

CHAPTER 2

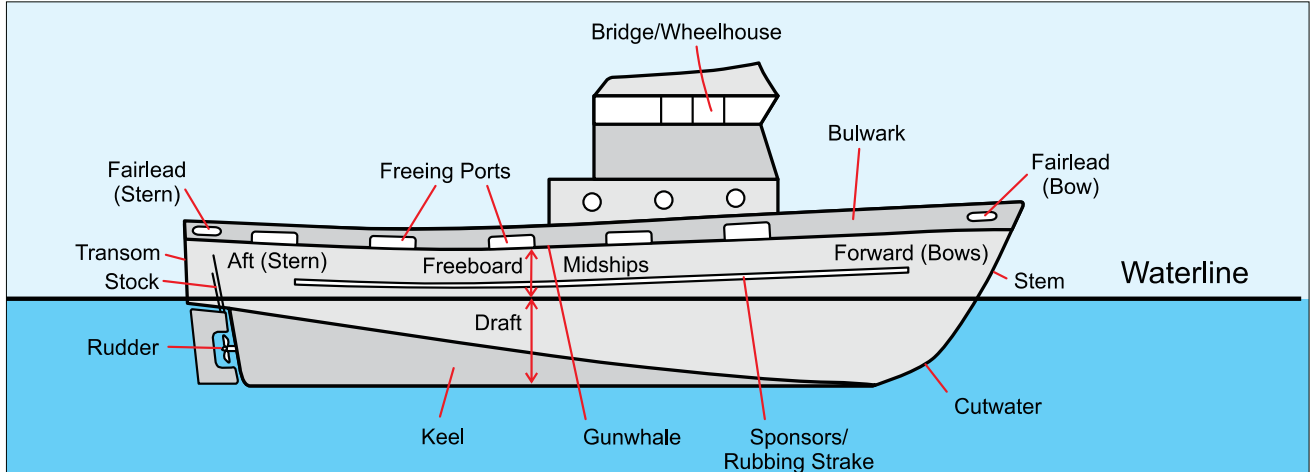
Ship knowledge

Speak the language

The seafarer's lexicon is one of the oldest of all industries and many aspects of it have, over time, been incorporated into everyday language. The following well-known phrases have nautical beginnings: 'letting the cat out of the bag', 'taken aback', being 'at loggerheads' with somebody. The terminology used onboard a vessel is essential knowledge to the new crew member and should be learnt quickly.

Study the below illustration — these are the most basic and important terms that a crew member should be familiar with upon joining their first ship.

There is a glossary at the end of this book with definitions of common nautical terms.





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Propulsion

Propulsion for all vessels comes from three sources — inboard engines, outboard engines and the wind. Sailing vessels will be dealt with in a later section.

Outboard engines

Vessels with outboard propulsion units are different from others in that they lack a rudder. Instead, the whole engine, shaft, gearbox and propeller are rotated by a steering mechanism. This may be a simple tiller, as in the case of smaller units, or a wheel and hydraulic ram arrangement for larger engines — due to the more powerful level of torque that they produce.

Modern outboards differ greatly in size, fuel source and power. But generally most outboard motors use unleaded petrol.

Outboard motors should be used regularly — long periods sitting idle are not good for them. As they are not freshwater cooled, but cooled by seawater, corrosion needs to be considered. To combat this, outboards should be flushed with fresh water as often as possible.

If the vessel is in the water for long periods of time, always raise the leg of the engine clear of the water when not in use, as weed and coral growth can build up quickly and block the cooling water intakes.

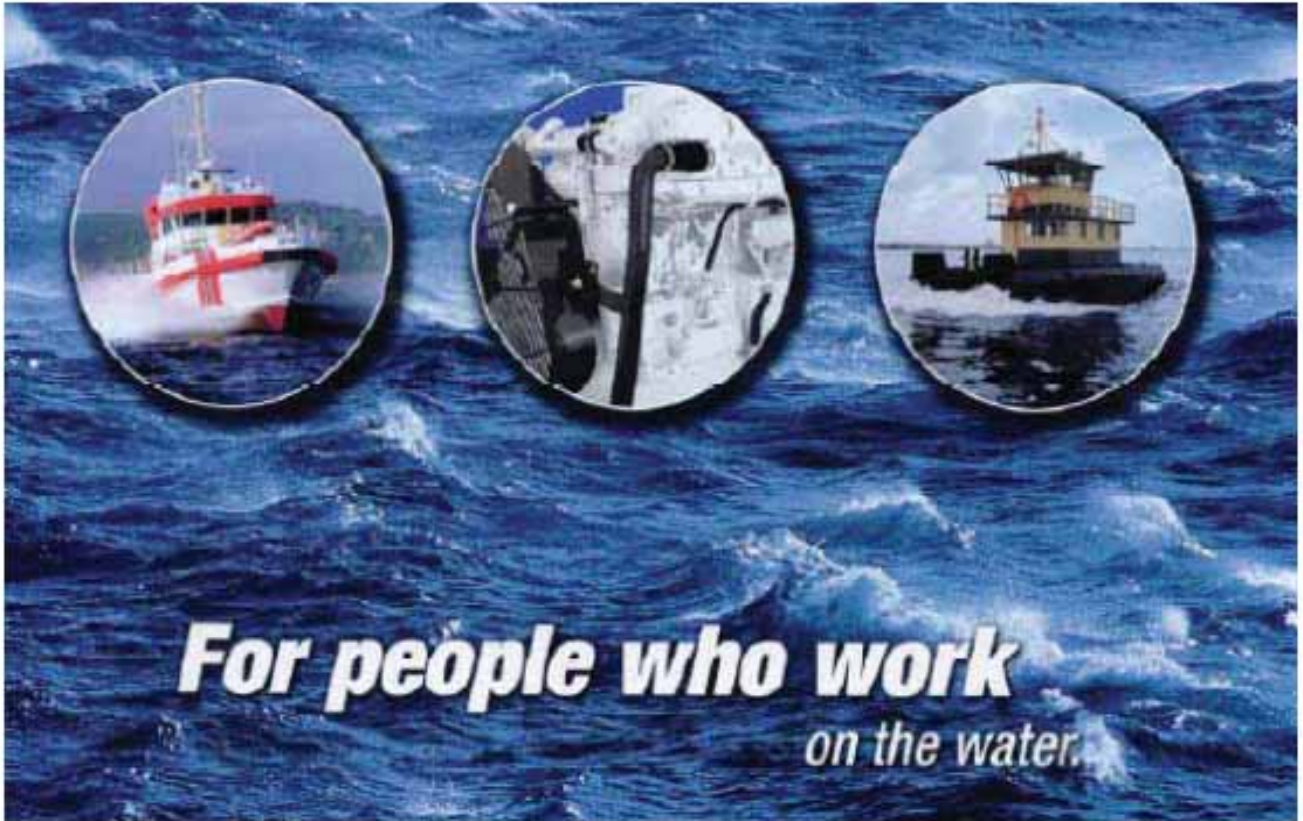
It is strongly recommended that operators of vessels powered with an outboard motor have a throttle lanyard attached to their wrist which will stop the motor instantly should the





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driver lose control of the boat. There have been fatalities when a driver has been dislodged and fallen overboard in rough conditions or in the event of hitting an object or from vessel wash. This may cause the boat to continue its course or turn in circles. This is an extremely dangerous situation for the person in the water and surrounding vessels.

Inboard engines

An engine room on a commercial vessel is a dedicated compartment designed to house the propulsion unit and usually most other auxiliary machinery as well —such as the generator and refrigeration compressor. It will be fitted with a fixed fire-fighting system and a means of shutting off the ventilation to the compartment in the case of fire.

The main engine itself may vary in configuration. There may be two main engines in the one compartment in the case of a twin screw monohull. These units will always be powered by diesel on commercial vessels. Diesel engines are suited to marine applications due to the much higher flash point of the fuel and the robust nature of diesel machinery.

In a vessel less than 24 metres the skipper will most often act as the engineer onboard as well, however, crew may be given engine room duties by the skipper and it is important for them to know their way around the compartment and wear appropriate personal protective equipment (PPE). The engine room has many more through hull fittings and valves than other compartments and care needs to be taken when operating them.



A 2000 kilowatt diesel engine – main propulsion for a high speed ferry.



An auxiliary diesel engine such as this one may also be present in the engine room. It drives a 240 generator powering refrigeration, air conditioning, lighting and other appliances common on today's commercial ships. Care must be taken when working in a machinery space, as hot surfaces, moving machinery and a great deal of noise make this a hazardous environment at sea. Always wear appropriate PPE.

Hull types and terminology

Vessels differ greatly in design and appearance. It is important to be able to recognise different hull types and hull characteristics.

Monohull

Any vessel with only one hull.



Catamaran

A vessel with two hulls.



Multihull

A vessel with two or more hulls. A vessel with three hulls is called a trimaran. Broadly speaking, vessels are either monohulls or multihulls.



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Cathedral hull

A cathedral hull, or stabilised monohull, is designed to provide greater initial stability. The vessel is less inclined to list due to greater buoyancy outboard of the centreline.



Wave piercer

A catamaran vessel with a central hull clear of the water. The outboard hulls are designed to go through, rather than over, waves.



Deadrise

The angle of the bottom of a vessel compared to the horizontal plane. It is measured from the midships (middle section of the hull). The angle of deadrise has a great influence on the handling and seakeeping attributes of a vessel.

