



User Guide: FS Rudder Blade for Sunfish, Zuma, Fulcrum Rocket & similar

Purpose: Replacement for older rudder blades for improved speed and handling.

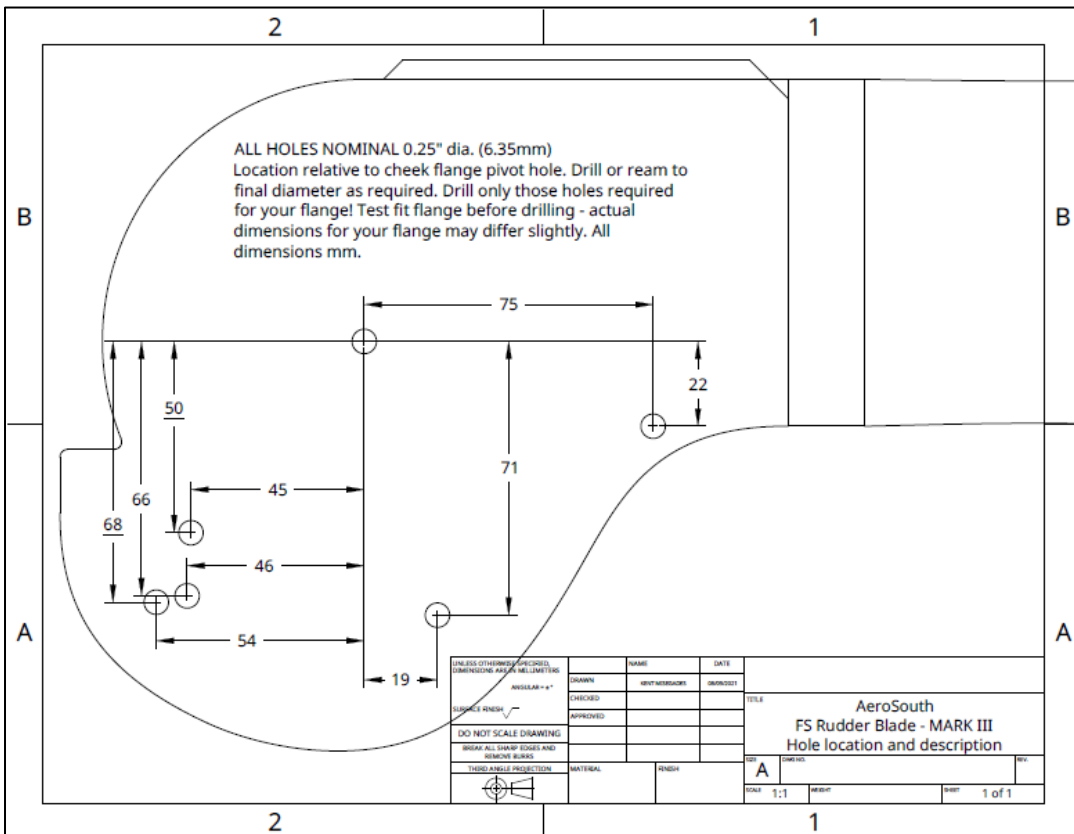
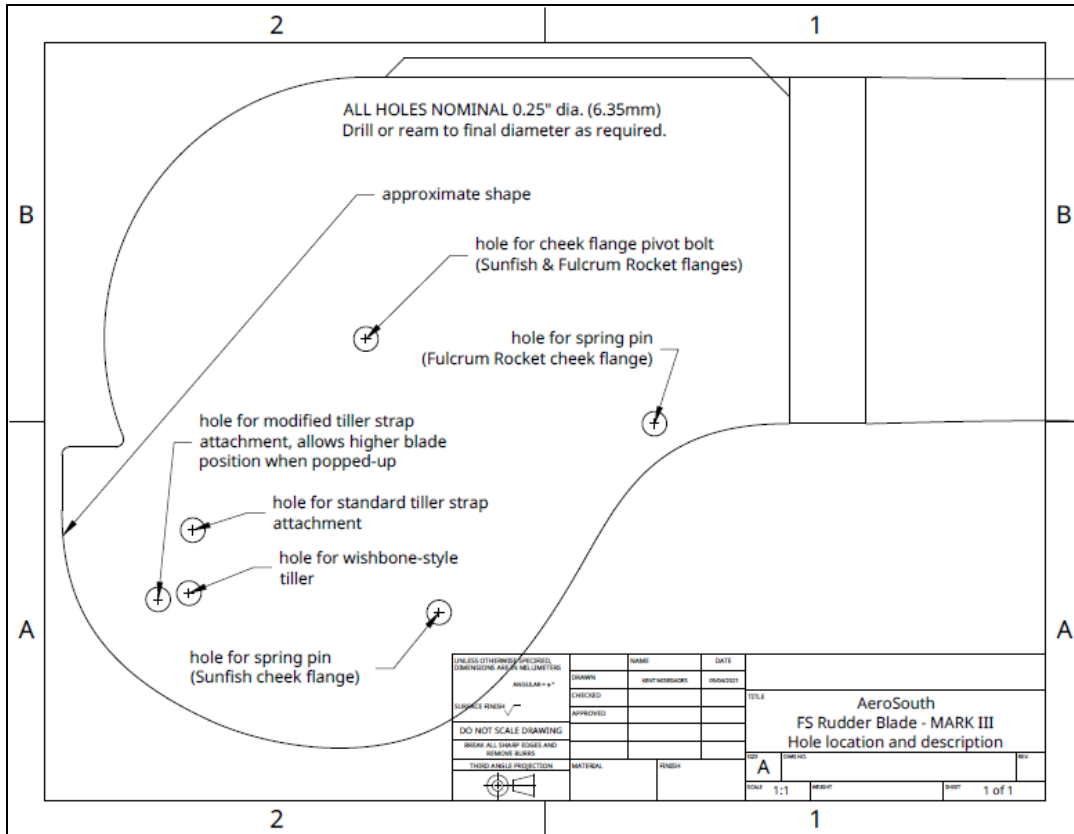
Material: Laminate of sapele and carbon fiber, protected with epoxy coating. When not in use, best is to store parts in a dark, dry location.

Installation for Sunfish and other boats with Sunfish gudgeon-style rudder attachment:

1. Remove existing rudder assembly from gudgeon bracket.
2. Carefully remove both tension springs and save for later.
3. Remove rudder pivot pin and tiller, save hardware for later.
4. Re-assemble rudder in reverse order as above.
5. Use thin nylon washers as required for a snug fit that still allow free rotation of the rudder blade and the tiller.

Note on Rudder Pop-Up Feature: The AeroSouth FS rudder blade was designed to be 100% compatible with Sunfish standard rudder assembly hardware at the time of its design, 2020. Due to the vertical orientation of the FS rudder during normal operation, depending on your tiller the position of the blade when popped up will be lower than for the highly-swept legacy blade. Two holes are provided in the head of the rudder blade for attachment of the tiller, as shown in the drawing below. One is the “standard” location, relative to the central hole for the cheek flange pivot bolt. When the tiller strap flange is attached to this hole, the rudder blade will NOT rotate out of the water when popped up. A second “modified” hole location is provided further aft and above the standard hole. When the tiller strap flange is attached to this hole, the rudder blade WILL rotate out of the water when popped up. See the images and drawings below for the standard & modified hole locations.

Note on Wishbone-Style Tillers: Many dinghy owners use a “wishbone”-style tiller as opposed to the type described above that uses two metal straps on either side of the aft end of the tiller. See the image and drawing below on how to attach a wishbone-style tiller to the FS blade.





Left: Rudder in upward position when tiller strap is attached to the “standard” hole in the head of the blade. Right: Rudder in upward position when tiller strap is attached to the “modified” hole in the head of the blade.



Sunfish cheek flange combined with wishbone-style tiller. Note special location of hole for the tiller in the drawings on page 2. (Image courtesy Sunfish owner Rick Schlosser)

SPECIAL INSTRUCTIONS FOR THE VANGUARD ZUMA SAILBOAT

As with many dinghies made since the 1960s, the Vanguard Zuma made use of some standard Sunfish components, including its gudgeon attachment and cheek flange for its rudder blade. Thanks to Zuma owner Steve Ross, the AeroSouth rudder was found to attach to the boat with no modifications. See the images below.



Left: Vanguard Zuma owner Steve Ross. Right: AeroSouth FS rudder blade installed in standard Sunfish cheek flange, with the tiller attached to the rudder head with standard metal straps. (Images courtesy Steve Ross)

SPECIAL INSTRUCTIONS FOR THE FULCRUM ROCKET SAILBOAT

The Fulcrum Rocket was first introduced in 2021 as a further development on classic Lateen-rigged dinghies like the Sunfish. Its rudder attachment is somewhat like that of the Sunfish, but lacks (at the time of this writing, August 2021) the pop-up rudder feature found on most Sunfish today. At the request of Rocket owner Derek Snare, AeroSouth adapted the FS rudder blade to the attachment flange of the Rocket, adding the pop-up feature. This requires a different hole for the spring pin and a few additional hardware components that AeroSouth delivers with the rudder to Rocket owners. See the images below.



Left: Standard cheek flange as delivered for the Fulcrum Rocket. Shown to its left are the two tension springs (5-3/16" L x 3/8" OD x .047 WG), 1/4" x 2" stainless steel hex bolt and lock nut, and PVC spacer/stop (22mm OD x 22mm L) that fits over the original 1/2" OD x 22mm L black spacer and acts as a lower stop for the blade. The upper, original black spacer acts as an upper stop for the blade. Middle: view of the cheek flange as seen from underneath with the lower spacer/stop installed, the original upper 1/4" x 1-1/2" bolt replaced by a 1/4" x 2" bolt with the springs attached. Right: 1/4" x 2-1/2" stainless steel spring pin. Note – drill hole for spring pin such that fin fits very snugly, ie requires a mallet for insertion and removal. (all hardware provided by AeroSouth when rudder blade ordered for the Fulcrum Rocket)



Left: Rudder blade with the modified cheek flange for the Fulcrum Rocket in the down position. Right: Blade in the upper, "pop-up" position. Note the location of the hole for the spring pin compared to its location when using the Sunfish cheek flange (pictures on previous pages).

How to Refinish Wooden Parts

Over time, any part of a sailboat will experience wear and tear. Fortunately, most minor damage to composite or wooden parts can be easily repaired with minimal effort and cost. Wooden parts from AeroSouth (rudder blades and daggerboards) will get scuffed and perhaps even broken, but you can restore these to near-new condition. Should cracks appear, which is part of the aging process for wood, fill these with a marine wood filler or epoxy such as West Systems, thickened with chopped cotton fibers. Allow the filler to fully cure and then sand to shape. Fill in dents and other surface damage with the same filler material. Remove scuffs and scratches by sanding the surface, starting with 120 grit and working down to 320. An electric random orbit sander will produce the best results. Seal the surface with a good quality marine spar varnish, such as spray Minwax Spar Urethane. West System epoxy will also provide an excellent, hard surface but requires a bit more effort. Pay attention to product instructions as the best coating systems do require proper surface preparation and must cure for some hours (or days) at the proper temperature and humidity before being immersed in water. One can also opt to paint the clear surfaces. Here though it is important to again prepare the surface properly. Good quality paints such as Interlux Brightsides will last as long as spar varnish or epoxy, but it must be applied correctly for best results. All high-performance coatings have volatile components that can cause health hazards, so please take the precautions seriously, especially concerning their use in well-ventilated areas and the need for masks, eye and skin protection.

Have Questions or Comments?

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