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Corrosion Control on Sail Drives Question

I am considering a sail drive installation with a folding al bronze propeller. I want to understand the galvanic corrosion engineering better. I understand the leg is aluminium, the shaft is stainless steel, the inside of the hub is also stainless steel, the outside is aluminium bronze and the blades are aluminium bronze.

If this is correct, then presumably the leg and the al. bronze parts are protected by their respective anodes but what protects the stainless steel?

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Hello:

The ways of corrosion control on these sail drives is a bit of a mystery to me also, but it does work well. We don't have people with troubles with corrosion on these sail drives.

I think since everything is bonded to everything else, the zincs/anodes protect everything by having a substantially lower Nobel than all the metals. They sacrifice before everything else. Matter of fact most set ups use the sail drive zincs for protecting the engine as well. Most engines do have not separate anodes on the salt water cooling side at all.

Just an aside on this issue. I used to work for Bath Iron Works that builds the destroyers for the Navy. I was at a meeting where corrosion control was being discussed. At that time, the Navy had designed an active corrosion system that gave the ship a slight positive charge for corrosion. The meeting was about how it had been determined that the slight positive charge was messing up the sensor array's (in a rubber bulb at the bow below the water line) accuracy and what should be done. After much discussion, new protocols on when and how the active corrosion system would be used were established and then one of the engineers said it didn't make much difference as the active corrosion system didn't work all that well anyway and besides the ship had 4000 anodes all through the tanks and hulls. Someone asked how come so many and the engineer said that there wasn't

any real rhyme or reason, but that it was determined more is probably better than fewer and they don't cost that much. So there you are.

It brings to mind a friend of mine who tried to explain the theory of acoustics to me in regards to a theater he was adding additional baffle plates in an attempt to improve the sound quality.

J.D.

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