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REPAIRING A CAFRAMO BORA 3 SPEED FAN

📅 February 14, 2017 ([Http://familyatsea.com/index.php/2017/02/14/repairing-a-caframo-bora-3-speed-fan/](http://familyatsea.com/index.php/2017/02/14/repairing-a-caframo-bora-3-speed-fan/)) 👤 Michael ([Http://familyatsea.com/index.php/author/mgmccardle/](http://familyatsea.com/index.php/author/mgmccardle/)) 🗨

In the world of cruising boats, Caframo fans seem to be praised as the most efficient fans out there, however they seem to have short life spans. We have four such fans on our boat, and when we moved aboard none of them worked. I'm mechanically inclined but no engineer by any means, however at \$60/each I was compelled to at least take one apart and see if I could fix it. What harm could it do?

Well, I managed to fix all of them! The culprit seems to be in the circuit board. Perhaps when the bearings rust a little bit, it puts too much load on , and it fries. Removing the circuit board and bypassing it with a manual switch worked for all of them.

1. Unscrew the four screws holding the cage on the back, and with an 8 mm ratchet loosen the nut that holds the fan to the motor shaft. It only needs about 1/4 turn and the fan will come off the shaft.

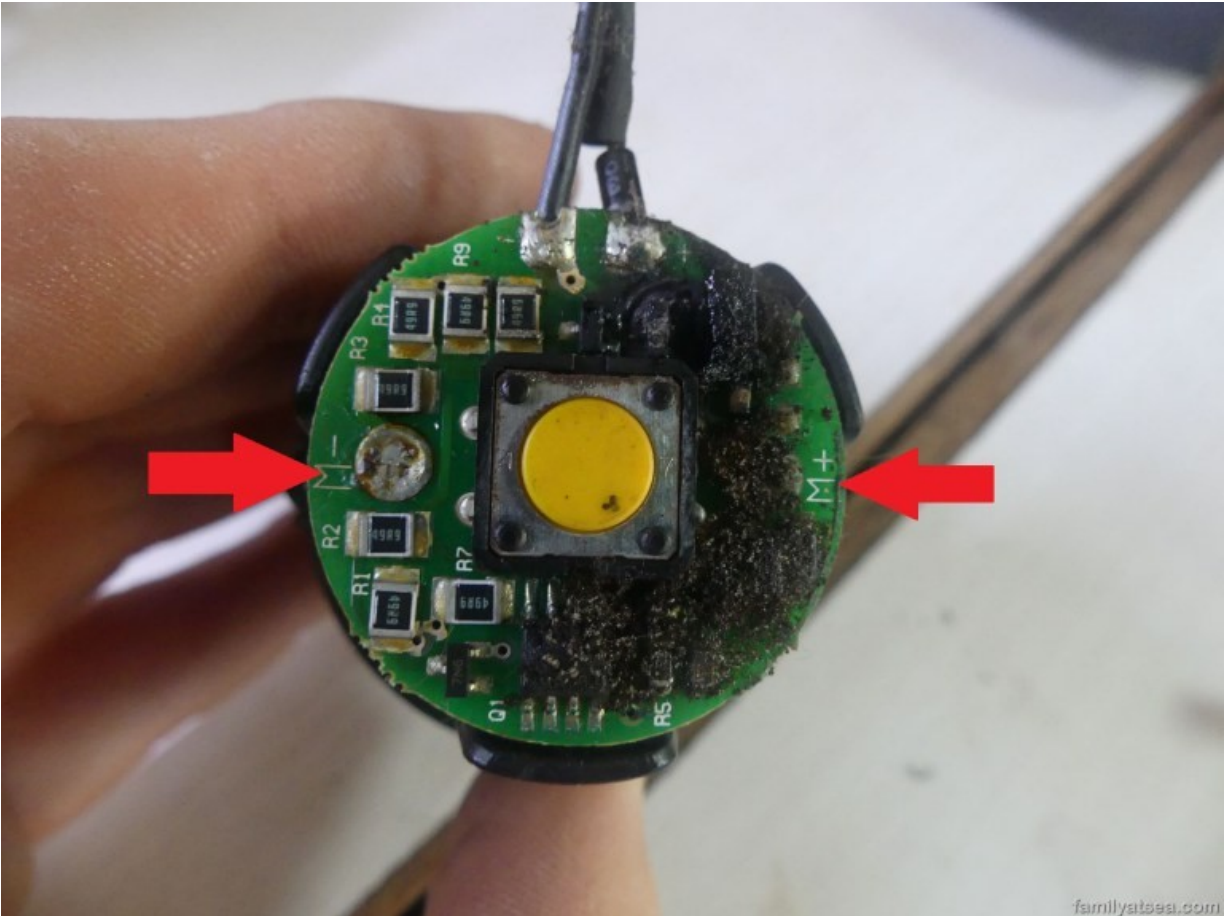


2. Unscrew the two screws that hold the motor to the housing (only one visible in picture), and the two screws that hold the cable to the housing.



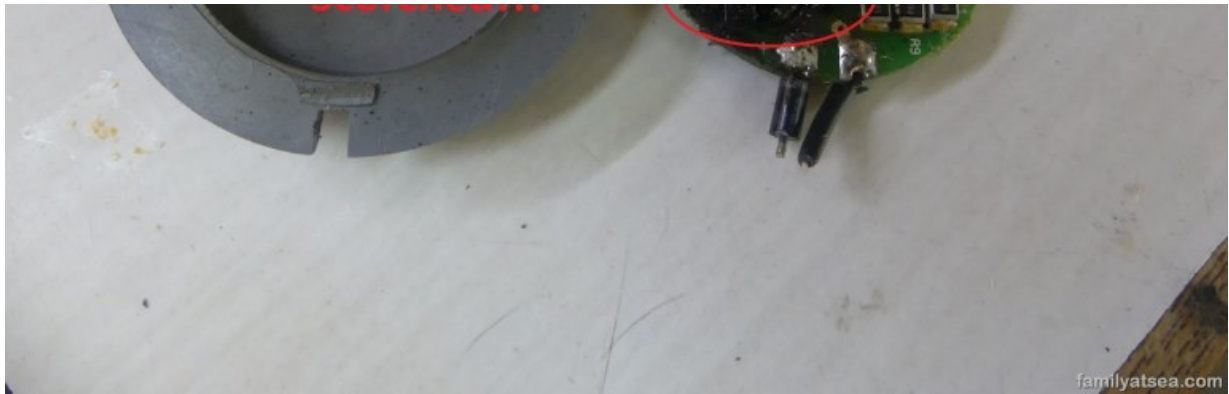


3. Pull the motor out; the circuit board is soldered to the motor. With a soldering gun heat up the solder one side at a time to soften it, and pry the board off the motor. Go ahead and clip and strip the positive and negative leads on the cable. You can discard the black plastic spacer that is behind the circuit board.



Clearly the problem here is with the circuit board!





4. Re-attach the fan to the shaft. This helps stabilize the motor while you are soldering, and allows you to test the leads to make sure the fan is blowing the right direction. Connect the + and – leads to each of the motor terminals, with power applied, air should be blowing *towards* the wire. Solder them in place or if you have the right connectors you can use them.



5. If the motor sounds bad when you applied power, try some PB blaster on the bearings up and a follow up with a drop of oil. They are easy to get to with the circuit board out of the way and the fan off of the shaft.
6. Since we discarded the circuit board the grey button just rattles around inside of the housing. Before re-assembling glue it in place to stop this.
7. Re-assemble the fan and place a switch on the + side to switch the fan on and off. This takes away the multi-speed capabilities of the fan, but its simple and I could do it with parts found locally. You could order a rheostat (\$10-15) if you want variable speed, but for us this would have meant ordering parts and coming up with a housing to mount it inside of, it's also more expensive!





8. Turn it on, pop open a cold drink and enjoy saving \$60!

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2 thoughts on “Repairing a Caframo Bora 3 Speed Fan”



Mike (<http://www.fillingthesails.com>) says:

March 1, 2017 at 2:24 pm (<http://familyatsea.com/index.php/2017/02/14/repairing-a-caframo-bora-3-speed-fan/#comment-190>)

That's some awesome re-engineering and a huge savings over buying new!

So the circuit board controlled the multi-speed capability? Seems like it was over-engineered. I wonder why

they built it like that instead of a rheostat in the first place?

Oh well, now they should last forever, with regular maintenance. Great job.

Mike



Michael says:

March 2, 2017 at 12:51 pm (<http://familyatsea.com/index.php/2017/02/14/repairing-a-caframo-bora-3-speed-fan/#comment-194>)

Yes they appeared to use the circuit board for that. I'm sure they could have used higher quality parts, it semiconductors shouldn't be the first thing to fail!
