

CPC COOPERATIVE PATENT CLASSIFICATION

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)	1/265	. . . . . {each blade being constituted by a surface enclosing an empty space, e.g. forming a closed loop}
2001/005	. {using Magnus effect}	1/28	. . . . . Other means for improving propeller efficiency (water-guiding elements formed by shape of hull B63H 5/00)
1/02	. of rotary type (endless-track type B63H 1/34)	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}
1/04	. . with rotation axis substantially at right angles to propulsive direction	2001/286	. . . . . {Injection of gas into fluid flow to propellers, or around propeller blades}
2001/045	. . . {with partially immersed nutating or undulated disks, e.g. wobble plates}	1/30	. of non-rotary type
1/06	. . . with adjustable vanes or blades	1/32	. . Flaps, pistons, or the like, reciprocating in propulsive direction
1/08	. . . . with cyclic adjustment	1/34	. . of endless-track type
1/10	. . . . . of Voith Schneider type, i.e. with blades extending axially from a disc-shaped rotary body	2001/342	. . . {with tracks substantially parallel to propulsive direction}
2001/105	. . . . . {with non-mechanical control of individual blades, e.g. electric or hydraulic control}	2001/344	. . . . {having paddles mounted in fixed relation to tracks, or to track members}
1/12	. . with rotation axis substantially in propulsive direction	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}
2001/122	. . . {Single or multiple threaded helicoidal screws, or the like, comprising foils extending over a substantial angle; Archimedean screws}	2001/348	. . . {with tracks oriented transverse to propulsive direction}
2001/125	. . . . {with helicoidal foils projecting from outside surfaces of floating rotatable bodies, e.g. rotatable, cylindrical bodies}	1/36	. . swinging sideways, e.g. fishtail type
2001/127	. . . . {with helicoidal foils projecting from inside surfaces of rotating shrouds; Archimedean screws}	1/37	. . Moving-wave propellers, i.e. wherein the propelling means comprise a flexible undulating structure
1/14	. . . Propellers (pitch changing B63H 3/00)	1/38	. characterised solely by flotation properties, e.g. drums
2001/145	. . . . {comprising blades of two or more different types, e.g. different lengths}	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 })
1/15	. . . . having vibration damping means (anti-vibration mounting of propulsion plant B63H 21/30 ; means for damping vibration in general F16F)	3/002	. {with individually adjustable blades}
1/16	. . . . having a shrouding ring attached to blades	2003/004	. {comprising means for locking blades in position}
2001/165	. . . . . {Hubless propellers, e.g. peripherally driven shrouds with blades projecting from the shrouds' inside surfaces}	2003/006	. {Detecting or transmitting propeller-blade pitch angle}
1/18	. . . . with means for diminishing cavitation, e.g. supercavitation	3/008	. {characterised by self-adjusting pitch, e.g. by means of springs, centrifugal forces, hydrodynamic forces}
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}	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 })
1/20	. . . . Hubs; Blade connections	3/04	. . the control element being reciprocable
1/22	. . . . . the blades being foldable	3/06	. characterised by use of non-mechanical actuating means, e.g. electrical (B63H 3/002 takes precedence)
1/24	. . . . . automatically foldable or unfoldable	3/08	. . fluid
1/26	. . . . Blades		

- 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}	2011/085	. . . . . {having counter-rotating impellers}
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}	2011/087	. . . . {with radial flow}
9/10	. . . Running rigging, e.g. reefing equipment (staying of masts B63B 15/02)	2011/088	. . . . {using shear forces, e.g. disc pumps or Tesla pumps}
9/1007	. . . . {Trapeze systems (harnesses for windsurfers B63B 35/7993)}	11/09	. . . by means of pressure pulses applied to a column of liquid, e.g. by ignition of an air/gas or vapour mixture
9/1014	. . . . . {with elastic connection to harnesses}	11/10	. . having means for deflecting jet or influencing cross-section thereof
9/1021	. . . . {Reefing}	11/101	. . . {having means for deflecting jet into a propulsive direction substantially parallel to the plane of the pump outlet opening}
9/1028	. . . . . {by furling around stays}	11/102	. . . . {the inlet opening and the outlet opening of the pump being substantially coplanar}
9/1035	. . . . . {by furling around or inside the mast}	11/103	. . . having means to increase efficiency of propulsive fluid, e.g. discharge pipe provided with means to improve the fluid flow
9/1042	. . . . . {by furling around or inside the boom}	11/107	. . . Direction control of propulsive fluid (B63H 11/101 takes precedence)
2009/105	. . . . . {using drives for actuating reefing mechanism, e.g. roll reefing drives}	11/11	. . . . with bucket or clamshell-type reversing means
2009/1057	. . . . . {using sheaves being friction driven by endless ropes or by ropes having two free ends}	11/113	. . . . Pivoted outlet
2009/1064	. . . . . {using drums driven by winding or unwinding single ropes onto or from the drums}	11/117	. . . . Pivoted vane
9/1071	. . . . {Spinnaker poles or rigging, e.g. combined with spinnaker handling}	11/12	. the propulsive medium being steam or other gas
9/1078	. . . . {Boom brakes}	11/14	. the gas being produced by combustion
9/1085	. . . . {Boom vang}	11/16	. the gas being produced by other chemical processes
9/1092	. . . . {Means for stowing, or securing sails when not in use (B63H 9/1021 takes precedence)}	13/00	Effecting propulsion by wind motors driving water-engaging propulsive elements
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)	15/00	Effecting propulsion by use of vessel-mounted driving mechanisms co-operating with anchored chains or the like
2011/002	. {using Coanda effect, i.e. the tendency of fluid jets to be attracted to nearby surfaces}	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 mechanism A63B 35/00; land-based training equipment for rowing or sculling A63B 69/06)
2011/004	. {using the eductor or injector pump principle, e.g. jets with by-pass fluid paths}	2016/005	. {used on vessels dynamically supported, or lifted out of the water by hydrofoils}
2011/006	. {with propulsive medium supplied from sources external to propelled vessel, e.g. water from public water supply}	16/02	. Movable thwarts; Footrests
2011/008	. {Arrangements of two or more jet units}	16/04	. Oars; Sculls; Paddles; Poles
11/01	. having means to prevent foreign material from clogging fluid passage way	2016/043	. . {Stop sleeves or collars for positioning oars in rowlocks, e.g. adjustable}
11/02	. the propulsive medium being ambient water	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}
11/025	. . {by means of magneto-hydro-dynamic forces}	16/06	. Rowlocks; Mountings therefor
11/04	. . by means of pumps	2016/063	. . {Rowlocks mounted on movable support structures}
2011/043	. . . {with means for adjusting or varying pump inlets, e.g. means for varying inlet cross section area}	16/067	. . Rowlocks mounted on a structure extending beyond the gunwale of the vessel
2011/046	. . . {comprising means for varying pump characteristics, e.g. rotary pumps with variable pitch impellers, or adjustable stators}	16/073	. . having oar shaft restraining means
11/06	. . . of reciprocating type	16/08	. Other apparatus for converting muscle power into propulsive effort (general features of propulsion elements, see the relevant groups)
11/08	. . . of rotary type	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}
2011/081	. . . . {with axial flow, i.e. the axis of rotation being parallel to the flow direction}	16/10	. . for bow-facing rowing
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}		

16/102	. . . {by using an inverting mechanism between the handgrip and the blade, e.g. a toothed transmission}	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)}
16/105	. . . . {the mechanism having articulated rods}	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)}
16/107	. . . {by placing the fulcrum outside the segment defined by handgrip and blade}	20/002	. . {for handling lubrication liquids (in engines, e.g. outboard marine engines, F01M)}
16/12	. . {using hand levers, cranks, pedals, or the like, e.g. water cycles, boats propelled by boat-mounted pedal cycles}	2020/003	. {Arrangements of two, or more outboard propulsion units}
	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	2020/005	. {Arrangements of two or more propellers, or the like on single outboard propulsion units}
16/14	. . . {for propelled drive}	2020/006	. . {of coaxial type, e.g. of counter-rotative type}
	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	20/007	. {Trolling propulsion units (trolling plates for slowing down B63H 25/50 ; dynamo-electric machines of trolling units H02K)}
16/16	. . using reciprocating pull cable, i.e. a strand-like member movable alternately backward and forward	2020/008	. {Tools, specially adapted for maintenance, mounting, repair, or the like of outboard propulsion units, e.g. of outboard motors or Z-drives}
2016/165	. . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}	20/02	. Mounting of propulsion units (B63H 20/08 takes precedence)
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	2020/025	. . {Sealings specially adapted for mountings of outboard drive units; Arrangements thereof, e.g. for transom penetrations}
2016/185	. . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}	20/04	. . in a well
16/20	. . using rotary cranking arm	20/06	. . on an intermediate support
2016/202	. . . {specially adapted or arranged for being actuated by the feet of the user, e.g. using bicycle-like pedals}	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)
2016/205	. . . . {making use of standard bicycles}	20/10	. . Means enabling trim or tilt, or lifting of the propulsion element when an obstruction is hit; Control of trim or tilt
2016/207	. . . . . {without wheels}	2020/103	. . . {using a flexible member for enabling or controlling tilt or lifting, e.g. a cable}
19/00	Effecting propulsion of vessels, not otherwise provided for	20/106	. . . {Means enabling lifting of the propulsion element in a substantially vertical, linearly sliding movement}
19/02	. by using energy derived from movement of ambient water, e.g. from rolling or pitching of vessels	20/12	. . Means enabling steering
19/04	. . propelled by water current	20/14	. Transmission between propulsion power unit and propulsion element
19/06	. by discharging gas into ambient water (with jet action B63H 11/12 ; for reducing surface friction B63B 1/38)	2020/145	. . {comprising means for permitting telescoping movement of components of the outboard propulsion unit, e.g. telescoping movement of power leg}
19/08	. by direct engagement with water-bed or ground	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	<ul style="list-style-type: none"> allowing movement of the propulsion element about at least a horizontal axis without disconnection of the drive, e.g. using universal joints 	21/12	<ul style="list-style-type: none"> the vessel 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})
20/24	<ul style="list-style-type: none"> {Arrangements, apparatus and methods for handling exhaust gas in outboard drives, e.g.} exhaust gas outlets {(in engines, e.g. outboard marine engines, F01N)} 	<p>WARNING</p> <p>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</p>	
20/245	<ul style="list-style-type: none"> {Exhaust gas outlets (B63H 20/26 takes precedence)} 	21/14	<ul style="list-style-type: none"> relating to internal-combustion engines {(of outboard type B63H 20/00)}
20/26	<ul style="list-style-type: none"> {Exhaust gas outlets} passing through the propeller or its hub 	21/16	<ul style="list-style-type: none"> relating to gas turbines
20/28	<ul style="list-style-type: none"> {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)} 	21/165	<ul style="list-style-type: none"> 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)}
20/285	<ul style="list-style-type: none"> {Cooling-water intakes (B63H 20/28 takes precedence)} 	21/17	<ul style="list-style-type: none"> by electric motor (electrically-propelled vehicles B60L; {Transmitting power from propulsion power plant to propulsive elements with electric gearing B63H 23/24})
20/30	<ul style="list-style-type: none"> {Cooling-water intakes} for flushing {(circuits for flushing outboard marine engines F01P 3/205)} 	2021/171	<ul style="list-style-type: none"> {making use of photovoltaic energy conversion, e.g. using solar panels}
20/32	<ul style="list-style-type: none"> Housings {(air intakes for outboard engines F02M 35/167)} 	2021/173	<ul style="list-style-type: none"> {making use of superconductivity}
2020/323	<ul style="list-style-type: none"> {Gear cases} 	21/175	<ul style="list-style-type: none"> the vessel being powered by land vehicle supported by vessel
2020/326	<ul style="list-style-type: none"> {having a dividing plane substantially in plane with the axes of the transmission shafts} 	21/18	<ul style="list-style-type: none"> the vessels being powered by nuclear energy
20/34	<ul style="list-style-type: none"> comprising stabilising fins, {foils, anticavitation plates, splash plates, or rudders (rudders carrying propellers B63H 25/42; rudders carrying jets B63H 25/46)} 	21/20	<ul style="list-style-type: none"> the vessels being powered by combinations of different types of propulsion units
20/36	<ul style="list-style-type: none"> 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} 	2021/202	<ul style="list-style-type: none"> {of hybrid electric type}
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)	2021/205	<ul style="list-style-type: none"> {the second power unit being of the internal combustion engine type, or the like, e.g. a Diesel engine}
	NOTE	2021/207	<ul style="list-style-type: none"> {the second power unit being a gas turbine}
	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	21/21	<ul style="list-style-type: none"> Control means for engine or transmission, specially adapted for use on marine vessels
2021/003	<ul style="list-style-type: none"> {the power plant using fuel cells for energy supply or accumulation, e.g. for buffering photovoltaic energy} 	21/213	<ul style="list-style-type: none"> {Levers or the like for controlling the engine or the transmission, e.g. single hand control levers}
2021/006	<ul style="list-style-type: none"> {the vessel being driven by hot gas positive-displacement engine plants of closed-cycle type, e.g. Stirling engines} 	2021/216	<ul style="list-style-type: none"> {using electric control means}
21/02	<ul style="list-style-type: none"> the vessels being steam-driven (B63H 21/18 takes precedence) 	21/22	<ul style="list-style-type: none"> 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)
21/04	<ul style="list-style-type: none"> relating to positive-displacement steam engines 	21/24	<ul style="list-style-type: none"> {the vessels being small craft, e.g. racing boats}
21/06	<ul style="list-style-type: none"> relating to steam turbines 	21/26	<ul style="list-style-type: none"> {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)}
21/08	<ul style="list-style-type: none"> relating to steam boilers 	<p>WARNING</p> <p>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</p>	
21/10	<ul style="list-style-type: none"> relating to condensers or engine-cooling fluid heat-exchangers 	21/265	<ul style="list-style-type: none"> {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}	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}
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)	23/02	. with mechanical gearing
21/302	. . {with active vibration damping}	2023/0208	. . {by means of endless flexible members}
21/305	. . {with passive vibration damping}	2023/0216	. . . {by means of belts, or the like}
2021/307	. . {Arrangements, or mountings of propulsion power plant elements in modular propulsion power units, e.g. using containers}	2023/0225	. . . . {of grooved belts, i.e. with one or more grooves in longitudinal direction of the belt}
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 })	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}
	WARNING	2023/0241	. . . . {of V-belts, i.e. belts of tapered cross section}
	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	2023/025	. . . {by means of chains}
		2023/0258	. . {comprising gearings with variable gear ratio, other than reversing drives or trolling drives}
21/34	. . having exhaust-gas deflecting means	2023/0266	. . . {comprising gearings with automatically variable gear ratio, other than continuously variable transmissions or trolling drives}
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)	2023/0275	. . . {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}
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)	2023/0283	. . {using gears having orbital motion}
	WARNING	2023/0291	. . {Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}
	This group and its subgroups are	23/04	. . the main transmitting element, e.g. shaft, being substantially vertical
	- systematically used for classification of documents published from 01.06.2010 onwards	23/06	. . for transmitting drive from a single propulsion power unit
	- not complete; for documents published before 01.06.2010, see B63B 2770/00	2023/062	. . . {comprising means for simultaneously driving two or more main transmitting elements, e.g. drive shafts}
21/383	. . {for handling cooling-water (in outboard drives B63H 20/28 ; in machines or engines in general F01P 3/00)}	2023/065	. . . . {having means for differentially varying the speed of the main transmitting elements, e.g. of the drive shafts}
21/386	. . {for handling lubrication liquids (in machines or engines in general F01M)}	2023/067	. . . . {the elements being formed by two or more coaxial shafts, e.g. counter-rotating shafts}
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 propeller 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)	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 ({ dynamo-electric machines H02K })
		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}
		23/26	. . fluid

23/28	• with synchronisation of propulsive elements	2025/045	• • • {making use of satellite radio beacon positioning systems, e.g. the Global Positioning System [GPS]}
23/30	• characterised by use of clutches	25/06	• Steering by rudders (by rudders carrying propellers B63H 25/42)
2023/305	• • {using fluid or semifluid as power transmitting means}	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}
23/32	• Other parts	2025/066	• • {Arrangements of two or more rudders; Steering gear therefor}
23/321	• • {Bearings or seals specially adapted for propeller shafts}	25/08	• • Steering gear
2023/322	• • • {Intermediate propeller shaft bearings, e.g. with provisions for shaft alignment}	25/10	• • • with mechanical transmission
2023/323	• • • {Bearings for coaxial propeller shafts, e.g. for driving propellers of the counter-rotative type}	25/12	• • • with fluid transmission
2023/325	• • • {Thrust bearings, i.e. axial bearings for propeller shafts}	25/14	• • • power assisted; power driven, i.e. using steering engine
23/326	• • • {Water lubricated bearings}	25/16	• • • • with alternative muscle or power operated steering
2023/327	• • • {Sealings specially adapted for propeller shafts or stern tubes}	25/18	• • • • Transmitting of movement of initiating means to steering engine
2023/328	• • {Marine transmissions characterised by the use of brakes, other than propeller shaft brakes; Brakes therefor}	25/20	• • • • • by mechanical 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)	25/22	• • • • • by fluid means
2023/342	• • • {comprising couplings, e.g. resilient couplings; Couplings therefor}	25/24	• • • • • by electrical means
2023/344	• • • {comprising flexible shafts members}	25/26	• • • • Steering engines
2023/346	• • • {comprising hollow shaft members}	25/28	• • • • • of fluid type
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}	25/30	• • • • • hydraulic
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	25/32	• • • • • steam
23/36	• • Shaft tubes (propeller-shaft tunnels B63B 11/06 ; shaft-tube seals F16J)	25/34	• • • • Transmitting of movement of engine to rudder, e.g. using quadrants, brakes
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})	25/36	• • Rudder-position indicators
2025/005	• {Steering specially adapted for towing trains, tug-barge systems, or the like; Equipment or accessories therefor}	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))
25/02	• Initiating means for steering, {for slowing down, otherwise than by use of propulsive elements, or for dynamic anchoring}	25/381	• • • {with flaps}
2025/022	• • {Steering wheels; Posts for steering wheels}	25/382	• • • {movable otherwise than for steering purposes; Changing geometry}
2025/024	• • {Handle-bars; Posts for supporting handle-bars, e.g. adjustable posts}	25/383	• • • • {with deflecting means able to reverse the water stream direction}
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}	2025/384	• • • • • {with means for retracting or lifting}
2025/028	• • {using remote control means, e.g. wireless control; Equipment or accessories therefor}	2025/385	• • • • • {by pivoting}
25/04	• • automatic, e.g. reacting to compass	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}
		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

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- 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