

**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](#) to [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means

**B63H 1/00**

**Propulsive elements directly acting on water**( jet propulsion [B63H 11/00](#) ; attachment of propellers on shafts [B63H 23/34](#) )

- [B63H 2001/005](#) . {using Magnus effect}
- [B63H 1/02](#) . of rotary type( [endless-track type B63H 1/34](#) )
- [B63H 1/04](#) . . with rotation axis substantially at right angles to propulsive direction
- [B63H 2001/045](#) . . . {with partially immersed nutating or undulated disks, e.g. wobble plates}
- [B63H 1/06](#) . . . with adjustable vanes or blades
- [B63H 1/08](#) . . . . with cyclic adjustment
- [B63H 1/10](#) . . . . . of Voith Schneider type, i.e. with blades extending axially from a disc-shaped rotary body
- [B63H 2001/105](#) . . . . . {with non-mechanical control of individual blades, e.g. electric or hydraulic control}
- [B63H 1/12](#) . . with rotation axis substantially in propulsive direction
- [B63H 2001/122](#) . . . {Single or multiple threaded helicoidal screws, or the like, comprising foils extending over a substantial angle; Archimedean screws}
- [B63H 2001/125](#) . . . . {with helicoidal foils projecting from outside surfaces of floating rotatable bodies, e.g. rotatable, cylindrical bodies}
- [B63H 2001/127](#) . . . . {with helicoidal foils projecting from inside surfaces of rotating shrouds; Archimedean screws}
- [B63H 1/14](#) . . . Propellers( [pitch changing B63H 3/00](#) )

**WARNING**

this group is pending a reorganisation; also documents covered by group [B63H 1/15](#) are within this group]

- [B63H 2001/145](#) . . . . {comprising blades of two or more different types, e.g. different lengths}
- [B63H 1/15](#) . . . . having vibration damping means( [anti-vibration mounting of propulsion plant B63H 21/30](#) ; means for damping vibration in general [F16F](#) )

**WARNING**

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 1/14](#)

- B63H 1/16 . . . . having a shrouding ring attached to blades
- B63H 2001/165 . . . . . {Hubless propellers, e.g. peripherally driven shrouds with blades projecting from the shrouds' inside surfaces}
- B63H 1/18 . . . . with means for diminishing cavitation e.g. supercavitation
- B63H 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}
- B63H 1/20 . . . . Hubs; Blade connections
- B63H 1/22 . . . . . the blades being foldable
- B63H 1/24 . . . . . automatically foldable or unfoldable
- B63H 1/26 . . . . Blades
- B63H 1/265 . . . . . each blade being constituted by a surface enclosing an empty space, e.g. forming a closed loop
- B63H 1/28 . . . . Other means for improving propeller efficiency( [water-guiding elements formed by shape of hull B63H 5/00](#) )
- B63H 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}
- B63H 2001/286 . . . . . {Injection of gas into fluid flow to propellers, or around propeller blades}
- B63H 1/30 . of non-rotary type
- B63H 1/32 . . Flaps, pistons, or the like, reciprocating in propulsive direction

#### **WARNING**

this group is pending a reorganisation; also documents covered by group [B63H 11/09](#) are within this group

- B63H 1/34 . . of endless-track type
- B63H 2001/342 . . . {with tracks substantially parallel to propulsive direction}
- B63H 2001/344 . . . . {having paddles mounted in fixed relation to tracks, or to track members}
- B63H 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}
- B63H 2001/348 . . . {with tracks oriented transverse to propulsive direction}
- B63H 1/36 . . swinging sideways, e.g. fishtail type

#### **WARNING**

this group is pending a reorganisation; also documents covered by group [B63H 1/37](#) are within this group]

- B63H 1/37 . . Moving-wave propellers, i.e. wherein the propelling means comprise a flexible undulating structure

#### **WARNING**

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 1/36](#)

- B63H 1/38 . characterised solely by flotation properties, e.g. drums
- B63H 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](#) )}
- B63H 3/002 . {with individually adjustable blades}
- B63H 2003/004 . {comprising means for locking blades in position}
- B63H 2003/006 . {Detecting or transmitting propeller-blade pitch angle}
- B63H 3/008 . {characterised by self-adjusting pitch, e.g. by means of springs, centrifugal forces, hydrodynamic forces}
- B63H 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](#) )}
- B63H 3/04 . . the control element being reciprocable
- B63H 3/06 . characterised by use of non-mechanical actuating means, e.g. electrical( [B63H 3/002](#) takes precedence )
- B63H 3/08 . . fluid
- B63H 3/081 . . . {actuated by control element coaxial with the propeller shaft}
- B63H 3/082 . . . . {the control element being axially reciprocable}
- B63H 2003/084 . . . . . {with annular cylinder and piston}
- B63H 2003/085 . . . . . {the control element having means for preventing rotation together with the propeller}
- B63H 2003/087 . . . {using gaseous fluids, e.g. steam or air}
- B63H 2003/088 . . . {characterised by supply of fluid actuating medium to control element, e.g. of hydraulic fluid to actuator co-rotating with the propeller}
- B63H 3/10 . characterised by having pitch control conjoint with propulsion plant control
- B63H 3/12 . the pitch being adjustable only when propeller is stationary( [B63H 3/002](#) takes precedence )
- B63H 5/00** **Arrangements on vessels of propulsion elements directly acting on water**
- B63H 2005/005 . {Front propulsors, i.e. propellers, paddle wheels, or the like substantially arranged ahead of the vessels' midship section}
- B63H 5/02 . of paddle wheels, e.g. of stern wheels

#### **WARNING**

this group is pending a reorganisation; also documents covered by group [B63H 5/03](#) are within this group

- B63H 2005/025 . . {of Voith Schneider type}
- B63H 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

#### **WARNING**

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 5/02](#)

- [B63H 5/04](#) . . with stationary water-guiding elements
- [B63H 5/07](#) . of propellers([forming part of outboard units\(or Z-drives\) B63H 20/00](#) )
- [B63H 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}
- [B63H 5/08](#) . . of more than one propeller
- [B63H 5/10](#) . . . of coaxial type, e.g. of counter-rotative type
- [B63H 2005/103](#) . . . . {of co-rotative type, i.e. rotating in the same direction, e.g. twin propellers}
- [B63H 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}
- [B63H 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](#) )

#### **WARNING**

- [B63H 5/125](#) and subgroups are not complete pending a reorganisation; see also groups [B63H 21/26](#) and [B63H 25/42](#) - this group is pending a reorganisation; also documents covered by groups [B63H 20/00](#) , and subgroups, and by [B63H 25/42](#) are within this group]

- [B63H 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}

#### **WARNING**

Some documents of group [B63H 5/1252](#) are in the process of being reorganized to group [B63H 20/14](#) and subgroups

- [B63H 2005/1254](#) . . . {Podded azimuthing thrusters, i.e. podded thruster units arranged inboard for rotation about vertical axis}
- [B63H 2005/1256](#) . . . . {with mechanical power transmission to propellers}
- [B63H 2005/1258](#) . . . . {with electric power transmission to propellers, i.e. with integrated electric propeller motors}
- [B63H 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](#) )
- [B63H 5/15](#) . . . Nozzles, e.g. Kort-type

#### **WARNING**

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 5/14](#)

- B63H 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](#) )
- B63H 5/165      ...      {Propeller guards, line cutters or other means for protecting propellers or rudders}
- B63H 5/18      ..      of emergency propellers, e.g. arranged at the side of the vessel

**WARNING**

this group is pending a reorganisation; also documents covered by group [B63H 5/20](#) are within this group

- B63H 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](#) )}

**WARNING**

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63H 5/18](#)

**B63H 7/00      Arrangements of propulsive devices directly acting on air( [jet propulsion B63H 11/00](#) )**

- B63H 7/02      .      using propellers( [air-screws of aircraft type B64C](#) )

**B63H 9/00      Propulsive devices directly acted on by wind; Arrangements thereof( [air driven propellers driving underwater propulsive elements B63H 13/00](#) )**

- B63H 9/02      .      using Magnus effect
- B63H 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](#) } )
- B63H 9/06      ..      Construction or types of sails; Arrangements thereof on vessels
- B63H 9/0607      ...      {Rigid or aerofoil type sails}
- B63H 9/0614      ....      {Inflatable aerofoil sails}
- B63H 2009/0621      ....      {Rigid sails comprising one or more pivotally supported panels}
- B63H 2009/0628      .....      {the panels being pivotable about horizontal axes}
- B63H 2009/0635      .....      {the panels being pivotable about vertical axes}
- B63H 9/0642      ...      {Sail battens}
- B63H 2009/065      ....      {with variable rigidity, e.g. inflatable}
- B63H 9/0657      ...      {Construction of sails( [sails with detachable sections B63B 35/7983](#) )}
- B63H 2009/0664      ....      {of spinnakers, gennakers, or the like balloon sails}
- B63H 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}

B63H 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}
B63H 9/0685	...	{Sails pivotally mounted at a mast-tip; Kite sails( <a href="#">B63B 35/7976</a> takes precedence )}
B63H 2009/0692	....	{Methods, or means specially adapted for controlling kite sails, e.g. control bars, harnesses, automated control units, or methods of their use}
B63H 9/08	..	Connections of sails to masts, spars, or the like
B63H 2009/082	...	{Booms, or the like}
B63H 2009/084	...	{Gooseneck bearings, i.e. bearings for pivotal support of booms on masts}
B63H 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}
B63H 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}
B63H 9/10	...	Running rigging, e.g. reefing equipment( <a href="#">staying of masts B63B 15/02</a> )

**WARNING**

this group is pending a reorganisation; also documents covered by group [B63H 9/1092](#) are within this group

B63H 9/1007	....	{Trapeze systems( <a href="#">harnesses for windsurfers B63B 35/7993</a> )}
B63H 9/1014	.....	{with elastic connection to harnesses}
B63H 9/1021	....	{Reefing}
B63H 9/1028	.....	{by furling around stays}
B63H 9/1035	.....	{by furling around or inside the mast}
B63H 9/1042	.....	{by furling around or inside the boom}
B63H 2009/105	.....	{using drives for actuating reefing mechanism, e.g. roll reefing drives}
B63H 2009/1057	.....	{using sheaves being friction driven by endless ropes or by ropes having two free ends}
B63H 2009/1064	.....	{using drums driven by winding or unwinding single ropes onto or from the drums}
B63H 9/1071	....	{Spinnaker poles or rigging, e.g. combined with spinnaker handling}
B63H 9/1078	....	{Boom brakes}
B63H 9/1085	....	{Boom vang}
B63H 9/1092	....	{Means for stowing, or securing sails when not in use( <a href="#">B63H 9/1021</a> takes precedence )}

**WARNING**

[B63H 9/1092](#) is not complete pending a reorganisation; see also group [B63H 9/10](#)

<b>B63H 11/00</b>	<b>Effecting propulsion by jets, i.e. reaction principle</b> (steering by{auxiliary}jet action,{rudders carrying jets} <a href="#">B63H 25/46</a> ; power plant per se, see the relevant classes )
B63H 2011/002	. {using Coanda effect, i.e. the tendency of fluid jets to be attracted to nearby surfaces}

- B63H 2011/004 . {using the eductor or injector pump principle, e.g. jets with by-pass fluid paths}
- B63H 2011/006 . {with propulsive medium supplied from sources external to propelled vessel, e.g. water from public water supply}
- B63H 2011/008 . {Arrangements of two or more jet units}
- B63H 11/01 . having means to prevent foreign material from clogging fluid passage way
- B63H 11/02 . the propulsive medium being ambient water
- B63H 11/025 . . {by means of magneto-hydro-dynamic forces}
- B63H 11/04 . . by means of pumps
- B63H 2011/043 . . . {with means for adjusting or varying pump inlets, e.g. means for varying inlet cross section area}
- B63H 2011/046 . . . {comprising means for varying pump characteristics, e.g. rotary pumps with variable pitch impellers, or adjustable stators}
- B63H 11/06 . . . of reciprocating type
- B63H 11/08 . . . of rotary type
- B63H 2011/081 . . . . {with axial flow, i.e. the axis of rotation being parallel to the flow direction}
- B63H 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}
- B63H 2011/084 . . . . {with two or more pump stages}
- B63H 2011/085 . . . . . {having counter-rotating impellers}
- B63H 2011/087 . . . . {with radial flow}
- B63H 2011/088 . . . . {using shear forces, e.g. disc pumps or Tesla pumps}
- B63H 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](#)

- B63H 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](#)

- B63H 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

- B63H 11/102 . . . . {the inlet opening and the outlet opening of the pump being substantially coplanar}

- B63H 11/103 . . . having means to increase efficiency of propulsive fluid, e.g. discharge pipe provided with means to improve the fluid flow
- B63H 11/107 . . . Direction control of propulsive fluid{( [B63H 11/101](#) takes precedence )}

**WARNING**

N1108]

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](#)

- B63H 11/11 . . . . with bucket or clamshell-type reversing means
- B63H 11/113 . . . . Pivoted outlet
- B63H 11/117 . . . . Pivoted vane
- B63H 11/12 . the propulsive medium being steam or other gas
- B63H 11/14 . . the gas being produced by combustion
- B63H 11/16 . . the gas being produced by other chemical processes

**B63H 13/00 Effecting propulsion by wind motors driving water-engaging propulsive elements****B63H 15/00 Effecting propulsion by use of vessel-mounted driving mechanisms co-operating with anchored chains or the like****B63H 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](#) )

- B63H 2016/005 . {used on vessels dynamically supported, or lifted out of the water by hydrofoils}
- B63H 16/02 . Movable thwarts; Footrests
- B63H 16/04 . Oars; Sculls; Paddles; Poles
- B63H 2016/043 . . {Stop sleeves or collars for positioning oars in rowlocks, e.g. adjustable}
- B63H 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}
- B63H 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

- B63H 2016/063 . . {Rowlocks mounted on movable support structures}
- B63H 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](#)



- B63H 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](#)

- B63H 16/08      .      Other apparatus for converting muscle power into propulsive effort([general features of propulsion elements, see the relevant groups](#))

- B63H 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}

- B63H 16/10      ..      for bow-facing rowing

- B63H 16/102      ...      {by using an inverting mechanism between the handgrip and the blade, e.g. a toothed transmission}

- B63H 16/105      ....      {the mechanism having articulated rods}

- B63H 16/107      ...      {by placing the fulcrum outside the segment defined by handgrip and blade}

- B63H 16/12      ..      using hand levers, cranks, pedals, or the like, e.g. water cycles, boats propelled by boat-mounted pedal cycles

**WARNING**

This group is no longer used for classification of new documents as from 01.01.2012. The backlog of this group is being continuously reclassified to groups [B63H 16/16](#) to [B63H 16/20](#)

- B63H 16/14      ...      for propelled drive

**WARNING**

This group is no longer used for classification of new documents as from 01.01.2012. The backlog of this group is being continuously reclassified to groups [B63H 16/16](#) to [B63H 16/20](#)

- B63H 16/16      ..      using reciprocating pull cable, i.e. a strand-like member movable alternately backward and forward

**WARNING**

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also groups [B63H 16/12](#) and [B63H 16/14](#)

- B63H 2016/165      ...      {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}

- B63H 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

**WARNING**

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also groups [B63H 16/12](#) and [B63H 16/14](#)

- [B63H 2016/185](#) . . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}
- [B63H 16/20](#) . . using rotary cranking arm

#### **WARNING**

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also groups [B63H 16/12](#) and [B63H 16/14](#)

- [B63H 2016/202](#) . . . {specially adapted or arranged for being actuated by the feet of the user, e.g. using bicycle-like pedals}
- [B63H 2016/205](#) . . . . {making use of standard bicycles}
- [B63H 2016/207](#) . . . . . {without wheels}

#### **[B63H 19/00](#)**

#### **Effecting propulsion of vessels, not otherwise provided for**

- [B63H 19/02](#) . by using energy derived from movement of ambient water, e.g. from rolling or pitching of vessels
- [B63H 19/04](#) . . propelled by water current
- [B63H 19/06](#) . by discharging gas into ambient water( with jet action [B63H 11/12](#) ; for reducing surface friction [B63B 1/38](#) )
- [B63H 19/08](#) . by direct engagement with water-bed or ground

#### **[B63H 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}<explanation>**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](#) )}

#### **WARNING**

<p/Not complete pending a reclassification; see also [B63H 5/1252](#), as well as [B63H 21/26](#) and subgroups

- [B63H 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](#) )}

#### **WARNING**

This group and its subgroups are not complete, pending a reorganisation; see [B63H 21/38](#) and [B63B 2770/00](#)

- [B63H 20/002](#) . . {for handling lubrication liquids(in engines, e.g. outboard marine engines, [F01M](#))}
- [B63H 2020/003](#) . {Arrangements of two, or more outboard propulsion units}

- B63H 2020/005 . {Arrangements of two or more propellers, or the like on single outboard propulsion units}
- B63H 2020/006 . . {of coaxial type, e.g. of counter-rotative type}
- B63H 20/007 . {Trolling propulsion units( trolling plates for slowing down [B63H 25/50](#) ; dynamo-electric machines of trolling units [H02K](#) )}
- B63H 2020/008 . {Tools, specially adapted for maintenance, mounting, repair, or the like of outboard propulsion units, e.g. of outboard motors or Z-drives}
- B63H 20/02 . Mounting of propulsion units( [B63H 20/08](#) takes precedence )
- B63H 2020/025 . . {Sealings specially adapted for mountings of outboard drive units; Arrangements thereof, e.g. for transom penetrations}
- B63H 20/04 . . in a well
- B63H 20/06 . . on an intermediate support
- B63H 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](#) )
- B63H 20/10 . . Means enabling trim or tilt, or lifting of the propulsion element when an obstruction is hit; Control of trim or tilt
- B63H 2020/103 . . . {using a flexible member for enabling or controlling tilt or lifting, e.g. a cable}
- B63H 20/106 . . . {Means enabling lifting of the propulsion element in a substantially vertical, linearly sliding movement}
- B63H 20/12 . . Means enabling steering
- B63H 20/14 . Transmission between propulsion power unit and propulsion element
- B63H 2020/145 . . {comprising means for permitting telescoping movement of components of the outboard propulsion unit, e.g. telescoping movement of power leg}
- B63H 20/16 . . allowing movement of the propulsion element in a horizontal plane only, e.g. for steering
- B63H 20/18 . . allowing movement of the propulsion element about a longitudinal axis, e.g. the through transom shaft( [B63H 20/22](#) takes precedence )
- B63H 20/20 . . with provision for reverse drive
- B63H 20/22 . . allowing movement of the propulsion element about at least a horizontal axis without disconnection of the drive, e.g. using universal joints
- B63H 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**

This group and its subgroups are not complete, pending a reorganisation; see [B63H 21/32](#) , [B63H 21/38](#) and [B63B 2770/00](#)

- B63H 20/245 . . {Exhaust gas outlets( [B63H 20/26](#) takes precedence )}
- B63H 20/26 . . {Exhaust gas outlets}passing through the propeller or its hub
- B63H 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](#) )}

### **WARNING**

This group and its subgroups are not complete, pending a reorganisation; see [B63H 21/38](#) and [B63B 2770/00](#)

- B63H 20/285 . . {Cooling-water intakes( [B63H 20/28](#) takes precedence )}
- B63H 20/30 . . {Cooling-water intakes}for flushing{( circuits for flushing outboard marine engines [F01P 3/205](#) )}
- B63H 20/32 . Housings{( air intakes for outboard engines [F02M 35/167](#) )}
- B63H 2020/323 . . {Gear cases}
- B63H 2020/326 . . . {having a dividing plane substantially in plane with the axes of the transmission shafts}
- B63H 20/34 . . comprising stabilising fins,{foils, anticavitation plates, splash plates, or rudders( rudders carrying propellers [B63H 25/42](#) ; rudders carrying jets [B63H 25/46](#) )}
- B63H 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}

**B63H 21/00** **Use of propulsion power plant or units on vessels**( use of outboard propulsion units [B63H 20/00](#) ; hull reinforcements for carrying propulsion power plant or units [B63B 3/70](#) ; { propulsion of submarines [B63G 8/08](#) ; }propulsion power plant or units per se, see the relevant classes)

#### **NOTE**

This group comprises arrangements of propulsion power plant or units on vessels and to some extent it includes adaptations of such plant or units to facilitate such arrangements

#### **WARNING**

this group is pending a reorganisation; also documents covered by group [B63H 21/36](#) are within this group

- B63H 2021/003 . {the power plant using fuel cells for energy supply or accumulation, e.g. for buffering photovoltaic energy}
- B63H 2021/006 . {the vessel being driven by hot gas positive-displacement engine plants of closed-cycle type, e.g. Stirling engines}
- B63H 21/02 . the vessels being steam-driven( [B63H 21/18](#) takes precedence )
- B63H 21/04 . . relating to positive-displacement steam engines
- B63H 21/06 . . relating to steam turbines
- B63H 21/08 . . relating to steam boilers
- B63H 21/10 . . relating to condensers or engine-cooling fluid heat-exchangers
- B63H 21/12 . 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](#) )}

#### **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

- [B63H 21/14](#) . . relating to internal-combustion engines{( of outboard type [B63H 20/00](#) )}
- [B63H 21/16](#) . . relating to gas turbines
- [B63H 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](#)

- [B63H 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](#)

- [B63H 2021/171](#) . . . {making use of photovoltaic energy conversion, e.g. using solar panels}
- [B63H 2021/173](#) . . . {making use of superconductivity}
- [B63H 21/175](#) . the vessel being powered by land vehicle supported by vessel

#### **WARNING**

not complete pending a reorganisation, see also [B63H 21/12](#)

- [B63H 21/18](#) . the vessels being powered by nuclear energy

#### **WARNING**

not complete pending a reorganisation, see also [B63H 21/12](#)

- [B63H 21/20](#) . the vessels being powered by combinations of different types of propulsion units
- [B63H 2021/202](#) . . {of hybrid electric type}
- [B63H 2021/205](#) . . . {the second power unit being of the internal combustion engine type, or the like, e.g. a Diesel engine}
- [B63H 2021/207](#) . . . {the second power unit being a gas turbine}
- [B63H 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](#)

- [B63H 21/213](#) . . {Levers or the like for controlling the engine or the transmission, e.g. single hand control levers}
- [B63H 2021/216](#) . . {using electric control means}

B63H 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

B63H 21/24

- the vessels being small craft, e.g. racing boats

B63H 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](#)

B63H 21/265

- {Steering or control devices for outboards( steering by rudders [B63H 25/06](#) ; control handles for boats [B63H 21/213](#) )}

B63H 21/28

- Arrangements of transmission between propulsion power unit and propulsive element

B63H 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](#))

B63H 21/302

- {with active vibration damping}

B63H 21/305

- {with passive vibration damping}

B63H 2021/307

- {Arrangements, or mountings of propulsion power plant elements in modular propulsion power units, e.g. using containers}

B63H 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](#)

B63H 21/34

- having exhaust-gas deflecting means

B63H 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](#)

[B63H 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 \[F01\]\(#\) to \[F04\]\(#\)](#))

#### **WARNING**

This group and its subgroups are  
 - systematically used for classification of documents published from 01.06.2010 onwards  
 - not complete; for documents published before 01.06.2010, see [B63B 2770/00](#)

[B63H 21/383](#)

- .. [{for handling cooling-water\( in outboard drives \[B63H 20/28\]\(#\) ; in machines or engines in general \[F01P 3/00\]\(#\) \)}](#)

[B63H 21/386](#)

- .. [{for handling lubrication liquids\(in machines or engines in general \[F01M\]\(#\)\)}](#)

**[B63H 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 \[F16\]\(#\)\)](#)

[B63H 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}](#)

[B63H 23/02](#)

- . with mechanical gearing

[B63H 2023/0208](#)

- .. [{by means of endless flexible members}](#)

[B63H 2023/0216](#)

- ... [{by means of belts, or the like}](#)

[B63H 2023/0225](#)

- .... [{of grooved belts, i.e. with one or more grooves in longitudinal direction of the belt}](#)

[B63H 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}](#)

[B63H 2023/0241](#)

- .... [{of V-belts, i.e. belts of tapered cross section}](#)

[B63H 2023/025](#)

- ... [{by means of chains}](#)

[B63H 2023/0258](#)

- .. [{comprising gearings with variable gear ratio, other than reversing drives or trolling drives}](#)

[B63H 2023/0266](#)

- ... [{comprising gearings with automatically variable gear ratio, other than continuously variable transmissions or trolling drives}](#)

[B63H 2023/0275](#)

- ... [{comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}](#)

[B63H 2023/0283](#)

- .. [{using gears having orbital motion}](#)

[B63H 2023/0291](#)

- .. [{Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}](#)



- B63H 23/04 . . . the main transmitting element, e.g. shaft, being substantially vertical
- B63H 23/06 . . . for transmitting drive from a single propulsion power unit
- B63H 2023/062 . . . {comprising means for simultaneously driving two or more main transmitting elements, e.g. drive shafts}
- B63H 2023/065 . . . . {having means for differentially varying the speed of the main transmitting elements, e.g. of the drive shafts}
- B63H 2023/067 . . . . {the elements being formed by two or more coaxial shafts, e.g. counter-rotating shafts}
- B63H 23/08 . . . with provision for reversing drive
- B63H 23/10 . . . for transmitting drive from more than one propulsion power unit( [for synchronisation of propulsive elements B63H 23/28](#) )
- B63H 23/12 . . . allowing combined use of the propulsion power units
- B63H 23/14 . . . . with unidirectional drive or where reversal is immaterial
- B63H 23/16 . . . . characterised by provision of reverse drive
- B63H 23/18 . . . for alternative use of the propulsion power units
- B63H 23/20 . . . . with separate forward and astern propulsion power units, e.g. turbines
- B63H 23/22 . . with non-mechanical gearing
- B63H 23/24 . . . electric{(dynamo-electric machines [H02K](#))}

### **WARNING**

This group is not complete pending a reclassification; also documents covered by group [B63H 21/17](#) are in this group

- B63H 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}
- B63H 23/26 . . . fluid
- B63H 23/28 . . with synchronisation of propulsive elements
- B63H 23/30 . . characterised by use of clutches
- B63H 2023/305 . . {using fluid or semifluid as power transmitting means}
- B63H 23/32 . . Other parts
- B63H 23/321 . . {Bearings or seals specially adapted for propeller shafts}
- B63H 2023/322 . . . {Intermediate propeller shaft bearings, e.g. with provisions for shaft alignment}
- B63H 2023/323 . . . {Bearings for coaxial propeller shafts, e.g. for driving propellers of the counter-rotative type}
- B63H 2023/325 . . . {Thrust bearings, i.e. axial bearings for propeller shafts}
- B63H 23/326 . . . {Water lubricated bearings}
- B63H 2023/327 . . . {Sealings specially adapted for propeller shafts or stern tubes}
- B63H 2023/328 . . {Marine transmissions characterised by the use of brakes, other than propeller shaft brakes; Brakes therefor}
- B63H 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](#) )
- B63H 2023/342 . . . {comprising couplings, e.g. resilient couplings; Couplings therefor}



- B63H 2023/344 . . . {comprising flexible shafts members}
- B63H 2023/346 . . . {comprising hollow shaft members}
- B63H 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}
- B63H 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](#)

- B63H 23/36 . . . Shaft tubes( [propeller-shaft tunnels B63B 11/06](#) ; [shaft-tube seals F16J](#) )

**B63H 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

- B63H 2025/005 . {Steering specially adapted for towing trains, tug-barge systems, or the like; Equipment or accessories therefor}
- B63H 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](#)

- B63H 2025/022 . . {Steering wheels; Posts for steering wheels}
- B63H 2025/024 . . {Handle-bars; Posts for supporting handle-bars, e.g. adjustable posts}
- B63H 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}
- B63H 2025/028 . . {using remote control means, e.g. wireless control; Equipment or accessories therefor}
- B63H 25/04 . . automatic, e.g. reacting to compass
- B63H 2025/045 . . . {making use of satellite radio beacon positioning systems, e.g. the Global Positioning System (GPS)}
- B63H 25/06 . Steering by rudders( [by rudders carrying propellers B63H 25/42](#) )
- B63H 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}

- B63H 2025/066 .. {Arrangements of two or more rudders; Steering gear therefor}
- B63H 25/08 .. Steering gear
- B63H 25/10 ... with mechanical transmission
- B63H 25/12 ... with fluid transmission
- B63H 25/14 ... power assisted; power driven, i.e. using steering engine
- B63H 25/16 .... with alternative muscle or power operated steering
- B63H 25/18 .... Transmitting of movement of initiating means to steering engine
- B63H 25/20 ..... by mechanical means
- B63H 25/22 ..... by fluid means
- B63H 25/24 ..... by electrical means
- B63H 25/26 .... Steering engines
- B63H 25/28 ..... of fluid type
- B63H 25/30 ..... hydraulic
- B63H 25/32 ..... steam
- B63H 25/34 .... Transmitting of movement of engine to rudder, e.g. using quadrants, brakes
- B63H 25/36 .. Rudder-position indicators
- B63H 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](#) }
- B63H 25/381 ... {with flaps}
- B63H 25/382 ... {movable otherwise than for steering purposes; Changing geometry}
- B63H 25/383 .... {with deflecting means able to reverse the water stream direction}
- B63H 2025/384 .... {with means for retracting or lifting}
- B63H 2025/385 ..... {by pivoting}
- B63H 2025/386 ..... {by sliding, e.g. telescopic}
- B63H 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}
- B63H 2025/388 ... {with varying angle of attack over the height of the rudder blade, e.g. twisted rudders}
- B63H 25/40 ... using Magnus effect
- B63H 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]

- B63H 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}
- B63H 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

- B63H 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}
- B63H 25/48 . Steering or slowing-down by deflection of propeller slipstream otherwise than by rudder
- B63H 25/50 . Slowing-down means not otherwise provided for
- B63H 25/52 . Parts for steering not otherwise provided for