

1.

Gangway



HMAS Castlemaine is one of only two corvettes remaining of the 56 built for use by the RAN. HMAS Castlemaine was built at the Williamstown naval shipyards and launched in 1942, following which she was deployed to convoy escort and supply run duties in the northern waters of Australia.

The corvettes were the workhorses of the RAN, being primarily designed to sweep for mines, that is, to destroy the sea mines which posed a great threat to all types of shipping. In addition to this, the diminutive corvettes with their crew of 60-100 found themselves in every theatre of war, undertaking escort, anti submarine and minesweeping duties, landing troops and evacuating refugees.

Onboard Castlemaine there are a number protocols which should be observed, for both safety and as part of naval tradition.

Points of interest

- Tour guides introduce themselves to the group and give an overview of the ship.
- The front of the Ship is referred to as the Bow, Rear is the Stern, Left is Port and Right is Starboard.
- Walk, don't run onboard the ship & when moving the group will be moving on the port (left) side when going up towards the bow and down towards the stern on the starboard side, as per naval practice of the era.
- When ascending ladders males go first. When descending, females move first. This is to preserve the modesty of women in dresses/skirts.
- Similarly, when in areas with open grate flooring females remain a level below males.
- Ascending and descending ladders should be done with the climber facing the ladder.
- When interacting with equipment (moving guns, ringing bells etc) do so under the supervision of and when instructed by the tour guides.

2. Mess Museum



The Mess museum is where the ratings (non-officer seamen) lived when not at their posts. In this small area the bulk of the crew slept in 4 hour shifts in hammocks suspended from the ceiling.

On their way in, students pass the main galley which provided food the entire crew. The area also incorporates the sick berth, radio room and wash rooms.

The mess is now a museum which contains artefacts from the pre-federation Victorian Navy, Crimean war, WW1 and a range of ship bells and models showing ship designs of all eras, both civilian and Navy.

Students are encouraged to browse through the collections to gain an exposure to the wide history on display and are free to ring the bells when the oral tour delivery is complete.

Points of interest

- The difference between Officers, Petty Officers, Seamen and Stokers.
- Role of Bells for time keeping aboard a ship and the division of the day into 5 'watches'.
- Wider nautical history including the pre-federation Victorian Navy.
- The living conditions of the crewmen, who they were as a group and their on board roles.
- Hygiene in the cramped living conditions.
- Medical treatment available.
- Radio operations and technology.
- Water and food rationing.

3. PO's Mess & Gyro Compass



The Petty Officers Mess and Gyroscopic Compass are located directly below the main mess and provided accommodation for the Petty Officers. PO's were the highest rank amongst the seamen, acting as the intermediaries between the ratings and officers and overseeing the daily running of the ship. PO's were amongst the most experienced men on the ship and invaluable to the smooth running of the ship.

In this area is also the ships canteen, refrigeration room and a view of the ships magazine/armoury where shells for the deck guns were stored. The winches used for hauling up shells are still in place and students can view the historical small arms on display through the hatchways looking down.

The gyroscopic compass is also located in this area as it had to be placed in the dead centre of the Ship. It was set to display true north whilst in port and owing to a series of contra-rotating gyroscopes maintained this bearing on the compass dial regardless of ship movement. Knowing true north was a great benefit to navigation when charts and star sightings were still being used.

Points of interest

- The role of the Petty Officers
- Food Storage technology of the time and why it was necessary to keep food fresh.
- The luxury items available to sailors to purchase in the canteen.
- The difference in accommodation between seamen and PO's
- The necessity of knowing true north and how it differs from magnetic north
- The science behind the gyroscopic compass
- The types of small arms used at the time and the history of the Japanese Woodpecker machine gun on display, brought back as a trophy following Japanese surrender by the original crew.
- Honour Roll of the original crew of HMAS Castlemaine, 1942-1945

4. Bridge



The Bridge was where the ship was commanded from. It housed the ships wheel, ASDIC (early type of sonar) and was crewed by 6 men at all times. The wheelhouse also contained a cluster of voicepipes which carried messages to the various compartments of the ship.

Below the bridge are the captain's quarters, navigators chart room and radar room. Behind the bridge is the rack which housed signalling flags which could be hoisted on the ships mast to relay messages to other vessels.

Atop the bridge is a signal lamp which was used to flash morse code signals to other vessels, personal or aircraft as well as functioning as a searchlight.

Students are encouraged to send messages to other groups in the ship via the voicepipes.

Points of interest

- The role of the Captain and his living conditions.
- The emerging technologies of Radar and ASDIC (Sonar) and why they were so important.
- The science of navigation before GPS.
- The roles of the bridge team.
- What types of signalling were used and how they worked; morse code and semaphore flag.
- How the many independent systems on the ship (engines, boilers etc) were coordinated to operate the ship smoothly.
- How voice pipes worked to carry messages throughout the ship.
- The cramped conditions for those indoors and the conditions endured by those on watch on the outdoor observation posts.

5. Armaments



The 4" Deck Gun was manned by a crew of 5 men and was the ships' primary armament, firing a range of specifically tailored shells for different targets.

The Bofors gun mounted on the stern (rear) of Castlemaine was operated by 2 men supported by multiple loaders. This gun was specifically designed to fire at aircraft attacking from the rear of the ship as this is where they posed the most serious threat.

Both guns are traversable and students are encouraged to sit on and operate them to understand how they were used.

Points of interest

- How each gun was operated by the team members assigned to it
- The importance of teamwork in an emergency environment
- The types of shot used on the deck gun; explosive, armour piercing and illumination rounds and how each worked
- The threat posed to Castlemaine by Aircraft, Ships and Submarines
- The types of mathematics used to calculate gunnery range and accounting for the movement of both Castlemaine and the target.
- How simple gearing systems are used to gain a mechanical advantage for traversing and elevating guns with minimal effort on the handles.
- The heroic actions of Ordinary Seaman Teddy Shehan after whom a current submarine was named, earning this honour for manning the aft AA post during heavy attack and saving the lives of many shipmates on HMAS Armidale.

6. Boiler Room



Steam for Castlemaine was created in the pair of Yarrow tube boilers. Some panels on the boilers are removed to allow viewing of the boiler workings.

Both boilers burned fuel oil which was delivered at high pressure through spraying rods to atomise it for optimal burning. The oil was stored in fuel tanks under the floor running the length of the hull and acted as ballast. When burned, the ballast tanks were refilled with salt water, thus maintaining the ships centre of gravity and weight.

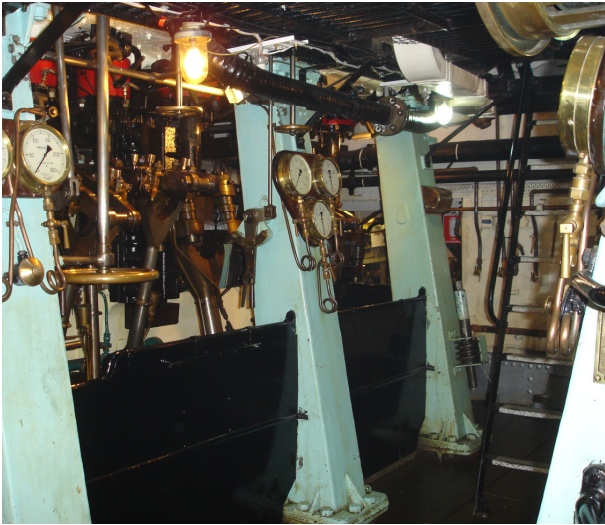
Stokers working the boilers controlled the furnace heat and the colour of smoke by altering the oil/air mixture burned in the furnace.

The room itself entered into via an airlock to maintain a higher room pressure which prevented the fire jumping out of the furnaces.

Points of interest

- The role, lives and working conditions of stokers.
- How the boilers operate including the variable sprayer system for delivering atomised oil to the furnaces.
- How steam is recycled back into water for the boilers aft being used.
- The fuelling system of Castlemaine including the use of fuel oil as ballast.
- The 'perks' enjoyed by stokers including ready access to heat for drying clothes and boiling tea.
- The airlock entry system to the boiler room and the necessity of maintaining higher than atmospheric pressure around the furnaces.

7. Engine Room



Castlemaine was powered by a pair of triple expansion steam engines developing 1800 horse power, enough to propel her along at 15knots (28kp/h). The engine room was run by a four man team and could communicate with the bridge and boiler rooms via voicepipes which students are welcome to try out.

Steam for the engines was fed directly from the boiler room into the multi cylinder engines with the steam from the first piston being used twice to push the piston up then down before being sent to the second and third cylinders to repeat it's work. After circulating through the third cylinder, the steam was sent back to the boiler to be reheated and used again.

The engine room also contains two diesel generators to produce electricity, the original electrical board and a desalination unit which provided the ship with 900 litres of water per hour for use in the boilers, drinking and washing.

As the engines turn over on compressed air the propeller drive shafts turn allowing students to understand how the engines turned steam into propulsion.

Points of interest

- How a steam engine works.
- Watch the engines running and propeller drive shaft turning.
- Roles of the engine room team.
- Desalination unit, how it worked to produce 900litres of fresh water per hour.
- The new technology of degaussing to ward off magnetic mines and torpedoes.

8. Minesweeping Array



The minesweeping array mounted on the stern was used to undertake the ships' primary purpose; cutting the tethering cables of mines so they could be destroyed with rifle fire. Mines were an insidious threat to the ships of the era, destroying any ship which contacted them, be it enemy, friendly or non combatant.

The large floats were tied behind the ship with a cutting cable running between them at a set depth to detach the mines from their tethering cables.

In addition, Castlemaine once mounted 2 depth charge launchers and 2 depth charge chutes which were used to launch the charges (explosives set to detonate at various depths) over the side of the ship to either directly damage/destroy submarines or to force them to the surface where they could be better engaged with the deck gun.

All the equipment for minesweeping and launching depth charges were powered by steam

Points of interest

- What mines were, the threat they posed and how they worked.
- How minesweeping worked.
- The role of each man in the minesweeping team.
- What depth charges and their launchers were and how they worked.

9. Officers Quarters



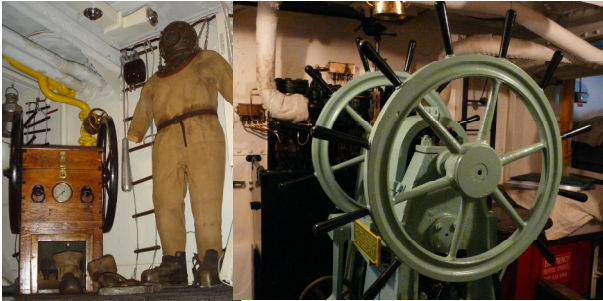
Points of interest

- Difference in living conditions of the officers and ratings.
- Wardroom protocols.
- memorabilia from the ships launching, officiated by Dame Pattie Menzies.
- reflecting on paintings of naval actions and personal including a 12 year old midshipman from the 19th century including imagining service life for students at their age.

The officers accommodation at the rear of the ship was where the four other officers lived when not on duty. Their quarters are much more luxurious than the cramped ratings quarters though not as lavish as the Captains. It is here the wardroom was located which served as the mess and recreation room for the ship's officers.

In this area are a range of portraits and more ship models which give further insight into the lives and duties of the naval personal across two centuries. Also on display is the original vase and plate gifted to Dame Pattie Menzies when she launched Castlemaine in 1942, giving an insight into both the role of and respect for the wife of a wartime P.M.

10. Minesweeping Store & Tiller Flat



The minesweeping store, located directly below the minesweeping array, once housed the equipment necessary for minesweeping operations. The area is now serves as a secondary museum with a range of artefacts around the walls including a original 1930's diving suit and air pump. The area can readily be converted into a teaching room capable of seating 15 students.

Abutting the minesweeping store is the 'tiller flat', the compartment which houses the top of the ships rudder. A series of drive shafts connect the rudder to the ships wheel in the bridge. Also in this room is the steam operated power assist unit for the tiller which, like modern power steering made the job of turning the ships wheel lighter.

Between the power assist and rudder there is another backup wheel which could be manually operated by 4 men should a linkage break or foul.

Points of interest

- How depth charges were kept safely and disarmed if ship was sunk to avoid detonating and killing survivors.
- Diving technology during the 1930's & 40's including the handling of weights used to keep divers on the seabed.
- Steam operated power steering unit to make turning rudder easier.
- Linkage system running from bridge to tiller.
- Back-up steering units in case of linkage breaking or bridge being disabled.
- Minesweeping store can be set up as a small training room for additional content delivery.