

**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**

B63H 1/15  
(continued)

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**

B63H 1/37  
(continued)

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**

B63H 5/03  
(continued)

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](#)

**B63H 11/00**      **Effecting propulsion by jets, i.e. reaction principle** ([steering by {auxiliary} jet action, {rudders carrying jets} B63H 25/46](#) ; power plant per se, see the relevant classes)

- 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**

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**

**B63H 16/18**

(continued)

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}** (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**

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**

**B63H 20/28**

(continued)

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

B63H 21/12

(continued)

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**

B63H 21/36

(continued)

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