

SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B63 SHIPS OR OTHER WATERBORNE VESSELS; RELATED EQUIPMENT

B63B SHIPS OR OTHER WATERBORNE VESSELS; EQUIPMENT FOR SHIPPING (air-cushion vehicles B60V; arrangements of vessel ventilation, heating, cooling, or air-conditioning B63J 2/00) [2]

Subclass index

HULLS

Study; general characteristics.....	9/00, 1/00
General; adjustable keels; protection.....	3/00, 41/00, 59/00
Particular types.....	5/00, 7/00
Subdivision; cleaning of tanks.....	11/00, 57/00
SUPERSTRUCTURES; HULL OR SUPERSTRUCTURE OPENINGS.....	15/00, 19/00
EMPTYING, BALLASTING; STABILITY; SAFETY.....	13/00, 29/16, 39/00, 43/00
MOORING, SHIFTING; HANDLING LIFEBOATS.....	21/00, 23/00
ACCOMMODATION FOR CARGO OR PERSONS.....	25/00, 27/00, 29/00
ARRANGEMENTS OR ADAPTATIONS OF SIGNALLING OR LIGHTING DEVICES OR OF NAUTICAL INSTRUMENTS.....	45/00, 49/00
DETAILS AND ACCESSORIES FOR SHIPS.....	17/00
CONSTRUCTION, MAINTENANCE, CONVERSION, NOT OTHERWISE PROVIDED FOR.....	9/00
PARTICULAR KINDS OF SHIPS OR FLOATING STRUCTURES NOT OTHERWISE PROVIDED FOR.....	35/00, 38/00
BUOYS; MARKING NAVIGATION ROUTES.....	22/00, 51/00

1/00 Hydrodynamic or hydrostatic features of hulls or of hydrofoils (hulls peculiar to submarines B63B 3/13; keels B63B 3/38; determining hydrodynamic or hydrostatic features B63B 9/00; decreasing pitch, roll, or like unwanted vessel movements by using foils acting on ambient water B63B 39/06)	3/00 Constructions of hulls (non-metallic hulls B63B 5/00; designing, building, maintaining, or repairing methods B63B 9/00)
1/02 • deriving lift mainly from water displacement (B63B 1/16 takes precedence)	3/02 • Hulls assembled from prefabricated sub-units
1/04 • • with single hull	3/04 • • with permanently-connected sub-units
1/06 • • • Shape of fore part	3/06 • • • the sub-units being substantially identical
1/08 • • • Shape of aft part	3/08 • • with detachably-connected sub-units
1/10 • • with multiple hulls	3/09 • Hulls constructed of non-magnetic metal
1/12 • • • the hulls being interconnected rigidly	3/10 • Armoured hulls
1/14 • • • the hulls being interconnected resiliently	3/12 • Frameless hulls
1/16 • deriving additional lift from hydrodynamic forces	3/13 • Hulls built to withstand hydrostatic pressure when fully submerged, e.g. submarine hulls
1/18 • • of hydroplane type (controlling submarine attitude or depth by hydroplanes B63G 8/18)	3/14 • Hull parts (hull armour B63B 3/10)
1/20 • • • having more than one planing surface (B63B 1/22 takes precedence)	3/16 • • Shells (ports or closures therefor B63B 19/00)
1/22 • • • with adjustable planing surfaces	3/18 • • • characterised by being formed predominantly of parts that may be developed into plane surfaces
1/24 • • of hydrofoil type	3/20 • • • of double type
1/26 • • • having more than one hydrofoil (B63B 1/28 takes precedence)	3/22 • • • with corrugations
1/28 • • • with movable hydrofoils	3/24 • • • Means for diminishing external ridges or protrusions
1/30 • • • retracting or folding	3/26 • • Frames
1/32 • Other means for varying the inherent hydrodynamic characteristics of hulls	3/28 • • • of transverse type; Stringers
1/34 • • by reducing surface friction	3/30 • • • • Bilge knees; Beam knees
1/36 • • • using mechanical means	3/32 • • • Web frames; Web beams
1/38 • • • using air bubbles or air layers	3/34 • • • of longitudinal type; Bulkhead connections
1/40 • • by diminishing wave resistance	3/36 • • • Combined frame systems
	3/38 • • Keels (movable keels B63B 41/00)
	3/40 • • Stern posts; Stern frames
	3/42 • • Shaft brackets
	3/44 • • Bilge keels (stabilising aspect B63B 39/06)
	3/46 • • Stems

- 3/48 • • Decks (planking B63B 5/06)
- 3/50 • • • of vaulted type
- 3/52 • • • Pillars; Deck girders
- 3/54 • • • Hatch openings
- 3/56 • • Bulkheads; Bulkhead reinforcements (arrangements of watertight doors B63B 43/24)
- 3/58 • • • with flat plating
- 3/60 • • • with curved or corrugated plating
- 3/62 • • Double bottoms; Tank tops
- 3/64 • • • Keelsons
- 3/66 • • Gratings
- 3/68 • • Panellings; Linings, e.g. for insulating purposes
- 3/70 • • Reinforcements for carrying localised loads, e.g. propulsion plant, guns

5/00 Hulls characterised by their construction of non-metallic material

- 5/02 • made predominantly of wood
- 5/04 • • Carcasses
- 5/06 • • Decks; Shells
- 5/08 • • • with single-layer planking
- 5/10 • • • with multiple-layer planking
- 5/12 • made predominantly of wood with metal reinforcement, i.e. composite construction
- 5/14 • made predominantly of concrete, e.g. reinforced
- 5/16 • • monolithic
- 5/18 • • built-up from elements
- 5/20 • • • in combination with elements of other materials
- 5/22 • • with reinforcing members external to shell
- 5/24 • made predominantly of plastics

7/00 Collapsible, foldable, inflatable, or like vessels (foldable pontoons B63B 35/36)

- 7/02 • comprising only rigid parts
- 7/04 • • sectionalised
- 7/06 • having parts of non-rigid material
- 7/08 • • inflatable (connection of valves to inflatable elastic bodies B60C 29/00)

9/00 Methods of designing, building, maintaining, converting, refitting, repairing, or determining properties of, vessels, not otherwise provided for (shuttering for building concrete vessels E04G) [2]

- 9/02 • using towing tanks or model basins for designing
- 9/04 • Rebuilding ships, e.g. increasing tonnage
- 9/06 • Methods of building hulls [2]
- 9/08 • Determining vessel properties with respect to stability or balance [2]

11/00 Interior subdivision of hulls (bulkhead space construction B63B 3/56)

- 11/02 • Arrangement of bulkheads, e.g. defining cargo spaces
- 11/04 • Constructional features of bunkers or ballast tanks, e.g. with elastic walls (cleaning of tanks B63B 57/00)
- 11/06 • Propeller-shaft tunnels

13/00 Conduits for emptying or ballasting; Self-bailing equipment; Scuppers (draining means for hatches B63B 19/26; centrifugal bilge-water separators B04; pipes in general F16L)

- 13/02 • Ports for passing water through vessels' sides

15/00 Superstructures; Arrangements or adaptations of masts (loading or unloading equipment B63B 27/00; sails, running rigging B63H; masts or staying in general E04H)

- 15/02 • Staying of masts or of other superstructures

17/00 Vessels parts, details, or accessories, not otherwise provided for

- 17/02 • Awnings
- 17/04 • Stanchions; Guard-rails
- 17/06 • Refuse discharge, e.g. for ash (removal of domestic or like refuse B65F)

19/00 Arrangements or adaptations of ports, doors, windows, port-holes, or other openings or covers (scuppers B63B 13/00; arrangements of watertight doors in bulkheads B63B 43/24)

- 19/02 • Clear-view screens
- 19/04 • Air-catching equipment related to windows or port-holes (ventilation B63J 2/00)
- 19/06 • • readily detachable
- 19/08 • Ports or like openings in vessels' sides
- 19/10 • • Coal ports
- 19/12 • Hatches; Hatchways (hatch coamings B63B 3/54)
- 19/14 • • Hatch covers (opening devices in general E05F)
- 19/16 • • • with detachable boards
- 19/18 • • • slidable
- 19/19 • • • foldable [3]
- 19/197 • • • • actuated by fluid pressure [3]
- 19/203 • • • • actuated by cables or the like [3]
- 19/21 • • • of roll-up type [3]
- 19/22 • • Hatch beams
- 19/24 • • Hatch fastenings, e.g. cleats
- 19/26 • • Gaskets; Draining means
- 19/28 • • Other safety devices

21/00 Tying-up; Shifting, towing, or pushing equipment; Anchoring (dynamic anchoring B63H 25/00; equipment for shipping on coasts, in harbours or on other fixed marine structures, e.g. for landing purposes, E02B) [4]

- 21/02 • Magnetic mooring equipment
- 21/04 • Fastening or guiding equipment for chains, ropes, hawsers, or the like
- 21/06 • • Bollards
- 21/08 • • Clamping devices (in general F16B)
- 21/10 • • Fairleads
- 21/12 • • Rat guards
- 21/14 • • Hawse-holes; Hawse-pipes; Hawse-hole closures
- 21/16 • using winches (winches per se B66D)
- 21/18 • Stoppers for anchor chains
- 21/20 • Adaptations of chains, ropes, hawsers, or the like, or of parts thereof (chains, ropes or hawsers in general, see the relevant subclasses, e.g. F16G)
- 21/22 • Handling or lashing anchors
- 21/24 • Anchors
- 21/26 • • securing to bed
- 21/27 • • • by suction [2]
- 21/28 • • • driven-in by explosive charge
- 21/29 • • • by weight, e.g. flukeless weight anchors [2]
- 21/30 • • rigid when in use [3]
- 21/32 • • • with one fluke
- 21/34 • • • with two or more flukes
- 21/36 • • • • foldable
- 21/38 • • pivoting when in use [3]
- 21/40 • • • with one fluke
- 21/42 • • • • of ploughshare type
- 21/44 • • • with two or more flukes
- 21/46 • • with variable, e.g. sliding, connection to chain [2]
- 21/48 • • Sea-anchors; Drogues
- 21/50 • Anchoring arrangements for special vessels, e.g. for floating drilling platforms or dredgers

- 21/54 • Boat-hooks or the like
- 21/56 • Towing or pushing equipment (tugs B63B 35/66)
- 21/58 • • Adaptations of hooks for towing; Towing-hook mountings (hooks in general F16B)
- 21/60 • • • Quick releases
- 21/62 • • characterised by moving of more than one vessel (rigid interconnections between pontoons B63B 35/38)
- 21/64 • • Equipment for towing or pushing vessels by vehicles or beings moving forward on ground-based paths along water-way (boat-hooks or the like B63B 21/54; shore- or ground-based equipment per se, e.g. vehicles, rails, see the relevant classes) [2]
- 21/66 • • Equipment specially adapted for towing underwater objects or vessels, e.g. fairings for tow-cables (salvaging underwater vessels or objects B63C 7/00; towed underwater vessels B63G 8/42) [3]
- 22/00 Buoy** (means for indicating the location of underwater objects B63C 7/26; life-buoys, e.g. rings, B63C 9/08) [4]
 - 22/02 • specially adapted for mooring a vessel [4]
 - 22/04 • Anchoring arrangements [4]
 - 22/06 • • with means to cause the buoy to surface in response to a transmitted signal [4]
 - 22/08 • • having means to release or urge to the surface a buoy on submergence thereof, e.g. to mark location of a sunken object [4]
 - 22/10 • • • Water soluble or water weakened means, i.e. buoy released by buoy-to-object securing means being destroyed on contact with water [4]
 - 22/12 • • • the surfacing of the buoy being assisted by a gas released or generated on submergence of the buoy [4]
 - 22/14 • • • Buoy-to-object securing means responsive to hydrostatic pressure [4]
 - 22/16 • specially adapted for marking a navigational route (signalling or lighting devices B63B 45/00) [4]
 - 22/18 • having means to control attitude or position, e.g. reaction surfaces or tether [4]
 - 22/20 • • Ballast means [4]
 - 22/22 • inflatable, including gas generating means (B63B 22/12 takes precedence; connection of valves to inflatable elastic bodies B60C 29/00) [4]
 - 22/24 • container type, i.e. having provision for the storage of material [4]
 - 22/26 • • having means to selectively release contents, e.g. swivel couplings (arrangements between ships and off-shore structures for loading or unloading, using pipe-lines B63B 27/34; pipe joints or couplings, in general F16L) [4]
 - 22/28 • • submerged when not in use [4]
- 23/00 Equipment for handling lifeboats or the like**
 - 23/02 • Davits, i.e. devices having arms for lowering boats by cables or the like
 - 23/04 • • with arms pivoting on substantially-horizontal axes, e.g. gravity type
 - 23/06 • • • with actual pivots
 - 23/08 • • • • the arms being articulated
 - 23/10 • • • • with positive drive of the arms
 - 23/12 • • • with simulated pivots
 - 23/14 • • • • using linkages
 - 23/16 • • • • using guide tracks
 - 23/18 • • • with arms pivoting on substantially-vertical axes
 - 23/20 • • • Davits with single arms (cranes in general B66C)
 - 23/22 • • • • Slings or the like therefor
 - 23/24 • • • • Slewing equipment therefor
 - 23/26 • • with rectilinear translation of boat before lowering
 - 23/28 • Devices for projecting or releasing boats for free fall
 - 23/30 • Devices for guiding boats to water surface
 - 23/32 • • Rigid guides, e.g. having arms pivoted near waterline
 - 23/34 • • Guiding means for lowering by cables, e.g. for listing ships
 - 23/36 • • • Skid fenders
 - 23/38 • Transport of boats to davits or the like
 - 23/40 • Use of lowering or hoisting gear
 - 23/42 • • with braking equipment
 - 23/44 • • • on the ship
 - 23/46 • • • in the boat
 - 23/48 • • using winches for boat handling (winches per se B66D)
 - 23/50 • • • with tensioning gear
 - 23/52 • • • with control of winches from boat
 - 23/54 • • with trimming equipment
 - 23/56 • • • controlled from boat
 - 23/58 • • with tackle-engaging or release gear
 - 23/60 • • Additional connections between boat and davit
 - 23/62 • Fastening or storing of boats on deck
 - 23/64 • • Lashings; Covers
 - 23/66 • • Blocks; Chocks
 - 23/68 • • • for stacking boats
 - 23/70 • Condition-responsive handling equipment, e.g. automatic release of boat from lowering tackle upon contact with water [4]
- 25/00 Load-accommodating arrangements, e.g. stowing, trimming; Vessels characterised thereby** (constructive aspects of cargo-spaces B63B 11/00; hatches, hatchways B63B 19/12; trimming otherwise than by cargo division. e.g. by use of ballast, B63B 43/06, B63B 43/08)
 - 25/02 • for bulk goods
 - 25/04 • • solid
 - 25/06 • • • for cereals
 - 25/08 • • fluid
 - 25/10 • • • open to ambient air
 - 25/12 • • • closed
 - 25/14 • • • • pressurised
 - 25/16 • • • • heat-insulated (insulating panellings B63B 3/68; heating or cooling B63J)
 - 25/18 • Detachable decks
 - 25/20 • • for motor vehicles or the like
 - 25/22 • for palletised articles
 - 25/24 • Means for preventing unwanted cargo movement, e.g. dunnage
 - 25/26 • for frozen goods
 - 25/28 • for deck loads
- 27/00 Arrangement of ship-based loading or unloading equipment for cargo or passengers** (self-discharging barges or lighters B63B 35/30; shore-based equipment B65G 67/60; elevators, escalators or moving walkways per se B66B; floating cranes B66C 23/52; loading or unloading devices per se, see the relevant subclasses, e.g. B65G, B66C, B67D) [3]

Note(s)

Groups B63B 27/30-B63B 27/36 take precedence over groups B63B 27/04-B63B 27/28.

- 27/04 • of derricks (derricks per se B66C 23/60) [3]
- 27/08 • of winches (winches per se B66D) [3]
- 27/10 • of cranes (cranes per se B66C) [3]
- 27/12 • • of gantry type [3]
- 27/14 • of ramps, gangways or outboard ladders (inboard ladders B63B 29/20; loading ramps per se B65G 69/28; ladders per se E06C) [3]
- 27/16 • of lifts or hoists [3]
- 27/18 • of cableways, e.g. with breeches-buoys (cableways per se B65G) [3]
- 27/22 • of conveyers, e.g. of endless-belt or screw-type (arrangement of devices with throwing action B63B 27/26; arrangement of chutes B63B 27/28; conveyers per se B65G) [3, 6]
- 27/24 • of pipe-lines (pipe-lines per se F17D) [3]
- 27/25 • • for fluidised bulk material [3]
- 27/26 • of devices with throwing action (mechanical throwing machines for articles or solid materials per se B65G 31/00) [3]
- 27/28 • of chutes (chutes per se B65G 11/00) [3]
- 27/30 • for transfer at sea between ships or between ships and off-shore structures [3]
- 27/32 • • using cableways [3]
- 27/34 • • using pipe-lines [3]
- 27/36 • for floating cargo (devices for facilitating retrieval of floating objects per se B66C 13/02) [3]

29/00 Accommodation for crew or passengers not otherwise provided for

- 29/02 • Cabins or other living spaces; Construction or arrangement thereof
- 29/04 • • Furniture peculiar to vessels (floatable furniture B63C 9/30)
- 29/06 • • • Fastening to floors
- 29/08 • • • Storm guards on tables, e.g. fiddles
- 29/10 • • • Berths; Mounting ladders therefor
- 29/12 • • • Self-levelling mountings
- 29/14 • • Closet or like flushing arrangements; Washing or bathing facilities peculiar to ships
- 29/16 • Soil-water discharges
- 29/18 • Arrangements or adaptations of swimming pools
- 29/20 • Arrangements or adaptations of ladders (mounting ladders for berths B63B 29/10)
- 29/22 • Galleys [2]

35/00 Vessels or like floating structures adapted for special purposes (vessels characterised by load-accommodating arrangements B63B 25/00; fire-fighting vessels A62C 29/00; submarines, mine-layers, or mine-sweepers B63G; large containers for use in or under water B65D 88/78) [5]

- 35/03 • Pipe-laying vessels (laying pipes under water F16L 1/12) [5]
- 35/04 • Cable-laying vessels [5]
- 35/06 • • for moving cable-ends from ship to shore [5]
- 35/08 • Ice-breakers [5]
- 35/10 • • having forced pitching or rolling equipment [5]
- 35/12 • • having ice-cutters [5]
- 35/14 • Fishing vessels (fishing A01K 69/00-A01K 97/00) [5]
- 35/16 • • Trawlers [5]
- 35/18 • • • adapted to dragging nets aboard [5]
- 35/20 • • • adapted to hoisting nets aboard [5]

- 35/22 • • Whale catchers; Whale factory vessels [5]
- 35/24 • • Fish holds [5]
- 35/26 • • • for live fish [5]
- 35/28 • Barges or lighters [5]
- 35/30 • • self-discharging [5]
- 35/32 • for collecting pollution from open water [5]

Note(s)

If the apparatus for collecting pollution from open water is of interest apart from ship construction aspects, it is also classified in group E02B 15/00.

- 35/34 • Pontoons (floating bridges E01D 15/14) [5]
- 35/36 • • foldable [5]
- 35/38 • • Rigidly-interconnected pontoons [5]
- 35/40 • for transporting marine vessels [5]
- 35/42 • • with adjustable draught [5]
- 35/44 • Floating buildings, stores, drilling platforms, or workshops, e.g. carrying water-oil separating devices [5]
- 35/50 • Vessels or floating structures for aircraft (aircraft carriers B63G 11/00; flying-boat hulls, other flotation means for aircraft B64) [5]
- 35/52 • • Nets, slipways or the like, for recovering aircraft from the water [5]
- 35/53 • • Floating runways [3, 5]
- 35/54 • Ferries (propulsion of chain ferries B63H) [5]
- 35/56 • Lightships (marking of navigational route B63B 51/00) [5]
- 35/58 • Rafts, i.e. free floating waterborne vessels, of shallow draft, with little or no freeboard, and having a platform or floor for supporting a user (lifeboats, life-rafts or the like B63C 9/02) [4, 5]
- 35/607 • • having a platform or floor below the level of the buoyancy means, e.g. suspended basket type [4, 5]
- 35/613 • • with tubular shaped flotation members [4, 5]
- 35/62 • • formed from logs or the like [4, 5]
- 35/66 • Tugs (towing or pushing equipment B63B 21/56) [5]
- 35/68 • • for towing [5]
- 35/70 • • for pushing [5]
- 35/71 • Canoes, kayaks or the like (collapsible, foldable, inflatable or like vessels B63B 7/00) [4, 5]
- 35/73 • Other vessels or like floating structures for pleasure or sport [5]
- 35/74 • • Body supporting buoyant devices with seat [4, 5]
- 35/76 • • • Ring-shaped buoyant member [4, 5]
- 35/78 • • • U-shaped buoyant member [4, 5]
- 35/79 • • Surf-boards, e.g. sailboards [5]
- 35/81 • • Water skis; Water sledges [5]
- 35/83 • • Water shoes; Bog shoes [5]
- 35/85 • • Accessories not otherwise provided for, e.g. sticks for water skiing [5]

38/00 Vessels or like floating structures not otherwise provided for (vessels characterised by load-accommodating arrangements B63B 25/00; fire-extinguishing vessels A62C 29/00; submarines, mine-layers or mine-sweepers B63G; large containers for use in or under water B65D 88/78) [5]**39/00 Equipment to decrease pitch, roll, or like unwanted vessel movements; Apparatus for indicating vessel attitude**

- 39/02 • to decrease vessel movements by displacement of masses [2]
- 39/03 • • by transferring liquids [2]

- 39/04 • to decrease vessel movements by using gyroscopes directly
- 39/06 • to decrease vessel movements by using foils acting on ambient water (constructional aspects of bilge keels B63B 3/44)
- 39/08 • to decrease vessel movements by using auxiliary jets or propellers (using auxiliary jets or propellers for steering or dynamic anchoring B63H 25/00)
- 39/10 • to decrease vessel movements by damping the waves, e.g. by pouring oil on water [2]
- 39/12 • for indicating draught or load
- 39/14 • for indicating inclination or duration of roll
- 41/00 Drop keels, e.g. centre boards, side boards** (keels integral with hull B63B 3/38; stabilising foils B63B 39/06)
- 43/00 Improving safety of vessels, e.g. damage control, not otherwise provided for** (fire-fighting in ships A62C 3/10)
- 43/02 • reducing risk of capsizing or sinking (by means of watertight doors in bulkheads B63B 43/24)
- 43/04 • • by improving stability
- 43/06 • • • using ballast tanks (conduits for emptying or ballasting B63B 13/00)
- 43/08 • • • by transfer of solid ballast
- 43/10 • • by improving buoyancy
- 43/12 • • • using inboard air containers
- 43/14 • • • using outboard floating members
- 43/16 • • • Temporary equipment for stopping leaks, e.g. collision mats
- 43/18 • preventing collision; reducing collision damage
- 43/20 • • Feelers
- 43/24 • Arrangements of watertight doors in bulkheads
- 43/26 • • of sliding type
- 43/28 • • • with mechanical drive
- 43/30 • • • with fluid drive
- 43/32 • • of non-sliding type
- 45/00 Arrangement or adaptation of signalling or lighting devices** (arrangement of signalling or lighting devices, the mounting or supporting thereof or circuits therefor, for vehicles in general B60Q; life-buoys, -belts, -jackets, -suits or the like, characterised by signalling means B63C 9/20; lighting devices or systems therefor F21L, F21S) [4]
- 45/02 • the devices being intended to illuminate the way ahead or other areas of environments
- 45/04 • the devices being intended to indicate the vessel or parts thereof
- 45/06 • the devices being intended to illuminate vessels' decks or interior
- 45/08 • the devices being acoustic
- 49/00 Arrangements of nautical instruments or navigational aids** (nautical measuring instruments G01C; radio navigation, analogous arrangements using other waves G01S)
- 51/00 Marking of navigational route other than with buoys** (buoys specially adapted for marking a navigational route B63B 22/16) [4]
- 51/02 • with anchored lightships; by use of lighthouses [4]
- 51/04 • with free-floating flares
- 57/00 Tank cleaning specially adapted for vessels** (tank cleaning in general B08B 9/08)
- 57/02 • by washing
- 57/04 • by ventilating
- 59/00 Hull protection peculiar to vessels; Cleaning devices peculiar to vessels** (cleaning in general B08B; cleaning of vehicles in general, e.g. windscreen wipers, B60S; inhibiting corrosion of metals by anodic or cathodic protection C23F 13/00)
- 59/02 • Fenders integral with waterborne vessels or specially adapted therefor; Rubbing-strakes (fenders on coasts, in harbours or on other fixed marine structures E02B 3/26)
- 59/04 • Preventing hull fouling (anti-fouling paints C09D 5/16) [3]
- 59/06 • Cleaning devices for hulls [3]
- 59/08 • • of underwater surfaces while afloat (B63B 59/10 takes precedence) [3]
- 59/10 • • using trolleys or the like driven along the surface [3]

B63C LAUNCHING, HAULING-OUT, OR DRY-DOCKING OF VESSELS; LIFE-SAVING IN WATER; EQUIPMENT FOR DWELLING OR WORKING UNDER WATER; MEANS FOR SALVAGING OR SEARCHING FOR UNDERWATER OBJECTS (floating nets, floating slipways, or the like for recovering aircraft from the water B63B 35/52)

Subclass index

LANDING, LAUNCHING

Dry-docking; storing on land; launching or hauling-out.....1/00, 15/00, 3/00

Transporting overland.....13/00

Slipway and dry-dock equipment.....5/00

SALVAGE, SEARCHING UNDER WATER; LIFE-SAVING.....7/00, 11/00, 9/00

WORKING UNDER WATER.....11/00

- 1/00 Dry-docking of vessels or flying-boats** (storing of vessels on land otherwise than by dry-docking B63C 15/00; mooring of vessels B63B 21/00; hydraulic-engineering aspects E02B)
- 1/02 • Floating dry-docks (ship transporters with adjustable draught B63B 35/42)
- 1/04 • • self-docking

- 1/06 • • Arrangements of pumping or filling equipment for raising or lowering docks
- 1/08 • Dry docks (locks E02C 1/00) [2]
- 1/10 • Centring devices
- 1/12 • Docks adapted for special vessels, e.g. submarines

- 3/00 Launching or hauling-out, e.g. by landborne slipways; Slipways** (ship-borne guides for handling lifeboats or the like B63B 23/30; cranes, winches, or the like B66; ship-lifting for adapting to different water levels E02C)
 - 3/02 • by longitudinal movement of vessel
 - 3/04 • by sideways movement of vessel
 - 3/06 • by vertical movement of vessel, e.g. by crane
 - 3/08 • Tracks on slipways
 - 3/10 • using releasing devices
 - 3/12 • using cradles (vehicles in general for transporting boats or the like B60P)
 - 3/14 • using braking means

- 5/00 Equipment usable both on slipways and in dry docks**
 - 5/02 • Stagings; Scaffolding; Shores or struts
 - 5/04 • • Bilge or keel blocks

- 7/00 Salvaging of disabled, stranded, or sunken vessels; Salvaging of vessel parts or furnishings, e.g. of safes; Salvaging of other underwater objects** (means for searching for underwater objects B63C 11/48)
 - 7/02 • in which the lifting is done by hauling
 - 7/04 • • using pontoons or the like
 - 7/06 • in which lifting action is generated in, or adjacent to, vessels or objects
 - 7/08 • • using rigid floats
 - 7/10 • • using inflatable floats external to vessels or objects
 - 7/12 • • by bringing air or floating bodies or material into vessels or objects
 - 7/14 • using freezing for closing holes or for strengthening the vessel or the like
 - 7/16 • Apparatus engaging vessels or objects
 - 7/18 • • using nets
 - 7/20 • • using grabs
 - 7/22 • • using electromagnets or suction devices
 - 7/24 • Apparatus for passing chains or the like under vessels or objects
 - 7/26 • Means for indicating the location of underwater objects, e.g. sunken vessels (means for searching for underwater objects B63C 11/48; buoys in general B63B 22/00)
 - 7/28 • Refloating stranded vessels
 - 7/30 • Floatable safes (safes in general E05G)

- 9/00 Life-saving in water** (life-saving in general A62B; arrangement or adaptation of signalling or lighting devices for ships, other waterborne vessels or for equipment for shipping B63B 45/00; rescue equipment specially adapted for submarine personnel B63G 8/40)
 - 9/01 • Air-sea rescue devices, i.e. equipment carried by, and capable of being dropped from, an aircraft (inflatable vessels B63B 7/00; inflatable buoys B63B 22/22) [5]
 - 9/02 • Lifeboats, life-rafts or the like, specially adapted for life-saving (B63C 9/01 takes precedence; floatable furniture B63C 9/30; boats in general B63B; inflatable vessels B63B 7/00; equipment for handling lifeboats or the like B63B 23/00; rafts B63B 35/58) [4, 5]
 - 9/03 • • enclosed [5]
 - 9/04 • • Life-rafts

- 9/05 • Shark screens, e.g. buoyant means combined with means to surround or otherwise enclose the user (B63C 9/06 takes precedence) [5]
- 9/06 • Floatable closed containers with accommodation for one or more persons inside (B63C 9/01 takes precedence) [5]
- 9/08 • Life-buoys, e.g. rings; Life-belts, jackets, suits, or the like (B63C 9/01 takes precedence; equipment for swimming A63B, e.g. swimming aids A63B 31/00) [5]
- 9/087 • • Body suits, i.e. substantially covering the user's body (diving suits B63C 11/04, B63C 11/10) [5]
- 9/093 • • • using solid buoyant material [5]
- 9/105 • • • having gas-filled compartments (connection of valves to inflatable elastic bodies B60C 29/00) [5]
- 9/11 • • covering the torso, e.g. harnesses [5]
- 9/115 • • • using solid buoyant material [5]
- 9/125 • • • having gas-filled compartments (connection of valves to inflatable elastic bodies B60C 29/00) [5]
- 9/13 • • attachable to a body member, e.g. arm, neck, head or waist [5]
- 9/135 • • • using solid buoyant material [5]
- 9/15 • • • having gas-filled compartments (connection of valves to inflatable elastic bodies B60C 29/00) [5]
- 9/18 • • Inflatable equipment characterised by the gas-generating device [5]
- 9/19 • • • Arrangements for puncturing gas-generating cartridges [5]
- 9/20 • • characterised by signalling means, e.g. lights (arrangement or adaptation of signalling or lighting devices for ships or other waterborne vessels B63B 45/00)
- 9/22 • Devices for holding or launching life-buoys, inflatable life-rafts, or other floatable life-saving equipment (equipment for handling life-boats or the like B63B 23/00)
- 9/23 • • Containers for inflatable life-saving equipment [5]
- 9/26 • Cast or life lines; Attachments thereto; Containers therefor (adaptations of aerial cableways to shipboard use B63B 27/18; guns for line-throwing F41F; line-carrying missiles F42B 12/68)
- 9/28 • Adaptations of vessel parts or furnishings to life-saving purposes
- 9/30 • • Floatable furniture
- 9/32 • Equipment adapted to use on ice

- 11/00 Equipment for dwelling or working under water; Means for searching for underwater objects** (composition of chemical substances for use in breathing apparatus A62D 9/00; swimming aids or equipment A63B 31/00-A63B 35/00; submarines B63G 8/00)
 - 11/02 • Divers' equipment
 - 11/04 • • Resilient suits
 - 11/06 • • • with rigid helmet
 - 11/08 • • • Control of air pressure within suit, e.g. for controlling buoyancy
 - 11/10 • • Rigid suits
 - 11/12 • • Diving masks (swimming helmets, swimming goggles A63B 33/00)
 - 11/14 • • • with forced air supply
 - 11/16 • • • with air supply by suction from diver, e.g. schnorkels

- 11/18 • • Air supply (for diving masks B63C 11/14, B63C 11/16; respiratory apparatus in general A62B)
- 11/20 • • • from water surface
- 11/22 • • • carried by diver
- 11/24 • • • • in closed circulation
- 11/26 • • Communication means (electric communication in general H04)
- 11/28 • • Heating, e.g. of divers' suits, of breathing air
- 11/30 • • Ballast
- 11/32 • • Decompression arrangements; Exercise equipment
- 11/34 • Diving chambers with mechanical link, e.g. cable, to a base (manipulators B25J; diving chambers without mechanical link to a base B63G 8/00; caissons adapted to laying foundations E02D 23/00-E02D 27/00)
- 11/36 • • of closed type
- 11/38 • • • with entrance above water surface
- 11/40 • • • adapted to specific work
- 11/42 • • • with independent propulsion or directional control
- 11/44 • • of open type, e.g. diving-bells
- 11/46 • Divers' sleds or like craft, i.e. craft on which man in diving-suit rides
- 11/48 • Means for searching for underwater objects (means for indicating the location of sunken objects B63C 7/26; locating by use of the reflection or reradiation of radio or other waves G01S)
- 11/49 • • Floating structures with underwater viewing devices, e.g. with windows [5]
- 11/50 • • using grapnels
- 11/52 • Tools specially adapted for working underwater, not otherwise provided for [3]
- 13/00 Equipment forming part of, or attachable to, vessels, facilitating transport over land** (harnesses attachable to vessels for personal carrying A45F; amphibious craft, land vehicles convertible for use on water B60F; land vehicles for carrying boats B60P)
- 15/00 Storing of vessels on land otherwise than by dry-docking**

B63G OFFENSIVE OR DEFENSIVE ARRANGEMENTS ON VESSELS; MINE-LAYING; MINE-SWEEPING; SUBMARINES; AIRCRAFT CARRIERS (means of attack or defence in general, e.g. turrets, F41H)

Subclass index

OFFENSIVE OR DEFENSIVE INSTALLATIONS OR ARRANGEMENTS

Guns, missile launchers.....	1/00
Launching torpedoes; defence against torpedoes.....	5/00, 9/00
Defence or attack against sub- marines, by depth charges or otherwise.....	6/00, 9/00
Mines: laying; sweeping; other defence.....	6/00, 7/00, 9/00
Other defensive or offensive arrangements.....	13/00
Ammunition handling or storing.....	3/00
SUBMARINES; AIRCRAFT CARRIERS.....	8/00, 11/00

1/00 Arrangements of guns or missile launchers; Vessels characterised thereby (submarines B63G 8/00; guns, missile launchers F41)

3/00 Arrangements of ammunition stores or handlers (specially for submarines B63G 8/00; feeding ammunition missiles or projectiles to guns in general F41A 9/00); **Vessels characterised thereby** (general cargo aspects B63B)

- 3/02 • for torpedoes
- 3/04 • for missiles
- 3/06 • for mines or depth charges

5/00 Vessels characterised by adaptation to torpedo-launching (submarines B63G 8/00; torpedo-launching per se F41F 3/00)

6/00 Laying of mines or depth charges; Vessels characterised thereby (arrangements on submarines for mine-laying B63G 8/33) [2]

7/00 Mine-sweeping; Vessels characterised thereby

- 7/02 • Mine-sweeping means; Means for destroying mines
- 7/04 • • by means of cables
- 7/06 • • of electromagnetic type
- 7/08 • • of acoustic type

8/00 Underwater vessels, e.g. submarines (submarine hulls B63B 3/13; diving chambers with mechanical link, e.g. cable, to a base B63C 11/34; divers' sleds B63C 11/46; torpedoes F42B 19/00)

- 8/04 • Superstructure
- 8/06 • • Conning-towers
- 8/08 • Propulsion (nuclear propulsion B63H 21/18; submerged exhausting apparatus F01N 13/12; propulsion power plants or units per se, see the relevant classes)

- 8/10 • • using steam plant
- 8/12 • • using internal-combustion engines
- 8/14 • Control of attitude or depth (of torpedoes F42B 19/00)

- 8/16 • • by direct use of propellers or jets
- 8/18 • • by hydroplanes

- 8/20 • • Steering equipment (B63G 8/16, B63G 8/18 take precedence; steering of vessels in general B63H 25/00) [2]

- 8/22 • • Adjustment of buoyancy by water ballasting; Emptying equipment for ballast tanks (stabilising vessels using ballast tanks B63B 43/06)

- 8/24 • • Automatic depth adjustment; Safety equipment for increasing buoyancy, e.g. detachable ballast, floating bodies

- 8/26 • • Trimming equipment

- 8/28 • Arrangement of offensive or defensive equipment

B63G

- 8/30 • • of artillery or missile-launching means
- 8/32 • • of torpedo-launching means (torpedo-launching means per se F41F 3/00); of torpedo stores or handlers [2]
- 8/33 • • of mine-laying means (mine-laying vessels other than submarines B63G 6/00) [2]
- 8/34 • • Camouflage (for other vessels B63G 13/02; in general F41H 3/00)
- 8/36 • Adaptations of ventilation, cooling, heating, or air-conditioning (reconditioning air in sealed chambers A62B 11/00; for vessels in general B63J 2/00; air-conditioning in general F24F)
- 8/38 • Arrangement of visual or electronic watch equipment, e.g. of periscopes, of radar
- 8/39 • Arrangements of sonic watch equipment, e.g. low-frequency, sonar
- 8/40 • Rescue equipment for personnel (life-saving in water, not specially adapted for submarine personnel B63C)
- 8/41 • • Capsules, chambers, water-tight boats, or the like, detachable from the submarine [2]
- 8/42 • Towed underwater vessels [2]
- 9/00 Other offensive or defensive arrangements on vessels against submarines, torpedoes, or mines**
- 9/02 • Means for protecting vessels against torpedo attack (armoured hulls B63B 3/10)
- 9/04 • • Nets or the like (net barriers for harbour defence F41H 11/00)
- 9/06 • for degaussing vessels (demagnetising in general H01F 13/00)
- 11/00 Aircraft carriers, i.e. warships equipped with a flight deck on which airplanes can be launched and landed and with a hangar deck for servicing airplanes** (other vessels or floating structures for aircraft B63B 35/50; aircraft-carrier-deck installations B64F 1/00)
- 13/00 Other offensive or defensive arrangements on vessels; Vessels characterised thereby**
- 13/02 • Camouflage (for submarines B63G 8/34; in general F41H 3/00) [2]

B63H MARINE PROPULSION OR STEERING (propulsion of air-cushion vehicles B60V 1/14; peculiar to submarines, other than nuclear propulsion, B63G; peculiar to torpedoes F42B 19/00)

Subclass index

PROPULSIVE ELEMENTS; ARRANGEMENTS THEREOF

- Acting directly on water: elements; arrangements.....1/00, 3/00, 5/00
- Arrangements of means acting directly on air.....7/00
- Acted on by wind propulsive devices.....9/00

PARTICULAR MEANS

- by reaction; by muscle power; by anchored cable; wind motors driving water-engaging devices.....11/00, 16/00, 15/00, 13/00
- Other.....19/00

OUTBOARD PROPULSION UNITS.....20/00

PROPULSION POWER PLANT.....21/00

TRANSMISSION FROM POWER PLANT TO PROPULSIVE ELEMENTS.....23/00

STEERING, DYNAMIC ANCHORING.....25/00

- 1/00 Propulsive elements directly acting on water** (jet propulsion B63H 11/00; attachment of propellers on shafts B63H 23/34)
- 1/02 • of rotary type (endless-track type B63H 1/34)
- 1/04 • • with rotation axis substantially at right angles to propulsive direction, e.g. paddle wheels
- 1/06 • • • with adjustable vanes or blades
- 1/08 • • • • with cyclic adjustment
- 1/10 • • • • • with blades extending axially from a disc-shaped rotary body
- 1/12 • • with rotation axis substantially in propulsive direction
- 1/14 • • • Propellers (pitch changing B63H 3/00)
- 1/15 • • • • having vibration damping means (anti-vibration mounting of propulsion plant B63H 21/30; means for damping vibration in general F16F) [4]
- 1/16 • • • • having a shrouding ring attached to blades
- 1/18 • • • • • with means for diminishing cavitation, e.g. supercavitation
- 1/20 • • • • • Hubs; Blade connections
- 1/22 • • • • • the blades being foldable
- 1/24 • • • • • • automatically foldable or unfoldable
- 1/26 • • • • • Blades
- 1/28 • • • • • Other means for improving propeller efficiency (water-guiding elements formed by shape of hull B63H 5/00)
- 1/30 • of non-rotary type
- 1/32 • • Flaps, pistons, or the like, reciprocating in propulsive direction
- 1/34 • • of endless-track type
- 1/36 • • • Swinging flaps, e.g. fishtail type [4]
- 1/37 • • • Moving-wave propellers, i.e. wherein the propelling means comprise a flexible undulating structure [4]
- 1/38 • characterised solely by flotation properties, e.g. drums
- 3/00 Propeller-blade pitch changing**
- 3/02 • actuated by control element coaxial with propeller shaft, e.g. the control element being rotary
- 3/04 • • the control element being reciprocable
- 3/06 • characterised by use of non-mechanical actuating means, e.g. electrical
- 3/08 • • fluid
- 3/10 • characterised by having pitch control conjoint with propulsion-plant control
- 3/12 • the pitch being adjustable only when propeller is stationary

5/00	Arrangements on vessels of propulsion elements directly acting on water	11/12	• the propulsive medium being steam or other gas
5/02	• of paddle wheels, e.g. of stern wheels	11/14	• • the gas being produced by combustion
5/03	• • movably mounted with respect to the hull, e.g. having means to reposition paddle wheel assembly, or to retract paddle or to change paddle attitude [4]	11/16	• • the gas being produced by other chemical processes
5/04	• • with stationary water-guiding elements	13/00	Effecting propulsion by wind motors driving water-engaging propulsive elements
5/07	• of propellers (forming part of outboard propulsion units B63H 20/00) [6]	15/00	Effecting propulsion by use of vessel-mounted driving mechanisms co-operating with anchored chains or the like
5/08	• • of more than one propeller	16/00	Effecting propulsion by muscle power (swimming frameworks with swimmer-operated driving mechanisms A63B 35/00; land-based training equipment for rowing or sculling A63B 69/06)
5/10	• • of coaxial type, e.g. of counter-rotative type	16/02	• Movable thwarts; Foot-rests
5/125	• • movably mounted with respect to hull, e.g. adjustable in direction (movably mounted for steering purposes only B63H 25/42) [6]	16/04	• Oars; Sculls; Paddles; Poles
5/14	• • characterised by being mounted in non-rotating ducts or rings, e.g. adjustable for steering purposes (shrouding ring attached to blades B63H 1/16; jet propulsion B63H 11/00)	16/06	• Rowlocks; Mountings therefor
5/15	• • • Nozzles, e.g. Kort-type [4]	16/067	• • Rowlocks mounted on a structure extending beyond the gunwale of the vessel [4]
5/16	• • characterised by being mounted in recesses; with stationary water-guiding elements; Means to prevent fouling of the propeller, e.g. guards, cages or screens (anti-fouling paints C09D 5/16)	16/073	• • having oar shaft restraining means [4]
5/18	• • of emergency propellers, e.g. arranged at the side of the vessel	16/08	• Other apparatus for converting muscle power into propulsive effort (general features of propulsion elements, <u>see</u> the relevant groups)
5/20	• • • movable from a working position to a non-working position [4]	16/10	• • for bow-facing rowing
7/00	Arrangements of propulsive devices directly acting on air (jet propulsion B63H 11/00)	16/16	• • using reciprocating pull cable, i.e. a strand-like member movable alternately backward and forward [4]
7/02	• using propellers (air-screws of aircraft type B64C)	16/18	• • using sliding handle or pedal, i.e. the motive force being transmitted to a propelling means by means of a lever operated by the hand or foot of the occupant [4]
9/00	Propulsive devices directly acted on by wind; Arrangements thereof (air-driven propellers driving underwater propulsive elements B63H 13/00)	16/20	• • using rotary cranking arm [4]
9/02	• using Magnus effect	19/00	Effecting propulsion of vessels, not otherwise provided for
9/04	• using sails or like wind-catching surfaces (sailing sledges or ice boats B62B 15/00)	19/02	• by using energy derived from movement of ambient water, e.g. from rolling or pitching of vessels
9/06	• • Construction or types of sails; Arrangements thereof on vessels	19/04	• • propelled by water current
9/08	• • Connections of sails to masts, spars, or the like	19/06	• by discharging gas into ambient water (with jet action B63H 11/12; for reducing surface friction B63B 1/38)
9/10	• • • Spars; Running rigging, e.g. reefing equipment (staying of masts B63B 15/02)	19/08	• by direct engagement with water-bed or ground
11/00	Effecting propulsion by jets, i.e. reaction principle (steering by jet action B63H 25/46; power plant <u>per se</u> , <u>see</u> the relevant classes)	20/00	Outboard propulsion units, i.e. propulsion units having a substantially vertical power leg mounted outboard of a hull and terminating in a propulsion element, e.g. "outboard motors", Z-drives (power plants <u>per se</u> , <u>see</u> the relevant classes); Arrangements thereof on vessels [6]
11/01	• having means to prevent foreign material from clogging fluid passageway [4]	20/02	• Mounting of propulsion units (B63H 20/08 takes precedence) [6]
11/02	• the propulsive medium being ambient water	20/04	• • in a well [6]
11/04	• • by means of pumps	20/06	• • on an intermediate support [6]
11/06	• • • of reciprocating type	20/08	• Means enabling movement of the position of the propulsion element, e.g. for trim, tilt, or steering (transmissions allowing movement of the propulsion element B63H 20/14); Control of trim or tilt (initiating means for steering B63H 25/02) [6]
11/08	• • • of rotary type	20/10	• • Means enabling trim or tilt, or lifting of the propulsion element when an obstruction is hit; Control of trim or tilt [6]
11/09	• • • by means of pressure pulses applied to a column of liquid, e.g. by ignition of an air/gas or vapour mixture [4]	20/12	• • Means enabling steering [6]
11/10	• • having means for deflecting jet or influencing cross-section thereof	20/14	• Transmission between propulsion power unit and propulsion element [6]
11/103	• • • having means to increase efficiency of propulsive fluid, e.g. discharge pipe provided with means to improve the fluid flow [4]	20/16	• • allowing movement of the propulsion element in a horizontal plane only, e.g. for steering [6]
11/107	• • • Direction control of propulsive fluid [4]		
11/11	• • • with bucket or clamshell-type reversing means [4]		
11/113	• • • • Pivoted outlet [4]		
11/117	• • • • Pivoted vane [4]		

- 20/18 • • allowing movement of the propulsion element about a longitudinal axis, e.g. the through transom shaft (B63H 20/22 takes precedence) [6]
- 20/20 • • with provision for reverse drive [6]
- 20/22 • • allowing movement of the propulsion element about at least a horizontal axis without disconnection of the drive, e.g. using universal joints [6]
- 20/24 • Exhaust gas outlets [6]
- 20/26 • • passing through the propeller or its hub [6]
- 20/28 • Cooling-water intakes [6]
- 20/30 • • for flushing [6]
- 20/32 • Housings [6]
- 20/34 • • comprising stabilising fins [6]
- 20/36 • Transporting or testing stands; Protection of power legs [6]

- 21/00 Use of propulsion power plant or units on vessels** (use of outboard propulsion units B63H 20/00; hull reinforcements for carrying propulsion power plant or units B63B 3/70; propulsion power plant or units per se, see the relevant classes) [6]
- Note(s)**
- This group covers:
 - arrangements of propulsion power plant or units on vessels;
 - to some extent, adaptations of such plant or units to facilitate such arrangements.
- 21/02 • the vessels being steam-driven (B63H 21/18 takes precedence)
- 21/04 • • relating to positive-displacement steam engines
- 21/06 • • relating to steam turbines
- 21/08 • • relating to steam boilers
- 21/10 • • relating to condensers or engine-cooling fluid heat-exchangers
- 21/12 • the vessels being motor-driven (B63H 21/175, B63H 21/18 take precedence) [4]
- 21/14 • • relating to internal-combustion engines
- 21/16 • • relating to gas turbines
- 21/165 • • by hydraulic fluid motor, i.e. wherein a liquid under pressure is utilised to rotate the propelling means [4]
- 21/17 • • by electric motor (electrically-propelled vehicles B60L) [4]
- 21/175 • the vessel being powered by land vehicle supported by vessel [4]
- 21/18 • the vessels being powered by nuclear energy
- 21/20 • the vessels being powered by combinations of different types of propulsion units
- 21/21 • Control means for engine or transmission, specially adapted for use on marine vessels [4]
- 21/22 • the propulsion power units being controlled from exterior of engine room, e.g. from navigation bridge; Arrangements of order telegraphs (order telegraphs per se G08B 9/00)
- 21/30 • Mounting of propulsion plant or unit, e.g. for anti-vibration purposes (hull reinforcements therefor B63B 3/70; vibration-dampers, suppression of vibration in systems F16F; engine beds F16M)
- 21/32 • Arrangements of propulsion power-unit exhaust uptakes; Funnels peculiar to vessels (engine exhausts in general F01N; flue devices for furnaces in general F23J)
- 21/34 • • having exhaust-gas deflecting means

- 21/36 • Covers or casing arranged to protect plant or unit from marine environment (hull construction B63B 3/00) [4]
- 21/38 • Apparatus or methods specially adapted for use on marine vessels, for handling power plant or unit liquids, e.g. lubricants, coolants, fuels or the like [4]

- 23/00 Transmitting power from propulsion power plant to propulsive elements** (changing pitch of propellers B63H 3/00; adaptation of transmission to allow adjustment in direction of propellers B63H 5/125; transmission between wind motors and propulsive elements B63H 13/00, in outboard propulsion units B63H 20/14; adaptation of transmission to allow adjustment of location of propellers B63H 20/08; for vehicles in general B60K; driving auxiliary machinery B63J; transmission elements per se F16)
- 23/02 • with mechanical gearing
- 23/04 • • the main transmitting element, e.g. shaft, being substantially vertical
- 23/06 • • for transmitting drive from a single propulsion power unit
- 23/08 • • • with provision for reversing drive
- 23/10 • • for transmitting drive from more than one propulsion power unit (for synchronisation of propulsive elements B63H 23/28)
- 23/12 • • • allowing combined use of the propulsion power units
- 23/14 • • • • with unidirectional drive or where reversal is immaterial
- 23/16 • • • • characterised by provision of reverse drive
- 23/18 • • • for alternative use of the propulsion power units
- 23/20 • • • • with separate forward and astern propulsion power units, e.g. turbines
- 23/22 • with non-mechanical gearing
- 23/24 • • electric
- 23/26 • • fluid
- 23/28 • with synchronisation of propulsive elements
- 23/30 • characterised by use of clutches
- 23/32 • Other parts
- 23/34 • • Propeller shafts; Paddle-wheel shafts; Attachment of propellers on shafts (shafts in general F16C; attachment of a member on a shaft in general F16D 1/06)
- 23/35 • • • Shaft braking or locking, i.e. means to slow or stop the rotation of the propeller shaft or to prevent the shaft from initial rotation [4]
- 23/36 • • Shaft tubes (propeller-shaft tunnels B63B 11/06; shaft-tube seals F16J)

- 25/00 Steering; Slowing-down otherwise than by use of propulsive elements** (using adjustably-mounted propeller ducts or rings for steering B63H 5/14; using movably-installed outboard propulsion units B63H 20/00); **Dynamic anchoring, i.e. positioning vessels by means of main or auxiliary propulsive elements** (anchoring, other than dynamic, B63B 21/00; equipment to decrease pitch, roll, or like unwanted vessel movements by auxiliary jets or propellers B63B 39/08)
- 25/02 • Initiating means for steering
- 25/04 • • automatic, e.g. reacting to compass
- 25/06 • Steering by rudders (by rudders carrying propellers B63H 25/42)
- 25/08 • • Steering gear
- 25/10 • • • with mechanical transmission
- 25/12 • • • with fluid transmission

- | | | | | | |
|-------|-----------|--|-------|-------|---|
| 25/14 | • • • | power assisted; power driven, i.e. using steering engine | 25/36 | • • | Rudder-position indicators |
| 25/16 | • • • | with alternative muscle or power- operated steering | 25/38 | • • | Rudders (stern posts B63B 3/40) |
| 25/18 | • • • | Transmitting of movement of initiating means to steering engine | 25/40 | • • • | using Magnus effect |
| 25/20 | • • • • | by mechanical means | 25/42 | • | Steering or dynamic anchoring by propulsive elements (by jets B63H 25/46); Steering or dynamic anchoring by propellers used therefor only; Steering or dynamic anchoring by rudders carrying propellers [2] |
| 25/22 | • • • • | by fluid means | 25/44 | • | Steering or slowing-down by extensible flaps or the like |
| 25/24 | • • • • | by electrical means | 25/46 | • | Steering or dynamic anchoring by jets [2] |
| 25/26 | • • • • | Steering engines | 25/48 | • | Steering or slowing-down by deflection of propeller slip-stream otherwise than by rudder |
| 25/28 | • • • • | of fluid type | 25/50 | • | Slowing-down means not otherwise provided for |
| 25/30 | • • • • • | hydraulic | 25/52 | • | Parts for steering not otherwise provided for |
| 25/32 | • • • • • | steam | | | |
| 25/34 | • • • • | Transmitting of movement of engine to rudder, e.g. using quadrants, brakes | | | |

B63J AUXILIARIES ON VESSELS

Note(s)

In this subclass, the following term is used with the meaning indicated:

- | | | | |
|-------------|---|--------------|--|
| • | "auxiliaries" means only apparatus specially arranged for rendering vessels, in general, habitable or operative, in so far as such apparatus is not specifically provided for in another subclass of class B63. | | |
| 1/00 | Arrangements of installations for producing fresh water, e.g. by evaporation and condensation of sea water | 2/10 | • • Ventilating-shafts; Air-scoops (for port-holes B63B 19/04) |
| 2/00 | Arrangements of ventilation, heating, cooling, or air-conditioning (for vehicles in general B60H; ventilating for cleaning tanks B63B 57/04; for underwater vessels, e.g. submarines, B63G 8/36) | 2/12 | • Heating; Cooling |
| 2/02 | • Ventilation; Air-conditioning | 2/14 | • • of liquid-freight-carrying tanks |
| 2/04 | • • of living spaces | 3/00 | Driving of auxiliaries (transmission elements <u>per se</u> F16) |
| 2/06 | • • of engine rooms | 3/02 | • from propulsion power plant |
| 2/08 | • • of holds (heating or cooling of liquid-freight-carrying tanks B63J 2/14; arrangements for stowing frozen goods in vessels B63B 25/26) | 3/04 | • from power plant other than propulsion power plant |
| | | 4/00 | Arrangements of installations for treating waste-water or sewage (soil-water discharges B63B 29/16) [3] |
| | | 99/00 | Subject matter not provided for in other groups of this subclass [2009.01] |