ROSBOROUGH RF246 MODIFICATIONS FOR THE INSIDE PASSAGE

Why this is boat is a good choice overall:

Every time we launch our boat, we, with very few exceptions, live on it for at least a month often 2 or 4. When not in use, it is covered on its trailer in a secure lot. The carrying costs for our boat are comparatively quite low so that even if we don't use it for years, (imperially true for many if not most boat owners) it is not much of a hardship.

A word of warning. I am a function over form guy so some of these alterations were made as an experiment to see how they would work and, in many cases, they worked so well I never bothered to "clean them up". To us, our boat serves as an inexpensive vacation. Or --- https://www.gocomics.com/nonsequitur/2015/08/02

Why this boat is a good choice for the trip:

Our 24' Rosborough worked out better over the 4 months than I had any right to expect. It handled well in rough water (although we didn't like it, but felt safe) and we were comfortable, warm, and not too squished.

Our small size meant that marinas could almost always (we have not been turned away yet) find a little place to stuff us. Anchorages and bays real boats would not attempt (absolutely gorgeous and extremely well protected in many cases) were possible due to our shallow draft.

People on large boats were, in some cases, horrified, but the boat worked really well for us. The basis for all this was to have enough on board to last 2 weeks minimum between provision stops while being well fed and clean. Obviously there are no guarantees that these will work for you so incorporate at your own risk.

We thought the following were a requirement for cruising the PNW:

FUEL TOTALIZER. For us, it was a requirement. Most motors probably have extremely accurate ones. We used to have an add on analog one (which have become very expensive due to the company being sold). It extremely important for us to know how much fuel was burned (fuel level by applying math) and how many gph we were burning. We could then easily calculate how fast we could run (trying to beat bad weather, for instance) and still have a safety margin at the next gas station.

HEAT We have a diesel forced air heater often referred to as a parking heater that has worked out very well for us. It is mounted in a box just aft of the cabin on the port side (where the propane tank was). It draws air for combustion from outside the hull and for heating from the cockpit so air is being forced into the cabin when in use. This means you can cook with the boat buttoned up when the heater is on. These heaters are probably the most thoroughly documented appliance ever (just do an internet search) and inexpensive/small enough to carry a spare.

The old Propex is shown.

HOT WATER and SHOWER Instant propane powered "camping" water heater has worked very well for us. They are inexpensive and enabled us to shower even when temperatures were in the 30s. We rigged a tarp around the aft deck to keep out the wind and horrified, eyes.

PROPANE. We carried two 20 lb tanks. It is less of an issue since we only cook and heat water with it but it means you can exchange tanks in lots of places instead of having to find somewhere to fill it. The tank in use is stored in a ***sealed*** locker behind the heater box vented overboard. There is a solenoid that cuts the gas off from the cabin when not being used. We also had to add a check valve (a very inexpensive Home Depot item) to the overboard vent because it was very close to the water line.

WATER. 70 gal. I installed a 37 gal. Nauta tank behind the standard 40 gal in the bilge. They are connected together using ***very*** flexible tubing and valves so the pump can pull from either or both tanks. The fitting in the OEM tank is very easy to pry out so force on it has to be severely limited thus very flexible tubing is recommended. The Nauta tanks are expensive but we tried cheaper Tempo and they quickly failed (2 in succession). We think you cannot ever carry too much water.

COMPOSTING TOILET We have a C-Head which has worked out very well for us. No venting required and urine container is a gal milk jug. Unfortunately, they are out of business. Pump out facilities are almost non-existent in the northern part of the inside passage. We found stuffing a 2.5 gal zip bag with aspen chips and a handful or two of pine pellets worked for a recharge.

LAUNDRY and DRYER We washed clothes in the sink using the hose sprayer from the instant hot water heater. We never did any wash in salt water because we thought it would require too much fresh water to rinse the salt water out. Initial drying was performed by rolling the wet stuff up in a towel and stepping on it. Then we hung it up either outside on inside depending on the weather.

In the PNW, the weather can be cold and wet for days or months. Attempting to dry clothes under these conditions is a futile exercise. Our boat has a heating duct that goes from the aft bulkhead through the top of closet to a vent in the closet wall for heating the fore berth. A slit was cut into the section of duct in the closet that can be closed off with foam rubber and a circulating fan was added.

To use, we emptied the closet onto the fore berth and then turned the heater on high forcing all of its heat into the closet by closing the vents in the cabin and fore berth and opened up the slit in the duct. We then hung the wet stuff in the closet and turned on the circulating fan. We found a closet full of clothes would dry in an hour or so.

DINGHY. Our original dinghy was PVC RIB (rigid inflatable body). Even with having it under a tarp when the boat was not in use, it only lasted 5 years before the fabric show signs of UV damage and almost all the seams separated. We have replaced it with a hypalon that is stored in the garage. RIB are a really good idea on the inside passage due to the coral at many, if not most landings. It is stored upside-down on the cabin roof with the transom in slots so it cannot move around. It is secure for trailering on the freeway and, since it is upside-down, a cover is not needed.

DINGHY MOTOR. Our dinghy motor is our emergency kicker motor. The largest dinghy that we could fit on the cabin roof could take a maximum of 10 HP so we have a 9.9. It will drive the boat at about 5 knots in calm conditions and the dinghy around 20.

CRANES. The dinghy weighs around 100 and the motor around 80 lbs so we have two cranes, one for the dinghy, and one for the motor. They are home made out of wood and stainless steel pipe.

The lift motors are 110 volt hoists from Harbor Freight that are inexpensive enough to carry a spare. One of the advantages of this system is that it is powered with a normal extension cord so no heavy cables are required (amp draw for this hoist is ~1/10 of a 12 volt motor same HP). It also comes with push button control, upper limit switch and a brake. The plug wired to the inverter is a GFI and the hoist and pushbutton control are reasonably well sealed from the weather. Just don't drop the plug into the water. We cover it up when not in use anyway.

The lifting system turns the dinghy upside-down as it is lifted and obviously right side up as it is lowered. It is shown about half way up.

ANCHOR WINDLASS. Pulling up 150 ft of chain hanging vertically down with the anchor by hand is something that no rational person would want to mess with (I believe it is around 80 lbs). We found out it is very important to disassemble and thoroughly grease it up periodically or it may freeze.

ANCHOR. A delta anchor came with the boat and have found that it sets easier in almost any bottom than either the bruce or danforth anchors we have used. It is attached to 150 ft of chain and 150 ft of rope all of which we actually had to deploy once or twice. We used different colored plastic cable ties attached to links every 25 ft to determine how much rode is out (they made it through the windlass just fine. We also carry a Fortress on the foredeck with 150 ft of rode and a bruce under the fore berth with 150 ft of rode. We have never had to use either one, but on our previous boat, a 2nd anchor had to be tossed in a hurry a couple of times.

ANCHOR LOCKER The locker is split in two. Half takes the main anchor 150 ft of chain attached to 150 ft of rope. The other half takes the 150 ft of rope with 6 ft of chain for Fortress anchor secured on the foredeck. The anchor locker hatch cover had to be sealed up with gaskets to deal with the amount of water that can be washed down the windlass hole. We do have to use a boat pole we stick through an hole in the locker hatch to knock the pile of chain down as we are raising it. If the rope was deployed, we found we had to remove the hatch completely and hand lay the rope (I only remember having to do that twice) so everything would fit.

REFRIGERATION AND FREEZER. We have a built in refrigerator and a Dometic camping freezer (shown) on the floor in front of the mate's seat. We have since replaced it with an Apicool T50 which has the option of using half of it as a fridge. It is a lot less expensive than the Dometic and we think it uses less power. Between that and the built in, we could store enough food to last two weeks and could make ice. Both can run on either 12 volt or 110.

SOLAR PANELS We have a 360 watt 24 volt (you need24 volt with LI batteries - higher charging voltage). On the west coast in May, it easily kept up with demand. During the winter in Florida, not so much. Obviously, it is very dependent on the hours of sun and the temperature - high temperatures mean the refrigeration will suck up power. Old 180 watt panels shown with the crane removed.

MPPT CONTROLLER We have a 20 amp controller that the specs say should be 30 amp (360 watts/12 volts). The manual says it will throw away anything over 20 amps in heat and not damage anything. Since the panels historically have generally only been able to put out about 65% of their rating we decided to try it before replacing it. We determined that no new controller needed - no instances of power being thrown away were recorded. It has a blue tooth connection that shows real time and historical voltages and amps in and out.

BATTERIES We have 2 - 105 ah LI batteries and a LA emergency starting battery. The LI batteries will power everything for about 3 days. The problem with large capacity batteries is that it takes longer to put everything back (200 ah / 30 amps = 6+ hours). The batteries also connect to the phone via blue tooth so amps in and out, state of charge, and health are all reported.

LED BULBS We replaced all the bulbs on board with LED except for the running lights. Replacing the bulbs on our interior lights involved a little bending of the reflector, but they fit. The difference is significant. From 1 amp/bulb to an almost undetectable draw with all the LEDs on.

110 VOLT INVERTER. We have a true sine wave 1,500 watt inverter. We use it to charge phones, laptops, dinghy pump, vacuum, run the hoist motors, etc. From experience, this is not something to go cheap on - get a real sine wave that has enough output.

GAS/CO2 DETECTOR. We consider this a necessary safety measure. It runs off the house batteries. It has never gone off except when fueling with the wind a certain direction or when it needed to be replaced.

RADAR. Without it, we might still be in AK. Fog is pretty common and it can be very thick (nearly 0-0 shown at right).

AIS RECIEVER. It is incorporated in our VHS radio It shows where the "real boats" are along with their speed and heading. Apart from collision avoidance, it can also give you a heads up for large wakes (cruise ships).

SATELITTE SOMETHING for emergencies. We carried a Delorme (now Garmin) Inreach to use in case of an emergency when there was no other way to call for help. Many areas up there do not have any cell coverage and are out of range for VHS. The unit can also send short messages and your position to anyone who is interested. We used this feature nightly to let folks back home that we were safe.

DRAIN SOCKS With all the new equipment and the added water capacity, we had to raise the waterline two inches. The scuppers were now below the waterline when we were aft but still drained when we were in the cabin. A tube with flotation (socks) is clamped to the fitting shown so if the scupper is above water, it drains and if not, the sock points up into the air.

HOT SPOT We have a plan that will give us unlimited data and phone in the US and Canada. The coverage maps were accurate in Ontario and they claim areas like Cape Caution are now covered. The speed is generally better than using the marina wifi.

TRAILER TOW INSURANCE. The Boat US trailering option (added cost was nominal) is well worth it as far as we are concerned. We used it twice on the way home to get our trailer tires changed.

BOAT TOWING INSURANCE. We had Boat US for the US and C-TOW for Canada. C-Tow was the only insurer that covered BC that we found. These guys were VERY useful finding vendors when our motor broke down and even sent a guy over to trouble-shoot it (correctly, I might add). Really nice people to deal with.

TRAVEL INSURANCE. We elected to get travelers' insurance that would make all the arrangements and pay all transportation costs to evacuate us to get emergency medical care and eventually to get us back to the US. It does not cover medical costs – your own insurance does. We never used it (good thing). www.DANBoater.org.

FAN and SQUEEGEE. Cold water hitting warm windows, either from rain or spray, cause the windows to fog instantly. A 12 volt fan and squeegee are indispensible.

DINETTE SEAT STORAGE TRAY. The seats were too low for me so I added a 5" thick tray that rests below the seats. We had to raise the table 5", too. It is much more comfortable. It is important for construction of these trays to be as light a possible since it is necessary to remove them to get at the space underneath. The storage has also been extremely useful.

SHELF UNDER CAPTAIN'S SEAT We put a piece of plywood under the captains seat for storage since we will never use the area for a bed. It is a large space.

DINGHY WHEELS. Landing a dinghy on a beach where there are tides means your craft with either be floating away or a distance from the water when you get back. These will help a lot.

TIDE SOFTWARE. Tide charts are difficult to use especially if you are not familiar with the area and reference locations are time consuming to find. Added to that, you have to do some math. Fortunately, there are free software alternatives make all this very easy and, from our experience, very accurate. Some examples are Open Cpn , phone apps like Aye Tides, and our new Garmin chart plotter. Obviously it never hurts to look out the widow and verify. The other caution is that in AK, anyway, the currents predicted were way off (wrong speed and direction?!) which should be impossible without the tides being off or a strong wind but they were.

FUEL Go slow - we traveled at 6 knots generally. Fuel was the most expensive component of the trip. Obviously the MPH and range drops dramatically with speed. We needed a 200 nm range up there.

WATER PRESSURE ACCUMULATION TANK. These are over-priced very small versions of what you find on home well water systems. It means you can cut the water flow down to a trickle which was not possible just using the pump. The addition of this alone cut our water consumption more than a half. Newer pumps may incorporate this.

STORAGE BOXES The two boxes that came with the boat - one that was the foot rest for the mate (now the freezer is there) and the other was the battery box outside - were moved out of the way into the cockpit. A wood box was made for the starboard side just clear of the aft sliding door.

SEAWATER SINK FAUCET External water (seawater in BC) is used for dishes and hands. A very necessary fresh water conserver. I have always had a Whale double-acting hand pump for this which leaked even when new and had to be constantly oiled up to work at all. We replaced it with an on demand electric one that has survived one season, anyway.

CHARTPLOTTER. We have a (relatively) new Garmin chart plotter. Other than the screen being smaller than I would like, it has worked out well It came with charts for all of north America, tide and currents, and Active Captain. The only real drawback is that routing is much more of a pain than it should be and the automatic routing does not work all that well.

OPEN CPN Its free, easy to use, has tides and currents for US and BC, and is a very good navigation tool. Navigation charts for the US are downloadable and free. Canada is more of an issue. It runs on a laptop with a usb gps puck (they are inexpensive). Making routes on the laptop is far easier and quicker than with our chart plotter.

ACTIVE CAPTAIN https://activecaptain.com/ This service is absolutely great. We used it very heavily to pick out anchorages and marinas. It is also a great planning tool at home using the web site.

ELECTRIC DINHGY PUMP Ours is rechargeable and has a two stage pump. I don't know if it is still available, but it really makes life a lot easier both because you don't have to manually pump and it has a built in gage with automatic cut off.

HAND HELD VACUUM We carry an 110 volt very high powered one. The reasons are obvious and it is, for us, it is indispensible.

STERN LINE. On the advice of many who have cruised the inside passage, we carried 600 ft of 3/8 braided poly rope that have only used once up in North Channel. We successfully avoided using it other than then. We are not a fan of tying ashore mainly because I don't think it is safe (forces on the ropes can get ridiculous with the wind abeam) and it is a pain to set up and put away.

MATTRESS. We bought a memory foam mattress from Ollie's that had 3 different layers – a combination of memory foam and other foams. It was about 10 or 12 inches thick. We cut it into a triangular shape to fit in the bow. It made the fore berth very comfortable and enabled me (I am 6'3") to fully stretch out. Only one of us can do that at a time, but it made living on board for 4 months comfortable.

WEATHER STATION These are inexpensive, wireless and very nice to have. Ours shows wind speed, outside temp, barometer, etc.

BARBEQUE Really a necessity for us. Ours is mounted so it hangs out over the port gunnel when in use and can be reversed so it is inside the boat.

Spares we carried:

1. Fresh water pump - if it fails there is no way to get fresh water out of the tank
2. Diesel heater - they are inexpensive and we want to be warm. Both the Chinese and European versions can and do fail often due to carbon issues.
3. VHS radio - I didn't think the hand held would be a good choice in remote areas so we just kept the one we replaced with the VHS/AIS radio.
4. Anchor and rode - over kill I know. That means we had 3 anchoring systems on board although usually just two. Being without 2 anchors in remote areas would be a nightmare.
5. Hoist motor. If that fails getting the dinghy off the roof or mounting the outboard would be a challenge and again they are inexpensive.