

Van Dusen Racing Boats

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Kick Up Rudder Guide



The kick up rudder: (top L to bottom R) rudder cheek, hinge pin, hinge bracket, completed rudder assembly, spring, crossbar, ruler for scale, blades sizes 1-4.

Thank you for purchasing a kick up rudder from Composite Engineering/Van Dusen Racing Boats. We now have 6 sizes of blades. The smallest one, #1, we use on racing K-1's then #2 for K-2 or touring K-1, #3, Mohican & surf skis, and #4 (\$10 additional). We have added #5 (+\$15) and #6 (+\$20) for boats with a lot of freeboard or rocker aft. Each blade is about 20% larger than the previous one. The stainless steel torsion spring is tuned to allow the rudder to kick up as soon as weeds start to accumulate. The system is designed to be light weight, rigid, strong, corrosion resistant, and easy to disassemble.

Differences in boat shape, water conditions, and paddling speed make it difficult to recommend the correct size for you. If you feel that you do not have the best size, please call us to swap for another blade size. We will give you credit for a returned blade in like new condition. We are trying to develop a guide of recommended sizes for different boats so we would appreciate any feedback you can share with us.

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The blades are made from hard anodized 1/8" 6061T6 aluminum with a milled radius on the leading edge and a bevel on the trailing edge for good lift and low drag. The rudder cheeks and hinge bracket are heat cured carbon/epoxy with nylon bushings imbedded in both parts for the hinge pin to ride in. The parts are CNC milled for accuracy and interchangeability. The hinge bracket is 2 mm thick and can be bonded into a slot cut in the stern of the hull of nearly all kayaks and surfskis. There is a small point on the bracket that fits closely under the bottom of the cheeks to minimize weeds getting caught in the hinge. A 4 mm or 5/32" Allen wrench removes the hinge pin for easy removal of the rudder and the blades can be interchanged by removing the spring with the use of a Phillips screwdriver holding the spring retainer.

For installation we recommend using a tungsten carbide grit hack saw blade available at most hardware stores to cut a slot in the stern and a little of the deck to fit the hinge tab close to the stern and vertical. Mask the area of the boat near the slot where you don't want resin with electrician's or similar tape and scuff the surfaces to be bonded with coarse sandpaper. The hinge tab can be bonded in with epoxy that has been thickened with silica or even corn starch so that it won't run out before it sets. We suggest avoiding the fast "5 Minute" epoxy because some do not have as good strength and water resistance. Spread the epoxy on both surfaces, insert the hinge tab, position correctly, clean up excess adhesive, hold in place with tape, and then double check the alignment of the rudder. Alcohol works well for cleanup of unhardened resin. When hard, remove the tape, check for leaks, patching any with epoxy, and you are ready to hook up the steering lines.



A Composite Engineering/Van Dusen Racing Boats kick up rudder installed on an Epic K-1 Legacy. The original tiller bar has been removed and the cables have been attached to the new crossbar by s-hook.