



13th
Edition
2023

THE ADMIRALTY MANUAL OF SEAMANSHIP



Published by



Authored by

The Royal Navy



Issued December 2021

Superseding 2015 Edition

Dated September 2014

BR 67

THE ADMIRALTY MANUAL OF SEAMANSHIP

**By Command of the Defence Council
Fleet Commander**

THE ADMIRALTY MANUAL OF SEAMANSHIP

13th edition, dated December 2021, superseding 12th edition, dated September 2015

UK Ministry of Defence © Crown Copyright 2022
Published with the permission of the Controller of His Majesty's Stationery Office
Print edition © The Nautical Institute 2023
ISBN 978 1 906915 74 2

Authoring Authority: Officer in Charge (OIC),
Naval Staff Author: Vic Vance
Navy Warfare Publications (NWP),
Pepys Building, HMS COLLINGWOOD, Newgate Lane, Fareham,
Hampshire PO14 1AS, United Kingdom.

MoD Directorate of Intellectual Property Rights: DIPR (PL),
Ministry of Defence, Abbey Wood, Bristol BS34 8JH, United Kingdom.

All rights reserved under Crown Copyright 2022. Parties wishing to reproduce or scan extracts from this copyright work, or store them in a retrieval system, or transmit them in any form by any means, electronic, mechanical, photocopying, recording or otherwise, should obtain the prior written consent of the British Ministry of Defence (operating under the delegation of the Controller of His Majesty's Stationery Office) at: DIPR(PL) Ministry of Defence, Abbey Wood, Bristol BS34 8JH, United Kingdom. Email: dipr-cu@dpa.mod.uk.

Additional permission will also be required from the publisher (The Nautical Institute) and, where appropriate, from other third parties.

The copyright proprietor and the publisher have made every effort to ensure that the information contained in the work is accurate but cannot be held responsible for the use of that information by any party. The work is a guide incorporating current thinking; however, it cannot be assumed that all necessary warnings and precautionary measures are contained in this work.

Publisher: The Nautical Institute
200B Lambeth Road, London SE1 7JY, United Kingdom.
TEL: +44 (0)20 7928 1351 FAX: +44 (0)20 7401 2817
www.nautinst.org

Typeset by Phil McAllister Design

Book graphics by Navy Graphics Studio, HMS EXCELLENT

Cover design by Phil McAllister Design

Cover image courtesy of the Royal Navy

Printed and bound in Great Britain by Page Bros, Norwich

PREFACE

1. This December 2021 edition of *The Admiralty Manual of Seamanship* supersedes BR 67, *Admiralty Manual of Seamanship* September 2014 edition.
2. The purpose of this publication is to provide the Seaman Specialist with detailed information on all aspects of seamanship appertaining to the Royal Navy. It is also a source of information on seamanship matters for officers and ratings of other branches. Other publications referred to within this publication are not available outside the Ministry of Defence.

ADDITIONAL MATERIAL

This book is also available as an electronic publication that includes additional chapters 7 to 11. Details can be found on the NI Bookshop website (<https://www.nautinst.org/shop-listing.html>).

Note

Throughout this book, 'iaw' means 'in accordance with'.

CONTENTS

Chapter 1	General sea terms
Chapter 2	Anchors, cables and buoywork
Chapter 3	Rigging and deck gear
Chapter 4	Towing
Chapter 5	Boats
	Section 1 Small boat handling
	Section 2 Whiskey class inflatable boat
	Section 3 Rigid inflatable boats (RIB) introduction
	Section 4 7.0-metre rigid inflatable boat Delta – with twin outboard engines
	Section 5 6.5-metre Pacific 22 Mk 2 rigid inflatable boat – Jetpac
	Section 6 7.8-metre Pacific 24 rigid inflatable fast rescue/boarding craft
	Section 7 Recovering a person from the water using the Jason’s cradle
	Section 8 Boat lifting devices
	Section 9 Displacement boats
	Section 10 Guidance for all boat coxswains
Chapter 6	Royal Naval water safety
Appendix 1	Glossary
Index	
Royal Navy Authorship	
<i>Chapters 1-6 plus the additional chapters listed below are available as an e-book. For details, see the NI Bookshop page, https://www.nautinst.org/shop-listing.html.</i>	
Chapter 7	Replenishment at sea
	Section 1 Royal Navy and Royal Fleet Auxiliary
	Section 2 Royal Fleet Auxiliary specific
Chapter 8	Targets, decoys, markers and recoveries
Chapter 9	Seamanship organisation and upkeep
	Section 1 Seamanship organisation in warships
	Section 2 Seamanship equipment upkeep and accident/incident reporting in warships
	Section 3 Seamanship organisation in submarines
Chapter 10	Helmsmanship
Chapter 11	Tactical communications
	Section 1 Communication management
	Section 2 Care and disposal of visual signalling (VS) stores
	Section 3 Ensign, flags and pennants
	Section 4 Signalling projectors and signal lights

FOREWORD



In writing this foreword to the latest edition of the superb *Admiralty Manual of Seamanship*, I reflect on the long line of previous sea admirals who have commended this book of reference to naval officers and ratings. As the Royal Navy returns to a more globally deployed posture, professional seamanship remains a vital component of our profession.

Our prosperity depends on the sea being regulated and safe for international trade and lawful business. As the oceans become increasingly congested and contested, with a spectrum of threats challenging freedom of navigation, the Royal Navy must be able to play its part in defending our homeland and the United Kingdom's interests across the world. To do so, the Royal Navy must be able to operate safely in any ocean, in any weather and deliver assured fighting power at all times.

The Royal Navy's world-renowned seamanship has been of fundamental importance, and even the deciding factor, in naval warfare from Trafalgar through two world wars to the Falklands. In this regard, nothing much has changed. We must never slacken seamanship standards, nor ignore the hard lessons of living and working at sea learned over hundreds of years of experience. Much of that is captured in these pages. I expect all my sailors and officers, whatever your branch or specialisation, to understand good seamanship, and for those in the Warfare disciplines to strive to be masters of the art.

It is also an interesting and informative read for everyone in uniform, from the most inexperienced young recruit through to the most experienced sea Captains – please read on.

**A P Burns CB OBE
Vice Admiral
Fleet Commander**

THIS PAGE IS INTENTIONALLY BLANK

CHAPTER 1
GENERAL SEA TERMS
CONTENTS

Para

- 01001. Introduction
- 01002. Terms Relating to a Ship – Parts of a Ship
- 01003. Terms Defining Position and Direction in a Ship
- 01004. Terms Defining the Movement of a Ship
- 01005. Terms Defining Direction and Position outside a Ship
- 01006. Terms Relating to Shipping
- 01007. Shipbuilding and Launching
- 01008. Docks and Slips
- 01009. Basins
- 01010. Jetties, Piers and Similar Structures
- 01011. Sea Measures
- 01012. Miscellaneous

CHAPTER 1

GENERAL SEA TERMS

01001. Introduction

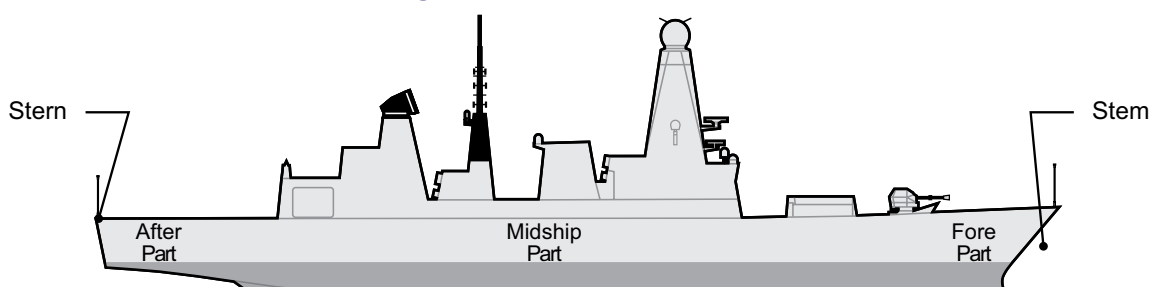
Every profession and trade uses its own technical terms to describe the more specialised parts of its work; nowhere is this more evident than in the language of the seafarer. Many terms used by the British seafarer have, in the course of time, become part of the English language. This is because so many of the inhabitants of our small island kingdom have been born and bred near the sea, and because no other country has for so long been dependent for its existence and prosperity on its Royal and Merchant Navies. To learn seamanship, the seafarer must first understand the more general nautical terms and expressions, which are explained in this chapter. Others, more technical, are included in the chapters on the different aspects of seamanship to which they are applied.

01002. Terms Relating to a Ship – Parts of a Ship

a. The Hull

- (1) The main body of a ship is called the hull. It is divided approximately into three - the **fore** part, the **midship** part and the **after** part. The fore part ends in the **stem**, the after part in the **stern** (Figure 1-1). When standing anywhere inside the hull, a person is facing **forward** when facing the bow and facing **aft** when facing the stern.

Figure 1-1. Parts of the Hull



- (2) Any line which runs lengthways in the ship is said to run **fore-and-aft**. The line joining the middle of the bow to the middle of the stern is called the **fore-and-aft centre line** (middle line or centre line in ship's plans and drawings) (Figure 1-2).

Figure 1-2. Parts of the Hull

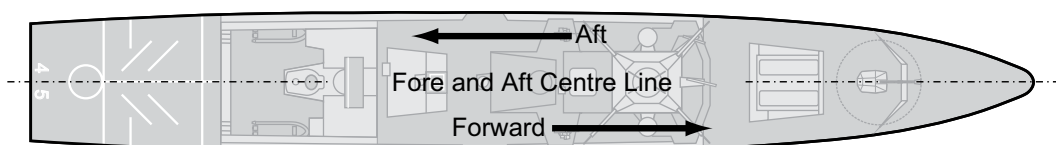
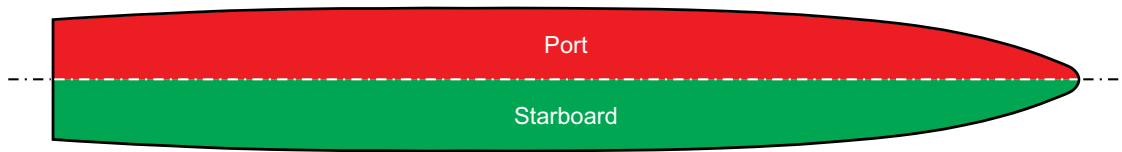


Figure 1-3. Parts of the Hull

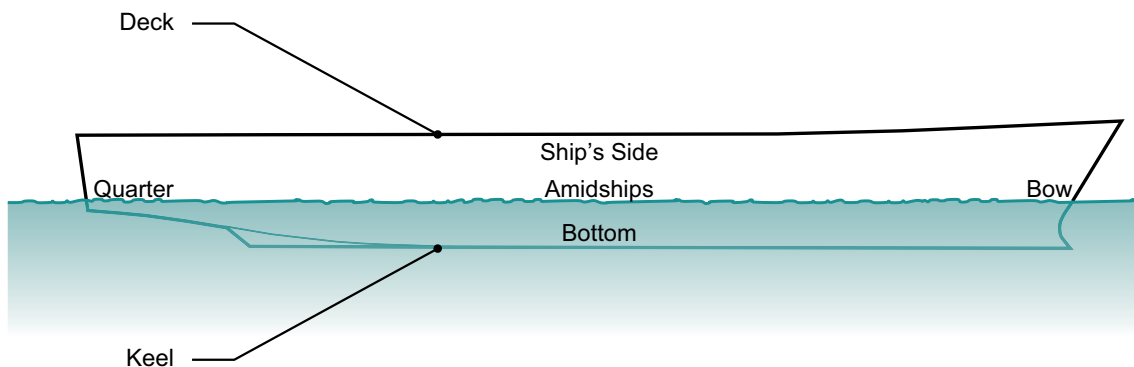


- (3) The vertical plane (surface) passing through the fore-and-aft centre line divides the ship into two halves. When facing the bow, the **starboard** side is on the right hand and the **port** side is on the left (Figure 1-3). It is customary to give equipment, such as ship's boats, odd numbers on the starboard side and even numbers on the port side.

b. **Hull Surfaces (Figure 1-4)**

- (1) The sides of a hull can be described generally as starboard or port, meeting under the bottom of the ship at the **keel**. The curved surface of the fore part is called the **bow** (port or starboard) and the curved surface of the after part is called the **quarter** (port or starboard); the centre part is referred to as **amidships**.

Figure 1-4. Hull Surfaces



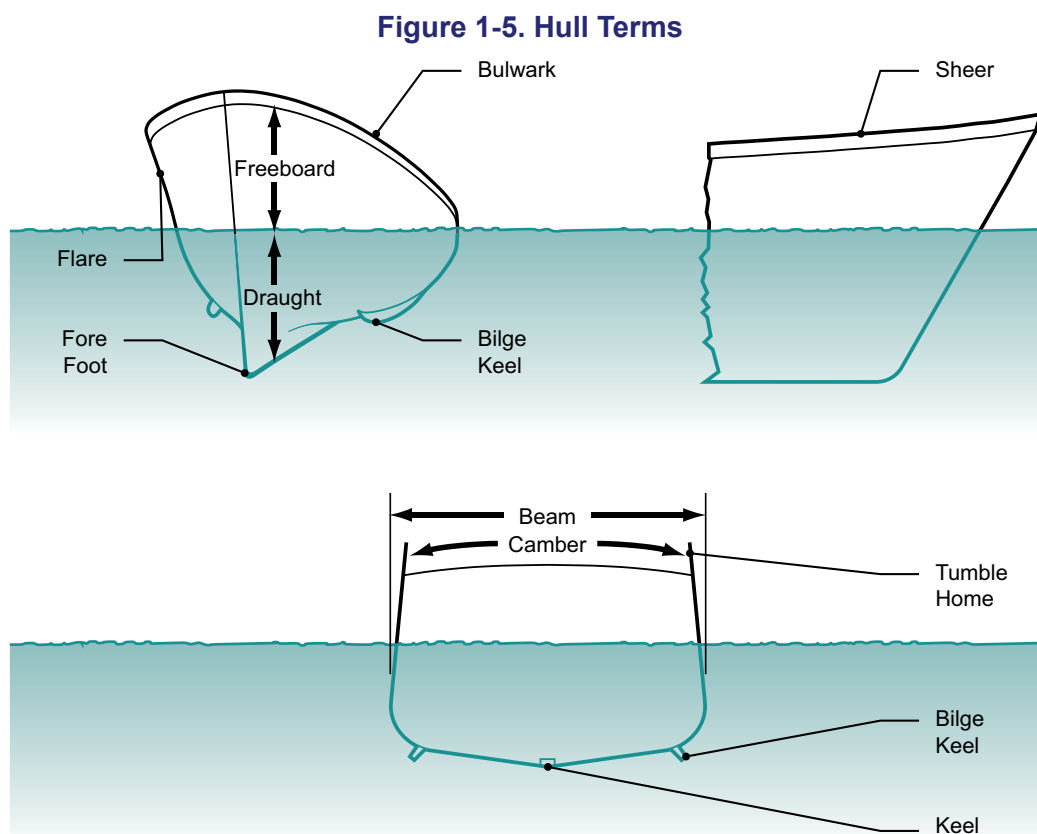
- (2) When a ship is **afloat** or **water-borne**, the **waterline** divides the sides into **ship's side** above the waterline and **bottom** below it. These terms are used in a general sense, for example, when painting a ship's side or scraping its bottom. A more precise definition of an area can be achieved by referring to the side, the part and the waterline. For example – 'the ship was holed on the starboard bow two metres below the waterline'.
- (3) The continuous horizontal surfaces of a ship are called **decks**; if exposed, they are called **weather decks**. Those that are not continuous are called **flats** or **platforms**.

c. **Terms Applied to the Hull (Figure 1-5)**

- (1) **Freeboard**. The height of the highest continuous watertight deck (usually known as the upper deck) above the waterline at any point along the hull.

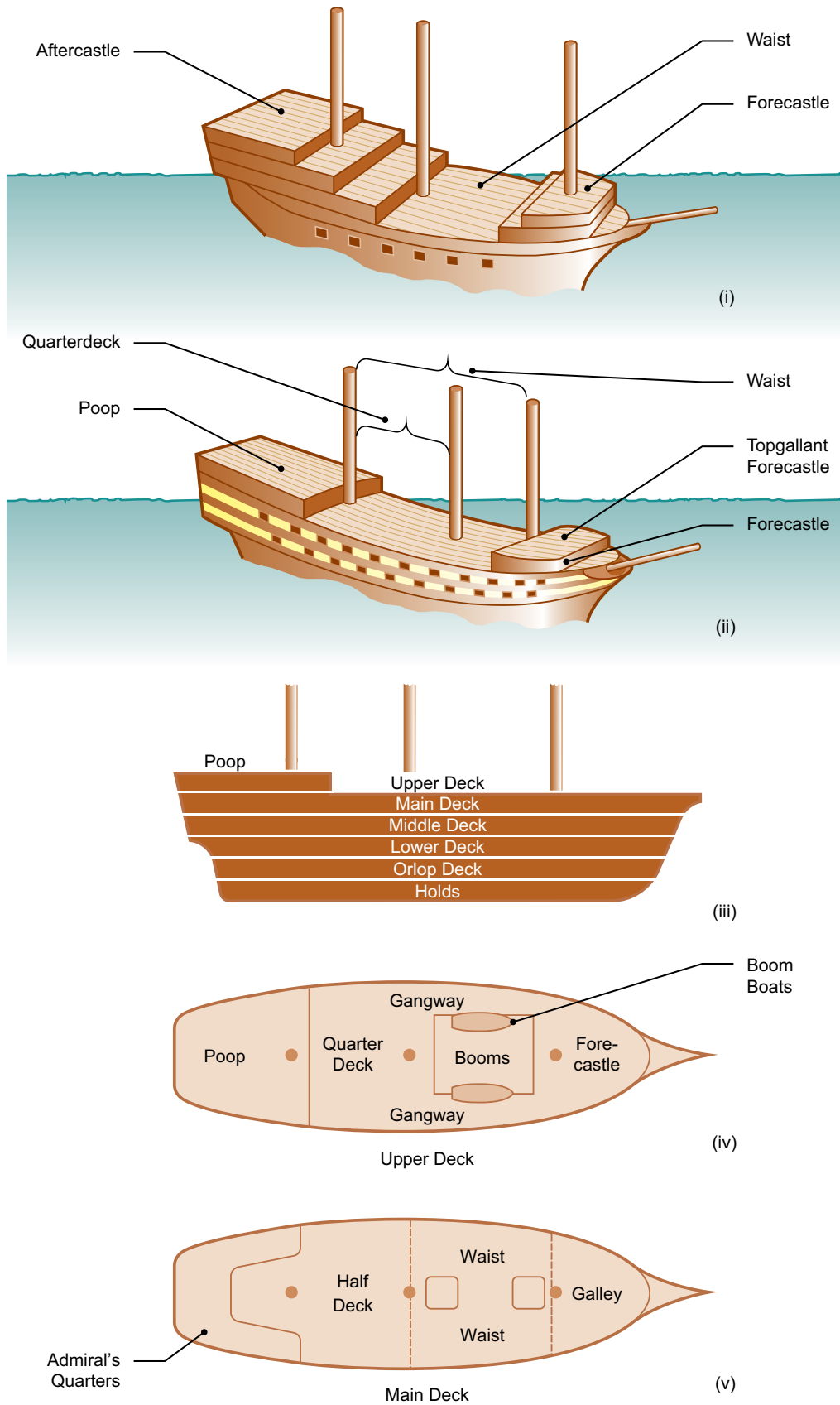
BR 67
GENERAL SEA TERMS

- (2) **Draught.** The depth of the keel below the waterline at any point along the hull.



- (3) **Beam.** The greatest width of the hull.
- (4) **Camber.** The curve given to the surface of a deck so that water will drain away to the ship's side.
- (5) **Sheer.** The upward sweep from amidships to forward and aft of the upper deck.
- (6) **Bilge.** The nearly flat part of the bottom of the hull both inside and out. Bilge is also the foul water that collects inside the ship in the **bilges**.
- (7) **Bilge Keel.** A long projecting fin designed to decrease the rolling of a ship. It is normally secured to the hull at the **turn of the bilge**.
- (8) **Tumble Home.** When the ship's sides slope or curve inwards above the waterline, they are said to tumble home.
- (9) **Flare.** When the ship's side curve outwards above the waterline, they are said to be flared.
- (10) **Flush Deck.** When the uppermost deck of a ship is continuous from stem to stern, unbroken by any raised or sunken portion (except upper works or superstructure), the ship is said to be flush-decked.
- d. **Decks.** Whatever the arrangement of decks in different ships may be, it is useful and instructive to know their origin.

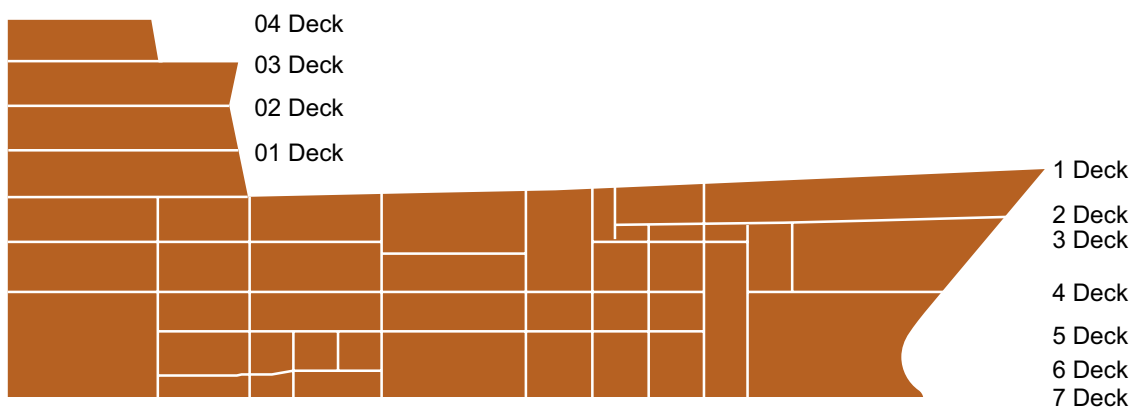
Figure 1-6. Arrangement of Decks in a Sailing Man-of-War



BR 67
GENERAL SEA TERMS

- (1) At the time of the Armada (1588), the ends of the upper deck were built up in tiers of decks to form castles from which the soldiers could fight. They were called the **forecastle** and **aftercastle**. The lower part between the castles was called the **waist** (Figure 1-6(i)). By the end of the eighteenth century, the level of the upper deck had been raised to make room for additional gun decks. Naval warfare had developed, but castles still existed. They were then called the **topgallant fo’c’sle** and the **poop**. The fo’c’sle was that part of the upper deck before the foremast, and the quarterdeck was that part of the upper deck between the mainmast and the poop (Figure 1-6(ii)).
- (2) In a large ship of Nelson’s days, the waist between the topgallant fo’c’sle and the poop was covered by an extra deck, which became the upper deck, and the poop was stepped up to make room for the Admiral’s quarters. The decks below the upper deck were then named **main**, **middle**, **lower** and **orlop**, and the space below the orlop deck was known as the **holds** (Figure 1- 6(iii)). On the upper deck were the **booms** amidships over the **main hatch**; as the name implies, they constituted the stowage for spare spars and the ship’s boats (Figure 1-6(iv)). Right aft on the main deck were the Admiral’s cabin and cabins for his staff. The space between the cabins and the mainmast was called the **half deck**; the space between the mainmast and foremast was the waist and the space between the foremast and the bows, which housed the kitchens, was known as the **galley** (Figure 1-6(v)).
- (3) Most of these terms have been retained in naming decks of a modern ship and adapted to suit changes in construction and design. However, in warships the decks are now numbered consecutively downwards, starting with the fo’c’sle deck as 1 deck. The decks above 1 deck are numbered 01, 02 and so on, consecutively upward (Figure 1-7).

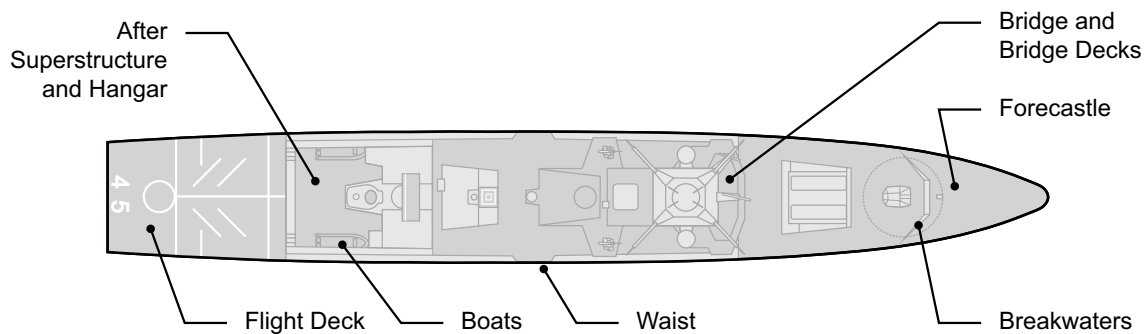
Figure 1-7. Arrangement of Decks in a Warship



- (4) The highest complete deck (except in aircraft carriers) is known as the upper deck. Most modern warships are **flush-decked** and thus the upper and fo’c’sle decks are a common deck. In aircraft carriers, the flight deck extends for the full length of the ship and is constructed above the fo’c’sle deck, and so, in this case only, the flight deck is numbered 1 deck and the remaining decks are numbered upwards and downwards from it.

- (5) **Parts of Decks.** Certain parts of any of these decks may also have special names. Below the upper deck, a **flat** is a platform that does not run the length and breadth of a ship and a **lobby** is a space giving access to one or more compartments. These flats or lobbies may be named according to the principal adjacent compartments or equipment installed, e.g. wardroom flat, Captain's lobby, capstan machinery flat, or they may be referred to by deck numbers and positions in the ship relative to the bow and the centre line.
- (6) The arrangement of the weather decks and superstructure of a ship is shown in Figure 1-8.

Figure 1-8. Arrangement of Weather Deck and Superstructure of a Ship



01003. Terms Defining Position and Direction in a Ship

a. Position in General

- (1) A landsman lives **in** a house; therefore, a seafarer speaks of living **in** a ship – not **on** a ship. Let us now describe the movements of a seafarer who is returning to the ship, the ship in which they are **borne**. If they arrive by boat and go up an accommodation ladder or pilot/boarding ladder which is secured **outboard** (board is the old name for a ship's side), they come over the **side** and are then **on board**. If the ship is lying against a dock wall it is **alongside** and the seafarer crosses a **brow** from the dock to the ship. They are then on board and **on deck**, or on board and **between decks** if the brow leads into the ship below the weather deck. In either case, they are **inboard** the moment they come over the side.
- (2) Having reported their return, the seafarer then goes **below** by a **ladder**, which gives access to the deck below through an opening in the deck called a **hatch**. The seafarer then reaches the living quarters (**mess**). This is in a space of the ship called a **messdeck**, of which the walls are called **bulkheads**, the ceiling is called the **deck head** and the floor is the **deck**.

b. Position Fore and Aft

- (1) In Figure 1-9 the mast is **forward** (pronounced 'forrard') and the funnel is **aft**. The ensign staff is right aft and the jackstaff right forward. The hatch is **amidships**.