

# 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

<b>1/00</b>	<b>Propulsive elements directly acting on water</b> (jet propulsion <a href="#">B63H 11/00</a> ; attachment of propellers on shafts <a href="#">B63H 23/34</a> )	1/18	. . . . with means for diminishing cavitation, e.g. supercavitation
2001/005	. {using Magnus effect}	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}
1/02	. of rotary type (endless-track type <a href="#">B63H 1/34</a> )	1/20	. . . . Hubs; Blade connections
1/04	. . with rotation axis substantially at right angles to propulsive direction	1/22	. . . . the blades being foldable
2001/045	. . . {with partially immersed nutating or undulated disks, e.g. wobble plates}	1/24	. . . . . automatically foldable or unfoldable
1/06	. . . with adjustable vanes or blades	1/26	. . . . Blades
1/08	. . . . with cyclic adjustment	1/265	. . . . . {each blade being constituted by a surface enclosing an empty space, e.g. forming a closed loop}
1/10	. . . . . of Voith Schneider type, i.e. with blades extending axially from a disc-shaped rotary body	1/28	. . . . Other means for improving propeller efficiency (water-guiding elements formed by shape of hull <a href="#">B63H 5/00</a> )
2001/105	. . . . . {with non-mechanical control of individual blades, e.g. electric or hydraulic control}	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}
1/12	. . with rotation axis substantially in propulsive direction	2001/286	. . . . . {Injection of gas into fluid flow to propellers, or around propeller blades}
2001/122	. . . {Single or multiple threaded helicoidal screws, or the like, comprising foils extending over a substantial angle; Archimedean screws}	1/30	. of non-rotary type
2001/125	. . . . {with helicoidal foils projecting from outside surfaces of floating rotatable bodies, e.g. rotatable, cylindrical bodies}	1/32	. . Flaps, pistons, or the like, reciprocating in propulsive direction
2001/127	. . . . {with helicoidal foils projecting from inside surfaces of rotating shrouds; Archimedean screws}	<b>WARNING</b> this group is pending a reorganisation; also documents covered by group <a href="#">B63H 11/09</a> are within this group	
1/14	. . . Propellers (pitch changing <a href="#">B63H 3/00</a> )	1/34	. . of endless-track type
<b>WARNING</b> this group is pending a reorganisation; also documents covered by group <a href="#">B63H 1/15</a> are within this group		2001/342	. . . {with tracks substantially parallel to propulsive direction}
2001/145	. . . . {comprising blades of two or more different types, e.g. different lengths}	2001/344	. . . . {having paddles mounted in fixed relation to tracks, or to track members}
1/15	. . . . having vibration damping means (anti-vibration mounting of propulsion plant <a href="#">B63H 21/30</a> ; means for damping vibration in general <a href="#">F16F</a> )	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}
<b>WARNING</b> This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group <a href="#">B63H 1/14</a>		2001/348	. . . {with tracks oriented transverse to propulsive direction}
1/16	. . . . having a shrouding ring attached to blades	1/36	. . swinging sideways, e.g. fishtail type
2001/165	. . . . . {Hubless propellers, e.g. peripherally driven shrouds with blades projecting from the shrouds' inside surfaces}	<b>WARNING</b> this group is pending a reorganisation; also documents covered by group <a href="#">B63H 1/37</a> are within this group	

1/37	<ul style="list-style-type: none"> <li>• Moving-wave propellers, i.e. wherein the propelling means comprise a flexible undulating structure</li> </ul> <p><b>WARNING</b></p> <p>This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group <a href="#">B63H 1/36</a></p>	5/03	<ul style="list-style-type: none"> <li>• 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</li> </ul> <p><b>WARNING</b></p> <p>This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group <a href="#">B63H 5/02</a></p>
1/38	<ul style="list-style-type: none"> <li>• characterised solely by flotation properties, e.g. drums</li> </ul>	5/04	<ul style="list-style-type: none"> <li>• with stationary water-guiding elements</li> </ul>
<b>3/00</b>	<b>Propeller-blade pitch changing</b> {(Aircraft propellers <a href="#">B64C 11/30</a> ; Rotors of turbines <a href="#">F01D 7/00</a> ; Axial wind motors <a href="#">F03D 7/022</a> ; Axial-flow pumps <a href="#">F04D 29/00</a> )}	5/07	<ul style="list-style-type: none"> <li>• of propellers (forming part of outboard units {or Z-drives} <a href="#">B63H 20/00</a>)</li> </ul>
3/002	<ul style="list-style-type: none"> <li>• {with individually adjustable blades}</li> </ul>	2005/075	<ul style="list-style-type: none"> <li>• {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}</li> </ul>
2003/004	<ul style="list-style-type: none"> <li>• {comprising means for locking blades in position}</li> </ul>	5/08	<ul style="list-style-type: none"> <li>• of more than one propeller</li> </ul>
2003/006	<ul style="list-style-type: none"> <li>• {Detecting or transmitting propeller-blade pitch angle}</li> </ul>	5/10	<ul style="list-style-type: none"> <li>• of coaxial type, e.g. of counter-rotative type</li> </ul>
3/008	<ul style="list-style-type: none"> <li>• {characterised by self-adjusting pitch, e.g. by means of springs, centrifugal forces, hydrodynamic forces}</li> </ul>	2005/103	<ul style="list-style-type: none"> <li>• {of co-rotative type, i.e. rotating in the same direction, e.g. twin propellers}</li> </ul>
3/02	<ul style="list-style-type: none"> <li>• actuated by control element coaxial with propeller shaft, e.g. the control element being rotary {(<a href="#">B63H 3/002</a> takes precedence, fluid actuated <a href="#">B63H 3/081</a>)}</li> </ul>	2005/106	<ul style="list-style-type: none"> <li>• {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}</li> </ul>
3/04	<ul style="list-style-type: none"> <li>• the control element being reciprocable</li> </ul>	5/125	<ul style="list-style-type: none"> <li>• movably mounted with respect to hull, e.g. adjustable in direction {, e.g. podded azimuthing thrusters} ({outboard units or Z-drives <a href="#">B63H 20/00</a>; } movably mounted for steering purposes only, {rudders carrying propellers} <a href="#">B63H 25/42</a>)</li> </ul>
3/06	<ul style="list-style-type: none"> <li>• characterised by use of non-mechanical actuating means, e.g. electrical (<a href="#">B63H 3/002</a> takes precedence)</li> </ul>		
3/08	<ul style="list-style-type: none"> <li>• fluid</li> </ul>		
3/081	<ul style="list-style-type: none"> <li>• {actuated by control element coaxial with the propeller shaft}</li> </ul>		
3/082	<ul style="list-style-type: none"> <li>• {the control element being axially reciprocable}</li> </ul>		
2003/084	<ul style="list-style-type: none"> <li>• {with annular cylinder and piston}</li> </ul>		
2003/085	<ul style="list-style-type: none"> <li>• {the control element having means for preventing rotation together with the propeller}</li> </ul>		
2003/087	<ul style="list-style-type: none"> <li>• {using gaseous fluids, e.g. steam or air}</li> </ul>		
2003/088	<ul style="list-style-type: none"> <li>• {characterised by supply of fluid actuating medium to control element, e.g. of hydraulic fluid to actuator co-rotating with the propeller}</li> </ul>		
3/10	<ul style="list-style-type: none"> <li>• characterised by having pitch control conjoint with propulsion plant control</li> </ul>	5/1252	<ul style="list-style-type: none"> <li>• {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}</li> </ul>
3/12	<ul style="list-style-type: none"> <li>• the pitch being adjustable only when propeller is stationary (<a href="#">B63H 3/002</a> takes precedence)</li> </ul>		
<b>5/00</b>	<b>Arrangements on vessels of propulsion elements directly acting on water</b>		
2005/005	<ul style="list-style-type: none"> <li>• {Front propulsors, i.e. propellers, paddle wheels, or the like substantially arranged ahead of the vessels' midship section}</li> </ul>	2005/1254	<ul style="list-style-type: none"> <li>• {Podded azimuthing thrusters, i.e. podded thruster units arranged inboard for rotation about vertical axis}</li> </ul>
5/02	<ul style="list-style-type: none"> <li>• of paddle wheels, e.g. of stern wheels</li> </ul> <p><b>WARNING</b></p> <p>this group is pending a reorganisation; also documents covered by group <a href="#">B63H 5/03</a> are within this group</p>	2005/1256	<ul style="list-style-type: none"> <li>• {with mechanical power transmission to propellers}</li> </ul>
2005/025	<ul style="list-style-type: none"> <li>• {of Voith Schneider type}</li> </ul>	2005/1258	<ul style="list-style-type: none"> <li>• {with electric power transmission to propellers, i.e. with integrated electric propeller motors}</li> </ul>
		5/14	<ul style="list-style-type: none"> <li>• characterised by being mounted in non-rotating ducts or rings, e.g. adjustable for steering purpose (shrouding ring attached to blades <a href="#">B63H 1/16</a>; jet propulsion <a href="#">B63H 11/00</a>)</li> </ul>

5/15	. . . Nozzles, e.g. Kort-type	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}
	<b>WARNING</b>	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}
	This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group <a href="#">B63H 5/14</a>	9/0685	. . . . {Sails pivotally mounted at a mast-tip; Kite sails ( <a href="#">B63B 35/7976</a> takes precedence)}
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 ( <a href="#">anti-fouling paints C09D 5/16</a> )	2009/0692	. . . . {Methods, or means specially adapted for controlling kite sails, e.g. control bars, harnesses, automated control units, or methods of their use}
5/165	. . . {Propeller guards, line cutters or other means for protecting propellers or rudders}	9/08	. . Connections of sails to masts, spars, or the like
5/18	. . of emergency propellers, e.g. arranged at the side of the vessel	2009/082	. . . {Booms, or the like}
	<b>WARNING</b>	2009/084	. . . {Gooseneck bearings, i.e. bearings for pivotal support of booms on masts}
	this group is pending a reorganisation; also documents covered by group <a href="#">B63H 5/20</a> are within this group	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}
5/20	. . . movable from a working position to a non-working position {(movable arrangements of propellers in general <a href="#">B63H 5/125</a> ; outboard propulsion units in general <a href="#">B63H 20/00</a> ; steering or dynamic anchoring by propellers used therefore only, or by rudders carrying propellers <a href="#">B63H 25/42</a> )}	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}
	<b>WARNING</b>	9/10	. . . Running rigging, e.g. reefing equipment ( <a href="#">staying of masts B63B 15/02</a> )
	This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group <a href="#">B63H 5/18</a>		<b>WARNING</b>
7/00	<b>Arrangements of propulsive devices directly acting on air (jet propulsion <a href="#">B63H 11/00</a>)</b>		this group is pending a reorganisation; also documents covered by group <a href="#">B63H 9/1092</a> are within this group
7/02	. using propellers (air-screws of aircraft type <a href="#">B64C</a> )	9/1007	. . . . {Trapeze systems ( <a href="#">harnesses for windsurfers B63B 35/7993</a> )}
9/00	<b>Propulsive devices directly acted on by wind; Arrangements thereof (air driven propellers driving underwater propulsive elements <a href="#">B63H 13/00</a>)</b>	9/1014	. . . . . {with elastic connection to harnesses}
9/02	. using Magnus effect	9/1021	. . . . . {Reefing}
9/04	. using sails or like wind-catching surfaces ( <a href="#">sailing sledges or ice boats B62B 15/00</a> ; {masts for sailing boats <a href="#">B63B 15/0083</a> ; sail arrangements for wind-driven boards <a href="#">B63B 35/7973</a> })	9/1028	. . . . . {by furling around stays}
9/06	. . Construction or types of sails; Arrangements thereof on vessels	9/1035	. . . . . {by furling around or inside the mast}
9/0607	. . . {Rigid or aerofoil type sails}	9/1042	. . . . . {by furling around or inside the boom}
9/0614	. . . . {Inflatable aerofoil sails}	2009/105	. . . . . {using drives for actuating reefing mechanism, e.g. roll reefing drives}
2009/0621	. . . . {Rigid sails comprising one or more pivotally supported panels}	2009/1057	. . . . . {using sheaves being friction driven by endless ropes or by ropes having two free ends}
2009/0628	. . . . . {the panels being pivotable about horizontal axes}	2009/1064	. . . . . {using drums driven by winding or unwinding single ropes onto or from the drums}
2009/0635	. . . . . {the panels being pivotable about vertical axes}	9/1071	. . . . {Spinnaker poles or rigging, e.g. combined with spinnaker handling}
9/0642	. . . {Sail battens}	9/1078	. . . . {Boom brakes}
2009/065	. . . . {with variable rigidity, e.g. inflatable}	9/1085	. . . . {Boom vangs}
9/0657	. . . {Construction of sails ( <a href="#">sails with detachable sections B63B 35/7983</a> )}	9/1092	. . . . {Means for stowing, or securing sails when not in use ( <a href="#">B63H 9/1021</a> takes precedence)}
2009/0664	. . . . {of spinnakers, gennakers, or the like balloon sails}		<b>WARNING</b>
			<a href="#">B63H 9/1092</a> is not complete pending a reorganisation; see also group <a href="#">B63H 9/10</a>
		11/00	<b>Effecting propulsion by jets, i.e. reaction principle (steering by {auxiliary} jet action, {rudders carrying jets} <a href="#">B63H 25/46</a>; power plant <a href="#">per se</a>, <a href="#">see the relevant classes</a>)</b>

- 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
- WARNING**  
This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 1/32](#)
- 11/10 . . having means for deflecting jet or influencing cross-section thereof
- WARNING**  
Documents concerning deflection of the jet into a direction substantially parallel to the plane of the pump outlet are in the process of being reorganised to [B63H 11/101](#)
- 11/101 . . . {having means for deflecting jet into a propulsive direction substantially parallel to the plane of the pump outlet opening}
- WARNING**  
Not complete, pending a reorganisation; see [B63H 11/10](#) and [B63H 11/107](#) and subgroups
- 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}
- WARNING**  
Documents concerning means for deflecting jet into a propulsive direction substantially parallel to the plane of the pump outlet opening are in the process of being reorganized to [B63H 11/101](#)
- 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 mechanism 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
- WARNING**  
this group is pending a reorganisation; also documents covered by groups [B63H 16/067](#), and [B63H 16/073](#) are within this group
- 2016/063 . . {Rowlocks mounted on movable support structures}
- 16/067 . . Rowlocks mounted on a structure extending beyond the gunwale of the vessel
- WARNING**  
This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 16/06](#)
- 16/073 . . having oar shaft restraining means
- WARNING**  
This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 16/06](#)
- 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}	2016/202	. . . {specially adapted or arranged for being actuated by the feet of the user, e.g. using bicycle-like pedals}
16/10	. . for bow-facing rowing	2016/205	. . . . {making use of standard bicycles}
16/102	. . . {by using an inverting mechanism between the handgrip and the blade, e.g. a toothed transmission}	2016/207	. . . . . {without wheels}
16/105	. . . . {the mechanism having articulated rods}	19/00	<b>Effecting propulsion of vessels, not otherwise provided for</b>
16/107	. . . {by placing the fulcrum outside the segment defined by handgrip and blade}	19/02	. by using energy derived from movement of ambient water, e.g. from rolling or pitching of vessels
16/12	. . {using hand levers, cranks, pedals, or the like, e.g. water cycles, boats propelled by boat-mounted pedal cycles}	19/04	. . propelled by water current
	<b>WARNING</b>	19/06	. by discharging gas into ambient water ( <a href="#">with jet action B63H 11/12</a> ; for reducing surface friction <a href="#">B63B 1/38</a> )
	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 <a href="#">B63H 16/16</a> - <a href="#">B63H 16/20</a>	19/08	. by direct engagement with water-bed or ground
16/14	. . . {for propelled drive}	20/00	<b>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 <a href="#">per se</a>, see the relevant classes); Arrangements thereof on vessels {(transom panels for outboard motors on inflatable boats <a href="#">B63B 7/087</a>; tug-type floating propeller units <a href="#">B63B 35/665</a>; rudders carrying propellers <a href="#">B63H 25/42</a>; rudders carrying jets <a href="#">B63H 25/46</a>; engines of outboard propulsion units <a href="#">F02B 61/045</a>)}</b>
	<b>WARNING</b>		<b>WARNING</b>
	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 <a href="#">B63H 16/16</a> - <a href="#">B63H 16/20</a>		Not complete pending a reclassification; see also <a href="#">B63H 5/1252</a> , as well as <a href="#">B63H 21/26</a> and subgroups
16/16	. . using reciprocating pull cable, i.e. a strand-like member movable alternately backward and forward	20/001	. {Arrangements, apparatus and methods for handling fluids used in outboard drives (for handling exhaust gas <a href="#">B63H 20/24</a> ; for handling cooling-water <a href="#">B63H 20/28</a> ; cooling outboard marine engines <a href="#">F01P 3/202</a> ; air intakes for outboard marine engines <a href="#">F02M 35/167</a> )}
	<b>WARNING</b>		<b>WARNING</b>
	This group is not complete pending a reclassification; for documents published before 01.01.2012, see also groups <a href="#">B63H 16/12</a> and <a href="#">B63H 16/14</a>		This group and its subgroups are not complete, pending a reorganisation; see <a href="#">B63H 21/38</a> and <a href="#">B63B 2770/00</a>
2016/165	. . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}	20/002	. . {for handling lubrication liquids (in engines, e.g. outboard marine engines, <a href="#">F01M</a> )}
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	2020/003	. {Arrangements of two, or more outboard propulsion units}
	<b>WARNING</b>	2020/005	. {Arrangements of two or more propellers, or the like on single outboard propulsion units}
	This group is not complete pending a reclassification; for documents published before 01.01.2012, see also groups <a href="#">B63H 16/12</a> and <a href="#">B63H 16/14</a>	2020/006	. . {of coaxial type, e.g. of counter-rotative type}
2016/185	. . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}	20/007	. {Trolling propulsion units ( <a href="#">trolling plates for slowing down B63H 25/50</a> ; dynamo-electric machines of trolling units <a href="#">H02K</a> )}
16/20	. . using rotary cranking arm	2020/008	. {Tools, specially adapted for maintenance, mounting, repair, or the like of outboard propulsion units, e.g. of outboard motors or Z-drives}
	<b>WARNING</b>	20/02	. Mounting of propulsion units ( <a href="#">B63H 20/08 takes precedence</a> )
	This group is not complete pending a reclassification; for documents published before 01.01.2012, see also groups <a href="#">B63H 16/12</a> and <a href="#">B63H 16/14</a>	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 <a href="#">B63H 20/14</a> ); Control of trim or tilt (initiating means for steering <a href="#">B63H 25/02</a> )	20/34	comprising stabilising fins, {foils, anticavitation plates, splash plates, or rudders (rudders carrying propellers <a href="#">B63H 25/42</a> ; rudders carrying jets <a href="#">B63H 25/46</a> )}
20/10	Means enabling trim or tilt, or lifting of the propulsion element when an obstruction is hit; Control of trim or tilt	20/36	Transporting or testing stands {(hand carts for transporting outboard units <a href="#">B62B</a> ; measuring torque <a href="#">G01L 3/00</a> , measuring thrust of propellers <a href="#">G01L 5/133</a> , testing in general <a href="#">G01M</a> ); Use of outboard propulsion units as pumps}; Protection of power legs {, e.g. when not in use}
2020/103	{using a flexible member for enabling or controlling tilt or lifting, e.g. a cable}	21/00	<b>Use of propulsion power plant or units on vessels</b> (use of outboard propulsion units <a href="#">B63H 20/00</a> ; hull reinforcements for carrying propulsion power plant or units <a href="#">B63B 3/70</a> ; {propulsion of submarines <a href="#">B63G 8/08</a> ; } propulsion power plant or units <a href="#">per se</a> , <a href="#">see the relevant classes</a> )
20/106	{Means enabling lifting of the propulsion element in a substantially vertical, linearly sliding movement}	<b>NOTE</b>	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
20/12	Means enabling steering	<b>WARNING</b>	this group is pending a reorganisation; also documents covered by group <a href="#">B63H 21/36</a> are within this group
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 ( <a href="#">B63H 20/22</a> 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	2021/003	{the power plant using fuel cells for energy supply or accumulation, e.g. for buffering photovoltaic energy}
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, <a href="#">F01N</a> )}	2021/006	{the vessel being driven by hot gas positive-displacement engine plants of closed-cycle type, e.g. Stirling engines}
	<b>WARNING</b> This group and its subgroups are not complete, pending a reorganisation; see <a href="#">B63H 21/32</a> , <a href="#">B63H 21/38</a> and <a href="#">B63B 2770/00</a>	21/02	the vessels being steam-driven ( <a href="#">B63H 21/18</a> takes precedence)
20/245	{Exhaust gas outlets ( <a href="#">B63H 20/26</a> takes precedence)}	21/04	relating to positive-displacement steam engines
20/26	{Exhaust gas outlets} passing through the propeller or its hub	21/06	relating to steam 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 <a href="#">F01P 3/202</a> )}	21/08	relating to steam boilers
	<b>WARNING</b> This group and its subgroups are not complete, pending a reorganisation; see <a href="#">B63H 21/38</a> and <a href="#">B63B 2770/00</a>	21/10	relating to condensers or engine-cooling fluid heat-exchangers
20/285	{Cooling-water intakes ( <a href="#">B63H 20/28</a> takes precedence)}	21/12	the vessel being motor-driven ( <a href="#">B63H 21/175</a> , <a href="#">B63H 21/18</a> take precedence; {cooling circuits with liquid-to-liquid heat-exchange relative to marine vessels <a href="#">F01P 3/207</a> })
20/30	{Cooling-water intakes} for flushing {(circuits for flushing outboard marine engines <a href="#">F01P 3/205</a> )}		<b>WARNING</b> Group <a href="#">B63H 21/12</a> 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 <a href="#">B63H 21/17</a> , <a href="#">B63H 21/175</a> , and <a href="#">B63H 21/18</a> respectively
20/32	Housings {(air intakes for outboard engines <a href="#">F02M 35/167</a> )}	21/14	relating to internal-combustion engines {(of outboard type <a href="#">B63H 20/00</a> )}
2020/323	{Gear cases}	21/16	relating to gas turbines
2020/326	{having a dividing plane substantially in plane with the axes of the transmission shafts}		

- 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](#)})  
**WARNING**  
This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 21/12](#)
- 21/17 . . by electric motor ([electrically-propelled vehicles B60L](#); {[Transmitting power from propulsion power plant to propulsive elements with electric gearing B63H 23/24](#)})  
**WARNING**  
Not complete. See [B63H 21/12](#), [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  
**WARNING**  
not complete pending a reorganisation, see also [B63H 21/12](#)
- 21/18 . the vessels being powered by nuclear energy  
**WARNING**  
not complete pending a reorganisation, see also [B63H 21/12](#)
- 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  
**WARNING**  
This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 21/22](#)
- 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](#))  
**WARNING**  
This group is not complete pending a reorganisation; also documents covered by group [B63H 21/21](#) are within this group
- 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](#))  
**WARNING**  
This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 21/00](#)

21/38	<ul style="list-style-type: none"> <li>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 (<a href="#">in outboard drives B63H 20/001</a>; } lubricating or cooling machines or engines in general <a href="#">F01 - F04</a>)</li> </ul> <p><b>WARNING</b></p> <p>This group and its subgroups are</p> <ul style="list-style-type: none"> <li>- systematically used for classification of documents published from 01.06.2010 onwards</li> <li>- not complete; for documents published before 01.06.2010, see <a href="#">B63B 2770/00</a></li> </ul>	23/06	<ul style="list-style-type: none"> <li>for transmitting drive from a single propulsion power unit</li> </ul>
		2023/062	<ul style="list-style-type: none"> <li>{comprising means for simultaneously driving two or more main transmitting elements, e.g. drive shafts}</li> </ul>
		2023/065	<ul style="list-style-type: none"> <li>{having means for differentially varying the speed of the main transmitting elements, e.g. of the drive shafts}</li> </ul>
		2023/067	<ul style="list-style-type: none"> <li>{the elements being formed by two or more coaxial shafts, e.g. counter-rotating shafts}</li> </ul>
		23/08	<ul style="list-style-type: none"> <li>with provision for reversing drive</li> </ul>
		23/10	<ul style="list-style-type: none"> <li>for transmitting drive from more than one propulsion power unit (<a href="#">for synchronisation of propulsive elements B63H 23/28</a>)</li> </ul>
21/383	<ul style="list-style-type: none"> <li>{for handling cooling-water (<a href="#">in outboard drives B63H 20/28</a>; <a href="#">in machines or engines in general F01P 3/00</a>)}</li> </ul>	23/12	<ul style="list-style-type: none"> <li>allowing combined use of the propulsion power units</li> </ul>
21/386	<ul style="list-style-type: none"> <li>{for handling lubrication liquids (<a href="#">in machines or engines in general F01M</a>)}</li> </ul>	23/14	<ul style="list-style-type: none"> <li>with unidirectional drive or where reversal is immaterial</li> </ul>
<b>23/00</b>	<b>Transmitting power from propulsion power plant to propulsive elements</b> ( <a href="#">changing pitch or propellers B63H 3/00</a> ; <a href="#">adaptation of transmission to allow adjustment in location or direction of propellers B63H 5/125</a> ; <a href="#">transmission between wind motors and propulsive elements B63H 13/00</a> ; <a href="#">in outboard propulsion units B63H 20/14</a> ; <a href="#">adaptation of transmission to allow adjustment of location of propeller B63H 20/08</a> ; {adaptations of transmissions to allow steering or dynamic anchoring by propellers carried on rudders <a href="#">B63H 25/42</a> ; } <a href="#">for vehicles in general B60K</a> ; <a href="#">driving auxiliary machinery B63J</a> ; <a href="#">transmission elements per se F16</a> )	23/16	<ul style="list-style-type: none"> <li>characterised by provision of reverse drive</li> </ul>
2023/005	<ul style="list-style-type: none"> <li>{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}</li> </ul>	23/18	<ul style="list-style-type: none"> <li>for alternative use of the propulsion power units</li> </ul>
23/02	<ul style="list-style-type: none"> <li>with mechanical gearing</li> </ul>	23/20	<ul style="list-style-type: none"> <li>with separate forward and astern propulsion power units, e.g. turbines</li> </ul>
2023/0208	<ul style="list-style-type: none"> <li>{by means of endless flexible members}</li> </ul>	23/22	<ul style="list-style-type: none"> <li>with non-mechanical gearing</li> </ul>
2023/0216	<ul style="list-style-type: none"> <li>{by means of belts, or the like}</li> </ul>	23/24	<ul style="list-style-type: none"> <li>electric (<a href="#">dynamo-electric machines H02K</a>)</li> </ul>
2023/0225	<ul style="list-style-type: none"> <li>{of grooved belts, i.e. with one or more grooves in longitudinal direction of the belt}</li> </ul>		<b>WARNING</b>
2023/0233	<ul style="list-style-type: none"> <li>{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}</li> </ul>		<p>This group is not complete pending a reclassification; also documents covered by group <a href="#">B63H 21/17</a> are in this group</p>
2023/0241	<ul style="list-style-type: none"> <li>{of V-belts, i.e. belts of tapered cross section}</li> </ul>	2023/245	<ul style="list-style-type: none"> <li>{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}</li> </ul>
2023/025	<ul style="list-style-type: none"> <li>{by means of chains}</li> </ul>	23/26	<ul style="list-style-type: none"> <li>fluid</li> </ul>
2023/0258	<ul style="list-style-type: none"> <li>{comprising gearings with variable gear ratio, other than reversing drives or trolling drives}</li> </ul>	23/28	<ul style="list-style-type: none"> <li>with synchronisation of propulsive elements</li> </ul>
2023/0266	<ul style="list-style-type: none"> <li>{comprising gearings with automatically variable gear ratio, other than continuously variable transmissions or trolling drives}</li> </ul>	23/30	<ul style="list-style-type: none"> <li>characterised by use of clutches</li> </ul>
2023/0275	<ul style="list-style-type: none"> <li>{comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}</li> </ul>	2023/305	<ul style="list-style-type: none"> <li>{using fluid or semifluid as power transmitting means}</li> </ul>
2023/0283	<ul style="list-style-type: none"> <li>{using gears having orbital motion}</li> </ul>	23/32	<ul style="list-style-type: none"> <li>Other parts</li> </ul>
2023/0291	<ul style="list-style-type: none"> <li>{Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}</li> </ul>	23/321	<ul style="list-style-type: none"> <li>{Bearings or seals specially adapted for propeller shafts}</li> </ul>
23/04	<ul style="list-style-type: none"> <li>the main transmitting element, e.g. shaft, being substantially vertical</li> </ul>	2023/322	<ul style="list-style-type: none"> <li>{Intermediate propeller shaft bearings, e.g. with provisions for shaft alignment}</li> </ul>
		2023/323	<ul style="list-style-type: none"> <li>{Bearings for coaxial propeller shafts, e.g. for driving propellers of the counter-rotative type}</li> </ul>
		2023/325	<ul style="list-style-type: none"> <li>{Thrust bearings, i.e. axial bearings for propeller shafts}</li> </ul>
		23/326	<ul style="list-style-type: none"> <li>{Water lubricated bearings}</li> </ul>
		2023/327	<ul style="list-style-type: none"> <li>{Sealings specially adapted for propeller shafts or stern tubes}</li> </ul>
		2023/328	<ul style="list-style-type: none"> <li>{Marine transmissions characterised by the use of brakes, other than propeller shaft brakes; Brakes therefor}</li> </ul>
		23/34	<ul style="list-style-type: none"> <li>Propeller shafts; Paddle-wheel shafts; Attachment of propellers on shafts (<a href="#">shafts in general F16C</a>; <a href="#">attachment of a member on a shaft in general F16D 1/06</a>)</li> </ul>
		2023/342	<ul style="list-style-type: none"> <li>{comprising couplings, e.g. resilient couplings; Couplings therefor}</li> </ul>
		2023/344	<ul style="list-style-type: none"> <li>{comprising flexible shafts members}</li> </ul>
		2023/346	<ul style="list-style-type: none"> <li>{comprising hollow shaft members}</li> </ul>



- 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}
- 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
- WARNING**
- This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 23/34](#)
- 23/36 . . Shaft tubes (propeller-shaft tunnels [B63B 11/06](#); shaft-tube seals [F16J](#))
- 25/00 Steering; Slowing-down otherwise than by use of propulsive elements (using adjustably-mounted propeller ducts or rings for steering [B63H 5/14](#); using movably-installed outboard propulsion units [B63H 20/00](#)); Dynamic anchoring, i.e. positioning vessels by means of main or auxiliary propulsive elements (anchoring, other than dynamic [B63B 21/00](#); equipment to decrease pitch, roll or like unwanted vessel movements by auxiliary jets or propellers [B63B 39/08](#); {systems for waterborne vessel position control [G05](#), e.g. [G05D 1/00](#)})**
- WARNING**
- This group is pending a reorganisation; also documents covered by group [B63H 25/02](#), and subgroups are within this group
- 2025/005 . {Steering specially adapted for towing trains, tug-barge systems, or the like; Equipment or accessories therefor}
- 25/02 . Initiating means for steering, {for slowing down, otherwise than by use of propulsive elements, or for dynamic anchoring}
- WARNING**
- [B63H 25/02](#) and subgroups are not complete in view of initiating means for slowing down or for dynamic anchoring, pending a reorganisation; see also group [B63H 25/00](#)
- 2025/022 . . {Steering wheels; Posts for steering wheels}
- 2025/024 . . {Handle-bars; Posts for supporting handle-bars, e.g. adjustable posts}
- 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}
- 2025/028 . . {using remote control means, e.g. wireless control; Equipment or accessories therefor}
- 25/04 . . automatic, e.g. reacting to compass
- 2025/045 . . . {making use of satellite radio beacon positioning systems, e.g. the Global Positioning System [GPS]}
- 25/06 . Steering by rudders (by rudders carrying propellers [B63H 25/42](#))
- 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}
- 2025/066 . . {Arrangements of two or more rudders; Steering gear therefor}
- 25/08 . . Steering gear
- 25/10 . . . with mechanical transmission
- 25/12 . . . with fluid transmission
- 25/14 . . . power assisted; power driven, i.e. using steering engine
- 25/16 . . . . with alternative muscle or power operated steering
- 25/18 . . . . Transmitting of movement of initiating means to steering engine
- 25/20 . . . . . by mechanical means
- 25/22 . . . . . by fluid means
- 25/24 . . . . . by electrical means
- 25/26 . . . . Steering engines
- 25/28 . . . . . of fluid type
- 25/30 . . . . . hydraulic
- 25/32 . . . . . steam
- 25/34 . . . . Transmitting of movement of engine to rudder, e.g. using quadrants, brakes
- 25/36 . . Rudder-position indicators
- 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}
- 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
- WARNING**
- This group is not complete as to rudders carrying propellers, pending a reorganisation; see also [B63H 5/125](#), and [B63H 21/26](#) and subgroups - this group is pending a reorganisation; also documents covered by groups [B63H 5/125](#), and subgroups, and by [B63H 20/00](#), and subgroups are within this group
- 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

## B63H

- 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](#))}

### **WARNING**

This group is no complete as to rudders carrying jets, pending a reclassification; see also [B63H 20/00](#) and subgroups

- 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