

RUDDERSAFE

INSTALLATION MANUAL

Ruddersafe Standard Type

Type 2, 3 and 4 for outboard motors and stern drives

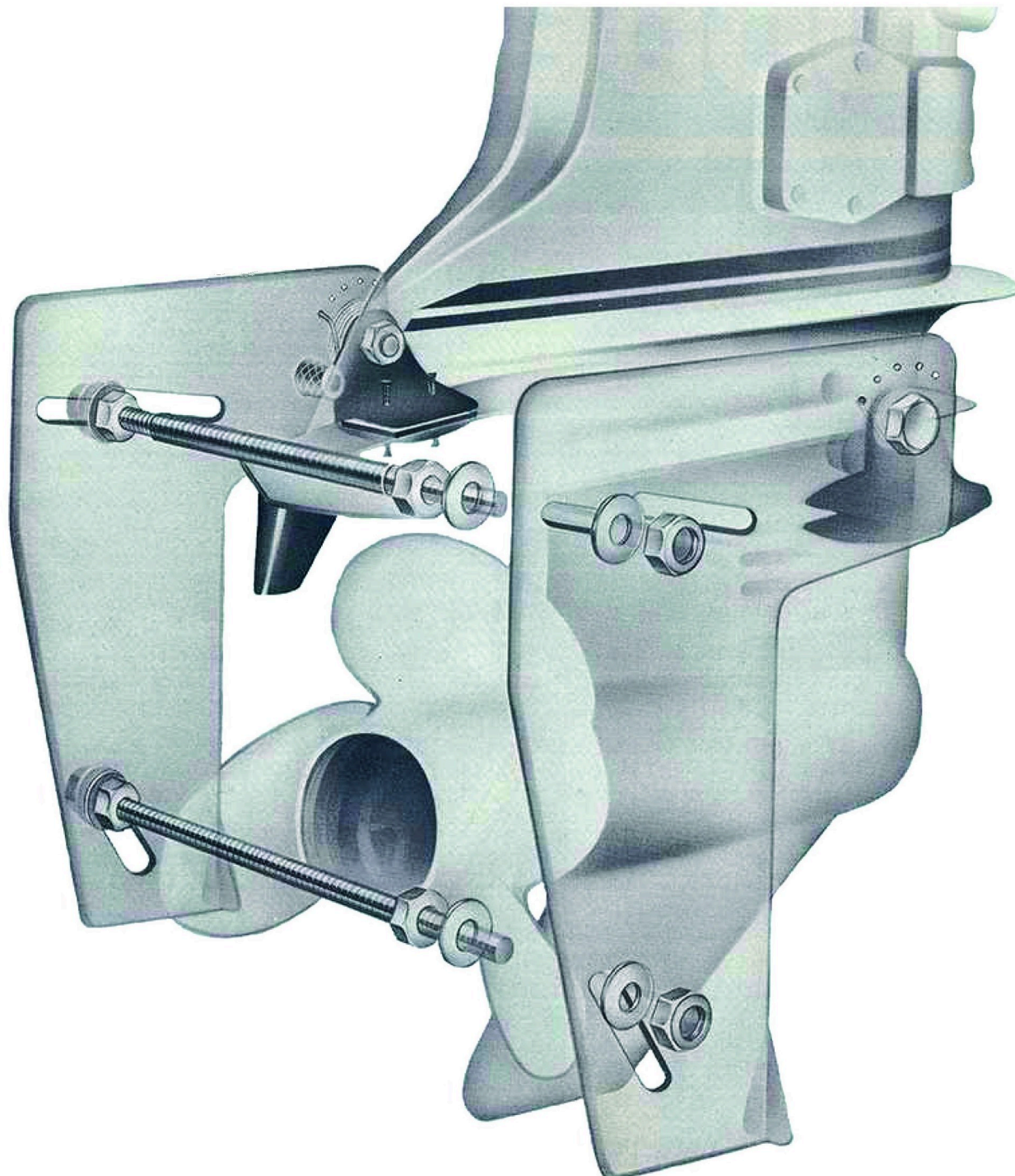
The dual rudder for better steering at low speed and in reverse

EN

Language
English

More information and support

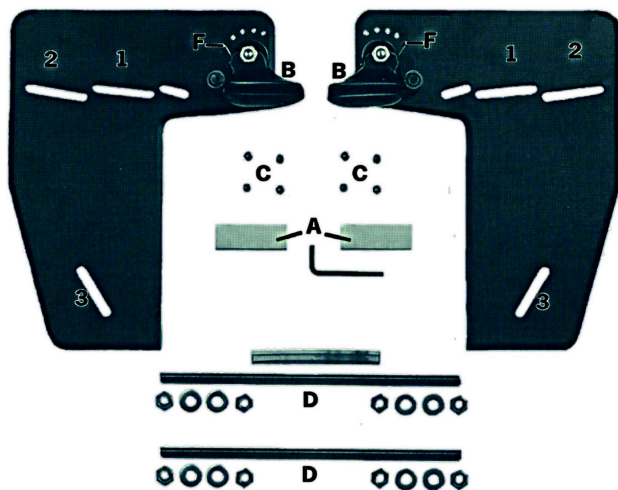
Questions about installation or the right type? Visit ruddersafe-shop.com or e-mail info@ruddersafe-shop.com.



Before you start

1. Read the complete manual before you install the Ruddersafe and follow the instructions carefully.
2. Check the contents of the box against the parts shown in this manual.
3. The letters and numbers in the instructions refer to the parts and holes shown on the parts page.
4. Installation takes about 20 minutes. No drilling is needed in the boat, the cavitation plate or the engine.
5. Switch the engine off and make sure it cannot be started during installation.

Parts (supplied)



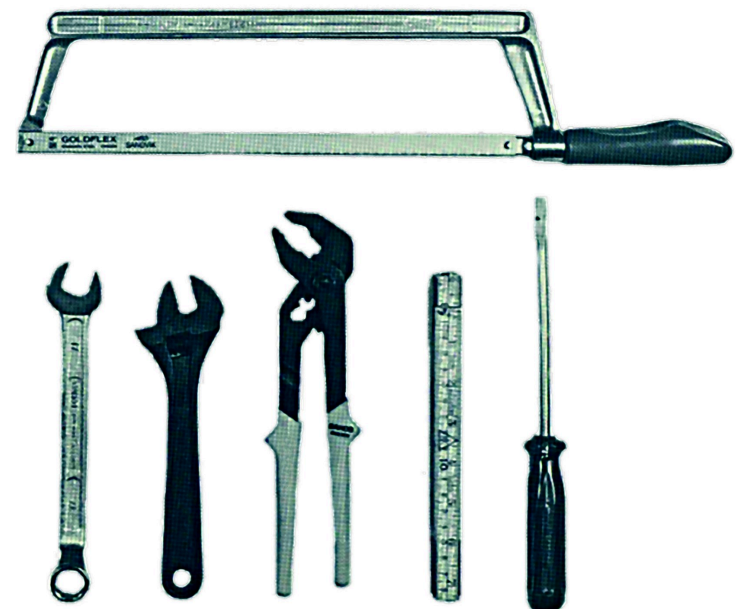
IMPORTANT: tighten the brackets by hand only

Always tighten the bolts and screws of the Ruddersafe brackets by hand with an ordinary spanner or the supplied hex key. Never use a power tool, such as a cordless drill or impact wrench, and do not overtighten. Overtightening can damage the brackets or make them break. Firm is firm.

Tools you need (not supplied)

Hacksaw, ring or open-end spanner, adjustable spanner, water pump pliers, folding rule and screwdriver.

Hand tools only: no power tools.



ASSEMBLY INSTRUCTIONS

Carefully read the assembly instructions before installing the Ruddersafe. The numbers and letters refer to the parts page. The drawing on the cover shows how the Ruddersafe must be assembled.



Image 1

Screw the adjusting screws (C) into the brackets by hand. The brackets have a protective coating, which can also cover the screw thread; this can make it slightly harder to screw in the adjusting screws. The coating can be removed with an M8 bolt or stud.

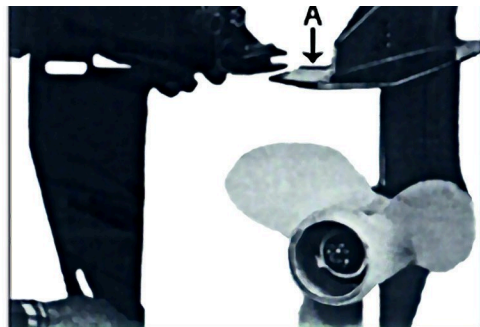


Image 2

If necessary, place the shim (A) on top of the cavitation plate.

Liquid sealing compound

Prevents screw threads, such as nuts, bolts and stud bolts, from coming loose or leaking. Apply it directly from the tube. For the best result, clean and degrease the parts beforehand. Apply enough to fill the space, fit the parts and let the compound harden. The tube must contain air so that the product stays liquid. Easy to dismantle with suitable tools.

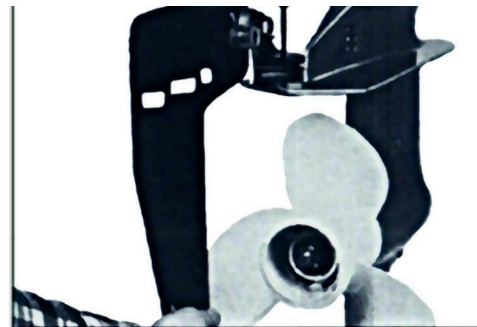


Image 3

Slide the rudder blade over the cavitation plate and any shims until it butts. Fix the rudder blade to the cavitation plate by hand by tightening the top and bottom adjusting screws equally, in turn, one turn at a time. Do not overtighten. The rudder blade must be fitted parallel to the centre line of the engine.

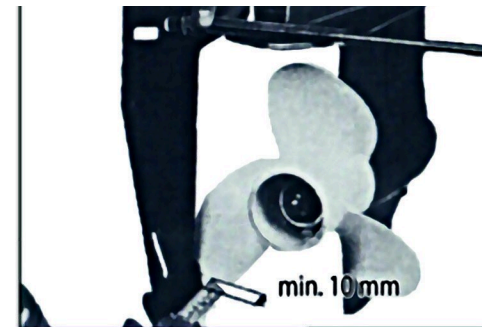


Image 4

The distance between the rudder blade and the propeller must be approximately 2.5 cm. This is not a fixed requirement and can differ per engine or tailpiece. A distance of less than 1 cm is not recommended.

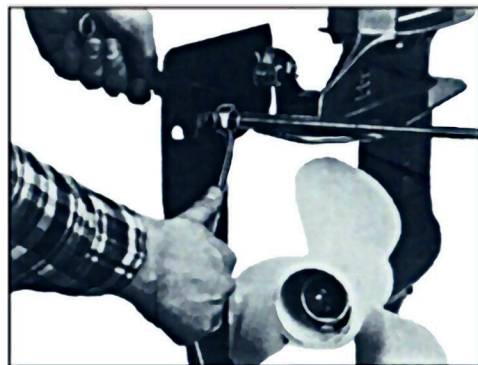


Image 5

Screw the stud bolt (D) with the protective cover into groove 1 or 2 and tighten it by hand. The stud bolt may rest against the tip of the cavitation plate, but this is not always necessary or possible and differs per engine. Groove 2 is used most often. Make sure the stud bolt does not touch the tailpiece when the rudder comes out of the water at higher speed.

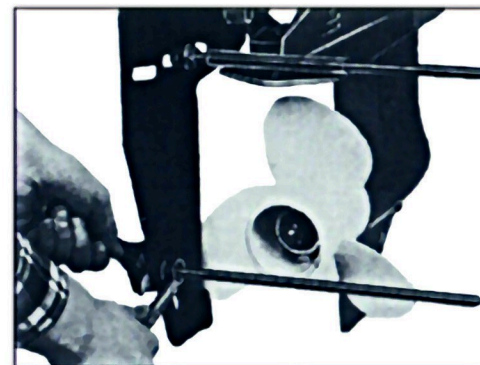


Image 6

Screw the stud bolt (D) into groove 3 and tighten it by hand. Make sure that the stud bolt does not touch the tailpiece when the rudder tips up. You can prevent this by sliding the stud bolts along the grooves or by moving the rudder backwards or forwards over the cavitation plate.



Image 7

Fit the second rudder blade as described in images 1 to 6. The brackets must be spaced equally on the left and right-hand sides of the cavitation plate.

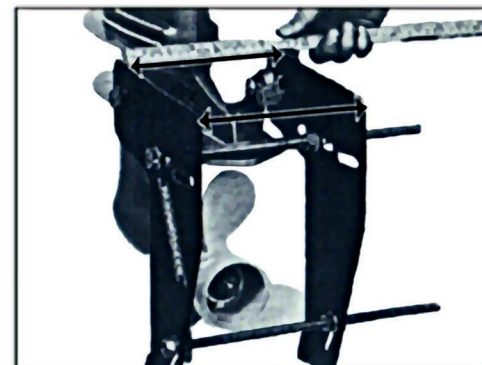


Image 8

For the Ruddersafe to work properly, the distance between the rudder blades must be the same at the top and the bottom, and the blades must be parallel to each other and to the centre line of the engine. Adjust this with the stud bolts and the nuts. When the Ruddersafe is correctly assembled and all screws and nuts are tightened by hand, cut off the protruding ends of the stud bolts with a hacksaw.

How it works

At higher speeds the increasing water pressure on the trim tabs under the blades lifts the rudder out of the water, so the Ruddersafe must be able to move freely. At low speeds the springs return the Ruddersafe to its original position. Tightening the springs slows down the tipping.

Check the adjusting screws and nuts after 5 to 10 hours of sailing and retighten them by hand if necessary.

Inspect the Ruddersafe during the annual engine service: lubricate the tipping mechanism and, if necessary, clean it and apply antifouling.

Important: to protect the rudder against corrosion, we recommend fitting an aluminium anode to the rudder and/or the tailpiece.