

Title (en)  
MARINE OUTDRIVE APPARATUS

Publication  
**EP 0090497 A3 19850612 (EN)**

Application  
**EP 83300946 A 19830223**

Priority  
US 35900782 A 19820317

Abstract (en)  
[origin: EP0090497A2] A marine outdrive apparatus is disclosed for attachment to the transom (20) of a boat having an inboard engine. The marine outdrive includes a tubular support casing (22) securable to and extendable rearwardly of the boat's transom (20) and having a ball socket at its rear end. The ball socket receives a ball (32) at the front end of a tubular, propeller shaft carrier (30) having a conical outer surface. A drive shaft (38) connectable to the inboard engine is journaled in the support casing (22). A propeller shaft (40) is journaled in the propeller shaft carrier (30) and has a propeller (44) mounted thereon at the rear end of the propeller shaft carrier (30). A universal joint (46) couples the two shafts together, the centre of such joint (46) substantially coinciding with the point about which the ball (32) pivots within the socket. Hydraulic steering cylinders (108, 110) are attached to the propeller shaft carrier (30) to pivot the latter about a steering axis extending through the pivot point of the ball (32). A hydraulic trim cylinder (140) extends between the transom (20) and the propeller shaft carrier (30) to swing the propeller shaft carrier (30) about a laterally extending trim axis extending through the pivot point of the ball (32). The upper end of the trim cylinder (140) is pivotally mounted on the transom (20) at a location above and vertically aligned with the pivot point of the ball (32) or at a location above and forwardly of such pivot point. Improved fins (90, 92) are provided on the propeller shaft carrier (30) near the propeller (44) to stabilize the boat. The drive shaft (38) of the inboard motor can be directly connected to the joint (46) or offset from the joint (46) and coupled thereto by a vertically extending transmission (430).

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