

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

TRANSPORTING

B63 SHIPS OR OTHER WATERBORNE VESSELS; RELATED EQUIPMENT

B63H MARINE PROPULSION OR STEERING ([{arrangement of propulsion or steering means on amphibious vehicles B60F 3/0007; } propulsion of air-cushion vehicles B60V 1/14; peculiar to submarines, other than nuclear propulsion, B63G; peculiar to torpedoes F42B 19/00](#))

NOTE

In this subclass, the indexing codes [B63B 2201/00](#) - [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means

1/00	Propulsive elements directly acting on water (jet propulsion B63H 11/00; attachment of propellers on shafts B63H 23/34)	2001/185	. . . . . {Surfacing propellers, i.e. propellers specially adapted for operation at the water surface, with blades incompletely submerged, or piercing the water surface from above in the course of each revolution}
2001/005	. {using Magnus effect}		
1/02	. of rotary type (endless-track type B63H 1/34)		
1/04	. . with rotation axis substantially at right angles to propulsive direction	1/20	. . . . Hubs; Blade connections
2001/045	. . . {with partially immersed nutating or undulated disks, e.g. wobble plates}	1/22	. . . . . the blades being foldable
1/06	. . . with adjustable vanes or blades	1/24	. . . . . automatically foldable or unfoldable
1/08	. . . . with cyclic adjustment	1/26	. . . . Blades
1/10	. . . . . of Voith Schneider type, i.e. with blades extending axially from a disc-shaped rotary body	1/265	. . . . . {each blade being constituted by a surface enclosing an empty space, e.g. forming a closed loop}
2001/105	. . . . . {with non-mechanical control of individual blades, e.g. electric or hydraulic control}	1/28	. . . . Other means for improving propeller efficiency (water-guiding elements formed by shape of hull B63H 5/00)
1/12	. . with rotation axis substantially in propulsive direction	2001/283	. . . . . {Propeller hub caps with fins having a pitch different from pitch of propeller blades, or a helix hand opposed to the propellers' helix hand}
2001/122	. . . {Single or multiple threaded helicoidal screws, or the like, comprising foils extending over a substantial angle; Archimedean screws}	2001/286	. . . . . {Injection of gas into fluid flow to propellers, or around propeller blades}
2001/125	. . . . {with helicoidal foils projecting from outside surfaces of floating rotatable bodies, e.g. rotatable, cylindrical bodies}	1/30	. of non-rotary type
2001/127	. . . . {with helicoidal foils projecting from inside surfaces of rotating shrouds; Archimedean screws}	1/32	. . Flaps, pistons, or the like, reciprocating in propulsive direction
1/14	. . . Propellers (pitch changing B63H 3/00)	1/34	. . of endless-track type
2001/145	. . . . {comprising blades of two or more different types, e.g. different lengths}	2001/342	. . . {with tracks substantially parallel to propulsive direction}
1/15	. . . . having vibration damping means (anti-vibration mounting of propulsion plant B63H 21/30; means for damping vibration in general F16F)	2001/344	. . . . {having paddles mounted in fixed relation to tracks, or to track members}
1/16	. . . . having a shrouding ring attached to blades	2001/346	. . . . {having paddles movably mounted on the track or on track members, e.g. articulated, or with means for cyclically controlling the paddles' angular position or orientation}
2001/165	. . . . . {Hubless propellers, e.g. peripherally driven shrouds with blades projecting from the shrouds' inside surfaces}	2001/348	. . . {with tracks oriented transverse to propulsive direction}
1/18	. . . . with means for diminishing cavitation, e.g. supercavitation	1/36	. . swinging sideways, e.g. fishtail type
		1/37	. . Moving-wave propellers, i.e. wherein the propelling means comprise a flexible undulating structure
		1/38	. characterised solely by flotation properties, e.g. drums

- 3/00 Propeller-blade pitch changing** {(aircraft propellers [B64C 11/30](#); rotors of turbines [F01D 7/00](#); axial wind motors [F03D 7/022](#); axial-flow pumps [F04D 29/00](#))}
- 3/002 . {with individually adjustable blades}
 - 2003/004 . {comprising means for locking blades in position}
 - 2003/006 . {Detecting or transmitting propeller-blade pitch angle}
 - 3/008 . {characterised by self-adjusting pitch, e.g. by means of springs, centrifugal forces, hydrodynamic forces}
 - 3/02 . actuated by control element coaxial with propeller shaft, e.g. the control element being rotary {([B63H 3/002](#) takes precedence, fluid actuated [B63H 3/081](#))}
 - 3/04 . . the control element being reciprocable
 - 3/06 . characterised by use of non-mechanical actuating means, e.g. electrical ([B63H 3/002](#) takes precedence)
 - 3/08 . . fluid
 - 3/081 . . . {actuated by control element coaxial with the propeller shaft}
 - 3/082 {the control element being axially reciprocable}
 - 2003/084 {with annular cylinder and piston}
 - 2003/085 {the control element having means for preventing rotation together with the propeller}
 - 2003/087 . . . {using gaseous fluids, e.g. steam or air}
 - 2003/088 . . . {characterised by supply of fluid actuating medium to control element, e.g. of hydraulic fluid to actuator co-rotating with the propeller}
 - 3/10 . characterised by having pitch control conjoint with propulsion plant control
 - 3/12 . the pitch being adjustable only when propeller is stationary ([B63H 3/002](#) takes precedence)
- 5/00 Arrangements on vessels of propulsion elements directly acting on water**
- 2005/005 . {Front propulsors, i.e. propellers, paddle wheels, or the like substantially arranged ahead of the vessels' midship section}
 - 5/02 . of paddle wheels, e.g. of stern wheels
 - 2005/025 . . {of Voith Schneider type}
 - 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
 - 5/04 . . with stationary water-guiding elements
 - 5/07 . of propellers (forming part of outboard units {or Z-drives} [B63H 20/00](#))
 - 2005/075 . . {using non-azimuthing podded propulsor units, i.e. podded units without means for rotation about a vertical axis, e.g. rigidly connected to the hull}
 - 5/08 . . of more than one propeller
 - 5/10 . . . of coaxial type, e.g. of counter-rotative type
 - 2005/103 {of co-rotative type, i.e. rotating in the same direction, e.g. twin propellers}
 - 2005/106 {with drive shafts of second or further propellers co-axially passing through hub of first propeller, e.g. counter-rotating tandem propellers with co-axial drive shafts}
- 5/125 . . . movably mounted with respect to hull, e.g. adjustable in direction {, e.g. podded azimuthing thrusters} {(outboard units or Z-drives [B63H 20/00](#); } movably mounted for steering purposes only, {rudders carrying propellers} [B63H 25/42](#))
 - 5/1252 {the ability to move being conferred by gearing in transmission between prime mover and propeller and the propulsion unit being other than in a "Z" configuration}
 - 2005/1254 {Podded azimuthing thrusters, i.e. podded thruster units arranged inboard for rotation about vertical axis}
 - 2005/1256 {with mechanical power transmission to propellers}
 - 2005/1258 {with electric power transmission to propellers, i.e. with integrated electric propeller motors}
 - 5/14 . . characterised by being mounted in non-rotating ducts or rings, e.g. adjustable for steering purpose (shrouding ring attached to blades [B63H 1/16](#); jet propulsion [B63H 11/00](#))
 - 5/15 Nozzles, e.g. Kort-type
 - 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](#))
 - 5/165 . . . {Propeller guards, line cutters or other means for protecting propellers or rudders}
 - 5/18 . . of emergency propellers, e.g. arranged at the side of the vessel
 - 5/20 movable from a working position to a non-working position {(movable arrangements of propellers in general [B63H 5/125](#); outboard propulsion units in general [B63H 20/00](#); steering or dynamic anchoring by propellers used therefore only, or by rudders carrying propellers [B63H 25/42](#))}
- 7/00 Arrangements of propulsive devices directly acting on air** (jet propulsion [B63H 11/00](#))
- 7/02 . using propellers (air-screws of aircraft type [B64C](#))
- 9/00 Propulsive devices directly acted on by wind; Arrangements thereof** (air driven propellers driving underwater propulsive elements [B63H 13/00](#))
- 9/02 . using Magnus effect
 - 9/04 . using sails or like wind-catching surfaces (sailing sledges or ice boats [B62B 15/00](#) {; masts for sailing boats [B63B 15/0083](#); sail arrangements for wind-driven boards [B63B 35/7973](#))}
 - 9/06 . . Construction or types of sails; Arrangements thereof on vessels
 - 9/0607 {Rigid or aerofoil type sails}
 - 9/0614 {Inflatable aerofoil sails}
 - 2009/0621 {Rigid sails comprising one or more pivotally supported panels}
 - 2009/0628 {the panels being pivotable about horizontal axes}
 - 2009/0635 {the panels being pivotable about vertical axes}
 - 9/0642 {Sail battens}
 - 2009/065 {with variable rigidity, e.g. inflatable}
 - 9/0657 {Construction of sails (sails with detachable sections [B63B 35/7983](#))}

- 2009/0664 {of spinnakers, gennakers, or the like balloon sails}
- 2009/0671 {of molded sails, i.e. of sails manufactured by shaping deformable material on molds, e.g. thermoplastic film on heatable molds; Methods of manufacturing molded sails}
- 2009/0678 {of laminated sails with oriented fibres, i.e. fibres or filaments arranged along predefined lines substantially parallel to the principal stress trajectories; Methods of manufacturing therefor}
- 9/0685 . . . {Sails pivotally mounted at a mast-tip; Kite sails ([B63B 35/7976](#) takes precedence)}
- 2009/0692 {Methods, or means specially adapted for controlling kite sails, e.g. control bars, harnesses, automated control units, or methods of their use}
- 9/08 . . Connections of sails to masts, spars, or the like
- 2009/082 . . . {Booms, or the like}
- 2009/084 . . . {Gooseneck bearings, i.e. bearings for pivotal support of booms on masts}
- 2009/086 . . . {by sliders, i.e. by shoes sliding in, or guided by channels, tracks or rails; , for connecting luffs, leeches, battens, or the like to masts, spars or booms}
- 2009/088 . . . {Means for tensioning sheets, or other running rigging, adapted for being guided on rails, or the like mounted on deck, e.g. travellers or carriages with pulleys}
- 9/10 . . . Running rigging, e.g. reefing equipment ([staying of masts B63B 15/02](#))
- 9/1007 {Trapeze systems ([harnesses for windsurfers B63B 35/7993](#))}
- 9/1014 {with elastic connection to harnesses}
- 9/1021 {Reefing}
- 9/1028 {by furling around stays}
- 9/1035 {by furling around or inside the mast}
- 9/1042 {by furling around or inside the boom}
- 2009/105 {using drives for actuating reefing mechanism, e.g. roll reefing drives}
- 2009/1057 {using sheaves being friction driven by endless ropes or by ropes having two free ends}
- 2009/1064 {using drums driven by winding or unwinding single ropes onto or from the drums}
- 9/1071 {Spinnaker poles or rigging, e.g. combined with spinnaker handling}
- 9/1078 {Boom brakes}
- 9/1085 {Boom vang}
- 9/1092 {Means for stowing, or securing sails when not in use ([B63H 9/1021](#) takes precedence)}
- 11/00** **Effecting propulsion by jets, i.e. reaction principle** ([steering by {auxiliary} jet action, {rudders carrying jets} \[B63H 25/46\]\(#\); power plant \[per se, see the relevant classes\]\(#\)\)](#)
- 2011/002 . . {using Coanda effect, i.e. the tendency of fluid jets to be attracted to nearby surfaces}
- 2011/004 . . {using the eductor or injector pump principle, e.g. jets with by-pass fluid paths}
- 2011/006 . . {with propulsive medium supplied from sources external to propelled vessel, e.g. water from public water supply}
- 2011/008 . . {Arrangements of two or more jet units}
- 11/01 having means to prevent foreign material from clogging fluid passage way
- 11/02 the propulsive medium being ambient water
- 11/025 . . . {by means of magneto-hydro-dynamic forces}
- 11/04 . . . by means of pumps
- 2011/043 . . . {with means for adjusting or varying pump inlets, e.g. means for varying inlet cross section area}
- 2011/046 . . . {comprising means for varying pump characteristics, e.g. rotary pumps with variable pitch impellers, or adjustable stators}
- 11/06 of reciprocating type
- 11/08 of rotary type
- 2011/081 {with axial flow, i.e. the axis of rotation being parallel to the flow direction}
- 2011/082 {with combined or mixed flow, i.e. the flow direction being a combination of centrifugal flow and non-centrifugal flow, e.g. centripetal or axial flow}
- 2011/084 {with two or more pump stages}
- 2011/085 {having counter-rotating impellers}
- 2011/087 {with radial flow}
- 2011/088 {using shear forces, e.g. disc pumps or Tesla pumps}
- 11/09 by means of pressure pulses applied to a column of liquid, e.g. by ignition of an air/gas or vapour mixture
- 11/10 . . . having means for deflecting jet or influencing cross-section thereof
- 11/101 {having means for deflecting jet into a propulsive direction substantially parallel to the plane of the pump outlet opening}
- 11/102 {the inlet opening and the outlet opening of the pump being substantially coplanar}
- 11/103 having means to increase efficiency of propulsive fluid, e.g. discharge pipe provided with means to improve the fluid flow
- 11/107 Direction control of propulsive fluid ([{B63H 11/101} takes precedence](#))
- 11/11 with bucket or clamshell-type reversing means
- 11/113 Pivoted outlet
- 11/117 Pivoted vane
- 11/12 . . . the propulsive medium being steam or other gas
- 11/14 . . . the gas being produced by combustion
- 11/16 . . . the gas being produced by other chemical processes
- 13/00** **Effecting propulsion by wind motors driving water-engaging propulsive elements**
- 15/00** **Effecting propulsion by use of vessel-mounted driving mechanisms co-operating with anchored chains or the like**
- 16/00** **Effecting propulsion by muscle power** ([swimming frameworks, {i.e. apparatus fixed to or held by the swimmer or diver} with swimmer-operated driving mechanisms \[A63B 35/00\]\(#\); land-based training equipment for rowing or sculling \[A63B 69/06\]\(#\)\)](#)
- 2016/005 . . {used on vessels dynamically supported, or lifted out of the water by hydrofoils}
- 16/02 . . Movable thwarts; Footrests
- 16/04 . . Oars; Sculls; Paddles; Poles

- 2016/043 . . {Stop sleeves or collars for positioning oars in rowlocks, e.g. adjustable}
- 2016/046 . . {Oars for single-oar sculling, i.e. for propelling boats by swinging single stern-mounted oars from side to side; Use or arrangements thereof on boats}
- 16/06 . Rowlocks; Mountings therefor
- 2016/063 . . {Rowlocks mounted on movable support structures}
- 16/067 . . Rowlocks mounted on a structure extending beyond the gunwale of the vessel
- 16/073 . . having oar shaft restraining means
- 16/08 . Other apparatus for converting muscle power into propulsive effort ([general features of propulsion elements](#), [see the relevant groups](#))
- 2016/085 . . {comprising means for transmitting muscular power applied in oscillatory or rotary manner to a rotary input shaft of a reversing transmission, e.g. alternatively allowing for ahead or astern propulsion}
- 16/10 . . for bow-facing rowing
- 16/102 . . . {by using an inverting mechanism between the handgrip and the blade, e.g. a toothed transmission}
- 16/105 {the mechanism having articulated rods}
- 16/107 . . . {by placing the fulcrum outside the segment defined by handgrip and blade}
- 16/12 . . {using hand levers, cranks, pedals, or the like, e.g. water cycles, boats propelled by boat-mounted pedal cycles}
- WARNING**
- This group is no longer used for classification of new documents as from 01.01.2012. The backlog of this group is being continuously reclassified to groups [B63H 16/16](#) - [B63H 16/20](#)
- 16/14 . . . {for propelled drive}
- WARNING**
- This group is no longer used for classification of new documents as from 01.01.2012. The backlog of this group is being continuously reclassified to groups [B63H 16/16](#) - [B63H 16/20](#)
- 16/16 . . using reciprocating pull cable, i.e. a strand-like member movable alternately backward and forward
- 2016/165 . . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}
- 16/18 . . using sliding {or pivoting} 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
- 2016/185 . . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}
- 16/20 . . using rotary cranking arm
- 2016/202 . . . {specially adapted or arranged for being actuated by the feet of the user, e.g. using bicycle-like pedals}
- 2016/205 {making use of standard bicycles}
- 2016/207 {without wheels}
- 19/00 Effecting propulsion of vessels, not otherwise provided for**
- 19/02 . by using energy derived from movement of ambient water, e.g. from rolling or pitching of vessels
- 19/04 . . propelled by water current
- 19/06 . by discharging gas into ambient water ([with jet action B63H 11/12](#); for reducing surface friction [B63B 1/38](#))
- 19/08 . by direct engagement with water-bed or ground
- 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 {with level bridging shaft arranged substantially outboard} (power plants [per se](#), [see the relevant classes](#)); Arrangements thereof on vessels {transom panels for outboard motors on inflatable boats [B63B 7/087](#); tug-type floating propeller units [B63B 35/665](#); rudders carrying propellers [B63H 25/42](#); rudders carrying jets [B63H 25/46](#); engines of outboard propulsion units [F02B 61/045](#)}**
- 20/001 . {Arrangements, apparatus and methods for handling fluids used in outboard drives (for handling exhaust gas [B63H 20/24](#); for handling cooling-water [B63H 20/28](#); cooling outboard marine engines [F01P 3/202](#); air intakes for outboard marine engines [F02M 35/167](#))}
- 20/002 . . {for handling lubrication liquids (in engines, e.g. outboard marine engines, [F01M](#))}
- 2020/003 . {Arrangements of two, or more outboard propulsion units}
- 2020/005 . {Arrangements of two or more propellers, or the like on single outboard propulsion units}
- 2020/006 . . {of coaxial type, e.g. of counter-rotative type}
- 20/007 . {Trolling propulsion units (trolling plates for slowing down [B63H 25/50](#); dynamo-electric machines of trolling units [H02K](#))}
- 2020/008 . {Tools, specially adapted for maintenance, mounting, repair, or the like of outboard propulsion units, e.g. of outboard motors or Z-drives}
- 20/02 . Mounting of propulsion units ([B63H 20/08](#) takes precedence)
- 2020/025 . . {Sealings specially adapted for mountings of outboard drive units; Arrangements thereof, e.g. for transom penetrations}
- 20/04 . . in a well
- 20/06 . . on an intermediate support
- 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](#))
- 20/10 . . Means enabling trim or tilt, or lifting of the propulsion element when an obstruction is hit; Control of trim or tilt
- 2020/103 . . . {using a flexible member for enabling or controlling tilt or lifting, e.g. a cable}
- 20/106 . . . {Means enabling lifting of the propulsion element in a substantially vertical, linearly sliding movement}
- 20/12 . . Means enabling steering
- 20/14 . Transmission between propulsion power unit and propulsion element

- 2020/145 . . {comprising means for permitting telescoping movement of components of the outboard propulsion unit, e.g. telescoping movement of power leg}
- 20/16 . . allowing movement of the propulsion element in a horizontal plane only, e.g. for steering
- 20/18 . . allowing movement of the propulsion element about a longitudinal axis, e.g. the through transom shaft ([B63H 20/22](#) takes precedence)
- 20/20 . . with provision for reverse drive
- 20/22 . . allowing movement of the propulsion element about at least a horizontal axis without disconnection of the drive, e.g. using universal joints
- 20/24 . {Arrangements, apparatus and methods for handling exhaust gas in outboard drives, e.g.} exhaust gas outlets {(in engines, e.g. outboard marine engines, [F01N](#))}
- 20/245 . . {Exhaust gas outlets ([B63H 20/26](#) takes precedence)}
- 20/26 . . {Exhaust gas outlets} passing through the propeller or its hub
- 20/28 . {Arrangements, apparatus and methods for handling cooling-water in outboard drives, e.g.} cooling-water intakes {(cooling circuits for outboard marine engines [F01P 3/202](#))}
- 20/285 . . {Cooling-water intakes ([B63H 20/28](#) takes precedence)}
- 20/30 . . {Cooling-water intakes} for flushing {(circuits for flushing outboard marine engines [F01P 3/205](#))}
- 20/32 . Housings {(air intakes for outboard engines [F02M 35/167](#))}
- 2020/323 . . {Gear cases}
- 2020/326 . . . {having a dividing plane substantially in plane with the axes of the transmission shafts}
- 20/34 . . comprising stabilising fins {, foils, anticavitation plates, splash plates, or rudders (rudders carrying propellers [B63H 25/42](#); rudders carrying jets [B63H 25/46](#))}
- 20/36 . Transporting or testing stands {(hand carts for transporting outboard units [B62B](#); measuring torque [G01L 3/00](#), measuring thrust of propellers [G01L 5/133](#), testing in general [G01M](#)); Use of outboard propulsion units as pumps}; Protection of power legs {, e.g. when not in use}
- 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 of submarines [B63G 8/08](#); } propulsion power plant or units [per se](#), see the relevant classes)
- NOTE**
- This group comprises arrangements of propulsion power plant or units on vessels and to some extent it includes adaptations of such plant or units to facilitate such arrangements
- 2021/003 . {the power plant using fuel cells for energy supply or accumulation, e.g. for buffering photovoltaic energy}
- 2021/006 . {the vessel being driven by hot gas positive-displacement engine plants of closed-cycle type, e.g. Stirling engines}
- 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; {cooling circuits with liquid-to-liquid heat-exchange relative to marine vessels [F01P 3/207](#)})
- WARNING**
- Group [B63H 21/12](#) is no longer used for classification of vessels being motor-driven by electric motor, powered by land vehicle supported by vessel, and powered by nuclear energy. These documents are in the process of being reorganised to groups [B63H 21/17](#), [B63H 21/175](#), and [B63H 21/18](#) respectively
- 21/14 . . relating to internal-combustion engines {(of outboard type [B63H 20/00](#))}
- 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 {(transmission from power plant or unit to propeller using fluid gearing [per se](#) [B63H 23/26](#))}
- 21/17 . . by electric motor (electrically-propelled vehicles [B60L](#) {; Transmitting power from propulsion power plant to propulsive elements with electric gearing [B63H 23/24](#)})
- 2021/171 . . . {making use of photovoltaic energy conversion, e.g. using solar panels}
- 2021/173 . . . {making use of superconductivity}
- 21/175 . the vessel being powered by land vehicle supported by vessel
- 21/18 . the vessels being powered by nuclear energy
- 21/20 . the vessels being powered by combinations of different types of propulsion units
- 2021/202 . . {of hybrid electric type}
- 2021/205 . . . {the second power unit being of the internal combustion engine type, or the like, e.g. a Diesel engine}
- 2021/207 . . . {the second power unit being a gas turbine}
- 21/21 . Control means for engine or transmission, specially adapted for use on marine vessels
- 21/213 . . {Levers or the like for controlling the engine or the transmission, e.g. single hand control levers}
- 2021/216 . . {using electric control means}
- 21/22 . the propulsion power units being controlled from exterior of engine room, e.g. from navigation bridge; Arrangements of order telegraphs ({[conjoint control of specific features of internal combustion engines and of propelling elements](#) [F02D](#)); order telegraphs [per se](#) [G08B 9/00](#))
- 21/24 . {the vessels being small craft, e.g. racing boats}

- 21/26 . . {of outboard type; Outboard propulsion power units movably installed for steering, reversing, tilting, or the like (transom panels for outboard motors for inflatable boats [B63B 7/087](#); floating propeller units [B63B 35/665](#))}
- WARNING**
- Group [B63H 21/26](#) and subgroups are no longer used for classification. Documents are in the process of being reorganised to [B63H 5/125](#), and subgroups, to [B63H 20/00](#), and subgroups, and to [B63H 25/42](#)
- 21/265 . . . {Steering or control devices for outboards (steering by rudders [B63H 25/06](#); control handles for boats [B63H 21/213](#))}
- 21/28 . . . {Arrangements of transmission between propulsion power unit and propulsive element}
- 21/30 . Mounting of propulsion plant or unit, e.g. for anti-vibration purposes (hull reinforcements therefor [B63B 3/70](#); {of outboard propulsion units [B63H 20/02](#); } vibration in systems [F16F](#); engine beds [F16M](#))
- 21/302 . . {with active vibration damping}
- 21/305 . . {with passive vibration damping}
- 2021/307 . . {Arrangements, or mountings of propulsion power plant elements in modular propulsion power units, e.g. using containers}
- 21/32 . Arrangements of propulsion-unit exhaust uptakes; Funnels peculiar to vessels; {Small watercraft exhaust arrangements, e.g. under-water}, (engine exhausts in general [F01N](#); flue devices for furnaces in general [F23J](#); {exhaust gas outlets forming part of outboard propulsion units or Z-drives [B63H 20/24](#)})
- WARNING**
- Group [B63H 21/32](#) is no longer used for classification of documents dealing with gas exhaust outlets forming part of outboard propulsion units or Z-drives. Respective documents are in the process of being reorganised to groups [B63H 20/24](#) and [B63H 20/26](#)
- 21/34 . . having exhaust-gas deflecting means
- 21/36 . Covers or casing arranged to protect plant or unit from marine environment ({Housings of outboard propulsion units [B63H 20/32](#)) hull construction [B63B 3/00](#))
- 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 ({in outboard drives [B63H 20/001](#); } lubricating or cooling machines or engines in general [F01 - F04](#))
- WARNING**
- This group and its subgroups are
- systematically used for classification of documents published from 01.06.2010 onwards
 - not complete; for documents published before 01.06.2010, see [B63B 2770/00](#)
- 21/383 . . {for handling cooling-water (in outboard drives [B63H 20/28](#); in machines or engines in general [F01P 3/00](#))}
- 21/386 . . {for handling lubrication liquids (in machines or engines in general [F01M](#))}
- 23/00** **Transmitting power from propulsion power plant to propulsive elements** (changing pitch or propellers [B63H 3/00](#); adaptation of transmission to allow adjustment in location or 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](#); {adaptations of transmissions to allow steering or dynamic anchoring by propellers carried on rudders [B63H 25/42](#); } for vehicles in general [B60K](#); driving auxiliary machinery [B63J](#); transmission elements *per se* [F16](#))
- 2023/005 . {using a drive acting on the periphery of a rotating propulsive element, e.g. on a dented circumferential ring on a propeller, or a propeller acting as rotor of an electric motor}
- 23/02 . with mechanical gearing
- 2023/0208 . . {by means of endless flexible members}
- 2023/0216 . . . {by means of belts, or the like}
- 2023/0225 {of grooved belts, i.e. with one or more grooves in longitudinal direction of the belt}
- 2023/0233 {of belts having a toothed contact surface, or regularly spaced bosses, or hollows for slip-less or nearly slip-less meshing with complementary profiled contact surface of a pulley}
- 2023/0241 {of V-belts, i.e. belts of tapered cross section}
- 2023/025 . . . {by means of chains}
- 2023/0258 . . {comprising gearings with variable gear ratio, other than reversing drives or trolling drives}
- 2023/0266 . . . {comprising gearings with automatically variable gear ratio, other than continuously variable transmissions or trolling drives}
- 2023/0275 . . . {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}
- 2023/0283 . . {using gears having orbital motion}
- 2023/0291 . . {Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}
- 23/04 . . the main transmitting element, e.g. shaft, being substantially vertical
- 23/06 . . for transmitting drive from a single propulsion power unit
- 2023/062 . . . {comprising means for simultaneously driving two or more main transmitting elements, e.g. drive shafts}
- 2023/065 {having means for differentially varying the speed of the main transmitting elements, e.g. of the drive shafts}
- 2023/067 {the elements being formed by two or more coaxial shafts, e.g. counter-rotating shafts}
- 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	2025/005	. {Steering specially adapted for towing trains, tug-barge systems, or the like; Equipment or accessories therefor}
23/16	. . . . characterised by provision of reverse drive	25/02	. Initiating means for steering {, for slowing down, otherwise than by use of propulsive elements, or for dynamic anchoring}
23/18	. . . for alternative use of the propulsion power units	2025/022	. . {Steering wheels; Posts for steering wheels}
23/20	. . . . with separate forward and astern propulsion power units, e.g. turbines	2025/024	. . {Handle-bars; Posts for supporting handle-bars, e.g. adjustable posts}
23/22	. with non-mechanical gearing	2025/026	. . {using multi-axis control levers, or the like, e.g. joysticks, wherein at least one degree of freedom is employed for steering, slowing down, or dynamic anchoring}
23/24	. . electric {(dynamo-electric machines H02K)}	2025/028	. . {using remote control means, e.g. wireless control; Equipment or accessories therefor}
2023/245	. . . {with two or more electric motors directly acting on a single drive shaft, e.g. plurality of electric rotors mounted on one common shaft, or plurality of electric motors arranged coaxially one behind the other with rotor shafts coupled together}	25/04	. . automatic, e.g. reacting to compass
23/26	. . fluid	2025/045	. . . {making use of satellite radio beacon positioning systems, e.g. the Global Positioning System [GPS]}
23/28	. with synchronisation of propulsive elements	25/06	. Steering by rudders (by rudders carrying propellers B63H 25/42)
23/30	. characterised by use of clutches	2025/063	. . {Arrangements of rudders forward of the propeller position, e.g. of backing rudders; Arrangements of rudders on the forebody of the hull; Steering gear therefor}
2023/305	. . {using fluid or semifluid as power transmitting means}	2025/066	. . {Arrangements of two or more rudders; Steering gear therefor}
23/32	. Other parts	25/08	. . Steering gear
23/321	. . {Bearings or seals specially adapted for propeller shafts}	25/10	. . . with mechanical transmission
2023/322	. . . {Intermediate propeller shaft bearings, e.g. with provisions for shaft alignment}	25/12	. . . with fluid transmission
2023/323	. . . {Bearings for coaxial propeller shafts, e.g. for driving propellers of the counter-rotative type}	25/14	. . . power assisted; power driven, i.e. using steering engine
2023/325	. . . {Thrust bearings, i.e. axial bearings for propeller shafts}	25/16	. . . . with alternative muscle or power operated steering
23/326	. . . {Water lubricated bearings}	25/18	. . . . Transmitting of movement of initiating means to steering engine
2023/327	. . . {Sealings specially adapted for propeller shafts or stern tubes}	25/20	. . . . . by mechanical means
2023/328	. . {Marine transmissions characterised by the use of brakes, other than propeller shaft brakes; Brakes therefor}	25/22	. . . . . by fluid means
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)	25/24	. . . . . by electrical means
2023/342	. . . {comprising couplings, e.g. resilient couplings; Couplings therefor}	25/26	. . . . . Steering engines
2023/344	. . . {comprising flexible shafts members}	25/28	. . . . . of fluid type
2023/346	. . . {comprising hollow shaft members}	25/30	. . . . . hydraulic
2023/348	. . . {with turning or inching gear, i.e. with means for slowly rotating, or for angularly positioning of shafts or propulsive elements mounted thereon}	25/32	. . . . . steam
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	25/34	. . . . . Transmitting of movement of engine to rudder, e.g. using quadrants, brakes
23/36	. . Shaft tubes (propeller-shaft tunnels B63B 11/06; shaft-tube seals F16J)	25/36	. . Rudder-position indicators
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; {systems for waterborne vessel position control G05, e.g. G05D 1/00})	25/38	. . Rudders (stern posts B63B 3/40 {; rudders mounted on housing of outboard motors B63H 20/34; rudders carrying propellers B63H 25/42; rudders carrying jets B63H 25/46)})
		25/381	. . . {with flaps}
		25/382	. . . {movable otherwise than for steering purposes; Changing geometry}
		25/383	. . . . {with deflecting means able to reverse the water stream direction}
		2025/384	. . . . . {with means for retracting or lifting}
		2025/385	. . . . . {by pivoting}
		2025/386	. . . . . {by sliding, e.g. telescopic}
		2025/387	. . . {comprising two or more rigidly interconnected mutually spaced blades pivotable about a common rudder shaft, e.g. parallel twin blades mounted on a pivotable supporting frame}
		2025/388	. . . {with varying angle of attack over the height of the rudder blade, e.g. twisted rudders}

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- 25/40 . . . using Magnus effect
- 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
- 2025/425 . . {Propulsive elements, other than jets, substantially used for steering or dynamic anchoring only, with means for retracting, or otherwise moving to a rest position outside the water flow around the hull}
- 25/44 . Steering or slowing-down by extensible flaps or the like
- 25/46 . Steering or dynamic anchoring by jets {or by rudders carrying jets (steering or dynamic anchoring by deflecting or directing main propulsion jets [B63H 11/00](#))}
- 2025/465 . . {Jets or thrusters substantially used for steering or dynamic anchoring only, with means for retracting, or otherwise moving to a rest position outside the water flow around the hull}
- 25/48 . Steering or slowing-down by deflection of propeller slipstream otherwise than by rudder
- 25/50 . Slowing-down means not otherwise provided for
- 25/52 . Parts for steering not otherwise provided for