
The ARGONAUT was of the Trench class, of only fractionally newer vintage than the BURRFISH of the Balao class built during the second world war. She was laid down in the Portsmouth Navy Yard, New Hampshire, on 28 June, 1944, launched on 1 October, 1944, and commissioned on 15 January, 1945, a typical example of the naval shipbuilding hustle of those urgent days. With a surface displacement of 1,840 tons increased to 2,400 tons submerged, she has an overall length of 312 feet, a beam of 27½ feet and a draught of 16½ feet. She is armed with ten 21-inch torpedo tubes, six forward and four aft. Her propulsion plant comprises four diesels aggregating 6,400 brake horse power and two electric motors of 5,400 combined horse power, turning two shafts to give a speed of 20 knots on the surface and ten

knots submerged. Her complement in the U.S. Navy was 85 officers and men.

The boat she replaces was only 16 months older, the GRILSE having been launched by the Electric Boat Company, Groton Connecticut, on 18 June, 1943, and completed on 14 September, 1943. She was of very similar displacement, dimensions and general design, with much the same machinery and speed, although latterly she had only six torpedo tubes. Doubtless her crew moved from one boat to the other and settled in without any undue familiarisation problems.

GRILSE was loaned to the Royal Canadian Navy for five years from her commissioning on 11 May, 1961, but when this period expired the initial transfer was extended for an indefinite term of from two to five years. She was based at Esquimalt, B.C., to carry out anti-submarine training with ships and aircraft of the Pacific Maritime Command.

Of the three new Canadian submarines of the Oberon type, all built at H.M. Dockyard, Chatham, the last, OKANAGAN, was com-

missioned on 30 June, 1968, following ONONDAGA on 22 June, 1967, and OJIBWA on 23 September, 1965. The last was actually laid down as ONYX in the new-construction programme of the time for the Royal Navy, but to save time and speed delivery of the first of the three Oberons ordered by Canada she was transferred to the Canadian procurement and launched as OJIBWA, and another ONYX was built for the Royal Navy by Cammell Laird & Co. Ltd., Birkenhead, by 20 November, 1967.

The Canadian Oberons have a normal surface displacement of 2,200 tons and a submerged displacement of 2,420 tons with an overall length of 294½ feet, a beam of 26½ feet and a draught of 18 feet. They carry eight 21-inch torpedo tubes, six in the bow and two in the stern. The main engines comprise 2,400 horse power Admiralty Standard Range diesels and 3,600 horse power electric motors giving a speed of 12 knots on the surface and 16 knots submerged. They have a complement of 65 officers and sailors.

H.M.C.S. RAINBOW (ex-U.S.S. ARGONAUT).



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## RESTIGOUCHE CLASS CONVERSIONS

Conversion of the second of four Restigouche-class destroyer escorts began this year at Esquimalt, British Columbia.

H.M.C.S. Gatineau was taken in hand at the Esquimalt naval dockyard for extensive modernisation designed to improve her anti-submarine warfare capability.

Contracts for conversion of other ships of this class, H.M.C.S. KOOTENAY and H.M.C.S. RESTIGOUCHE, will be awarded after tenders are called on a nation-wide basis. Work on these ships will be carried out between May, 1970, and October, 1972.

Each of the three vessels will be fitted with variable depth sonar, a rocket assisted homing torpedo system and improved radar and electronic warfare equipment.

First ship of the class to be modernised, H.M.C.S. TERRA NOVA has rejoined the Atlantic fleet after conversion at the Halifax naval dockyard.

As previously announced, the Department has allocated just under \$50 million for the four-ship programme, which includes the cost of conversion and refit as well as the new equipment. The dockyard portion of GATINEAU'S conversion and refit will cost approximately \$3.3 million.

### EXERCISE "PEACE KEEPER"

Canadian warships including the aircraft carrier BONAVENTURE took part in a large-scale NATO exercise in the Eastern Atlantic.

The strike fleet exercise named PEACE KEEPER was conducted from 17 to 23 September.

Over 40 ships and 200 land and carrier-based aircraft from Canada, Germany, the Netherlands, the United Kingdom and the United States participated in the exercise.

PEACE KEEPER was one of a series of regularly scheduled NATO training exercises designed to test the readiness and effectiveness of the NATO Striking Fleet Atlantic to provide naval support to alliance nations of the Atlantic community.

A secondary purpose of the exercise was to perfect procedures and tactics within the naval forces of the North Atlantic alliance.

NATO commander Striking Fleet Atlantic, Vice-Admiral Benedict J. Semmes, Jr., U.S. Navy, conducted the exercise from his flagship, the



H.M.C.S. RESTIGOUCHE.

heavy cruiser U.S.S. NEWPORT.

Major combatant ships that participated in PEACE KEEPER were the United Kingdom attack carrier H.M.S. EAGLE, the Canadian anti-submarine warfare carrier H.M.C.S. BONAVENTURE, the United States attack carrier U.S.S. INDEPENDENCE and the anti-submarine warfare carrier U.S.S. YORKTOWN.

A significant unit engaged in PEACE KEEPER was NATO's unique Standing Naval Force Atlantic, the permanent multi-national squadron currently made up of frigates and destroyers from the Netherlands, Germany, and the United States.

Other participants included Canadian destroyer escorts and replenishment ships; a Netherlands destroyer division and submarine; United Kingdom destroyer, submarine and replenishment ships; and United States destroyers, submarines and service force ships.

### RESEARCH SHIP, H.M.C.S. QUEST, COMMISSIONED

An ultra-modern research ship, the second to be designed specifically for the Department of National Defence, was commissioned in the yards of the Burrard Dry Dock Company Limited, North Vancouver, on 21 August. Canadian Naval Auxiliary Vessel QUEST was accepted by the Defence Research Board for operational duties and based at Dartmouth, Nova Scotia, site of the Board's Defence Research Establishment Atlantic.

Host during the ceremony was Dr. L. J. L'Heureux, newly-appointed Chairman of the Defence Research Board. Mrs. L'Heureux presented a gift for the ship at a reception following the commissioning ceremony.

Guest of honour was the Hon-

ourable Jack Davis, Minister of Fisheries and Forestry.

C.N.A.V. QUEST is 252 feet long, has a beam of 42 feet and displaces 2,200 tons. Her maximum speed is 15 knots and her hull configuration is designed to provide the highest possible degree of sea-keeping ability, a necessity for efficient oceanographic and related research. An anti-roll stabilisation system reduces roll to a minimum. By providing a steady platform she will extend research time at sea under a variety of conditions.

Maximum manoeuvrability is achieved by means of twin screws and a retractable bow thruster. The ship's design makes possible navigation in fringe ice or in heavier ice in company with an ice breaker.

Propulsion is provided by a diesel electrical system with two main diesel generators. A gas driven turbine generator is employed for quiet operations and extended periods of low-speed activities. Because most of the ship's operations will be related either directly or indirectly to acoustic systems, particular measures have been taken to reduce to the minimum the radiation of sound into the sea.

C.N.A.V. QUEST is fitted with a number of winches to facilitate a wide range of research and measurement operations at sea while both stationary and in motion. A number of other facilities designed for supporting scientific research make this ship one of the most modern of its type.

The QUEST, which cost about \$C11,750,000 fully equipped and operationally ready, sailed south towards the Panama Canal late in October for its home station at Dartmouth. Construction began in November, 1966.



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### OUT OF SERVICE

Canada's only aircraft-carrier, the **BONAVENTURE** (see photo), is to be retired from service around the end of this year, as part of a Government campaign to cut defence costs.

### FRANCE SUBMARINES FOR ALLCOMERS

The submarines under construction, hitherto known as Q 253 and Q 254 and now allocated the names **PSYCHE** and **SIRENE**, which are on the stocks in drydock in the naval dockyard at Brest, together with a similar boat for the Pakistan Navy, were floated up on 28 June.

The submarine **MARIA VAN RIEBEECK**, which is under construction at the Nantes yard of the Chantiers Dubigeon-Normandie, for the South African Navy was launched last March.

All these submarines are of the **Daphne** class of which no fewer than 17 are now under construction or on order for six navies, India, Portugal and Spain having chosen this design in addition to France, Pakistan and South Africa.

The **Daphne** class are of a very handy type with a displacement of 850 tons on the surface and 1,040 tons submerged, a length of 190 1/3 feet, a beam of 22 and one-third feet and a draught of 15 1/2 feet. They are massively armed for their size with twelve 21.7 inch torpedo tubes disposed eight in the bow and four in the stern. Their propelling machinery comprises an SEMT-Pielstick diesel electric installation of 1,300 brake horse power and electric motors of 1,600 horse power turning two shafts and giving a speed of 16 knots both on the surface and submerged. They are more economically manned than most submarines built these days, their designed complement being 45 officers and sailors.

There is no news as yet of a replacement for the French submarine **MINERVE**, of the **Daphne** class, which was lost in the Western Mediterranean on 27 January, 1968.

### MISSILE BOATS EXHIBITED

France has exhibited two new types of fast patrol boats with launchers for a new surface-to-surface missile designated the **MM-38 EXOCETE**.

The boats appear to be the



**BONAVENTURE**, the only carrier in the Royal Canadian Navy. She is fitted with a steam catapult and angled deck. She carries Grumman tracker aircraft and Sea King helicopters.

French version of the Soviet **Komar** and **Osa** class. The **MM-38** has automatic guidance and a range of 23 miles. The missile rises initially to about 50 feet, then descends to ten feet, and has a speed of Mach 1.

If the missile will do all that is claimed, it will be a great advance on the Soviet **Styly** Missile.

### NEW SLOOPS

The French Navy will order two sloops prior to 1971 and six subsequently. These ships are intended to supplant the current 325-ton coastal escort vessels and overseas sloops. The future French sloops will have a 1,000-ton displacement, a 21-knot maximum speed, and a 4,500-nautical-mile range at 15 knots.

They will possess a watch and attack sonar, especially suited for shallow waters. ASM armament is to comprise a Bofors 375-mm. rocket launcher and four fixed tubes for homing torpedoes. Artillery will consist of one 100-mm. and two 20-mm. guns. Usual crew will be 60, with accommodations for an additional 30 students in training, or 30 commandos.

### DEADLY CORVETTES

France is building up a squadron of hard-hitting 5,200-ton corvettes to protect the approaches to bases for nuclear-strike submarines.

In the next six years, up to 15 of these corvettes, to be armed with sea-to-sea and anti-submarine missiles, will be launched.

The first two will start their sea trials in 1972.

Apart from patrolling around the new nuclear submarine base being built at Brest, the corvettes will

also accompany aircraft-carriers on intervention missions.

With a speed of more than 30 knots, the \$100-million corvettes will have a range of about 5,000 miles without refuelling and will carry crews of 280, including about 20 officers.

The first pair of these new ships will be armed with 100mm. anti-aircraft guns, as well as torpedoes and Malafon anti-submarine missiles.

Short-range defensive missiles will replace the traditional guns.

On the first of the corvettes, these missiles are expected to be the **EXOCETE** — "flying fish" — missiles, which can pierce armoured plate nearly 24 miles away.

Later models of the corvettes will also carry Epervier — "sparrow hawk" — sea-air missiles, for defence against low-flying aircraft.

Each corvette will also carry two helicopters, which will be able to make anti-submarine patrols lasting about 80 minutes.

### GREECE

**SMALLER WARSHIPS SOUGHT**  
Greece is looking for small warships which could operate easily in the very restricted waters of the Aegean Sea.

Greece has ordered from the Constructions Mecaniques de Normandie at Cherbourg four replicas of the very successful fast gunboats of 220 tons with a speed of 40 knots already delivered to Israel.

Greece has also purchased five former German motor torpedo boats. It is reported these may be reconstructed boats of the **SILBERMOWE** type.





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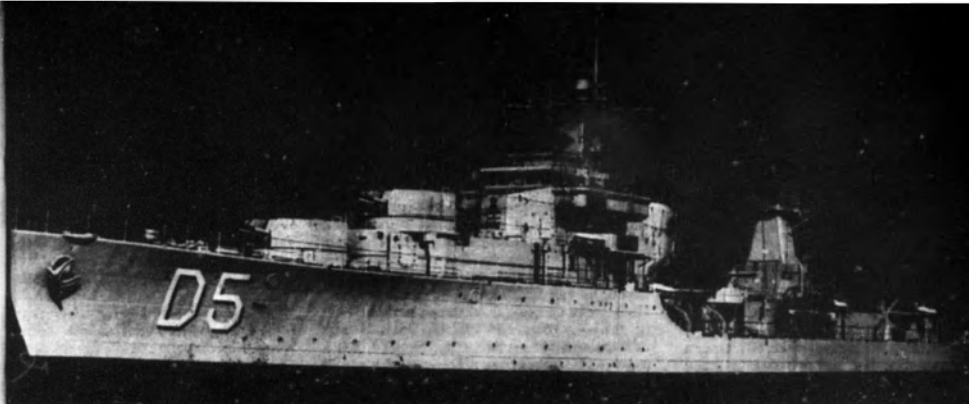
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I.I.S. ARTEMIZ after modernisation.

With regard to submarines, boats of the British Oberon class are considered to be too large, and Greece is said to be hesitating between the smaller boats of the popular French Daphne class and the Navy's preference for a new German design. A recent report from Bonn had it that West Germany confirmed that it has started building four submarines of 1,000 tons for Greece.

Greece might also be tempted by the ingenious design of the new Mark 5 and Mark 7 destroyers or frigates being turned out by Vosper Thornycroft.

### IRAN "BATTLE" DESTROYER IN NEW GUISE

News of the completion of the major refit and modernisation of one of the former British destroyers of the Early "Battle" class which has rejuvenated her for the next decade, but in this case, despite modification, has retained enough original features to keep her still recognisable as a "Battle", namely I.I.S. ARTEMIZ (ex-H.M.S. SLUYS). (See photo).

Originally built by Cammell Laird & Co., Birkenhead, SLUYS was laid down on 24 November, 1943, launched on 28 February, 1945, and completed on 30 September, 1946. She had had a pretty full and varied career in the Royal Navy before she was put on the sales list in 1966. Ordinarily 20 years is a good life for a destroyer. On 26 January, 1967, she was handed over to the Imperial Iranian Navy at Southampton and taken in hand for full-scale overhaul and updating by the Vosper Thornycroft group.

According to the original reconstruction scheme ARTEMIZ was to have had a squat lattice mainmast for the radar aerial, but in the event she has been given a pedestal pylon of the plated-in truncated pyramid type in the same position capped by a "bandstand" around the radar turntable.

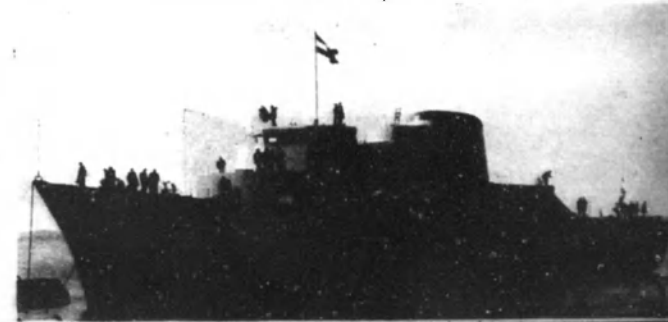
With a displacement of 2,325 tons standard and 3,361 tons full load she has an overall length of 379 ft., a beam of 40 and one-third feet and a draught of 17 ft. She is armed with four 4.5-in. guns in two twin turrets forward, a quadruple "Seacat" launcher aft-ward for surface-to-air, guided missiles, and eight 40 mm. anti-aircraft guns in four twin mountings distributed abreast the funnel and mainmast. Two Admiralty three-drum boilers supply high-pressure superheated steam to a two-shaft arrangement of Parsons geared turbines developing 50,000 shaft horse power equal to a sustained sea speed of 31 knots.

As can be seen from the accompanying photograph the result of the modernisation is quite a presentable compromise between the original handsome wartime design and present requirements.

### UNUSUAL TWO-VESSEL LAUNCH

Golal — water specially distilled from an equally special Iranian rose — was used at the launching ceremony of the Imperial Iranian Navy vessels ZAAL (see photo) and ROSTAM, earlier this year. The ZAAL was launched at the Vickers Shipbuilding Group's yard at Barrow, while her sister ship, the ROSTAM, was launched from Swan Hunter's Walker yard on the Tyne. The new shipyards were linked by television to enable the Iranian Ambassador, Abbas Aram, to launch the two ships from Barrow on the same day.

Launching of the Iranian Destroyer ZAAL.





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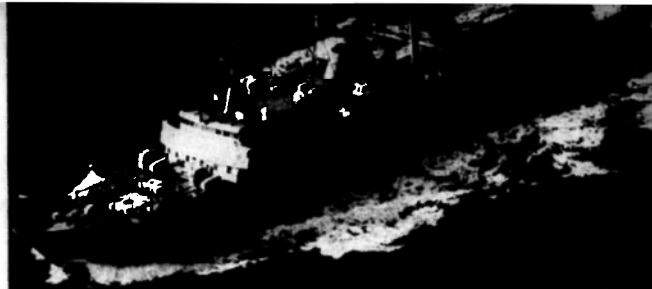
### LIBYA

#### R.L.N.S. 'ZELTIN'

Recently the ZELTIN, a 2,200-ton maintenance and repair ship was on show to Naval Attaches and the press in Portsmouth dockyard. Vosper Thornycroft, the designers and builders, claim that this is the first ship to be built with command, maintenance and repair and docking facilities all in one hull. The role of the ship is described as 'the operation and administrative control of the patrol craft squadron, daily support and maintenance, major repairs and docking and the provision of training and recreational facilities'. The patrol craft squadron referred to consists of three Vosper Thornycroft SUSA-class, gas-turbine fast patrol boats, which sailed with ZELTIN for Libya a few months ago. The TOBRUK, a 450-ton corvette, already delivered to the R.L.N., will be provided with mobile base facilities by ZELTIN. (See picture.)

Throughout the ship there is a feeling of spaciousness. Emphasis is placed on the fact that she is primarily a support ship with a limited fighting ability. Her workshops, which have ready access to the dock, are contained in a total area of some 4,500 sq. ft. and comprise Electrical Workshop, Woodwork Shop, Engine Workshop and Spares Store, Platers' and Plumbers' Shop, Diesel Calibration Room, Grinding Room and Battery Charging Room. The M.R.S. is capable of carrying out periodical maintenance and major repairs to all machinery, weapons and equipment carried by the boats of the squadron. Boats of up to 120 ft. in length can be docked for survey or repair, the whole operation being carried out in about one and a half hours. A 3-ton travelling gantry over the dock enables any item of a patrol boat's machinery to be lifted. The gantry is fitted with outriggers to cover ships berthed alongside. A 9-ton derrick is fitted on the port side, and two 2-ton provisioning cranes are fitted on the fore-castle. Berths alongside are available on either side of the ship, for four patrol craft berthed in pairs or a single vessel up to 200 ft. in length. Overside power is supplied to ships alongside, together with fire-fighting pump facilities, which can be used for salvage.

Naval and Victualling Stores are



R.L.N.S. ZETLIN, Libya's new maintenance and repair ship.

carried in 30,000 cu. ft. of store-rooms, while 2,400 cu. ft. of refrigerated space and 600 cu. ft. of deep freeze space ensure a constant supply of fresh food. Some store-rooms are fitted into the dock walls. Sufficient propulsion fuel is carried to give the ship a range of 3,000 miles at 14 knots with 160 tons remaining for supply to the patrol boats. About 20 tons of ammunition is carried. Twenty tons of fresh water is distilled daily to supplement a fresh-water tank capacity of 70 tons.

All living compartments, offices and workshops are air-conditioned. Officers' cabins are single or double according to rank, and all ratings' accommodation is fitted with bunks and lockers. The Commodore's and Captain's accommodation is spacious and ample to meet the requirements under both operational and show-the-flag conditions.

A total of seven offices, including a large Maintenance Office, are provided for staff and ship's use. The ship's operations room is fitted as a communications centre and contains a master plotting table which is linked to slave plotting tables for training, situated in the Recreation Space. This space is also used as a lecture room and cinema. An internal communication system between all main compartments is provided by a 50-line automatic telephone system.

There is little doubt that ZELTIN will meet the needs of the Royal Libyan Navy adequately, and that she will give the FPB squadron the essential degree of flexibility needed to make it an effective arm of Libya's defences. One hopes that a development of the M.R.S. could provide a solution to the problem confronting other navies in the maintenance of large and sophisticated ships detached from a main base for long periods.

### NORWAY NEW LANDING SYSTEM DEVELOPED

Norwegian scientists have developed a new aviation landing system, using gamma rays, which gives altitude and distance measurements accurate to a few inches. Finn Lied, director of the Norwegian Defence Research Establishment at Kjeller, said the system — called Hermes — consists of radiation sources placed in the approach lines of an airport.

He said the Hermes radiation source was a cobalt 60 isotope, completely harmless to human beings. A small computer on board the aircraft, acting on impulses from a gamma ray detector, provides all the information required for a safe landing, including distances, height, and position.

### MALAYSIA

#### RMN HAS 'BIG STING'

The Royal Malaysian Navy, with six fast patrol boats, provided a big sting in one of the largest air and sea "battles" enacted in the South China Sea which ended on 24 July.

Vice-Admiral A.T.F.G. Griffin, second in command of the Far East Fleet, and director of the 17-day war games, code-named Julex 69, told the Press in Singapore on July 24:

"The six RMN boats presented a serious opposition. They were very well handled despite the fact that the weather was not always in their favour."

More than 5,500 fighting men, 31 warships and 60 aircraft (from Britain, U.S., Australia, New Zealand and Malaysia) took part in the exercise.

The most "valuable lesson" which the RMN drew from the exercise, the Admiral said, was the sting it could provide in attacking enemy boats and how to hide from enemy aircraft.

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The destroyer "SMALAND" and her missile system.

## SWEDEN SWEDEN SHOWS ROBOT MISSILE

The RB-08 (RB is short for Robot, which is the Swedish name for a ship-to-ship guided missile) is found on the destroyers HAL-LAND and SMALAND. When these ships were built, room was provided for future installation of a guided missile system.

As early as 1955, they fired a ship-to-ship missile called "315", but this weapon did not fulfil all the requirements. In 1959, the development of a new missile started. It was based on the French CT-20, but modified in various ways to meet Swedish needs. The main dimensions of the RB-08 are as follows:

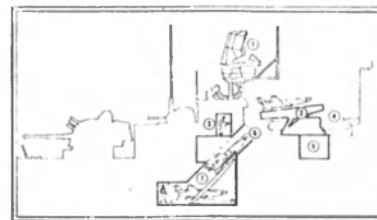
Wing Span: 9 feet (with folded wings: 4 feet)  
Length: 17 feet  
Height: 4 feet  
Weight empty: 1,720 pounds  
(Launched weight: 2,645 pounds)

The range and speed of the weapon are a military secret, but the CT-20 had a range of 156 miles

and a speed of slightly more than 558 miles per hour. Probably little of these characteristics have changed in the RB-08. Officially, it is stated that the missile has a "very long range."

The missile is started from a twin launcher, fed by a magazine by automatic loading (see drawing). It has two rocket boosters that fire the missile from the launcher, and then a turbo-jet engine takes over for cruising. The launch is remote-controlled from a fire control instrument that also controls the steering functions of the missile itself. After the launch, the missile steers against a pre-designated point, where a homing device takes over and brings the missile to target. The same missile is used by Swedish coast artillery units.

Some of the early flight tests of the RB-08 were made at a French launching ground in the Mediterranean, but later tests were conducted in Sweden. The missile, the turbo-jet engine, and homing device are made in France. Elements are also made by other Swedish firms.



1. Surface radar
2. Twin launcher
3. Control center
4. Torpedo tubes
5. Control center for horizontal aiming
6. Charging device in high position
7. Low position

## NEW WAY TO PLAY AT WAR

The Swedish Navy has inaugurated a \$770,000 simulator in which seamen can "chase" submarines from two "ships".

The simulator consists of a "frigate", a "cruiser" and "submarines".

Through a special control panel, duels between the surface and underwater craft can be waged, the submarines avoiding hydrophonic echoes, rockets and depth charges and defending themselves with torpedoes.

## EGYPT

### KOMAR FLEET GROWING

Soviet and East European contribution to the Egyptian sea arm has been estimated at 40 Komar PT boats since June, 1967.

## OIL RESEARCH BY SUBMARINE

Three obsolete Swedish submarines are to be used in 1971 in a search for oil and natural gas under the Arctic ice cap, north of Canada.

The submarines, built in 1943 by Kockums, have been sold to the American firm Marine Resource Consultants by Kockums and the Swedish National Defence Factories.

The are to be rebuilt by Kockums later this year when all the military equipment will be stripped from them.

Mr. John Gustavsson, head of Marine Resource Consultants, said in Stockholm that if the project came up to expectations, special underwater vessels would be built to seek oil from the ocean bed.

Large gas finds previously have been found off the Alaskan coast and experts believe they may continue north of Canada.

## UNITED KINGDOM

### NEW VOSPER PROTOTYPE

Vosper Thornycroft's third private-venture prototype is under construction and is expected to be ready for trials early next summer. It is for a new design of fast patrol boat for use where a heavier armament, greater endurance and seakeeping qualities outweigh the tactical advantages of very high speed. The new boat is to be much larger, 142 ft. in length and of some 220 tons displacement, and can be armed with four Contraves Sea Killer guided missiles in two

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fixed launchers aft, and a twin 35 mm. Oerlikon gun forward. The Contraves Sea Hunter fire-control system, incorporating both search and tracking radar, can control both armament systems, together or separately.

A choice of propulsion systems will be available, both giving a maximum speed of about 40 knots. These are either a triple-screw gas-turbine plant with three Rolls-Royce Proteus gas-turbines, or a quadruple-screw diesel version using four Napier Deltic engines. Our picture shows a model of the CODOG version.

### SMALL-SHIP ACTION INFORMATION

Following the success of the ADA system in aircraft carriers and other major units, the Ministry of Defence (N) has awarded a contract for Computer-Assisted Action Information Systems (C.A.A.I.S.) for anti-submarine frigates. The main contractor is Ferranti Ltd., with Decca Radar Ltd. as major sub-contractor. The problem of processing tactical information received from so many different sensors for the direction and control of weapons can now be solved economically by this new system. Largely as a result of sea experience and the design on a modular basis, the system can be modified to meet either a simple command problem or a very complex one involving several ships operating together.

The system is based on the Ferranti FM 1600 B computer and the 16-inch Deccascan P.P.I. displays. In each ship of the force all available data on targets from one

**Vosper Fast Patrol Boat-Type 21 Frigate**



Model of the new Vosper Fast Patrol Boat.

ship's sensors are injected, together with a reference number, into a computer. This correlates it, stores it and calculates movement. Data thus stored are exchanged with consorts by radio link, and can then be selected for presentation in alpha-numeric or symbolic form superimposed on raw radar on P.P.I. displays. Data selected can be transmitted for the direction of weapons.

### MAIN ROTOR BIFILAR ABSORBER

Production of a new device, which is claimed to reduce helicopter vibrations to a level comparable with fixed wing aircraft, has been launched by Sikorsky Aircraft, and is now being installed on commercial aircraft built by the company. Called a "main rotor bifilar absorber", it has five steel weights mounted to a star-shaped aluminium forging (about 22 in. dia.), and attached to the main rotor head. Reports state that the device has been successfully tested on military and commercial ver-

sions of the S-61, and that conversion kits are being prepared for all helicopters of this type in service with the U.S.A.F.

### VENEZUELA

The Commander-in-Chief of the Venezuelan Navy, Admiral Jose Constantino Seijas, and Mrs. Seijas, were the principal guests at a ceremony on 18 June to mark the completion of refit and modernisation of the NUEVA ESPARTA at Birkenhead.

NUEVA ESPARTA is the first of four warships to complete under a multi-million-pound contract between Cammell Laird and the Government of Venezuela. Two more frigates are refitting in Birkenhead, while a fourth is refitting in the Venezuelan naval dockyard at Puerto Cabello under the technical guidance of a Cammell Laird team.

NUEVA ESPARTA, 3,600 tons, was built by Vickers at Barrow-in-Furness in 1953. A surface-to-air Seacat missile system has been installed during her refit.

Artist's impression of the Type 21 frigate, the order for the first of which has just been placed with Vosper. The design is joint Vosper-Yarrow. Details: About 2,500 tons deep load, armed with one 4.5 in. gun, Seacat, WG 13 helicopter, powered with twin-screw Olympus/Tyne gas turbines, to be completed in mid-1972.



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### NEW EXPERIMENTAL LIFEBOAT WITH FIBRE-GLASS HULL UNDERGOING SEA TRIALS

A new experimental lifeboat with fibre-glass hull and deck built for the Royal National Lifeboat Institution seen here undergoing sea trials recently. Its immediate requirement is to provide the R.N.L.I. with a thoroughly seaworthy boat which will have a greater speed than conventional lifeboats and which, through the use of glass-reinforced plastic, can be produced at substantially lower cost. The sea trials will test the standard glass-fibre hull under the most severe weather conditions in order to assess its possibilities for future use in lifeboat construction. The hull is a glass-reinforced plastic moulding, to a standard design by T.T. Boat Designs Ltd., of Bembridge, Isle of Wight. The deck — a separate glass-reinforced plastic moulding — is bonded onto the hull. Bulkheads and fuel tanks are moulded integrally into the hull, the fuel being carried in four separate tanks. The after shelter and cockpit are self-draining. Fitted with two Thornycroft T400 6-cylinder, four-stroke turbo-charged engines, the boat is capable of a cruising speed of 17 knots over a range of 440 miles. Overall length is 41 feet 2 inches, extreme breadth is 12 feet, and draft 4 feet.

### NEW SUBMARINE BASE

The Royal Navy is to develop a second operational base for its nuclear-powered fleet submarines at Devonport in south-west England.

This decision, announced in London during October, reflects the growing number of fleet submarines coming into service.

Previously, these submarines, which are designed for hunting and detecting enemy submarines and surface ships, have been based, with the Polaris-firing submarines, on the Clyde in Scotland.

The Polaris-firing submarines will continue to use the Clyde base which will also take its share in the increase in the Navy's fleet submarines.

Five fleet submarines have been launched or are already operational. Two more are being constructed and an eighth is on order.

The fleet submarines will be based at Devonport from the early 1970's in addition to conventionally-powered submarines.

### NEW DESTROYER'S PROPULSION EQUIPMENT ON SHOW

An oil-cushioned diesel engine piston, which has been incorporated in the Royal Navy's new type 42

destroyer, went on show in London during October.

The piston and many other new developments in naval gas turbine and diesel propulsion engineering were displayed at an exhibition organised by the Naval Sales Division.

It was seen by more than 130 potential customers representing 38 navies, including Australia, New Zealand and Malaysia.

Developed by the Admiralty Engineering Laboratory, the new piston reduces wear and erosion of the cylinder liner and lowers oil consumption without increasing the risk of seizure.

### High Temperature

Also in the show was a scale model of a Rolls-Royce gas turbine, the cruising engine of the type 42 destroyer, and an exhibit showing some of the physical properties of silicon nitride ceramics.

The strength and wear resistance of these materials make them particularly attractive for high-temperature engineering applications.

One of the items of ancillary equipment on display was the Endoscope, first developed for use in the medical field.

Now it has been applied to engineering and it allows easy visual and photographic inspection of the inside of an engine without the costly process of dismantling it.

### U.S.A.

#### NEW CLASS OF TANKERS

This new oiler-supply ship, the U.S.S. WICHITA (AOR-1), is the first of six in the underway replenishment fleet oiler class, designed for rapid supply of fuel, ammunition, missiles, food and other provisions to combat ships. The 659-foot, \$27-million ship, capable of carrying 8,900,000 gallons of fuel, has a displacement of 37,360 tons and a 20-knot speed capability.

U.S.S. Wichita shown here in a simulated decontamination washdown



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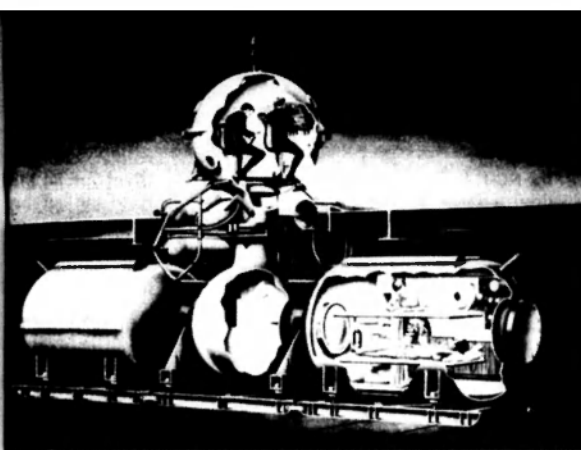
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## UNDERWATER SALVAGE

Above is an artist's concept of the Deep Dive System (DDS) Mk 1 chamber complex, for salvage and recovery work at depths to 850 feet, and decompression capabilities for depths to 1,000 feet. The DDS Mk 1 can support four men, functioning as two-man diving teams, at the working depth for periods of up to 14 days. Two divers descend in the Personnel Transfer Capsule (PTC), which detaches from the chamber complex, and can work alternately on-site for four hours before returning to the DDS.

## NEW UNDERSEA WARFARE CENTRE

Plans to build a \$12.8-million Undersea Warfare Centre in San Diego have been announced by the Navy. The centre will include elements from the Naval Ordnance Test Station in Pasadena and the Naval Electronics Laboratory in San Diego.

Major facilities will be concentrated in San Diego and Pasadena, with secondary facilities at Point Mugu, San Clemente Island, Long Beach, Kaneohe (Hawaii), Lake Pend Oreille (Idaho), and Cape Prince of Wales (Alaska).

The centre conducts research, development, evaluation, systems integration, and fleet engineering support in undersea warfare and ocean technology.

## NEW CONTRACT

U.S.N. Air Systems Command has awarded Grumman a \$US845-000 contract covering long-lead-time items for 20 KA-6D tankers, developed from the A-6A attack aircraft. In this version a probe

and drogue installation replaces the avionics bay in the rear fuselage; the aircraft is also fitted with TACAN to assist receiver aircraft to locate and home on the tanker. Procurement of the KA-6D is expected to build to a total of about 60 of the type.

## ASMS: FOR ALL NEW DESTROYERS

The Navy's proposed Advanced Surface Missile System (ASMS) will be installed on all new ships of destroyer class and larger starting in 1975, according to Rear Admiral Arthur R. Gralla, U.S. Navy, Commander of the Naval Ordnance Systems Command. ASMS is an area defence missile system, designed to replace the Tartar-Talos-Terrier combination, which has been in the Fleet for more than 15 years.

## NAVY TESTS NEW GUN

The Navy is conducting final evaluation of the first completely new major shipboard gun system produced in 18 years.

The new 5-inch, 54-calibre, Mark 45 weapon is being tested on a Navy ordnance ship off the coast of California. The compact, rapid fire shipboard gun weighs only one-third as much as the current 5-inch weapon and needs a gun crew of only six men instead of the 16 now required.

A unique feature is that the gun crew need not enter the gun mount. The weapon is loaded, controlled, and fired from remote positions below deck. To facilitate servicing and isolating trouble spots promptly, a lighted remote control panel provides a continuous display of the status of the gun's various components.

The gun system has been designed to accommodate all existing types of 5-inch, 54-calibre ammunition, as well as the long-range rocket assisted projectiles the Navy has just developed.

## ARMED ESCORT

This prototype Assault Support Patrol boat (ASPB) Mark 2 was designed and constructed primarily to provide armed escort for the riverine forces. The 50-foot craft, which can operate in shallow water, is powered by three gas turbine engines and is propelled by three waterjet pumps, thus eliminating the need for propellers and rudders. The boat's planing hull is constructed of fibre glass.

Below: Mark 2 Patrol Boat



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### SOVIET'S Y-BOATS — NOT SO SUB ROSA?

Recent intelligence reports show that the newest Soviet nuclear-powered submarines are much noisier than expected.

This has convinced some military analysts in the serious cat-and-mouse game under the seas that the United States should stay ahead for years to come.

The information became available during recent Russian training manoeuvres in the North Atlantic with their newest Y-class submarine. This nuclear-powered U-boat, like the American Polaris, mounts 16 missiles.

Some analysts say that because of the Y-boat's noise, American nuclear attack submarines should be able to determine the location of Soviet submarines at about twice the distance that the Russians require to become aware of an American boat.

But the rate and variety of Soviet submarine development and construction is of concern nonetheless, they say.

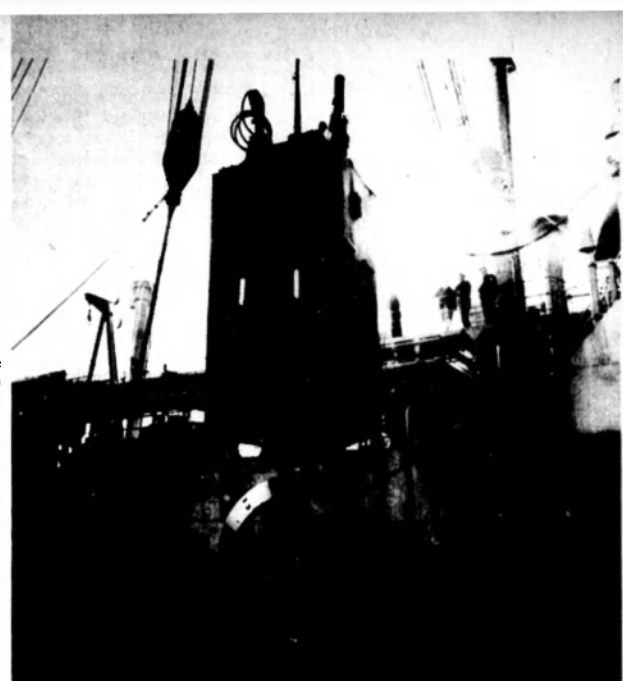
Over the last year or so, American intelligence has learned of four new types of Soviet submarines, three nuclear powered and one propelled by a diesel-electric engine.

Within the last several weeks, the Russians have ventured into Norwegian waters and the North Atlantic with some of their first six Y-class submarines.

Another three or four are being readied for fleet deployment and an undetermined number are under construction in covered construction yards.

Because the newest Soviet submarines are noisier than American specialists had expected, some military analysts are inclined to be less concerned than Defence Secretary Melvin Laird and Admiral Hyman Rickover, who have publicly expressed worry about America's 41 Polaris submarines becoming vulnerable during the next decade.

Such concern these analysts say, seems to be based on the notion that with so large and presumably comprehensive a submarine and anti-submarine effort, the Soviet Union could well achieve technological breakthroughs, such as in the field of underwater detection, that might be hard to counter.



But the optimists, some of them in the U.S. Navy, feel that the American anti-submarine warfare programme is 10 years ahead of the Soviet programme.

According to U.S. intelligence reports, the other new types of Soviet submarines are:

- The C-class: This is a nuclear-powered attack submarine with a bulbous bow which is believed to contain a new type of weapon.

The analysts do not know whether this might be an anti-submarine rocket, anti-shiping missile or coastal bombardment missile.

- The V-class: also nuclear-powered: this is of more conventional design and is believed to carry homing torpedoes for use against other U-boats as well as surface ships.

● The B-class: this is much smaller than the others, powered by a diesel engine, and believed to be designed for close-in defence around the Soviet littoral.

The Soviet Union has 350 to 375 submarines, roughly 65 of which are nuclear powered.

By comparison, the U.S. has 156 submarines, of which about 85 are nuclear powered.

### POSITION-KEEPING SYSTEM

The first automatic acoustic dynamic position-keeping system is installed on board the research ship U.S.N.S. MISSION CAPISTRANO (T-AG-162). The system permits a ship to hold her position for an extended time in water of depths of 13,000 feet, drifting only a few hundred feet during high seas and gusty winds. The system uses two 1,250-h.p. electric propulsion units which are fed commands by a computer to correct both the ship's position and heading. The units may be rotated 360 degrees and they are equipped with seven-foot diameter, four-bladed propellers.

### U.S.S.R. NAVY CONSTRUCTORS DO IT AGAIN

For some years now we have become accustomed to the Soviet Navy springing a new class or a new type on us each year. This year is no exception. First reports indicate that we can expect to see a new class of guided-missile destroyer, a new minelayer, a new type of patrol vessel, and a new category of landing vessel.



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Large icebreakers also seem to appear with seasonal regularity. The latest is the VLADIVOSTOK, the fifth of a uniform class of large new vessels, the largest and most powerful diesel-electric icebreakers in the world, the other four being KIEV, LENINGRAD, MOSKVA and MURMANSK. Strictly speaking these are not warships, but they are used in, for and by the Navy and with a displacement of 12,840 tons standard and 15,360 tons full load, an overall length of 400½ ft., a beam of 80 1/3 ft. and a maximum draught of 34½ ft. they are obviously valuable support ships, especially as they have a flight deck and hangar for two or more helicopters. Eight diesel engines and three electric motors turning three shafts and developing 22,000 shaft horsepower give VLADIVOSTOK a speed of 18 knots. Built by the Wartsila Concern, Helsinki, she was designed to stay at sea for a year without returning to base. Accommodation is fairly palatial and quarters are provided for considerably more people than her normal crew, with commensurate messing, recreational and medical facilities, so she could be used as a parent ship for submarines or any other warships if required.

### VIETNAM GUNBOATS FROM AMERICA

It is reported that the 25 'gunboats' forming the two river assault divisions which were transferred from the United States to Vietnam earlier this year actually consist of three monitors, one command and communications boat, 13 armoured troop-carriers and eight assault patrol boats. Only 20 motor gunboats of the PGM classification on hand at present will be provided by the United States.

Other warships to be transferred from the United States Navy to the



The Sea King Helicopter

South Vietnamese Navy in the latter half of 1969 include the tank landing ship U.S.S. COCONINO COUNTY (LST 603) and two patrol escorts of the PCE type.

According to other advice the 26 United States Coast Guard patrol boats which have been on duty in and off Vietnam will be transferred to the Vietnamese Navy, probably towards the end of this year.

### WORLD'S MOST ADVANCED ANTI-SUBMARINE SEARCH AND STRIKE HELICOPTER

The first production twin-engined Sea King helicopter, currently under development for the British Royal Navy, recently made its maiden flight from the manufacturer's airfield in Yeovil, south-west England. Claimed to be the world's most advanced anti-submarine search and strike helicopter, it is intended primarily for all-weather anti-submarine operations from ship or shore bases and is expected to go into service with the Royal Navy later this year.

Powered by two Rolls-Royce Gnome gas turbine engines, Sea King has an automatic flight control system and advanced capability,

all-British anti-submarine weapon system that enable the aircraft to operate as a completely self-contained unit capable of detecting, classifying and destroying modern, high speed submarines. Its adaptability, however, enables it to operate in a variety of roles including air/sea rescue, troop transport (up to 20 fully equipped troops can be carried), minesweeping, logistic support and surface search and strike.

A further feature of the helicopter is the fitting of a powerful folding system for its five bladed main and tail rotors which facilitate stowage when shipborne. Sea King has a maximum speed of 140 knots, a range of 650 nautical miles and an all-up-weight of 20,500 lbs.

### NEW CHOPPERS

The Swedish Navy has ordered ten Augusta Bell 206A Jet Rangers to replace Alouette 2 helicopters which are due to be retired within the next three years. The Swedish Army and police force already operate Jet Rangers in various roles. The Navy also operates two Boeing Vertol 107 and 10 Vertol 44 helicopters.

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## THE NAVY LEAGUE OF AUSTRALIA

Annual Report and Balance Sheet of the New South Wales Division  
of the Navy League of Australia — presented, 25 August, 1969

It is with much pleasure that I present the Committee's report for the year—

### MEMBERSHIP

During the year membership decreased by 9 to 244. There was a loss of sixteen members due to death, resignation, or removal, consequent upon non-payment of subscriptions for a period of two years. This loss, although numerically small, represents 34% of the total membership and stresses the urgent requirement to foster new members. To afford opportunity for Members to foregather your Committee is arranging a luncheon to be held at the Hotel Australia during Navy Week, on Friday 3 October, to which Members may bring guests.

### "THE NAVY"

Our Magazine continues to attract much favourable comment and is increasing its public sales to individuals.

### FINANCE

The audited financial statement which will be presented shortly, discloses a small surplus of income for the year, keeping the accounts in a healthy state and permitting an investment of \$2000 in the State Electricity Commission Loan. We expended \$664 on the Sea Cadet Corps for Insurances, rates, Sporting Trophies, Typists, etc.

The problems of suitable H.Q.'s for "Hawkesbury" and "Condamine" have occupied the Committee considerably during the past year. Plans are almost complete for the building

of a H.Q.'s at Manly Vale for "Condamine", toward the cost of which \$5000 will be provided by the Navy League. Also \$2000 has been allocated for "Hawkesbury" which has run into a serious difficulty created by the re-routing of a proposed road at Point Clare through the area on which it was hoped to erect the H.Q.'s. We are hopeful that this can quickly be resolved.

### SEA CADET CORPS

The Senior Officer, Commander L. Mackay-Cruise, shortly will present his Annual Report on the N.S.W. Division A.S.C.C. Your Committee has recorded its congratulations to him on his promotion to Commander and again pays tribute to his excellent work for the Australian Sea Cadet Corps.

### RATIONALISATION OF THE AUSTRALIAN SEA CADET CORPS

The Committee appointed by the Naval Board to assess the cost to the Department of The Navy of implementing this proposal has made its report and it is understood that a recommendation for this purpose is contained within the current Federal Budget. The proposal will take several years to implement in full and there will be a continued requirement for Navy League assistance.

Despite this transitional period it is pleasing to report that in N.S.W.

the A.S.C.C. continues to grow in numerical strength, that three N.S.W. Sea Cadets were selected this year for entry into the R.A.N. College, and that there has been no diminution of the number of Sea Cadets joining the R.A.N. as recruits. The numbers able to join the R.A.N. Reserve and the Mercantile Marine are limited by vacancies but a steady percentage is able to follow these careers.

### LADIES COMMITTEE BRIDGE AFTERNOON

The Flag Officer in Charge, East Australia Area most generously made the official residence 'Tresco' available and the end result from this entertainment was a splendid donation of \$500. We are indeed most grateful to the Ladies Committee for this timely assistance and in particular to Mrs. Gordon Johnston.

### APPRECIATIONS

Your Committee desires to record its appreciation to the following—  
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& Mr. P. B. Reed—Hon. Architect,  
for their willing help and valuable services throughout the year.

H. A. SHOWERS.  
Rear Admiral.  
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## THE NAVY LEAGUE OF AUSTRALIA

New South Wales Division

### STATEMENT OF INCOME AND EXPENDITURE for the year ended 30 JUNE, 1969

	Total	General	Sea Cadets
1968		1969	
\$	\$	\$	
<b>Income</b>			
523 Donations	528	528	
323 Interest Received	358	358	
1,000 Profit from 1968 Annual Ball	500	500	
335 Profit from Trafalgar Day Programmes			
772 Subscriptions	628	628	
<b>2,853</b>	<b>2,014</b>	<b>2,014</b>	
<b>Expenditure</b>			
151 Cost of Sporting Events	34	—	34
(67) Editorial and Publication of "The Navy" (net)	(8)	(8)	—
80 Entertaining			
200 Federal Council Levy	200	200	
1,000 Grants to Units			
172 Printing, Stationery, Postages & Telephone	142	68	74
435 Rates, Rents & Insurances	355	—	355
1,061 Secretarial & Office Expenses	1,032	840	192
22 Sundry Expenses	12	3	9
<b>3,034</b>	<b>1,767</b>	<b>1,103</b>	<b>644</b>
<b>(581)</b>			
Excess of Income over Expenditure for the year ended 30 June, 1969	<b>\$247</b>		



Greetings to all R.A.N. Personnel from . . .

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# THE NAVY LEAGUE OF AUSTRALIA

New South Wales Division

BALANCE SHEET AS AT 30 JUNE, 1969

1968 \$		1969 \$
	<b>ACCUMULATED FUNDS</b>	
11,055	Balance—30 June, 1968	10,974
	Add: Ada McMaster Trust at that date, now transferred	65
11,055		11,039
(81)	Add: Excess of income over expenditure for the year ended 30 June, 1969 as per accompanying statement	247
\$10,974		\$11,286
	<b>Employed as follows:—</b>	
	<b>Fixed Assets—At Cost</b>	
192	Office Equipment	192
520	Film Projector	520
198	Sea Cadet Equipment	198
910		910
910	<b>Less:—Provision for depreciation</b>	910
	<b>Investment—At Cost</b>	
1,000	Sydney County Council—Inscribed Stock	2,000
	<b>Current Assets</b>	
10,190	Bank of New South Wales—Current Account	10,667
11,190		12,667
	<b>Deduct:</b>	
	<b>Current Liabilities</b>	
	Advance Subscriptions to "The Navy"	1,188
65	Ada McMaster Trust	
151	Sundry Creditors	193
216		1,381
\$10,974		\$11,286

A. A. ANDREWS,  
Secretary.

H. A. SHOWERS,  
President.

## AUDITORS' REPORT

We report that we have examined the above Balance Sheet with the books of account of the League, and have obtained all the information and explanations we have required. In our opinion the Balance Sheet is properly drawn up so as to exhibit a true and fair view of the State of the League's affairs according to the best of our information and the explanations given to us and as shown by the books of the League.

ROBERTSON, DARLING & WOLFENDEN,  
SYDNEY. 11 August, 1969. Chartered Accountants.

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## — INDIA —

### 24 Warships from USSR

The Indian Navy has taken delivery of a fairly large submarine support-ship for its newly constituted underwater flotilla. She is reported to be named **AMBA** with the pendant number **A14**, and she is believed to have been built in the U.S.S.R., probably in 1968.

This is not all that surprising when recent submarine activity in Indian waters is considered, but it does indicate that the recently created sub-aqua brood has reached a stage where a parent ship is required.

It is understood that at least three large ocean-going submarines have been, or are being, delivered to the Indian Navy from the U.S.S.R. According to an Indian newspaper one, the Indian Navy's first submarine, arrived in India last year. The second is reported from another source to have been received from the U.S.S.R. in January this year, and a third has reportedly already been commissioned and is coming from the Baltic to India where she was expected to arrive by the middle of 1969.

They are all of the Soviet 'F' class with a displacement of 2,000 tons on the surface and 2,300 tons submerged, a length of 300 ft., a beam of 27 ft. and a draught of 19 ft. They are armed with eight

21-in. torpedo tubes and 20 torpedoes are carried. Their propelling machinery comprises diesels of 10,000 brake horse-power turning three shafts to give a surface speed of 20 knots, and electric motors of 4,000 horse-power equal to a speed of 15 knots submerged. The designed complement is 70 officers and men.

India originally wanted British submarines of the very successful **Oberon** class, but was unable to obtain satisfactory terms, and so the Indian Navy turned to the Soviet Union to supply her submarine requirements. The Indian Government originally envisaged an initial procurement of a squadron of at least six submarines. In August 1965 the Indian Defence Minister stated that it was proposed to purchase six submarines from the U.S.S.R. Subsequently it was said that the first of four 'F'-class submarines would be received by India from the Soviet Union by the autumn of 1967. And a later report

had it that three submarines of the **Daphne** class were to be received from France in 1968, but this deal has not been confirmed.

It is perhaps not without interest to speculate about what would have happened had India been able to acquire British submarines of the **Oberon** class. When the obvious necessity of a submarine depot-ship arose the Indian Navy would probably have cast their eyes on one of the British parent-ships no longer required by the Royal Navy, and their choice would doubtless have fallen on **H.M.S. Maldstone** which was reconstructed during 1958-62 at a cost of about £2 million as a support ship for nuclear-powered and conventionally powered fleet submarines. **Maldstone**, however, has not been needed since she ceased to be the depot ship at Faslane while the new submarine base, now completed, was under construction. She is now laid up at Portsmouth awaiting tow to the shipbreakers, and the chances are that she could have been

A Russian 'F' Class Submarine.



purchased for her scrap value or Britain would have presented her as an outright gift in a package deal with the submarines she was to mother.

Unfortunately, unable to obtain facilities for acquiring new warships from Britain, the Indian Government has been driven to take Soviet warships into the not inconsiderable navy which had hitherto consisted almost entirely of former British or British-built vessels.

In addition to the submarines, India is taking delivery of escorts (described in India as 'destroyers') from the U.S.S.R. to replace the three destroyers of the 'R' class and the three escort destroyers of the 'Hunt' class formerly in the Royal Navy which were transferred to the Indian Navy in 1950-53. The first two of these destroyers escorts, of the Soviet Petya class have been transferred. With a displacement of 1,050 tons standard and 1,200 tons full load they have an overall length of 262½ ft., a beam of 32 ft. and a draught of 10 ft. They are armed with four 3-in. guns, four 16-bar-

relled rocket anti-submarine launchers, and five 21-in. torpedo tubes. Their CODOG main engines comprise two diesels aggregating 4,000 brake horse power and two gas turbines totalling 10,000 horse power, turning two shafts and developing a speed of 30 knots. The two ships are the forerunners of the new class of escort destroyers which India has decided to add to its fleet in the overall programme of replacing ageing destroyers and escort vessels.

Other Soviet warships recently transferred to the Indian Navy or on their way from the U.S.S.R. include six patrol craft of about 100 tons similar to the Soviet Poluchat I class; six motor torpedo boats; two landing ships of 1,000 tons armed with rocket projectors; and a tender.

In her own shipyards India is building three frigates of the broad-beamed Leander class. These general-purpose ships will be generally similar to the Improved Type 12 (anti-submarine versatile type) frigates in the Royal Navy but modified to suit Indian requirements and climate. All three are being

built by Mazagon Docks Ltd., Bombay, where the prototype ship was launched in October, 1968.

Former British warships incorporated into the Indian Navy include:

The aircraft carrier *Vikrant* (ex-H.M.S. *Hercules*), 19,500 tons; the cruisers *Mysore* (ex-H.M.S. *Nigeria*), 11,040 tons, and *Delhi* (ex-H.M.S. *Achilles*), 9,740 tons; the destroyers *Rana* (ex-H.M.S. *Raider*), *Rajput* (ex-H.M.S. *Rotherham*) and *Ranjit* (ex-H.M.S. *Redoubt*), 2,424 tons;

the escort destroyers *Ganga* (ex-H.M.S. *Chiddingfold*), *Godavari* (ex-H.M.S. *Bedale*) and *Gomati* (ex-H.M.S. *Lamerton*), 1,610 tons; the frigates *Investigator* (ex-H.M.S. *Trent*), survey ship, and *Tlr* (ex-H.M.S. *Bann*), training ship, 1,934 tons;

an ocean minesweeper, four coastal mine-sweepers, two inshore mine-sweepers, four harbour-defence craft and a landing ship.

India also has ten frigates and two survey ships (ex-frigates) built for the Indian Navy in British shipyards.



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