

## GALVANIC ACTION - ELECTROLYSIS

Galvanic action again rotted the grease plug in the propeller bulb. A remedy was to bore a 11/32 hole in the old plug hole (all of the old plug could not be removed). The hole was taped for a 1/8 stainless pipe plug. I know that it is mixing metals, but it seems that Cos Cob was supplying us with a mix every time they sent a replacement plug. Time will tell. A side benefit accrues however, a standard auto inexpensive zerk fitting replaces the stainless plug for each regreasing. - Bill Carrico

Propeller problems reported by Sid Rosen in our last newsletter was due to electrolysis. Fortunately, the damage was confined to the nut holding the prop housing (bulb) in place. With the nut corroded off, the entire bulb slid back and forth with the outer tube instead of changing the pitch of the prop. The symptom was: Engine ran, but boat didn't move. Could have been more serious/costly. Check your prop system at each haul out. Both Sid and Russ Walker have added an external metal plate to the hull (over the prop). This plate is grounded to the engine. An external zinc anode was then bolted to the plate. This can be changed easily as needed. Effective? - Who knows. Only time will tell.

Bolt holding prop assembly corroded almost completely, as well as grease plug on prop assembly. Replaced grease plug twice in five years and replaced prop assembly rear bolt and washer last year (1979). Believe that bolt corroded due to my using an auto battery charger to charge boat batteries without removing boat's negative ground connection from battery post while charging. - Willis Alexander

Painting exposed underwater metal surfaces with anti-fouling paint invites galvanic action (dissimilar metals in contact in saltwater). If you must paint your propeller and shaft with anti-fouling paint, they first must be insulated with an electrolytically neutral covering such as dichromate wash. - Art Levin

Each year since we have owned the Vega we have had to replace the plug covering the propeller grease hole since corrosion had reduced it to powder each preceding year. Not this year, because I installed zinc anodes to protect it.

The usual way of installing anodes is to put a zinc collar around the propeller shaft, but there is not enough room

for this on the Vega because of the way the variable pitch propeller is made. The marina suggested putting a button-shaped anode on the rudder and making a connection to the rudder post. The rudder post would then have to be connected to the engine or propeller shaft inside the hull. I decided that it would be more straightforward to put the zinc on the hull and make all connections inside.

I found a tear-drop shaped zinc about 2 1/2" long and mounted it to the hull just above the propeller about 8" off the centerline (on the port side because the space was easier to reach because of plumbing under the cockpit.) I used two #10 brass screws through the holes in the zinc and through the hull, bedded down well with GE silicone rubber and fastened with flat washers and a nut. Under one nut I put a flat terminal soldered to a length of copper wire leading to the rudder post and to the transmission. I selected that spot because of its proximity to the propeller and because it is flat and gives a good base for the flat zinc. The zinc was about 2/3 gone by weight after 9 months.

I also bored a small hole in the end of the brass (all I could find) plug I used to stop the propeller grease hole. I filled this with melted zinc. The plug is in excellent condition after 9 months in the water.

I have no way of telling which of the zinc anodes did the job, but the fact that the hull-mounted zinc was corroded away (I have not checked the hole in the plug.) means it did something.

- Jim Hartzler

Zinc anodes shaped to fit on the aft end of the propeller hub are available at \$8.00 each from Wyman's Marine and Supply, 909 Fourth Street, Anacortes, WA 98211, Attention: Steve Ault. Telephone: (206) 293-4604. The original bolt in the end of the hub will have to be replaced with a longer one for the zinc.

I have been using a Type C-7 Clamp Zinc with 1 1/2" I.D. at a cost of approximately \$6.75. I attach it to the bronze stationary sleeve which is just in front of the prop, and replace it every other year. No corrosion has been noted since using this method for the last six years.

- Willis Alexander