

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

WARNINGS

1. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
2. Groups [B63H 1/00](#) - [B63H 25/52](#) are incomplete pending reclassification of documents from groups [B63B 2701/00](#) - [B63B 2770/00](#).

All groups listed in this Warning should be considered in order to perform a complete search.

1/00	Propulsive elements directly acting on water (jet propulsion B63H 11/00; attachment of propellers on shafts B63H 23/34)	2001/165	. . . . . {Hubless propellers, e.g. peripherally driven shrouds with blades projecting from the shrouds' inside surfaces}
2001/005	. {using Magnus effect}	1/18	. . . . . with means for diminishing cavitation, e.g. supercavitation
1/02	. of rotary type (endless-track type B63H 1/34)	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}
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}	5/08	. . . of more than one propeller
2001/348	. . . {with tracks oriented transverse to propulsive direction}	5/10	. . . of coaxial type, e.g. of counter-rotative type
1/36	. . swinging sideways, e.g. fishtail type	2005/103	. . . . {of co-rotative type, i.e. rotating in the same direction, e.g. twin propellers}
1/37	. . Moving-wave propellers, i.e. wherein the propelling means comprise a flexible undulating structure	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}
1/38	. characterised solely by flotation properties, e.g. drums	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)
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)}	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}
3/002	. {with individually adjustable blades}	2005/1254	. . . {Podded azimuthing thrusters, i.e. podded thruster units arranged inboard for rotation about vertical axis}
2003/004	. {comprising means for locking blades in position}	2005/1256	. . . . {with mechanical power transmission to propellers}
2003/006	. {Detecting or transmitting propeller-blade pitch angle}	2005/1258	. . . . {with electric power transmission to propellers, i.e. with integrated electric propeller motors}
3/008	. {characterised by self-adjusting pitch, e.g. by means of springs, centrifugal forces, hydrodynamic forces}	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)
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)}	5/15	. . . Nozzles, e.g. Kort-type
3/04	. . the control element being reciprocable	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)
3/06	. characterised by use of non-mechanical actuating means, e.g. electrical (B63H 3/002 takes precedence)	5/165	. . . {Propeller guards, line cutters or other means for protecting propellers or rudders}
3/08	. . fluid	5/18	. . of emergency propellers, e.g. arranged at the side of the vessel
3/081	. . . {actuated by control element coaxial with the propeller shaft}	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)}
3/082	. . . . {the control element being axially reciprocable}	7/00	Arrangements of propulsive devices directly acting on air (jet propulsion B63H 11/00)
2003/084	. . . . . {with annular cylinder and piston}	7/02	. using propellers (air-screws of aircraft type B64C)
2003/085	. . . . . {the control element having means for preventing rotation together with the propeller}	9/00	Propulsive devices directly acted on by wind; Arrangements thereof (air driven propellers driving underwater propulsive elements B63H 13/00)
2003/087	. . . {using gaseous fluids, e.g. steam or air}	9/02	. using Magnus effect
2003/088	. . . {characterised by supply of fluid actuating medium to control element, e.g. of hydraulic fluid to actuator co-rotating with the propeller}	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 })
3/10	. characterised by having pitch control conjoint with propulsion plant control	9/06	. . Construction or types of sails; Arrangements thereof on vessels
3/12	. the pitch being adjustable only when propeller is stationary (B63H 3/002 takes precedence)	9/0607	. . . {Rigid or aerofoil type sails}
5/00	Arrangements on vessels of propulsion elements directly acting on water	9/0614	. . . . {Inflatable aerofoil sails}
2005/005	. {Front propulsors, i.e. propellers, paddle wheels, or the like substantially arranged ahead of the vessels' midship section}	2009/0621	. . . . {Rigid sails comprising one or more pivotally supported panels}
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}		

2009/0628	. . . . .	{the panels being pivotable about horizontal axes}	2011/002	. {using Coanda effect, i.e. the tendency of fluid jets to be attracted to nearby surfaces}
2009/0635	. . . . .	{the panels being pivotable about vertical axes}	2011/004	. {using the eductor or injector pump principle, e.g. jets with by-pass fluid paths}
9/0642	. . . .	{Sail battens}	2011/006	. {with propulsive medium supplied from sources external to propelled vessel, e.g. water from public water supply}
2009/065	. . . .	{with variable rigidity, e.g. inflatable}	2011/008	. {Arrangements of two or more jet units}
9/0657	. . . .	{Construction of sails (sails with detachable sections B63B 35/7983)}	11/01	. having means to prevent foreign material from clogging fluid passage way
2009/0664	. . . . .	{of spinnakers, gennakers, or the like balloon sails}	11/02	. the propulsive medium being ambient water
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}	11/025	. . {by means of magneto-hydro-dynamic forces}
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}	11/04	. . by means of pumps
9/0685	. . . .	{Sails pivotally mounted at a mast-tip; Kite sails (B63B 35/7976 takes precedence)}	2011/043	. . . {with means for adjusting or varying pump inlets, e.g. means for varying inlet cross section area}
2009/0692	. . . . .	{Methods, or means specially adapted for controlling kite sails, e.g. control bars, harnesses, automated control units, or methods of their use}	2011/046	. . . {comprising means for varying pump characteristics, e.g. rotary pumps with variable pitch impellers, or adjustable stators}
9/08	. . .	Connections of sails to masts, spars, or the like	11/06	. . . of reciprocating type
2009/082	. . . .	{Booms, or the like}	11/08	. . . of rotary type
2009/084	. . . .	{Gooseneck bearings, i.e. bearings for pivotal support of booms on masts}	2011/081	. . . . {with axial flow, i.e. the axis of rotation being parallel to the flow direction}
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}	2011/082	. . . . {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}
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}	2011/084	. . . . . {with two or more pump stages}
9/10	. . . .	Running rigging, e.g. reefing equipment (staying of masts B63B 15/02)	2011/085	. . . . . {having counter-rotating impellers}
9/1007	. . . . .	{Trapeze systems (harnesses for windsurfers B63B 35/7993)}	2011/087	. . . . . {with radial flow}
9/1014	. . . . .	{with elastic connection to harnesses}	2011/088	. . . . . {using shear forces, e.g. disc pumps or Tesla pumps}
9/1021	. . . . .	{Reefing}	11/09	. . . . by means of pressure pulses applied to a column of liquid, e.g. by ignition of an air/gas or vapour mixture
9/1028	. . . . .	{by furling around stays}	11/10	. . . having means for deflecting jet or influencing cross-section thereof
9/1035	. . . . .	{by furling around or inside the mast}	11/101	. . . . {having means for deflecting jet into a propulsive direction substantially parallel to the plane of the pump outlet opening}
9/1042	. . . . .	{by furling around or inside the boom}	11/102	. . . . . {the inlet opening and the outlet opening of the pump being substantially coplanar}
2009/105	. . . . .	{using drives for actuating reefing mechanism, e.g. roll reefing drives}	11/103	. . . . having means to increase efficiency of propulsive fluid, e.g. discharge pipe provided with means to improve the fluid flow
2009/1057	. . . . .	{using sheaves being friction driven by endless ropes or by ropes having two free ends}	11/107	. . . . Direction control of propulsive fluid (B63H 11/101 takes precedence)}
2009/1064	. . . . .	{using drums driven by winding or unwinding single ropes onto or from the drums}	11/11	. . . . . with bucket or clamshell-type reversing means
9/1071	. . . . .	{Spinnaker poles or rigging, e.g. combined with spinnaker handling}	11/113	. . . . . Pivoted outlet
9/1078	. . . . .	{Boom brakes}	11/117	. . . . . Pivoted vane
9/1085	. . . . .	{Boom vang}	11/12	. the propulsive medium being steam or other gas
9/1092	. . . . .	{Means for stowing, or securing sails when not in use (B63H 9/1021 takes precedence)}	11/14	. . the gas being produced by combustion
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)	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)	2016/185	. . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}
2016/005	. {used on vessels dynamically supported, or lifted out of the water by hydrofoils}	16/20	. . using rotary cranking arm
16/02	. Movable thwarts; Footrests	2016/202	. . . {specially adapted or arranged for being actuated by the feet of the user, e.g. using bicycle-like pedals}
16/04	. Oars; Sculls; Paddles; Poles	2016/205	. . . . {making use of standard bicycles}
2016/043	. . {Stop sleeves or collars for positioning oars in rowlocks, e.g. adjustable}	2016/207	. . . . . {without wheels}
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}	19/00	Effecting propulsion of vessels, not otherwise provided for
16/06	. Rowlocks; Mountings therefor	19/02	. by using energy derived from movement of ambient water, e.g. from rolling or pitching of vessels
2016/063	. . {Rowlocks mounted on movable support structures}	19/04	. . propelled by water current
16/067	. . Rowlocks mounted on a structure extending beyond the gunwale of the vessel	19/06	. by discharging gas into ambient water (with jet action B63H 11/12 ; for reducing surface friction B63B 1/38)
16/073	. . having oar shaft restraining means	19/08	. by direct engagement with water-bed or ground
16/08	. Other apparatus for converting muscle power into propulsive effort (general features of propulsion elements, see the relevant groups)	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)}
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}	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)}
16/10	. . for bow-facing rowing	20/002	. . {for handling lubrication liquids (in engines, e.g. outboard marine engines, F01M)}
16/102	. . . {by using an inverting mechanism between the handgrip and the blade, e.g. a toothed transmission}	2020/003	. {Arrangements of two, or more outboard propulsion units}
16/105	. . . . {the mechanism having articulated rods}	2020/005	. {Arrangements of two or more propellers, or the like on single outboard propulsion units}
16/107	. . . {by placing the fulcrum outside the segment defined by handgrip and blade}	2020/006	. . {of coaxial type, e.g. of counter-rotative type}
16/12	. . {using hand levers, cranks, pedals, or the like, e.g. water cycles, boats propelled by boat-mounted pedal cycles}	20/007	. {Trolling propulsion units (trolling plates for slowing down B63H 25/50 ; dynamo-electric machines of trolling units H02K)}
	WARNING	2020/008	. {Tools, specially adapted for maintenance, mounting, repair, or the like of outboard propulsion units, e.g. of outboard motors or Z-drives}
	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	20/02	. Mounting of propulsion units (B63H 20/08 takes precedence)
16/14	. . . {for propelled drive}	2020/025	. . {Sealings specially adapted for mountings of outboard drive units; Arrangements thereof, e.g. for transom penetrations}
	WARNING	20/04	. . in a well
	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	20/06	. . on an intermediate support
16/16	. . using reciprocating pull cable, i.e. a strand-like member movable alternately backward and forward	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)
2016/165	. . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}	20/10	. . Means enabling trim or tilt, or lifting of the propulsion element when an obstruction is hit; Control of trim or tilt
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		

2020/103	. . . {using a flexible member for enabling or controlling tilt or lifting, e.g. a cable}	it includes adaptations of such plant or units to facilitate such arrangements
20/106	. . . {Means enabling lifting of the propulsion element in a substantially vertical, linearly sliding movement}	2021/003 . {the power plant using fuel cells for energy supply or accumulation, e.g. for buffering photovoltaic energy}
20/12	. . Means enabling steering	2021/006 . {the vessel being driven by hot gas positive-displacement engine plants of closed-cycle type, e.g. Stirling engines}
20/14	. Transmission between propulsion power unit and propulsion element	21/02 . the vessels being steam-driven (B63H 21/18 takes precedence)
2020/145	. . {comprising means for permitting telescoping movement of components of the outboard propulsion unit, e.g. telescoping movement of power leg}	21/04 . . relating to positive-displacement steam engines
20/16	. . allowing movement of the propulsion element in a horizontal plane only, e.g. for steering	21/06 . . relating to steam turbines
20/18	. . allowing movement of the propulsion element about a longitudinal axis, e.g. the through transom shaft (B63H 20/22 takes precedence)	21/08 . . relating to steam boilers
20/20	. . with provision for reverse drive	21/10 . . relating to condensers or engine-cooling fluid heat-exchangers
20/22	. . allowing movement of the propulsion element about at least a horizontal axis without disconnection of the drive, e.g. using universal joints	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 })
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)}	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
20/245	. . {Exhaust gas outlets (B63H 20/26 takes precedence)}	21/14 . . relating to internal-combustion engines {(of outboard type B63H 20/00)}
20/26	. . {Exhaust gas outlets} passing through the propeller or its hub	21/16 . . relating to gas turbines
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)}	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)}
20/285	. . {Cooling-water intakes (B63H 20/28 takes precedence)}	21/17 . . by electric motor (electrically-propelled vehicles B60L ; Transmitting power from propulsion power plant to propulsive elements with electric gearing B63H 23/24)}
20/30	. . {Cooling-water intakes} for flushing {(circuits for flushing outboard marine engines F01P 3/205)}	2021/171 . . . {making use of photovoltaic energy conversion, e.g. using solar panels}
20/32	. Housings {(air intakes for outboard engines F02M 35/167)}	2021/173 . . . {making use of superconductivity}
2020/323	. . {Gear cases}	21/175 . the vessel being powered by land vehicle supported by vessel
2020/326	. . . {having a dividing plane substantially in plane with the axes of the transmission shafts}	21/18 . the vessels being powered by nuclear energy
20/34	. . comprising stabilising fins {, foils, anticavitation plates, splash plates, or rudders (rudders carrying propellers B63H 25/42 ; rudders carrying jets B63H 25/46)}	21/20 . the vessels being powered by combinations of different types of propulsion units
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}	2021/202 . . {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 . . . {the second power unit being of the internal combustion engine type, or the like, e.g. a Diesel engine}
	NOTE This group comprises arrangements of propulsion power plant or units on vessels and to some extent	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](#))
- 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
- 23/16 characterised by provision of reverse drive

23/18	. . . for alternative use of the propulsion power units	25/02	. Initiating means for steering {, for slowing down, otherwise than by use of propulsive elements, or for dynamic anchoring}
23/20	. . . . with separate forward and astern propulsion power units, e.g. turbines	2025/022	. . {Steering wheels; Posts for steering wheels}
23/22	. with non-mechanical gearing	2025/024	. . {Handle-bars; Posts for supporting handle-bars, e.g. adjustable posts}
23/24	. . electric {(dynamo-electric machines H02K)}	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}
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}	2025/028	. . {using remote control means, e.g. wireless control; Equipment or accessories therefor}
23/26	. . fluid	25/04	. . automatic, e.g. reacting to compass
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
		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))
2025/005	. {Steering specially adapted for towing trains, tug-barge systems, or the like; Equipment or accessories therefor}	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}
		25/40	. . . using Magnus effect

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- 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