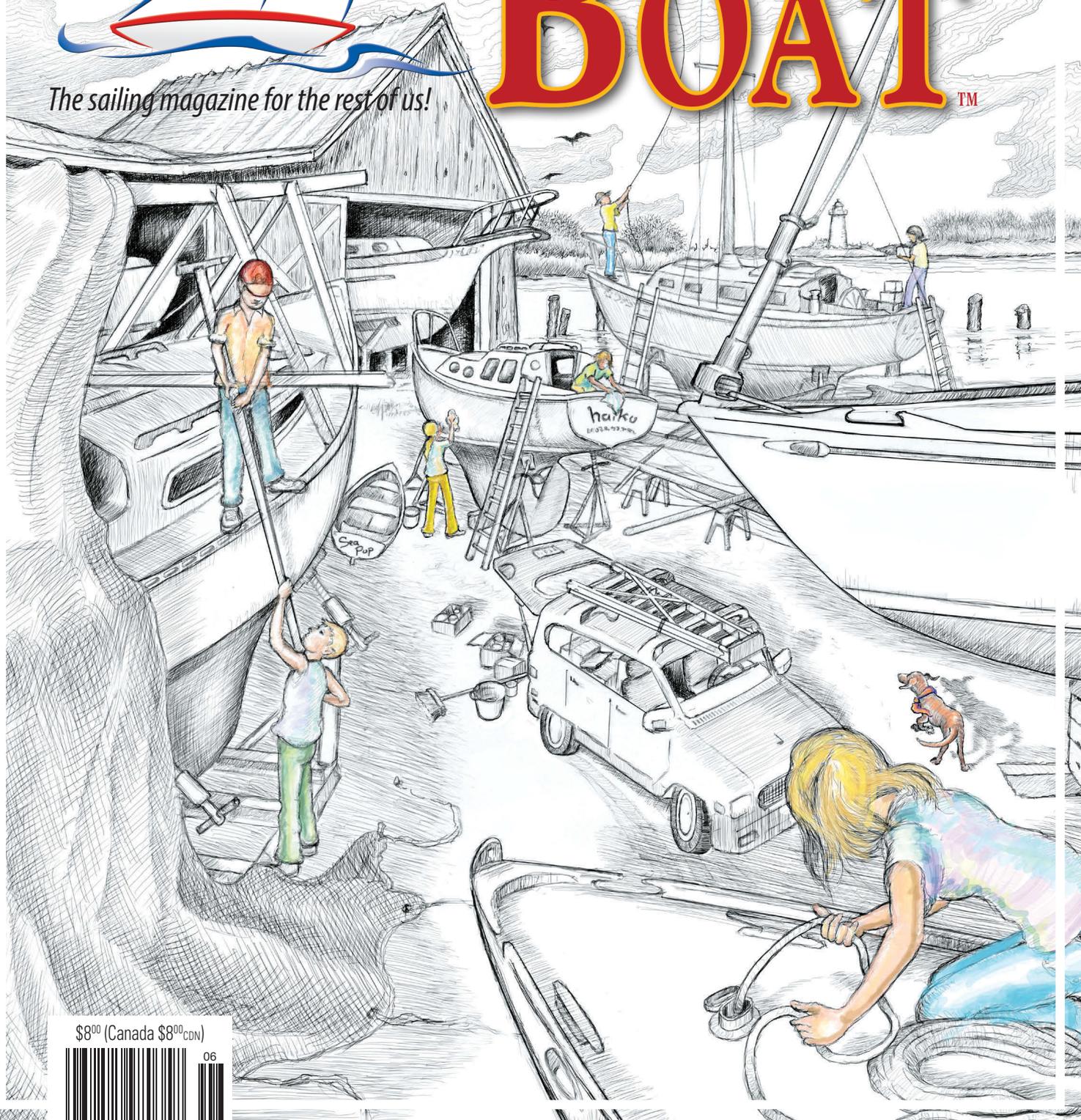


GOOD OLD BOAT™

The sailing magazine for the rest of us!



\$8⁰⁰ (Canada \$8⁰⁰ CDN)



0 62825 97035 7

goodoldboat.com

Issue 126 May/June 2019

GOOD OLD BOAT

16

Contents

MAY/JUNE 2019
ISSUE 126

38

For the Love of Sailboats

Short Voyages

16 **Benefits of a Boat on Wheels**

When winter impounds the keelboat, the trailer-boat heads south toward spring
By Karen Larson

Sailing Life

22 **Testing the Waters in PHRF Part 3**

A few — of many — rules to race by
By Robb Lovell
Illustrations by Fritz Seegers

Refit Boat

32 **Held Hostage in a Boatyard**

A couple of days' work extends into an odyssey
By Robert Beringer
Illustrations by Fritz Seegers

Creative Alternatives

44 **Shipping a Boat in a Box**

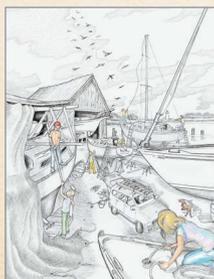
Too wide for a container's door?
Turn the problem on its side
By Zoran Glozinic

Cruising Memories

48 **Right Boat, Wrong Time?**

A long-admired boat, finally acquired, revealed its shortcomings
By Dan Smeenge

On the cover ...



appears in nearly every issue, usually as technical illustrations.

After waiting in vain a long time for the perfect boatyard-activity cover pic to land in our inbox, we finally tapped Fritz Seegers (one of our three regular illustrators) to draw us one. Fritz's work



Speaking Seriously

Review Boat

8 **Columbia 43**

A distinctive big, fast sloop from the giant of West Coast boatbuilders
By Brandon Ford

Design Comparison

14 **The Columbia 43 ...**

... and fellow CCA-to-IOR transition boats
By Rob Mazza

Nuts and Bolts

26 **Better Bolting and Backing**

How to (and not to) install hardware to cored laminates
By Drew Frye

Dinghy Transport

30 **A \$50 Dinghy Dolly**

An old design puts cheap wheels under a long-loved tender
By Cliff Moore

Electronic Wizardry

36 **Ferrites Run Interference**

They put a check on electronic noise from RFI and EMI
By David Lynn

Safe Sailing

38 **A Drogue by Another Name Is a Rudder**

Losing the steering is not necessarily the end of steering
By Drew Frye



What's More

Websightings

3 **YouTube Offerings from Good Old Boat and Old-Boat Admirers**

The View from Here

5 **Unconditional Love**

Whether for babies or boats, it's the human condition
By Michael Robertson

Mail Buoy

6 **Unscrewing Without Tears, Dock Queens Justified, and Acronym Spelled out**

Simple Solutions

50 **Boat Stands Rebooted**

Given new feet, they'll last a few more years
By Jim Donovan

51 **Trailer-Sailer Furler Saver**

A garden-variety geotextile is a perfect protective sock
By Cory Carpenter

52 **Handy Cargo Wheels**

Add-ons made a luggage cart multi-purpose
By Jill and Rudy Sechez

53 **Vacuum Storage for Dry Foods**

A hand-powered pump, glass jars, and ingenuity are the recipe
By Jim Shell

Product Profiles

55 **Jib-Head Sunshade, Suck It to Me Storage, and Dry Wear for Nav Devices**

Good Old Classifieds 56

Reflections

61 **Drifting or Driven?**

Where wind and tide play tag beyond Seal Rocks
By Craig Moodie

FERRITES RUN INTERFERENCE

They put a check on electronic noise from RFI and EMI

BY DAVID LYNN

Have you ever tried to listen to someone transmitting on their VHF whose voice was almost drowned out by an annoying buzzing noise? Or maybe you can't pick up your emails via SailMail on your HF radio without turning off the refrigerator. Or worse, your autopilot makes a hard-right turn whenever you push the transmit button on your marine-band radio. These phenomena, which are all symptoms of radio-frequency interference (RFI) and/or electromagnetic interference (EMI), can be eliminated with the use of ferrites, devices made of a ceramic material containing iron oxide that has a high resistance to RFI and EMI and little or no resistance to low-frequency signals and direct current.

You'd think that in a 12-volt DC world, RFI and EMI would be minimal. After all, a DC current passing along a conductor produces very little in the way of electrical noise. When that DC current is switched on and off, however, transients are generated which can produce considerable interference. This is exactly what switching power supplies in laptops, most electronics, and modern solar controllers do — switch the DC current on and off at a high rate of speed to produce a higher or lower voltage. The brushes in electric motors also switch the DC current and are common noise generators.

While most electrical devices do a pretty good job of reducing interference, often some of the noise leaks into the wiring connected to the device. As well as conducting the noise to other devices, the wiring acts as an antenna and radiates interference to other nearby electrical circuits. If a radio receiver is nearby, the noise may overwhelm or significantly distort the received signal. If the VHF power source is noisy or the microphone cable picks up radiated interference, the radio will broadcast a hum or buzz. And if the communication bus between two devices — like the cable between an autopilot's controller and its computer — is noisy enough to garble the signal, some very unexpected results can occur.

Fitting ferrites

Ferrites come in a variety of shapes and sizes for different wire sizes, signal levels, and frequencies. For reducing EMI and RFI on our boat, *Nine of Cups*, I most often used the tube-shaped “snap-on” type of ferrite.

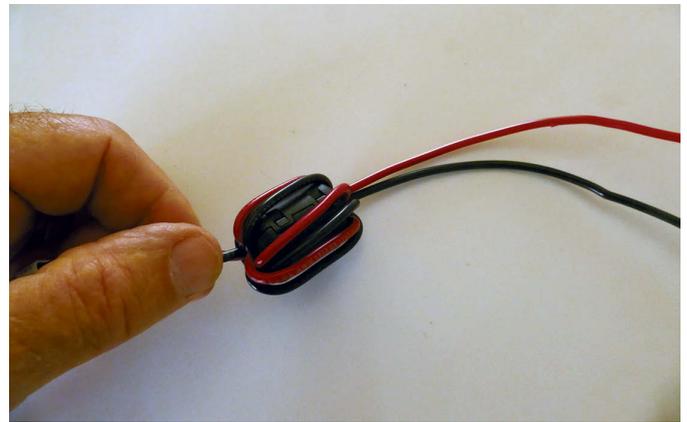
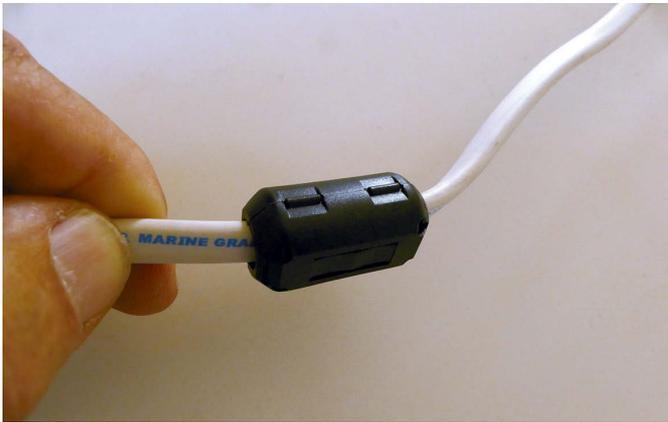
I placed ferrites as close as feasible to the sources of the interference, such as on the power and thermostat cables of the refrigerator and the power cables for any pump or motor that might be causing interference. I also added ferrites to the power cables of electronics, such as the VHF, SSB, and/or marine-band radios, that might be affected by the electrical noise.

If possible, when adding a ferrite to a wire, I loop the wire around and route it through the ferrite two, three, or even four times. The impedance introduced is proportional to the square of the number of times the wire is looped through the ferrite. Looping the wire through the ferrite twice makes the ferrite four times as effective as it would be with only one wrap. If I can manage four loops, the ferrite will be 16 times more effective. Placing multiple ferrites on a wire is also effective.

Ferrites often reduce problems with interference in communication cables such as a SeaTalk, NMEA, or CAN-type bus as well. Bear in mind, though, that because these cables transmit data, a ferrite can attenuate or distort the data enough to introduce new problems. A trial-and-error approach is best. 



“Snap-on” ferrites are made in a variety of sizes to fit a wide range of cable diameters, at top. Ferrites are commonly found pre-installed in wires, like this headphone cable, at left, that connect to electronics that might generate or are sensitive to RF and EM interference.



Ferrites might simply enclose the cable, at left, but if the inside diameter of the ferrite is large enough, the cable can be wrapped around the ferrite to increase its effectiveness, at right.

David Lynn and his wife, Marcie Connelly-Lynn, lived aboard Nine of Cups, their Liberty 458 cutter, for 18 years, during which time they put nearly 90,000 nautical miles under her keel and visited more than 36 countries on five continents. They have recently been exploring North America in a tricked-out Ford Transit van named Blue. They blog regularly and maintain an extensive website at justalittlefurther.com.

Resources

Ferrites are not easy to find, but are available through Amazon, eBay, and specialist outlets like Digi-Key.

Search with "anti interference filter" at amazon.com.

Search with "ferrite filter" at digikey.com.

Search with "ferrite core" at ebay.com.