Now Hear This!

THE NEWSLETTER OF THE KNOXVILLE POWER SQUADRON
A Unit of the United States Power Squadrons
Sail and Power Boating
District 17 of the United States Power Squadrons®
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KPS BRIDGE

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Commander's Comments — Cdr Chuck Smith, P

As you read this your squadron will have already had our 2014 Change of Watch dinner meeting and installed your new officers for 2014. Thanks to all of you that helped with that event. I feel privileged to have been elected again this year for a second term as your commander. Last year we enjoyed some significant accomplishments. This new year has a full calendar too. I hope each one of you plan to stay involved and attend our many events. If you are new, welcome aboard.

It is not too early to mention a little about the Watts Bar Invitational. Your new AO, Cathy Phillips and her team will be providing more information as we get closer. I just want to make sure you mark your calendar. The event is once again at Terrace View Marina at about MM 546 along the Tennessee River. The date is May 30, May 31, and June 1st. This is the weekend after Memorial Day weekend. The rooms in the lodge are reserved for those coming by land. However, they will only hold rooms up to 2 weeks prior to the event. After that they will let them go to the public. You can reserve a room at 423-365-6060. Tell them you are with the Power Squadron. Those going by boat can make arrangements too. However, your KPS event captain will help with that as we get closer.

(Commander's Report Continued on page 2)

United States Power Squadrons
America's Boating Club℠

ELECTED NON-EXECUTIVE COMMITTEES

AUDIT:
CHAIR: P/C Larry Campbell, AP
2 Year: Paul Dockins, P
3 Year:

NOMINATING:
CHAIR: Linda Sundstrom
2 Year: Janet Bray, P
3 Year: Cindy Davis, S

RULES:
CHAIR: P/C Margaret Edidin, P
2 Year: Kirby Wilcher, P
3 Year:

PORT CAPTAINS

WATTS BAR LAKE: Robert McConnel, S/N FT LOUDOUN LAKE: P/C James C. Barkley, SN TELLICO LAKE: P/D/C Mike Scher, AP

APPOINTED COMMITTEE CHAIRS and OFFICERS (Some of the following positions will be updated.)

BOAT SHOWS
Lt/C Hank Davis, JN (P/C)

SAFETY
CC Michael P. Scher, AP

SQUADRON HISTORIAN
P/C Nick Tronolone, AP

LEGISLATIVE/LIASION
Commander Chuck Smith, P

NEWSLETTER
Ken Bloomfield, AP

ABC CLASS COORDINATOR
Lt/C Dave Roberts, JN

MEMBERSHIP
Ed Armes

PUBLIC RELATIONS
P/C Nick Tronolone, AP

VESSEL SAFETY CHECK
P/C Bob Bray, JN

ROSTER
Nancy Campbell, P

WEBMASTER of KPS Website (www.kps-site.org)
Ken Bloomfield, AP

NATIONAL LIAISON
P/D/C Ronald Lukens, AP

LAW OFFICER
P/C Jim Barkley, SN

PROPERTY OFFICER
TBA

OPERATION BOAT SMART
Lt/C Dave Roberts, JN

ASSISTANT ADMINISTRATION
Nancy Campbell, P Polly Lanz
Charlie Meadows, S
P/C Sharon Birdwell, AP

(Commander's Report Continued from page 1)

Those of you who are VSC certified might also want to mark Saturday morning April 26th on your calendar. We need your help. KPS is sponsoring a Marina Event at Caney Creek Marina near Kingston. It is a combination Nautical Swap Meet and Vessel Safety Check day. We hope to promote KPS and safe boating that day with many VSCs.

One more item to mark. . . .the District 17 spring meeting. April 4th,5th, and 6th. This is stacking up to be a fun conference at beautiful North Georgia's Lake Chatuge. District is ramping up the fun. This is a very special place. See more at the D-17 web site www.USPS-d17.org /calendars .

Hope to see you at Calhoun's for dinner on the 24th.

Cdr. Chuck

Knoxville Power Squadron

BUILDING
THE FUTURE...
RESTORING
THE PAST.

Looking Ahead

You asked for it and your Bridge listened. This year's activities schedule include six on-the-water events. Make the most of the opportunities and step up to Captain an event.

You asked for it and your Bridge listened. A share of the year's dinner meetings will be planned outside of Knoxville. We welcome suggestions for locations and for programs.

This Month

March Dinner Meeting — March 24th

We will start the new year off with the March 24th meeting at Calhoun's at the Fort Loudon Marina location. This will be a prepaid Calhoun's buffet, with a cash bar, costing $27.50 per person including gratuity.

Buffet Menu:

- Smoked sirloin of beef
- Grilled shrimp
- Spinach Maria
- Potato casserole
- Green beans
- Jack Daniels Pie and New York cheese cake
- Coffee, tea, water

Please confirm your reservation by check to Knoxville Power Squadron by March 18 to to:

Nick Tronolone
11130 Anchorage Circle
Knoxville TN 37934
865-966-3904

Looking Further Ahead

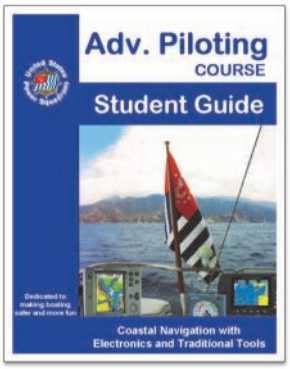
The April 28 dinner meeting is planned for Altruda's Restaurant on N. Peters Road in Knoxville. The menu and more information in the next NHT.

From the SEO

Education Notes

The 2014 Education year has gotten off to a great start with the completion of the first ABC class of 6 students. Please welcome new Power Squadron members Marty and Sandy Luther, Mick and Sue Luers, Steve Silvoy, and Deborah Ogrod. Be sure to say hi to these folks when you see them at a meeting. We have 4 more ABC classes scheduled this spring, so hopefully we will continue to welcome more new members to KPS.

ADVANCED PILOTING



Advanced Piloting is the second in the sequence of USPS courses on navigation. It continues to build coastal and inland navigation skill, allowing the student to take on more challenging conditions – unfamiliar waters, limited visibility, and extended cruises. GPS is embraced as a primary navigation tool while adding radar, chartplotters, and other electronic navigation tools. As with Piloting, the course includes many in-class exercises, advancing the student's skills through hands-on practice and learning. Ten classes of two hours each normally are scheduled for presentation of this course. (I think we can cover everything in eight classes) In addition the students have seven days to complete the open book exam. Topics covered include:

- Review of skills learned in Piloting
- Advanced positioning techniques such as advancing a line of position
- Other electronics: radar, depth sounders, autopilots, chart-plotters, laptop computer software, etc.
- Hazard avoidance techniques using electronics (e.g., "keep out" zones in GPS)
- Collision avoidance using radar and GPS
- Working with tides: clearances, depth, effects of current
- Piloting with wind and currents
- The "Seaman's Eye" – simple skills for checking that one is on course

We have not had an Advanced Piloting class for quite some time, so it's time to get you Piloting folks moving. Please contact me or Ray West if you are interested in Advanced Piloting this spring.

Dave Roberts

Antifreeze 101

IT'S NOT JUST A WINTER THING!

Virtually every boat owner realizes that if his engine is "fresh-water" cooled (i.e. indirectly with a heat exchanger) that keeping the "fresh-water" circuit filled correctly with anti-freeze is important. However, what is not always well understood is the importance of the functions of anti-freeze.

These include:

(a) Lowering the freezing point,
(b) increasing the boiling point, and
(c) inhibiting corrosion.

Most commercial antifreeze formulations include corrosion inhibiting compounds, and a colored dye (commonly a green, red, orange, yellow, or blue fluorescent) to aid in identification. Some also include chemicals to prevent cavitation at the cylinder walls of wet-sleeve and parent-bore engines. A ratio of 1:1 dilution with water is most common and with a 7-lb pressure cap results in a freezing point of about −34 °F and a boiling point of about 233F, depending on the formulation (each PSI of cap pressure raises the boiling point by about 3°F). This article is intended to focus on the additive functions, as they are very important.

ADDITIVES

In the absence of leaks, antifreeze chemicals such as ethylene glycol or propylene glycol may retain their basic properties indefinitely. By contrast, corrosion inhibitors and anti-cavitation additives are gradually used up, and must be replenished from time to time. Traditionally, there were two major corrosion inhibitors used in antifreeze: silicates and phosphates. There are some so-called "extended life" types of antifreeze based on organic acid technology, and hybrids thereof, but the boat owner is well advised to stick to the tried and true as there have been issues reported with the new antifreezes. For example, one manufacturer makes a product called DEX-COOL antifreeze which uses two inhibitors: sebacate and 2-EHA (2-ethylhexanoic acid, the latter which works well with the hard water found in the US, but is a plasticizer which can cause gaskets to leak. Common additives include sodium silicate, disodium phosphate, sodium molybdate, sodium borate, and dextrin (hydroxyethyl starch). Disodium fluorescein dyes are added to antifreeze to help trace the source of leaks, and as an identifier since some different formulations are incompatible. The characteristic odor of antifreeze is due to the additive tolytriazole, a corrosion inhibitor.

CAVITATION

Cavitation results when mechanical agitation (vibration) causes local pressure changes in a fluid. Instances of low pressure result in the immediate vaporization of the fluid and gas bubble formation and subsequently collapse when the pressure normalizes. In an engine this typically occurs within the water pump due to the mechanical action of the impeller and along the cylinder liners as a result of the piston movement (piston slap vibration) and most pronounced in diesel engines. This constant bubble creation and collapse along surfaces can be repetitive and violent enough to corrode the underlining metal resulting in cooling system failure and is of a concern with higher water to glycol ratio coolants. Select corrosion inhibitors such as nitrite and/ or molybdate are preferably used in coolant to combat this cavitation corrosion since they form barrier films on metal surfaces preventing corrosion resulting from localized bubble implosion.

The bottom line is that changing your antifreeze on the manufacturer's time basis is important regardless of the hours of use in that period due to the fact that the inhibitors are being used up in their battle to prevent corrosion and cavitation.

BOAT MAINTENANCE 101