



THE DRUM

From the Commander

Charlie Fausold, N-IN



As we approach the Seneca Sail and Power Squadron Change of Watch for 2015 (see elsewhere in this issue for details) I find myself contemplating, "What makes a good Watch, anyway? Several things come to mind:

- Officers must understand their respective roles and responsibilities, carry them out to the best of their ability, and have faith and confidence that others will do the same;
- All must know the course that has been plotted, but be prepared to alter heading when necessary;
- Mix things up-vision is dulled by repetition;
- Pair "old salts" who know their way around and newcomers with fresh ideas

and enthusiasm; and

- The Watch must function well as a team, responding without complaint to the occasional cry, "All hands on deck!"

As Commander for the past three years I have been very fortunate to have served with Watches that meet all the above criteria. The officers and members of the Executive Committee been patient with me and I am grateful for their support. I have learned plenty, made a lot of new friends, and hopefully leave the squadron at least as well off as when I began. I know for sure it is in capable hands going forward.

Fair Winds,

- Charlie

Spoiler Alert!

When your copy of the winter edition of *The Ensign* arrives, be sure to turn straight to page 35!

JANUARY 2015

From the Commander	1
From the Executive Officer	2
From the Administrative Officer	3
Educational Updates	4
From the Treasurer	5
Calendar of Courses & Seminars	5
Lessons Learned from Winterizing	6
A Study in Details - Part II	7
2015 Squadron Calendar	13
Who's Who?	14

Visit our web site:

<http://www.SenecaPowerSquadron.US>

Or LIKE us on Facebook:



<http://facebook.com/SenecaPowerSquadron>



From the Executive Officer (XO)

By Mark Erway, Executive Officer



This time of the year provides the opportunity for us as a squadron to take stock and look at how we functioned as an organization and how well we did at carrying out our mission which might be basically stated as "safe, fun, informed boating for the whole family".

I just received the course material for Junior Navigation (preparing for off shore navigation with electronic aids including intro to sextant), and it reminded me of just why Annie and I respect and support our Squadron. When we got into sail-boating a few years ago we were met and embraced by a community of boaters who not only know how to have fun on the water, but also know what it takes to do it safely and competently, and that was very important to us. The members of the Seneca Sail and Power Squadron connected us to the educators who helped us get signed up for the Seamanship course. Upon completion we got into the Sail course and were guided through a wonderful set of classes and On-The-Water sessions that gave us the ability to feel safe and relatively competent as we learned how to get our 25-foot Cal in and out of the marina and onto the lake for some very enjoyable outings. Over the course of six months of classes we made a whole new set of friends as well. These were people who shared their pier, their boats, repairs parts, food, stories, laughter, knowledge and the common bond of love for boating.

This could only happen with a solid team of leaders and solid educators who love sharing their knowledge and teaching others how to boat. You don't know how much this means to people who are hungry to learn these things so that they can

have fun on the water, too.

Our strategic plan that we developed in 2013 and put in place in 2014 is yielding great results as evidenced by articles in the "Deep Six" publication of our District 6 as well as the nationally published "Ensign" magazine. If you've been following the Drum, you've also read the articles about our Junior Sailing program, which our SEO Tom Alley will soon present at the National Conference in Jacksonville, Florida along with two of our Junior Sailors, Katie Alley and Rolf Lewis. Real progress is being made to bring younger people into "educated" boating and these are the people that will be the future of our Squadron.

We are doing things right, working together, thinking out-of-the-box, trying new approaches, keeping our eyes and ears open for opportunities and then making the best of them. A strong educational component coupled with capable volunteers is central to our task. Our relationship with the Finger Lakes Yacht Club is a win-win situation for both organizations. We need to continue the course we are on, as well as implementing other aspects of our strategic plan, networking and partnering along the way, and in so doing we will not only survive, but we will thrive.

The Seneca Sail and Power Squadron is poised for a brighter and stronger future and with all of us doing our part we will have many years of safe, fun, informed boating for the whole family to share here in the central Finger Lakes area of beautiful upstate New York.

See you all soon!

- Mark, SV A Fresh Breeze

From the Administrative Officer (AO)

By Ray Margeson, Administrative Officer

Seneca Sail & Power Squadron - 2015 Change of Watch

Join us for brunch and to install the 2015 Bridge

Location: **Holiday Inn Riverview, Elmira**
 Date: **January 18, 2015**
 Time: **Social Hour and cash bar from 13:00 to 14:00 (1-2 p.m.)**
 Brunch: **14:00 (2:00 p.m.)**

This is our annual business meeting. We will hear a report from the Audit Committee and the Nominating Committee for the election of the new Bridge members. A summary of the meeting agenda appears below.

The District 6 Commander, D/C Judith Swanson, SN-CN, will swear in our 2015 Commander.

The brunch consists of Fresh Fruit, Fluffy Scrambled Eggs, Ham, Sausage, Skillet Browned Potatoes, Pancakes with Syrup, Vegetable du Jour, Marinated Grilled Chicken with Sauteed Vegetables, Baked Penne with Asiago Cheese and Assorted Chilled Juices. Served with Coffee, Tea and Decaf

Cost continues to be held at only \$20.00 per person.

Reservations to Ray Margeson by:

As soon as you can (but no later than January 14th)

E-mail: rmargeson@aol.com

Phone: 607-732-0579

MEETING AGENDA

Welcome	Cdr Charles Fausold, N-IN
Pledge of Allegiance	P/Stf/C Merrill Sproul, SN
Opening Remarks/ Introductions	Cdr Charles Fausold, N-IN
D/6 Representative	D/C Judith Swanson, SN-CN
Invocation	Lt/C Mark Erway, AP

Adjourn for Brunch

Call the Meeting to Order	Cdr Charles Fausold, N-IN
Audit Committee Report	P/Lt/C Denis Kingsley, S
Commander's Report	Cdr Charles Fausold, N-IN
Election of 2015 Bridge Officers	D/C Judith Swanson, SN-CN
Report of Nominating Committee	P/Lt/C Juergen Tinz, JN
Election	D/C Judith Swanson, SN-CN
Pledge New Commander	D/C Judith Swanson, SN-CN
District 6 Commander's Message	D/C Judith Swanson, SN-CN
Commander's Message	Cdr Mark Erway, AP
Adjourn the Meeting	Cdr Mark Erway, AP

Educational Updates

By Tom Alley, Education Officer

For several issues I've concentrated on upcoming courses. This time, we'll sail off on a different tack and look at the Junior Sailing pilot that has received so much attention from both District and National.

Program Genesis

As many of you know, Seneca Squadron is not getting any younger. In fact, the average age of our members in 2012 was 55, even though 10% of our members were minors. Efforts over the past few years to attract "younger" (read: middle-aged) members had not been successful. In addition, enrollment in our ABC class had dropped to virtually zero because of competition with the free courses offered by the sheriffs of Chemung and Schuyler counties.

In 2013 we started hearing from the public that there was interest in an ABC class aimed at youth, since the courses offered by the sheriffs was pretty much for adults. As a result we developed a pilot program that received rave reviews from the attendees. We ran the ABC course a second time in 2014 to equally positive feedback. Because of their experience with the Youth ABC, a few families joined the squadron. But what else do we have to offer?

To provide an upward path for youth boating within the squadron, a "Junior Sailing" pilot was launched in the spring of 2014. Aimed at high-school students, the idea was to provide an unstructured approach to teaching youth to have fun with sailing. When we kicked off the program in June, we had 12 students sign up.

Seneca Junior Sailing

Past experience with on-the-water classes has demonstrated repeatedly that there is nothing better than hands-on experience to build confidence and ability, so this is where we decided to concentrate our efforts. Since this would be a new experience for both students and coaches alike, we started off with the basics of sailing and sailboat handling. This included safety drills such as MOB (Man Over Board) recoveries.

After a month we began introducing racing concepts and started practicing race starts and tacking duels between the classroom boats. By the

time August rolled around, our teams were ready to compete in races with the Finger Lakes Yacht Club.

By September it became clear that as students advanced, more advanced challenges would be needed to allow them to continue to develop their skill sets, so a "proof of concept" experiment was launched. Three of the more advanced students were invited to participate in a 3-day cruise to Geneva and back to participate in the Seneca Yacht Club's annual Barge Race.

The youth were involved in all aspects of the planning and provisioning prior to the cruise. (Two of the crew later signed up for the Cruising and Cruise Planning course offered this fall.) Race day in Geneva provided a fantastic exercise in heavy weather sailing, with winds gusting as high as 50 knots (as measured by a boat that stayed back in the harbor in Geneva) that whipped up a nice, square chop approaching 3 feet in height across the short fetch of Seneca Lake.

What was the result? The crew finished in third place, just a couple hundred yards behind the first two boats. What did the crew think of the experience? As one of them later remarked: "We were cold, wet and tired. It was just AWESOME!"

Next Steps

The students and coaches involved in the program all believe we have hit upon a worthwhile program, but to grow the project we will need a few more hands on deck. The limiting factor in our ability to offer this program is the number of coaches and boats available. If you are interested in helping out during the 2015 season, please contact me so that we can talk about it.

o o o o o

- Tom

From The Treasurer

All bills are paid, and there's money in the bank!

Calendar of Courses & Seminars

by Tom Alley, SV Tomfoolery.

Winter 2015 Courses

Piloting

Piloting is the USPS introductory course to the art and science of navigation. This course takes a practical look at boat navigation in which GPS is the primary instrument used. The course will also teach you the traditional navigational skills needed for those cases when (not if) your boat electronics should suffer some "performance issues."

- Prerequisites: None
- When: Thursday evenings, 7-9p.m., starting January 15th.
- Where: Big Flats Community Center
- Duration: 9 weeks
- Instructors: Jim McGinnis & Ray Margeson
- Registration Deadline: Jan 3, 2015
- Cost: \$90

Junior Navigation

The first of two offshore navigation classes that will prepare you to cross oceans. While still using GPS, this course provides the fundamentals of celestial navigation and shows you how to obtain your position utilizing the sun.

This course requires classroom work as well as fieldwork during which you will collect celestial observations needed to complete the course. The squadron will provide sextants if you do not have one.

For those of you who have endured the intense pace of some of the other Squadron courses to get to this level, you will be relieved to know that we tend to kick our heels back a bit and take our time with this one. The class will start in the winter, but only meet every other week, with a finish date some time in the spring. In addition, this schedule will allow the course to finish up as the weather begins to moderate, providing you with more (and better) opportunities to complete the field work

required.

- Prerequisites: Advanced Piloting
- When: Every other Friday evening, 7-9p.m., starting January 16th.
- Where: Big Flats Community Center
- Duration: 12-16 weeks (meets every other week)
- Instructors: Tom Alley & Jim Morris
- Registration Deadline: Jan 3, 2015
- Estimated Cost: \$150

Spring 2015 Courses

Marine Navigation Systems

This is the third and final module of the Marine Electronics series, "Electronic Navigation." While the US version of the class is not yet ready, our friends and neighbors in Canada have made their course available to us. Anyone taking this course will receive credit for the third Marine Electronics module. If you are interested in taking this class, please contact me so we can schedule it.

- Prerequisites: None (Piloting, MES and MCS recommended)
- When: Spring 2015.
- Where: Big Flats Community Center
- Duration: 9 weeks
- Instructors: TBD
- Estimated Cost: \$75

Spring/Summer Courses

Seamanship – Fridays in May & June.

Sail – Fridays in July & August.

Junior Sailing – All summer long!

Information about all of our courses is available on the squadron web site or by contacting me via e-mail at seo@SenecaPowerSquadron.US or by calling me at 607-377-6262.

Lessons Learned from Winterizing *Bacchus III*

By Don Kloeber, MV *Bacchus III*

All went well with winterization until I tackled the head inlet line and seacock. After closing the seacock I removed the hose and pumped "pink" into the head using the head pump.

Next I proceeded to drain the cavity in the ball valve via the drain plug (see picture).

(Note: if you don't do this and forget to open the valve after haul out you are likely to have problems as the water remaining in the cavity in the ball will freeze, expand and ruin the valve.)

Before replacing the drain plug I noticed water seeping out of the drain hole. My conclusion was that the valve was leaking and would refill the ball cavity resulting in a freeze problem.

After haul out I decided to remove the valve for inspection / repair / replacement as it was easier dealing with the problem on the bench at home than working through a hatch, while "standing on my head" in the bilge. Bench inspection revealed the cause of the leak was a corroded "Off" stop on the handle. Without the correct stop point the ball

position allowed a small leak past the seal into the ball cavity. When positioned correctly it functioned OK.

The fix (replace the handle) was relatively easy once the problem was diagnosed. In fact the marina had a spare handle on the shelf and provided it at no charge.

The rest of the story...

The technical curiosity in me wanted to find out more about why this had occurred. A metallurgist friend analyzed the stainless steel alloy and reported that it was an inferior alloy which was easily corroded.

With *Bacchus* "on the hard" for another winter I have been filling my spare time continuing to learn as much as possible about the boat, engine and various systems aboard. I joined a couple of forums and have learned a lot from other Mainship and trawler owners. Having seen a reference to a

Mainship Technical Service Bulletin for another problem I did some searching and found the BoatUS.com website includes an online Consumer Protection Database of known problems, recalls and customer complaints... one of which covered several models and model years of Mainships stating:

"Mainship has made metallurgical analysis of Marine Hardware brand ball valves, which were installed on their vessels between 2001 through 2007. Preliminary information is that corrosion may affect the stem or handle of the ball valve, which means that the handle may turn without actually opening and closing the ball valve as intended in the event of maintenance or an emergency. Mainship recommended immediate inspection of ball valves and offered replacements at no charge."

Lessons Learned:

1. Seacock valves being "out of sight" are frequently "out of mind". If you have any on your vessel take the time to become intimately familiar with them... location, operation, etc. Create a diagram of all through hulls and seacocks and label them. Periodic inspection and exercising the valve helps ensure they will operate if needed in an emergency. Some owners close them when leaving the boat, others only if they are leaving for an extended period. Exercising them monthly is recommended. Prime opportunities are spring commissioning and fall winterization - inspect them (inside and outside), check operation and lube if necessary (easier from outside when hauled & blocked).
2. Look for telltale signs of potential problems periodically - corrosion, leaks, etc. and follow-up with an in-depth inspection.
3. Take advantage of the knowledge and experience of others.
 - a. The BoatUS database is a valuable resource. Take a look at it and search using your boat, engine, boat equipment manufacturers as key words. You may be surprised at what you find.
 - b. Online manufacturer and owner forums frequently provide valuable insights, problems and proven fixes.

- Don

A Study in Details – Part III

By Tom Alley, SV Tomfoolery

In the first installment, we focused on analyzing our situation and making a (reasonably) logical decision on whether or not to repower our good old boat. In the second installment, we concentrated on removing auxiliary propulsion system and those peripheral subsystems that will need to be modified or replaced to handle the change in fuel type. In this installment, we reinstall the peripheral systems that were removed for upgrading earlier.

o o o o o

Up until this point, repowering was more of a concept and not much of anything substantial. This all changed on the day we picked up the “new” motor from the vendor in Connecticut. With a Westerbeke 30B Three in the back of the van, everything started to get very real.



This is also the point where the project became an endless pile of never-ending details. What was once a simple concept (swap motors) was now a confusing sea

of mismatched plumbing fittings, electrical connectors, lines to be plumbed, and hardware that needed a space to be mounted. This was the point at which I began to question whether rebuilding would have been a better answer than repowering.

Installing The New Instrument Panel

The instruments for the Atomic Four engine were a mix of electrical and mechanical gauges of varying vintages that had been collected over the life of the boat and installed where there had been room. Some still functioned, and some hadn't since I acquired the vessel 18 years ago. The new engine came with its own prepackaged instrument panel with all electric gauges in a reasonably weather-resistant package.

Placement of the new panel was straightforward. All too often, one sees instrument panels located in the foot well of the cockpit where they are difficult to read. *Tomfoolery* has a dedicated area for instrumentation beside the companionway that is easy to see from nearly all locations in the cockpit.

Since the old tachometer was not compatible with the new engine, it was removed and the autopilot was relocated to make room for the new instrument cluster.

A cardboard template was made to ensure the hole in the “dashboard” would only have to be cut once and would be in a suitable location. The autopilot controller and the old tachometer were then removed and a jigsaw was used to create the necessary opening. The new panel was inserted into the hole and secured with four screws and the wiring harness was snaked down into the engine compartment.

The autopilot controller was relocated next to the depth sounder/knot meter and then wiring on the backside of the panel was tidied up to present a neat installation.

As you can see, the teak paneling for the instruments was added to cover up holes left by a prior generation of instruments when they were replaced and upgraded a couple of decades ago.



New Raw Water Intake

The new motor is, fortunately, not raw-water cooled. This provides several advantages, but also requires a much larger water intake in order to function properly. (At maximum RPM, this motor will draw in over 11 gallons of water each minute –

A Study in Details (con'd)



a gallon every 5½ seconds!) Since the boat was in the water at the time of installation, the through-hull could not be easily replaced, so a temporary adapter was put into place. Being up north, the water is cool or cold most of the year and this particular year (2014) we were experiencing a cooler than normal summer, so the

flow was assumed be adequate as long as the skipper didn't elect to try to take his crew water-skiing. In the end, this strategy worked out.

Remote Engine Oil Filter

The oil filter on the new motor is mounted horizontally to the side of the engine block. To me, that is just begging for a spill of substantial quantities of oil into the bilge every time the filter has to be changed. While reading various manuals for the motor, mention was made of a kit that would allow the oil filter to be mounted remotely.



This made a lot of sense, because if changing the oil and filter is difficult or messy, it won't get done as often as it should.

As you can see, the remote mount holds the filter vertically, making it easy to keep oil in the filter while it is being changed. There's also enough room to put a can or jar to catch the inevitable drips that happen during the process. One word of advice from the vendor: Fill the new filter with oil before screwing it on. This will minimize the time the engine runs "dry" as the air gets purged out of the filter and holder.

A second "lesson learned" when commissioning the motor was to be extremely generous with Teflon tape when installing all of the fittings. When the motor was first fired up, everything looked good, but eventually the oil pressure reading

became sporadic. A peek into the engine compartment revealed multiple oil leaks from every metal fitting of both brackets. (The one on the bulkhead and the one mounted to the side of the engine.) Applying Teflon tape - lots of it - to all of the fittings and torquing down the oil filter itself solved all of the problems. Cleaning three quarts of oil out of the 42-inch deep bilge in the boat, however, was an adventure I don't wish to repeat.

Fuel Filter & Water Separator

One significant difference between diesel and gasoline power plants is that the diesel is much fussier about having clean, dry fuel. Many tomes have been written about the religious devotion and vigilance that must be paid to keeping the diesel clean, so the fuel filter and water separator receive as much attention as the oil filter. As such, it needs to be mounted in an easily accessible place so that it can be checked, drained and changed whenever needed.



To meet these needs, we elected to mount the fuel filter/separator (a Racor 500) next to the oil filter in the engine space. A small shut-off valve can be seen on the inlet to the filter so that the canister will not overflow when filters are being changed. (The filter is actually at the same level as the fuel tank, so if the tank is full, the canister will overflow if the top is opened for filter removal.)

A potentially useful option to the Racor filter shown above is the addition of a fuel pressure gauge that measures the pressure drop across the filter element. This would be useful to determine when it is appropriate to change the filter. The gauge replaces the T-handle at the top of the filter housing.

Installing New Engine Controls

Another "perk" of an engine that is 40 years newer is that the old, mechanical transmission of the Atomic Four is replaced with one that requires

A Study in Details (con'd)

significantly less effort to shift. The large, unsightly shift lever sticking out perpendicularly to the pedestal could now be replaced with one that was much smaller and matches the styling of the throttle. As with most upgrades, it first involves disassembly of another major vessel component: The steering pedestal.

In order to swap out the control levers, the larger shift cable for the Atomic Four had to be removed and replaced with a more standard type 3300 Teleflex cable. This involved disconnecting the rudder cables, then unbolting the pedestal from the cockpit sole so that the old control cables could be pulled out. The new cables were then snaked up the column and secured with a screw to hold the cable clamp to the inside of the column.



Once the control cables were secured, the pedestal was reattached to the cockpit sole (with new bedding compound) and the rudder cables were reattached and tensioned. The control cables were then attached to the control arms and a rain shield was installed between the pedestal and the compass base. The final steps were to reinstall the compass and its protective shroud and to reattach the wheel. Because a fair amount of "metal" had been moved around in the pedestal (not to mention the amount of iron that has been swapped out in the engine compartment below), the compass will have to be swung and adjusted at a later date to ensure that it still reads accurately.

Having the boat in the water while this is done made it difficult to ensure that the rudder was centered. A strong recommendation is to use a permanent marker to mark the position of the steering quadrant with the rudder centered to assist with aligning components when the rudder cables are re-threaded and tensioned. Marking the quadrant did allow us to get close with rudder

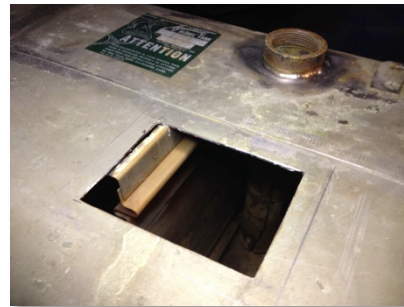
alignment, but it was still off a bit and will have to be fine-tuned during the off-season.

Modifying the Fuel Tank

Gasoline and diesel engines have different requirements, and the stock fuel tank on the Alberg 35 is pretty basic, so some upgrades and modifications were in order, especially given the effort that was required to remove the tank for cleaning. Hopefully, this tank will not have to be removed again during the author's lifetime!



After cleaning out the tank and letting it dry, some sediment could be heard rattling around in the tank when it was rocked back and forth. Because the fill tube extended nearly to the bottom of the tank, it was decided to cut an access/clean-out port into the top of the tank. This was done with a Dremel® Tool and an abrasive cut-off wheel.



Upon opening up the tank, a baffle was discovered. This was a bit of a surprise, as there were no visible signs of spot welding on the outside of the tank. Fortunately, the baffle is offset from the center a bit and

the cut-out for our port just missed it!

Once the port was opened and the interior of the tank could be visually inspected, it was observed that there was almost a cup of "sand" that had accumulated during its five decades of use. A shop vacuum cleaner made quick work of removing the sediment.

A piece of stainless steel was then trimmed to form a cover for the new port. This cover was later drilled so it could be secured with stainless steel screws. A sheet of rubber was used to form a gasket.

A Study in Details (con'd)

Another upgrade to the tank was the addition of a fuel gauge. Up to this point, the only way to check the fuel level was to either inspect the level visually or to use a dipstick if greater accuracy was required. The fuel gauge will be a welcome addition and will eliminate the necessity to open the fill tube and allow the opportunity for water (or other debris) to get into the tank. A gauge matching the style of the new instrument panel was ordered along with a sending unit and this was installed and calibrated. Calibration was deliberately biased to a slightly pessimistic value. (The gauge will read "E" when there is still about 1.5 inches of fuel in the tank. The sender was positioned in the tank such that the float was near the center so as to minimize the effects of heeling on its reading. The gauge was calibrated further once the tank was back in the boat and known quantities of fuel were added as the gauge readings were logged.

The original fuel pickup, made of copper tubing, was replaced with a stainless steel tube that extended all the way to the bottom of the tank. While one school of thought says that pickup tubes should be raised off the bottom so as not to pick up sediment, a competing school of thought recommends that the tube extend all the way to the bottom to prevent sediment from accumulating and causing a problem when the tank is agitated. I decided to apply this latter school of thought having been in the situation where I once had an engine stall during rough conditions at an inopportune moment.



Part of the conversion from the Atomic Four engine is that the new motor has fuel injection instead of carburation. A common practice with injectors is to pump more fuel

than is needed and to use the excess fuel to cool the injectors. This necessitated the installation of another line to take fuel not used by the engine and return it to the fuel tank. A local welder was employed to fabricate a fitting that would allow the

old vent line perform double duty. He welded up a very nice stainless steel fitting that fit perfectly and fulfills this purpose precisely. Not seen in the picture is a tube that extends to within an inch of the bottom of the tank so as to minimize foaming of the fuel as it is pumped back into the tank.

As long as the tank was out of the boat, I could not resist the temptation of putting a small Scotch-Brite pad on a buffer and checking out its effects on the tank. "Wow" is probably an adequate description. Hard to believe that this tank is half a century old.



Reinstalling the tank in the boat went a lot easier than removing it. This was partly due to the fact that we were not reinventing the process but simply reversing it. The tank slid back into the port cockpit locker easily and then into its cradle from there. All fittings had to be removed for this maneuver, but once the tank was in its cradle, they were easily reinstalled and tightened down.

Original plans called for the tank fill to be relocated from the cockpit sole to a side deck in order to minimize the chances of water intrusion into the tank. This plan was put on hold because it would raise the fill above the height of the vent, increasing the chance of a spill during fueling. The tank vent first needs to be relocated to a point higher than the fill before the fill can be moved.

In With The New

Putting the Engine Into the Boat

Up to this point we've been rather neglectful of the star of the show, our "new" Westerbeke 30B Three motor. Indeed, all of the work so far has only been preparatory in nature.

The first step is to actually get the engine into the boat. Simple concept, but a little more complex in practice.

A Study in Details (con'd)

As with the engine removal, the lift was done in several stages so as to minimize the chances of either damaging the motor, damaging the boat, or damaging one of the volunteers helping move it.



While four people could lift the engine on its pallet on dry land, doing so to transfer it to a boat floating in a slip was not practical, so step one was to place the motor on the dock where it could be picked up from the boat. The slip used by our marina travel lift was chosen

because it had steel runways for the travel lift tires. A secondary reason was that the wooden docks and slips in the regular marina were old enough that they were being replaced, and confidence in their ability to support the 300 lb. weight of the motor, plus the weight of the installation crew, was lacking.

With the motor on the dock, the first stage of the lift was to pick up the motor, lift it over the lifelines, and place it in the cockpit of the boat. The boat's boom and mast were used as a derrick to accomplish this. Note: The boat will heel as it takes the weight of the motor from the dock, so be sure to have the boom high enough to accommodate for this during the swing.

From the cockpit the next step was to reposition the lifting tackle and then lower the engine down into the main cabin. Because the Westerbeke has a fitting in the bottom of the oil pan through which used oil can be removed, the engine cannot be set down onto a surface without risking damage to this (very expensive) fitting. Therefore, the engine was mounted to some shoring that would serve as feet to keep the oil pan off the cabin sole.

Fitting and Aligning the New Engine

With the motor aboard and just a few feet from its

future home, it was now much easier to take detailed measurements of both to ensure a proper fit.

Those familiar with the Alberg 35 know that its companionway is offset somewhat to starboard, so the companionway ladder and access to the engine space also share this offset. The Westerbeke is also a couple of inches longer than the Atomic Four, and including a flex



coupling in the drive train increased this difference by a little over 3 inches. Also worth noting (as it becomes significant in the next paragraph), is that the alternator is located on the port side of the motor, opposite that of the Atomic Four.

The initial test fit of the motor confirmed that the height of the engine bed was correct for the new motor and that it would not have to be shimmed or shaved to make things fit. It also confirmed that a portion of the cabinet under the galley sink was occupying the same space required for the alternator, so some cabinetwork would need to be done. For the short term, the support post for the cabinet door was removed with a saw so the motor could be set on its bed. Once in its proper place, we could begin a more precise fitting of the motor in order to properly locate the position of the isolation pads.

The second engine fitting allowed coarse adjustments



A Study in Details (con'd)

to be made to the rear isolation pads to align the coupling of the motor with the propeller shaft coupling and to move the motor fairly close to its operating position. The engine was positioned such that all four bolts from the motor coupling fit into the shaft coupling. Alignment was accomplished "by feel" to get things close. This determined the approximate elevation on the isolation pads and also highlighted that the front of the motor had to be dropped to the point where one of the isolation pad screws would interfere with the raw water pump on the engine. With the measurements obtained during this second fit, the proper amount of the bolt that needed to be trimmed off was determined.

The second fitting also confirmed that the companionway ladder would have to be moved forward several inches due to the new motor's increased length.



With the engine bed marked, reinforcing "backers" were then epoxied into place. Given the geometry of the hull, it would be impossible to use regular machine bolts to secure the engine

mounts, so a synthetic wood-like material (i.e., Trex®) was epoxied into place to serve as anchors for regular lag screws. The next photo shows one of the finished backers with the necessary extension to handle the new engine's slightly longer length.

With the epoxy cured and the engine bed trimmed to the correct size, the engine was once again lifted into position and the mounts were adjusted to provide a coarse alignment to the propeller shaft. With the engine aligned, the outlines of the engine mounts were traced onto the bed and then the engine was removed again in order to drill holes for the lag screws that would hold the mounts in position.

With the holes drilled, the isolation mounts were loosely bolted to the bed and the engine was lifted

into position one last time and set into place. The coupling was attached and a feeler gauge was put to use as everything was tapped, pushed, and coerced into place to provide a suitable alignment. Alignment is definitely a tedious step!

Below is a photo of the engine output flange, flexible coupler, and shaft coupling. While a full keel and wine glass cross section make for a very seakindly boat, these same features make for a very constrained engine space. The two hoses next to the shaft are for the electric and manual bilge pumps. These will later be held out of the way of the shaft with restraints so as to avoid any chafing against it or the coupling.



o o o o o

With the engine set in place we are all queued up for the next installment of Tomfoolery's repowering adventure. Tune in next time where we deal with the issues of connecting all of the various systems together to create a running engine.

- Tom

Tentative Seneca Squadron 2015 Calendar

By the Seneca Squadron Executive Committee

January 2015

- 18 Change of Watch
Holiday Inn, Elmira
- 20 Bridge Meeting
Location TBD
- 20-24 USPS Annual Meeting
(Seneca Squadron to speak on Jan 23rd)
Jacksonville, FL

February

- 17 Bridge Meeting (1900)
Location TBD
- 20 Deadline for Drum Articles

March

- ?? Dinner Meeting
Location TBD
- ?? D6 Spring Council
Binghamton, NY
- 17 Bridge Meeting (1900)
Location TBD
- ?? D6 Spring Conference
Location TBD

April

- ?? Dinner Meeting
Location TBD
- 21 Bridge Meeting (1900)
Location TBD
- 24 Deadline for Drum Articles

May

- ?? Dinner Meeting
Location TBD
- 19 Bridge Meeting (1900)
Location TBD
- 17-23 Safe Boating Week

June

- 16 Bridge Meeting (1900)
Location TBD
- 26 Deadline for Drum Articles

July

- 21 Bridge Meeting (1900)
Location TBD

August

- 18 August Bridge Meeting (1900)
Kingsley Residence
- 28 Deadline for Drum Articles

September

- ?? USPS Fall Governing Board
San Antonio, TX
- ?? Monthly Dinner Meeting
Location TBD
- 15 Bridge Meeting (1900)
Location TBD
- 27 D/6 Fall Council
Hibiscus Harbor, Cayuga, NY

October

- ?? Dinner Meeting
Location TBD
- 20 Bridge Meeting (1900)
Location TBD
- ?? Nominating Committee
Location TBD
- 23 Deadline for Drum Articles

November

- ?? Dinner Meeting
Location TBD
- ??-?? D/6 Fall Conference
Location TBD
- 17 Bridge Meeting/CoW Planning (1900)
Location TBD

December

- 01 Nominating Committee
Location TBD
- 15 Bridge/COW Planning (1900)
Location TBD
- 18 Deadline for Drum Articles

Calendars tend to be "living documents." For the latest information on squadron activities, please check our web site:

<http://www.SenecaPowerSquadron.US>

or our Facebook page:

<http://facebook.com/SenecaPowerSquadron>

for any last-minute changes.

Seneca Squadron – Who’s Who?

Not sure who to contact with questions or suggestions for *your* squadron? Well, here’s a list to get you started!

Commander: Charlie Fausold
cmdr@senecapowersquadron.us
 607-535-4641

Executive Officer: Mark Erway
xo@senecapowersquadron.us
 607-215-1624

Administrative Officer: Ray Margeson
ao@senecapowersquadron.us
 607-732-0579

Education Officer: Tom Alley
seo@senecapowersquadron.us
 607-562-3909

Assistant Education Officer: Jim McGinnis
aseo@senecapowersquadron.us
 607-358-4409

Secretary: Jim Morris
secretary@senecapowersquadron.us

Treasurer: Marcia Taylor
treasurer@senecapowersquadron.us

Membership Chair: Sue Morris
info@senecapowersquadron.us

Public Relations Officer: Barry Lewis
pro@senecapowersquadron.us

Executive Committee Members:
 Dennis Kingsley Terry Stewart
 Pat Jackson Tom Taylor
 Jerry Tinz

The Seneca Sail & Power Squadron, a unit of the United States Power Squadrons, is an organization dedicated to the advancement of responsible and safe boating through continuing education and social interaction.

THE DRUM

Attn: Editor
 38 Woodland Drive
 Big Flats, NY 14814

Seneca Sail & Power Squadron Members