

Articulating Rudder



Articulating rudder ready for water!

April 27, 2012 | As we started learning to handle *Mischief* it quickly became apparent that in comparison with our previous sailboat the low speed handling was very sluggish. A little calculation showed the rudder on the Eagle was sized more for a 15 knot boat than the 7-8 knot boat we actually had. Since a larger rudder was out of the question we wondered what could be done. Some suggested a stern thruster but we resisted that option because of cost and complexity concerns.

We discovered a company located here in the Pacific Northwest called Bayview Engineering (BEI) that designs custom articulated rudders and

fabricates them in the material of your choice. An articulated rudder is one with a small tab on its trailing edge. The angle of the tab with the rudder changes as the rudder is moved — starting at zero when the wheel is centered and becoming greater the more the wheel is turned. The effect is to strongly direct the water flow from the propeller to a much greater angle than the rudder alone would accomplish. Result: greatly improved handling. The only downside is an increase in turning effort when making sharp turns at higher speeds, not something we do often.

We had it fabricated from 316 stainless steel and installed by a yard experienced with BEI installations. The results were better than we expected. Slow speed handling greatly improved so she can do a U-turn in little more than her own length. There was an unexpected bonus: the autopilot response was also improved to where she can hold an almost straight course going downwind with ocean swells off her quarter, normally a real challenge for an autopilot (and even a human helmsman, for that matter.)

Since it's a totally mechanical system, maintenance has been minimal. Removal of a few bolts allows the rudder to be rotated 90 degrees for shaft removal. It just works. We're very glad we did it.

Articulating rudder made from 316 stainless steel



Articulating rudder on temporary installation blocks

Michael and Karen have been cruising the Salish Sea and beyond for more than 20 years, the last 11 aboard Mischief, a 40' Eagle pilothouse trawler with all the comforts of home. Visit them at mvmischief.com.