PVRC Newsletter March 2016

President's Letter – Bud W3LL

Hello PVRC,

The month of February was a very good one for PVRC. Two major milestones were completed and a third one at the halfway point. Our next task raised by the Leadership call-in meeting is PVRC's Social Media presence. Our Secretary Tim N3QE and Neal K4NC have ideas which we'll explore next month.

We're nearing the halfway end of the VP election process. The closing bell for the open nomination process will sound just hours from now as I write this column. The list of nominees along with their bios will appear on the PVRC website. The nominees as of this writing are K2YWE Dan Zeitlin of Annapolis and W3TB Ted Edwards of Colonial Capital.

With the advent of the VP elections I've been asked a few times where the offices of PVRC are located. The answer is we're located just down your street in the virtual world of the Internet. The only anchor to terra firma is our principal office address, 9710 Traville Gateway Drive #146, Rockville, Maryland 20850. It was established in 2014 as one of our 21st Century initiatives.

The second milestone is the written completion of the PVRC Mission Statement. That task was chaired by VP Tom K3AJ and his team of seven volunteers. I think when you read it you'll agree that the team hit a homerun with this project.

I want to focus today on the third milestone namely the successful Galactic PVRC Social and Luncheon held in Richmond. It provides the template that can be used for many PVRC wide future regional events.

1. The genesis was one member saying "I can do this" for the club.

2. A universal anchor was the Richmond FrostFest.

3. Saturday was chosen to accommodate both working and retired members.

4. The 1 PM - 4 PM timeframe was a perfect choice. It provided an opportunity for those arriving from as far as a 3 hour drive to participate in the region events while returning home at a reasonable time after the PVRC all-inclusive meet and greet social.

5. The venue selected represented the food and ambiance famous for the region.

6. Required upfront money with a minimum guarantee without putting anyone's money at risk was a classic solution. Prepaid checks voided if the minimum was not met by a predetermined cut-off date.

7. This event attracted 38 prepaid, non-refundable RSVPs representing members from 6 chapters and 5 non-member guests:

- Northwest 6
- Annapolis 5
- Rappahannock Valley 4
- Colonial Capital 2
- Tidewater 11
- Southwest VA 3
- No Chapter 2
- Non Members 5

8. This was a significant accomplishment achieved because one member said "I can do this".

9. Every email and meeting report extolled the virtues of meeting members never seen before and the formation of long lasting bonds between members from the far reaches of the circle.

10. All emails received ended with "let's make this an annual event".

Why such detailed analysis of an event? Because I see this as the beginning of a more inclusive period in the history of PVRC.

Each of our regions has something to offer all of us. Just put your imagination into high gear as I'm doing now.

The Tidewater region is an easy example. Using the draw of the Virginia Beach hamfest and boardwalk any member from Tidewater can say "I can do this" for the club.

Next up is Colonial Williamsburg. For many of us it's been a long time since our last visit to also include Kings Dominion. Again any member from the Colonial Capital chapter can mimic Neal's approach.

Looking to the east end of the region how about a member from the Eastern Shore chapter saying "I can do this" for the club with a meet and greet in Ocean City. There are many draws such as SunFest or Motorcycle weekend with a thousand Harley's making music in the streets. Richmond had pulled pork while Ocean City has steamed crab venues.

The northern region has so many opportunities. How about a meet and greet within the Smithsonian complex or a lunch cruise on the Potomac.

A little further afield North Carolina West in our western region has Ashville and the historic Biltmore Mansion. A meet and greet in the Biltmore Mansion would be truly historic.

I hope I've whetted your appetite for bringing the club together through understanding each of our regional cultures and to say "I can do this".

Now let's turn to the sports page of this newspaper and see how PVRC and our members did in competition.

In recent contests, there has been plenty of PVRC activity. In the ARRL RTTY Roundup, 45 PVRC scores were submitted. The top PVRC SO score at 190K was from W4PK in SOHP unlimited. W3LL wasn't far behind in SO HP at 178K. W4RM put up a nice score in M/S HP, sitting in 4th place.

PVRC turned out in force for both the NAQP events in January – CW and SSB, with 137 participants in CW and 125 in SSB. As of this writing we are currently leading in the NAQP Club Challenge, but historically we fall behind in the RTTY events (by the time you read this, the February RTTY NAQP will be in the books). Big scores were posted in M/2 from NC4KW (at N1LN), NY3A (at WX3B), W0NA (at W4AAW) and W4ML (at W4MYA) – all top ten scores. N4AF and WJ9B both put up scores above 260K in SO LP, and there were 13 PVRC scores in this category above 100K. In M/2 SSB, WX3B, W0NA (at W4AAW) and N1LN were in the top 10. N9NB, NA1DX, N3RR and WB2ZAB all put up scores above 75K – with N9NB leading the pack at 118K.

CQ 160 CW saw 63 PVRC scores reported. It appears that we have a lead in the club competition after the CW event. N1LN is sitting in 4th place US in M/S HP. K3ZM is at No. 1 in US SOHP, with W3LL (piloted by ND3D) rounding out the top 10. KD4D (at W3LPL) blew away the US competition in SOLP, and is currently No 2 worldwide – quite an accomplishment! Of note also are great QRP efforts by N4UA and WB4MSG (2nd and 3rd respectively in the US). N3RR led the PVRC pack in SO Assisted HP at 345K, followed by K2AV and N3QE – all three putting up scores above 300K and finishing in the top 10 US.

January ARRL VHF didn't feature much in the way of enhanced propagation, but K1RZ ,N3HBX and K3DNE put up top 10 finishes in SO HP. K1RZ is showing in 2nd place overall at 263K.

In CQ WPX RTTY 37 PVRC scores were reported. Top score in SO HP was by N3QE at 3 M followed closely by AB3CV at 2.9 M. K4GMH went SOSB 40 HP, and put up the top US score in that category of 2.3 M using his new Moxon.

The results in so far in the ARRL DX CW test show another impressive PVRC turnout, with over 60 SO scores and multi-op efforts involving another 44 operators - mostly PVRC members - indicating at least 100 PVRC'ers active. Special congratulations to Frank, W3LPL and his team on a big victory in M/M, and to Kam, N3KS and team on their apparent win in M/S at TI5W. And for a change from reciting all the big scores: How about a shout out for the efforts of W4GDG using only an indoor antenna, K4FTO and N4UZ with single verticals and indoor dipoles and N4CF having at it with QRP and wires only?

That's it for this month. We're keeping the steam up and the bilge is now pumped dry.

73, Bud W3LL

Silent Key: Jack Ritter W0UCE

As many of you know, all PVRCers were saddened by the sudden passing of Jack W0UCE on February 20th. We hope to have a memorial article in next month's bulletin – if you have thoughts or pictures you'd like to share contact Tom K3AJ or Nate N4YDU.

For now, we have picture of Jack from 2009, courtesy of Jose EA5DFV:

The Height of the Horizontal Leg of an Inverted L - Ted N9NB

Now with the low bands having more excitement as the sun spots wane, at N9NB I have been trying to improve operations on top band. Recently, I purchased a SAL 30 shared apex array antenna, and have been amazed at the good directionality and low noise reception - it's like having 8 small beverages that are switchable, a big improvement over the low dipole and Inverted L TX antenna. I have put down more radials at the base of the 2 towers and at the midpoint where a 160 m inverted L exists.

Now have 30 radials at each location, and wondered what else I could do to improve my signal. Well, through computer modeling, I found that raising the horizontal portion of the inverted L increases radiation resistance substantially. Originally, on my 160 m inverted L (a vertical wire that is supported at the mid-point of a horizontal rope pulled between my 2 65' tall towers), I had the vertical element going up to about 60' and then had a 75' horizontal leg that sloped gradually to about 15 ft. height in a small tree, simply because I had not given much thought to the horizontal portion of the antenna.

After the ARRL 160 m contest, I decided to measure and model the inverted L, and found from EZNEC and from measurement with a MFJ 259 that the radiation resistance was only about 8 ohms when using such a low height for the end of the horizontal leg (I estimated that ground loss also caused 8 ohms of series resistance loss, as suggested by W8WWV, giving rise to the 16 ohms reading I was getting on the MFJ 259 at the feedpoint of the Inv. L).

However, by raising the horizontal leg of the Inv. L up to 45' (using a rock throwing method to get more height), I was able to double the radiation resistance to about 16 ohms (and get the MFJ to read 24 ohms of radiation resistance). If I can get a sling shot or launcher to get the horizontal edge up to 75' in a nearby tree, computer modeling in EZNEC shows that I can further increase the radiation resistance to 25 ohms - that is my goal for the spring. If you have surrounding tall trees, this is a way to get "free power" by raising the horizontal edge of the inverted L, since an increase of the horizontal leg height increases the radiation resistance - which determines the RF power emanating from the antenna. In theory, if I could raise the horizontal edge all the way to where it is perfectly vertical, the inverted L transforms into a standards quarter wave vertical with 37 ohms radiation resistance.

By raising the height of the horizontal edge from 15' to 75', I basically increase the radiated power portion of my applied power from 50% to 75% (due to the resistance ratio of the antenna to ground loss going from 1:1 to 3:1.) That is, instead of heating the ground with half of my TX power as I did with the low inverted L height of 15 ft., getting up to 75' height will cause me to only spend 25% of my TX power on the lossy ground effect. This should give me a 50% (1.8 dB) power boost for free, just by raising the horizontal edge of the inverted L!

Wish I would have thought of this before the ARRL 160 Contest1

PVRCers at Orlando Hamcation – John N3AM

Here's a photo of the PVRC gathering at Orlando on Feb 12. With temperatures running in the mid-70's, we were all clearly overdressed!

Left to right are: W3GG, N3AM, WF3C, N3JT, K3EW, N2QT, K9PJ

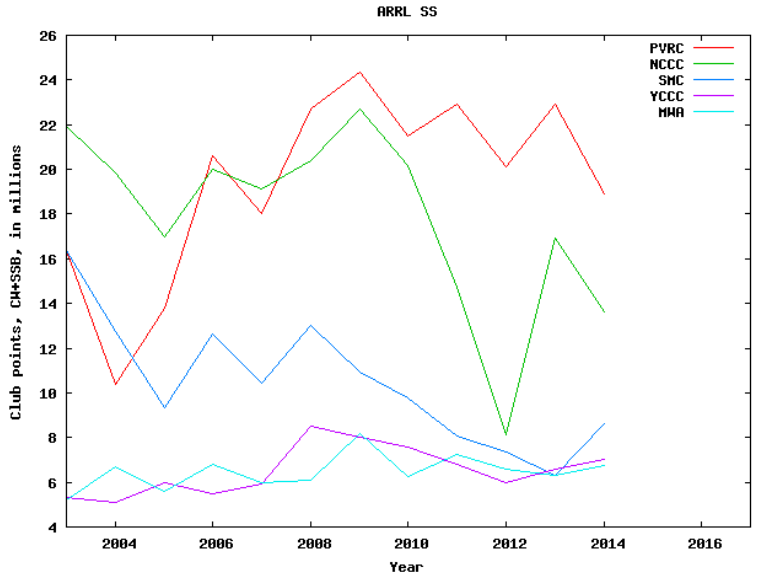
Laurel Shack Back in Operation– Bill N3XL

For the past year Laurel Chapter has been nearly dormant, largely due to the fact that our club shack at the Emergency Operations Center, City Hall, Laurel, Maryland has been under renovations, including refurbishment of the radio tower and antennas. The radio setup in the Laurel shack supports Multi-two contest operations and normally attracts a good crew of operators. You can start looking for some multi-operator scores from Laurel!

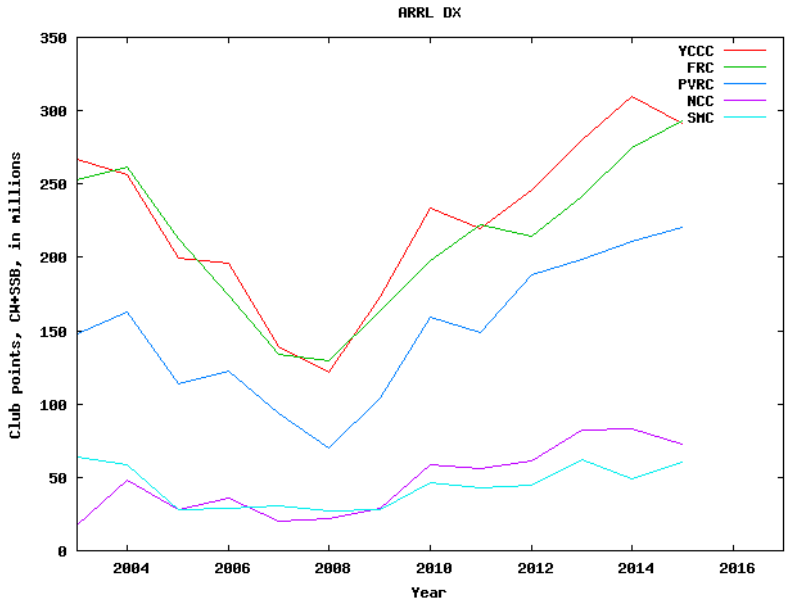
Kevin WV3D looks on as Jim WI3N works ever so hard for many hours in the bucket assembling antennas on the 75 foot tower.

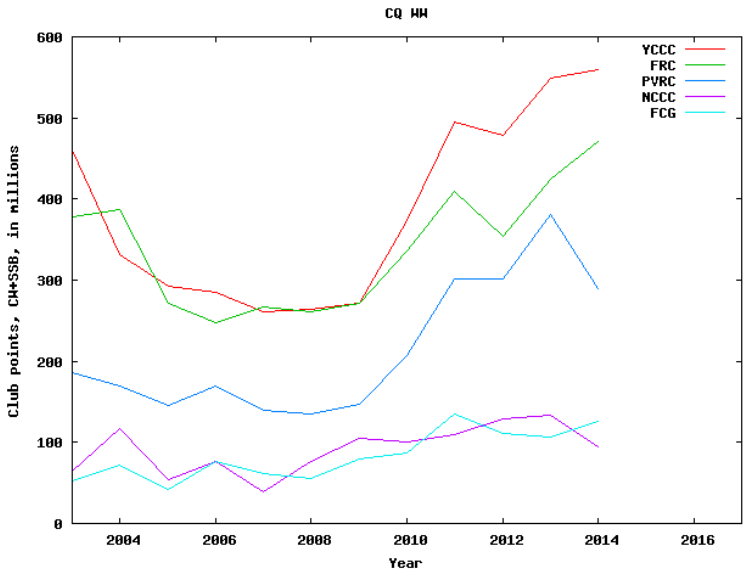
Stats for the Big Contest Club Competitions – Tim N3QE

Below are club scores by year for "top 5 clubs" (top 5 clubs based on total 2003-2014 score, top 5 clubs varies by contest) in 3 major contests: ARRL SS, ARRL DX, and CQ WW.



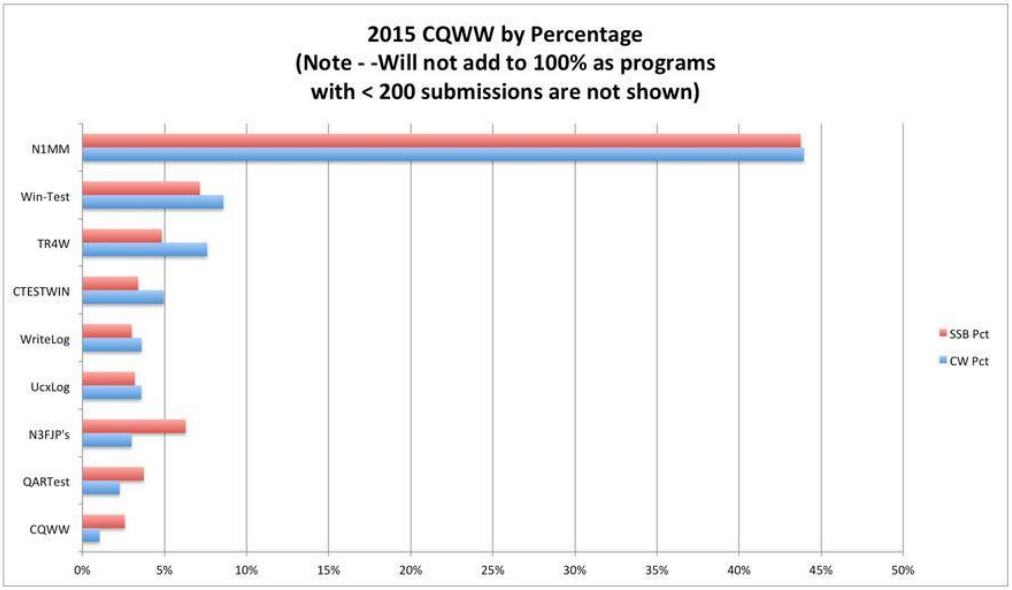
Club scores are as published by sponsors. Note that 2006 ARRL SS PVRC number needs an "asterisk" based on forfeit after circle checks. In ARRL SS, we see we PVRC started out in third place but shifted to a top contender 2006-2010 and undisputed top dog 2011 onward.





Note we have been for a long time, a solid third place in the ARRL DX and CQ WW DX.

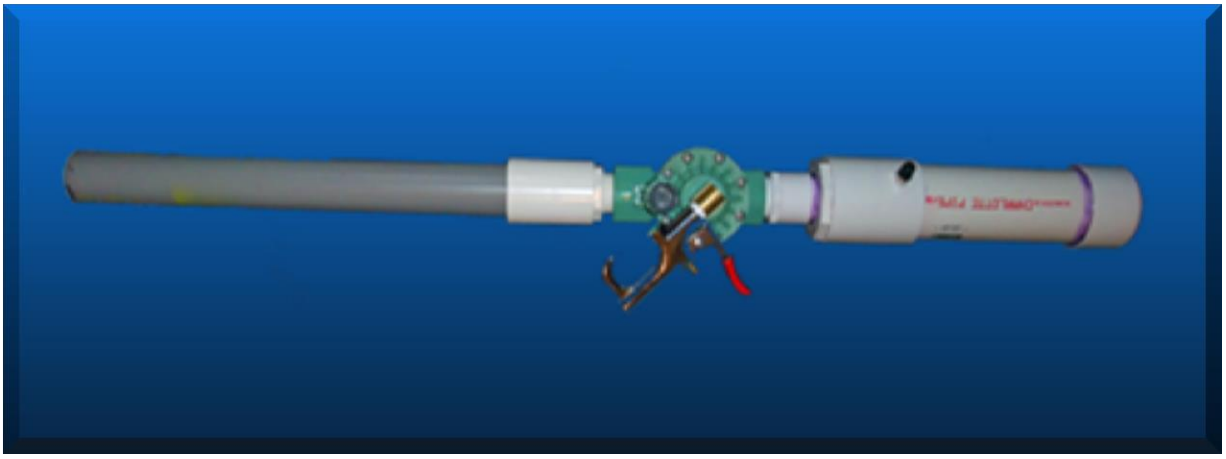
Contest Logging Software Analysis – Howie N4AF



NY4I was kind enough to run analysis of all submitted, non-check, logs for CQWW 2015 [CW + Phone] looking at cabrillo CREATED-BY to determine what logger was used.

The full results may be viewed here.

Zip Launcher Construction– Bill NR4C



Introduction

For those who have been following my exploits with antenna launchers lately, here is the latest of the bunch. This little jewel is by far the easiest to build, and the smallest since the barrel assembly can be removed and the whole thing will fit into a container just 18 inches long. This launcher uses the latest pneumatic trigger for a super fast energy dump and has similar performance to the PAL mkII that has been very popular.

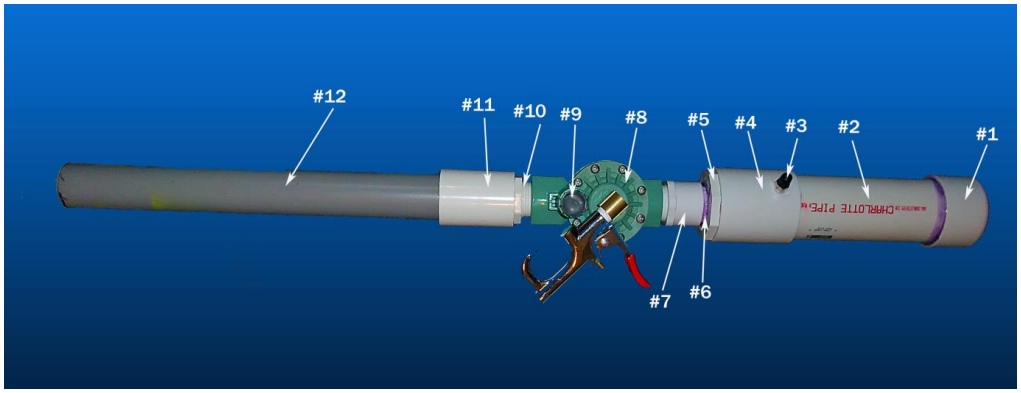
This gem actually began as a test fixture for modified valves I made for people who wanted to build the mkII's but didn't want to do the valve mods. It looked so neat, I added a barrel and was surprised at how well it worked as a launcher.

Other than the valve mods, there are no parts that are critical in size so it's possible to use what you have available. It'll probably work. I have not yet had time to determine the optimum barrel length or tank size. I just know that the dimensions listed here work very well.

While this is not a complete "How to" tutorial, I think I can cover the basic idea behind the process so that anyone with moderate skills can reproduce the launcher with assurance that it will perform as expected.

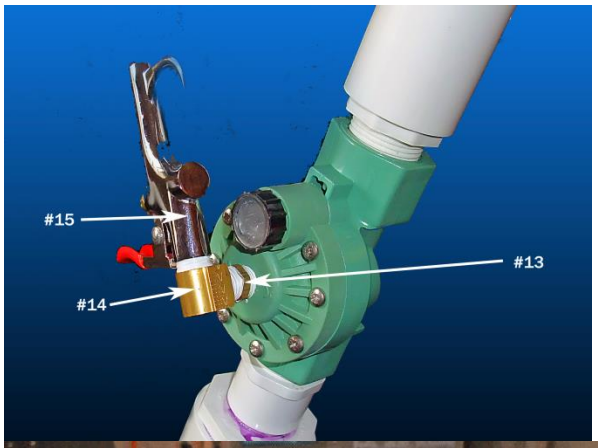
One item I would definitely add to this launcher is a pressure gauge like the one on the mkII.

Parts List



The above photo shows all the major parts for the launcher

Item #	Item	Qty	Used For	Lowes	Home-Depot	Ace	Cost
PVC[10]							
1	2” Cap	1	End cap	Y	Y	Y	
2	2” X 8” long Tube[3]	1	Tank	Y	Y	Y	
3	1/8 NPT Schrader Valve	1	Presurize tank	Y	Y	Y	
4	2” Slip – Slip Coupling	1	Couple to reducer	Y	Y	Y	
5	2”>1” Slip Reducer	1	Reducer tank -valve	Y	Y	Y	
6	1” X 2”long tube	1	Join valve to tank	Y[1]	Y[1]	Y[1]	
7	1" NPT (M)> 1" SLIP (F) adapter	1	Join valve to tank	Y[2]	Y[2]	Y	
8	Orbit sprinkler valve[4]	1	Main valve	Y	Y	Y	
9	Modified solenoid adapter	1	Convert valve to manual operation	Y	Y	Y	
10	1” NPT >1 ¼ Slip Coupler	1	Barrel to valve	Y	Y	Y	
11	1 ¼ Slip-Slip coupling	1	Barrel coupling	Y	Y	Y	
12	1 ¼ X 14” long tube	1	Barrel	Y	Y	Y	
13	¼ NPT close nipple	1	Adapter	Y	Y		
14	¼ X ¼ Street elbow[6]	1	Adapter			Y	
15	¼ NPT Air nozzle	1	Trigger	Y	Y	Y	
Also	1/8" NPT Pressure Gage [5]	1	Gauge	Y			
19	ZIP REEL	1	Line Reel[8]				$38.00
20	1 1/2" X 12 X 0.06: Alum or Brass	1	Bracket for Reel[9]				
21	#8 X 1/2" SS screw/washer/lock-nut	4	Attach reel to bracket	Y	Y	Y	
22	#10 Nylon Screw	2	Mount bracket to barrel coupler			Y	
Bullet	3/4" PVC Cap	2 per	String Weight	Y	Y	Y	
Weight	1 Oz Egg sinker	1 per	Add weight				
Eye	'small Screw Eyes	1 per	Attach line	Y	Y	Y	



Note that parts 16 through 18 are not used with this launcher. Use the photos to identify the various parts from the list.

NOTES: (Be aware that PVC part availability varies from time to tome at each location.

1. Minimum length at Lowes/Home Depot is 5 foot. Ace will sell short lengths by the foot. One foot will make all the short (2 or 3 inch each) slip joiners.
2. Check your valve box, mine came with two of these adapters, from Lowes. The Orbit valve from Home Depot does not.
3. Lowes/Home Depot sell short 24" sections, ACE sells it by the foot.
4. This is the valve I used, it's cheaper than the RainBird and is easily modified for use in this device. See note 2 also.
5. I did not check other local stores, I found this at Lowes as part of a pressure adjustment device, and the cost was less than some mail order sources when you added in the cost of shipping. I just removed the gauge and threw away the rest. I prefer a gauge with the fitting in the 'center back' as opposed to the side mount.

6. This is a small brass item with a 90 degree angle, and male pipe threads on one end, and female on the other.
7. I saw one of these at ACE, but decided to look elsewhere for a different style. While at Lowes, I saw a similar device to the one a ACE and saw it on a special for just a couple of bucks, and bought it.
8. The ZIP REEL is made for Bow Fishing, and is not available from local sources. I found it at the manufacturer's web site and called to order. Very friendly people and they responded quickly. The reel comes complete with mounting bracket for your bow and some string. You will not need either, so when they ask whether you want it for a left or right hand bow, just tell them it doesn't matter. The web site is http://www.sausa.com or call them at 1-800-228-1408. The cost is around $37 or about what you would pay for a decent quality fishing reel, and this is much smoother in operation and less subject to miss-fires.
9. This is custom bent to mount reel to barrel coupler. Nothing critical, just follow the drawing included in these notes.
10. All PVC components are made from Schedule 40 PVC and are rated for pressure. Do not be tempted by similar looking parts made for waste and drain applications, they are not rated for pressure. Look carefully.

You will need some basic tools and materials for working with the various materials in this project. Get fresh PVC Purple Primer and Glue for the PVC joints. Don't scrimp on this. Use the primer and glue on both surfaces, and have enough insertion length to get solid joints. I cut my joiners just a bit shy of the total insertion length so that I could get minimum growth in the joints.

For cutting the PVC, I have found the correct tool makes it easy. I use a Marple saw, about 7" blade that cuts on the PULL stroke. Mine came from Lowes and friends jokingly refer to it as a "Ginsu" knife. It has fine teeth with minimum 'set' to leave a very narrow kerf. I mark the tube with a Sharpie and try to cut on the line.

When gluing the PVC parts together, I found that using a file or sandpaper block to slightly bevel the edges makes it easier to insert one part into the other. Dry fitting is a good idea, but be careful, as sometimes it is possible to get the pieces stuck very tightly and it takes a lot of effort to separate them.

Be sure and use the "Purple" primer on both parts and let it dry. When ready to glue, apply to both parts and quickly insert the smaller piece with a twisting motion until it is seated fully. Hold for a few minutes and move on to the next step.

You will need some 1/2" Teflon™ pipe tape to seal the pipe threaded joints.

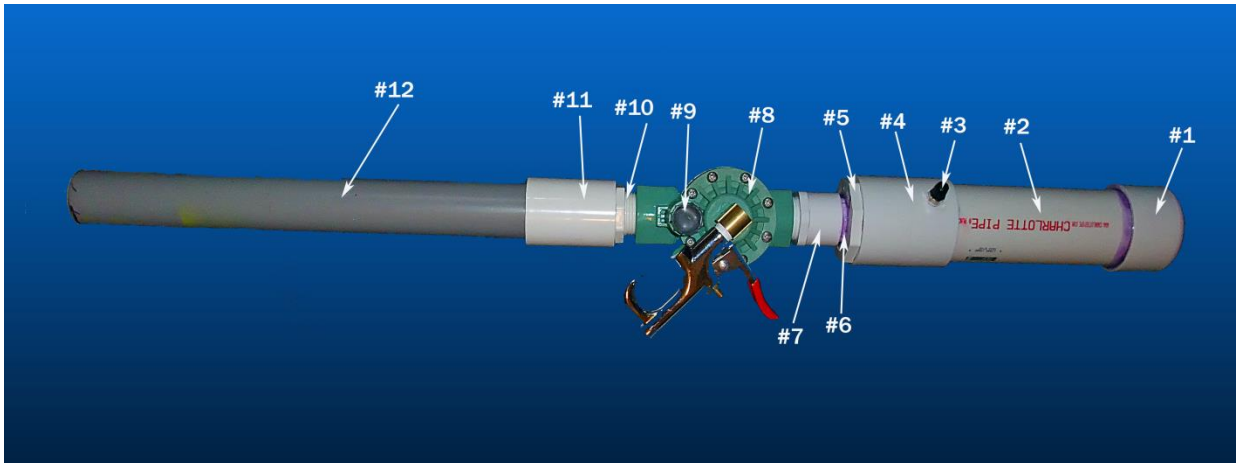
For the valve modification process you will need a dime, and a toothpick and a drop of "Superglue" or some form of CA adhesive (Cyanoacrilate). You will also need a small quantity of a good quality, s-l-o-w setting epoxy, preferably one that's rather thick**. J-B Weld™** works well for this. DO NOT USE a 5-Minute variety epoxy for this. These fast curing adhesives are not good for long term use and will fail in time. They frequently don't get 'rock' hard and will get soft and spongy if stored outside or under hot conditions. (*Note: I will assist you with this step if you ask as I already have the materials - you supply the dime- and there is no need to buy a kit for this one use.)*

You will also require a 1/8" pipe tap and a 1/4" pipe tap to tap holes for pipe fittings. And, don't forget the required drills for pre-drilling the holes for the raps and the

mounting screws. You will also need a 10-32 tap to tap the mounting holes in the reel-barrel coupler to mount the reel

And, last but not least, "Read, understand and follow" all safety rules supplied with you tools and materials, and use of safety glasses is recommended. The adhesives used in this project give off nasty fumes so work in a well ventilated area. When using the 'Ginsu' knife, be especially careful as it is very sharp and can make deep cuts before you know it.

Now on to the assembly….



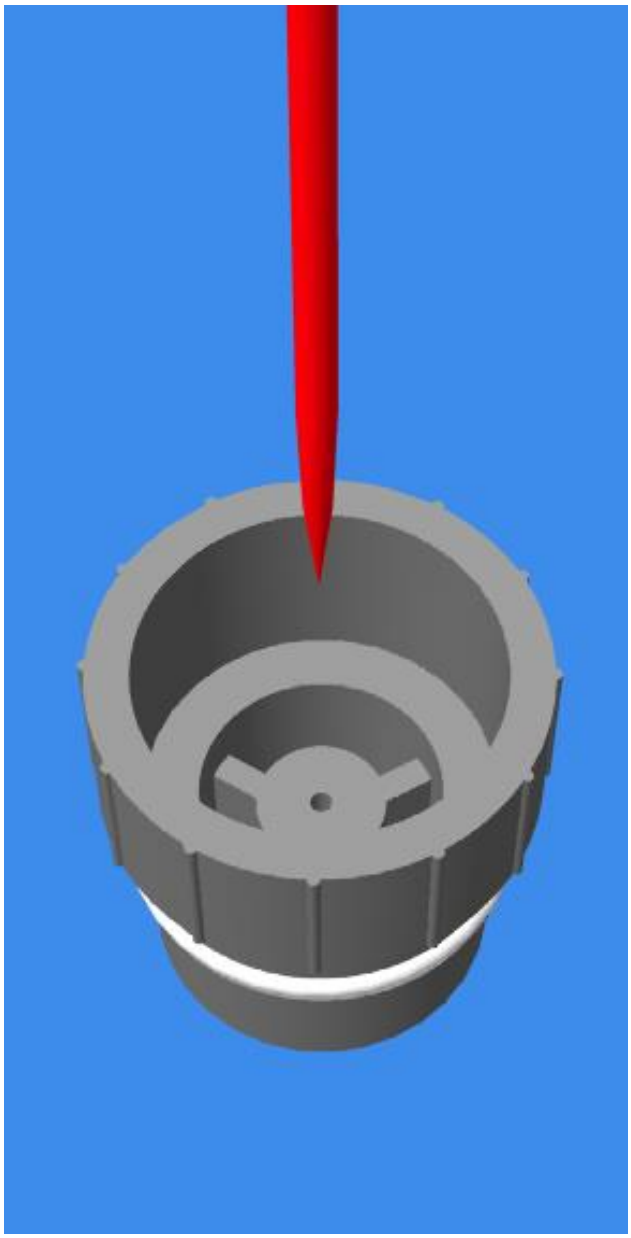
Using the photo above, begin to assemble the pieces 2 and 4. Now is the time to drill and tap holes for the Schrader valve and pressure gauge if used. Insert these items in the coupling so as to pass through both the tube and the coupling for maximum strength. Once the threaded parts are in place, clean out the debris and add the end cap, part 1. Don't take shortcuts on the gluing of the PVC parts. Use the "purple" primer and liberal amounts of glue. Let stand for a few minutes before moving to the next part.

We can now add the 2" length of 1" tube (6) into part 5 and glue this assembly into part 4. Next comes the threaded coupler (7) for the valve, part 8. Apply some Teflon™ plumber's tape to seal the threads before screwing this assembly onto the valve.

After modifying the valve, you can screw the valve and tank assembly together and test the valve. If you detect a slight leak, it can usually be stopped by tightening the little modified adapter in tighter. I had one that required a small piece of cellophane tape applied to the very end of the modified adapter before screwing it into the valve body. No leaks after that fix.

Now make up the barrel assembly by gluing parts 10, 11 and 12 together. It is not necessary to use any sealing tape when gluing the barrel into the valve. For transporting, I unscrew the barrel from the valve and assemble when at the site. Packs into a satchel with the reel, line, and other needed stuff for the antenna job.

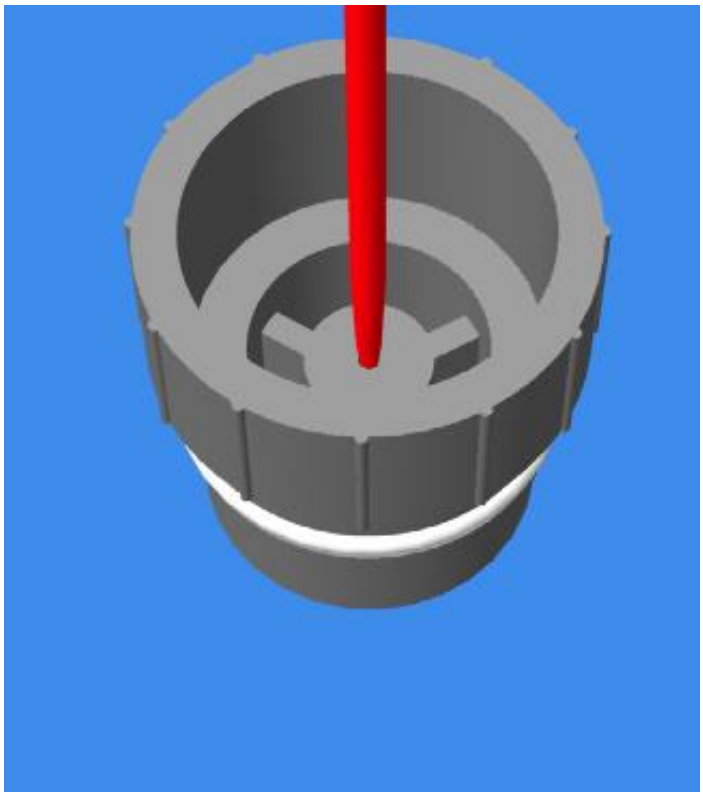
The Solenoid Adapter Mods....



Refer to the rendering at left to get an idea of what is needed here. The small hole in the cylinder in the center of the adapter is the orifice that allows the air above the diaphragm to escape allowing the valve to "open" when used with the electric solenoid. The solenoid plunger blocks this small hole until it is energized by the battery voltage.

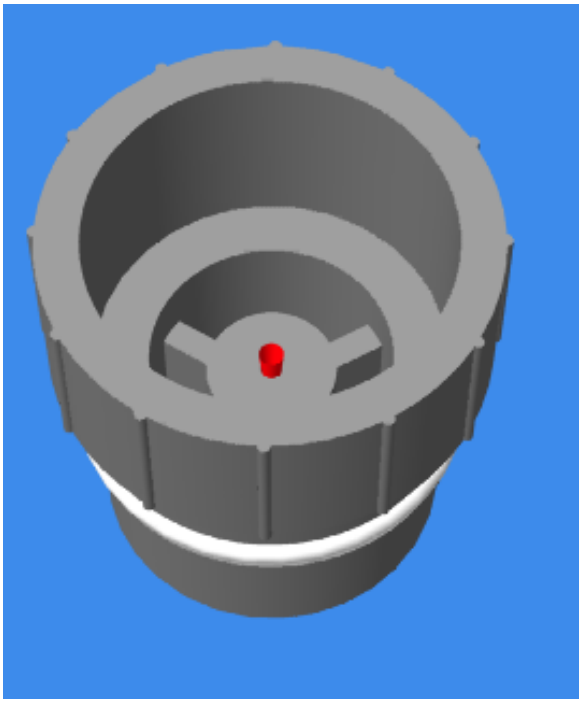
We have to block this hole so air from the tank can't get through. We also have the block the entire inner volume of the lower section (up to the 'shelf') with something to seal it.

First we need to insert a toothpick into the hole as a plug. Use a drop of CA adhesive to bond it in place (*Below*).

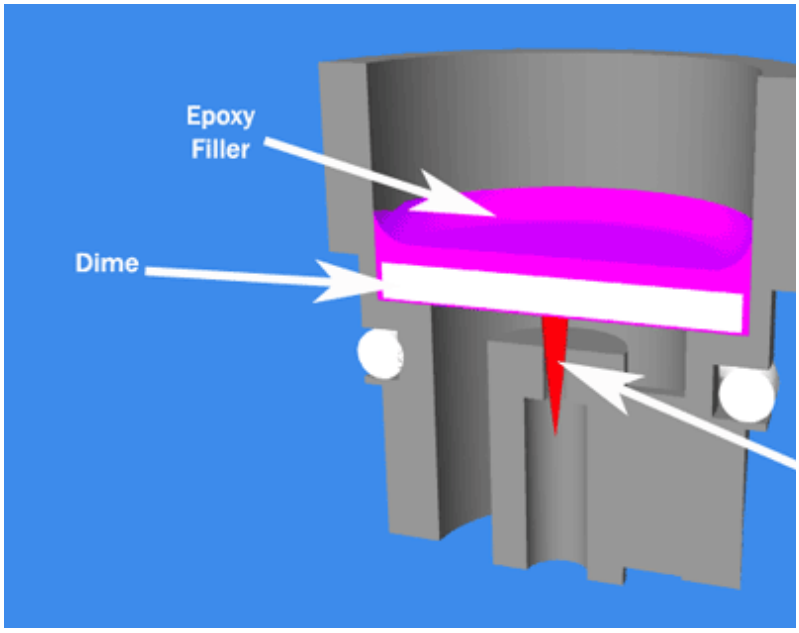


Next you need to cut the toothpick off level with the shelf inside the adapter. For this, I used a nail clipper. Be careful, try not to cut it too short, but if it is too high, the next step will be more difficult. The next picture shows the toothpick cut to the correct height.

Now comes the fun part. We need a solid disk to fit inside the adapter body, lay flat on the shelf, preventing the toothpick from moving and forming a base for some epoxy to bond it all together and seal everything up tight. A dime is just the right size. I filed the mill marks off the edge of a "Roosevelt" dime and it fit perfectly into the cavity. I mixed up a small quantity of "J-B Weld" and applied a small drop on top of the toothpick, a layer on the shelf, and dropped in the dime. I poured the rest into the cavity on top of the dime and rapped it hard several times on the table top to dislodge any air bubbles so then could rise to the top and let it cure for 24 hrs.



The picture below shows a cross-section of the finished adapter with the 'O' ring, the adapter body, the dime and the epoxy filler, oh, and don't forget... the toothpick.



The last thing to do to the valve is to drill and tap the hole for the street elbow and air nozzle release mechanism. Remove the screws holding the valve body together and lay them aside. Now, carefully separate the two halves of the valve being careful of the diaphragm. Make a mental note or a sketch so you'll know how to reassemble this part. Be gentle, and remove the diaphragm and lay it aside. Now you're going to drill a hole in the center of the upper part of the valve body. Now align the 1/4 NPT perpendicular to the valve and tap the hole. Go slow, test frequently as you don't want to go too deep. When the hole is tapped deep enough, apply several wraps of Teflon tape and screw the nozzle into the street elbow and then screw the whole assembly into the valve body.

Now you can carefully replace the diaphragm and re-assemble the valve (*below*).

This should have you ready to wind some line on the reel, and go test it. For a weight, I use two 3/4" PVC end-caps with a short piece of 3/4" tube to align them and I use the PVC cement to hold it all together. Most of mine also have a 1 oz fishing 'egg' sinker for additional weight.

This has been a fun project and one that promises to be a very useful addition to my antenna setup. Let me know if you want to tackle this project, and how you have fared.

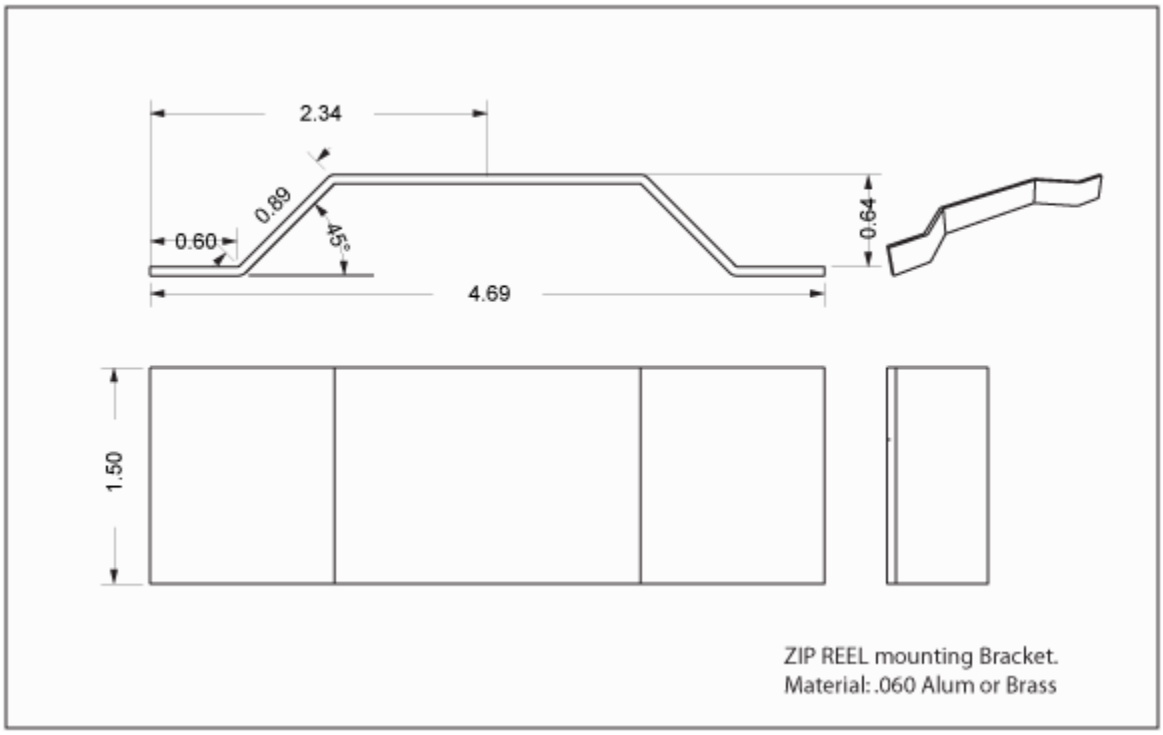
Now for the ZIP REEL…

Refer to the photo below to get a feel for the reel attachment. I used a strip of .060 T6 aluminum about 1 ½" wide to make the bracket. Anything around that size should do fine. I mounted the reel to the very forward end of the coupling (part #2) to move the reel out as far as possible. I also allowed the mounting screws to be in the outboard section of the coupling, and they wouldn't interfere with the coupling fitting on the barrel. The nylon screws are soft enough to cut with 'flush' wire cutters.

I think that about does it for the launcher itself. The next step is the mod to the solenoid adapter and the valve mods.

I am still not sure what line to use, but it works well the standard Mason's line avail from Lowes. But it doesn't slide thru the trees very well. Will probably go back to some 12 lb or so monofilament.

I promised a drawing of the ZIP REEL mounting bracket - see below. This is not an actual size drawing, and none of the dimensions are real fussy. It must fit the reel mounting plates, and offset the barrel coupler about 5/8 to 3/4 inch, so that the barrel is near the center of the reel. After I checked everything for fit and alignment, I added a bead of 'Hot melt' glue from one of those cheap Walmart glue guns along the gap where the coupling attaches to the bracket. I don't think the photos show this, but it prevents the reel wobbling on the bracket.



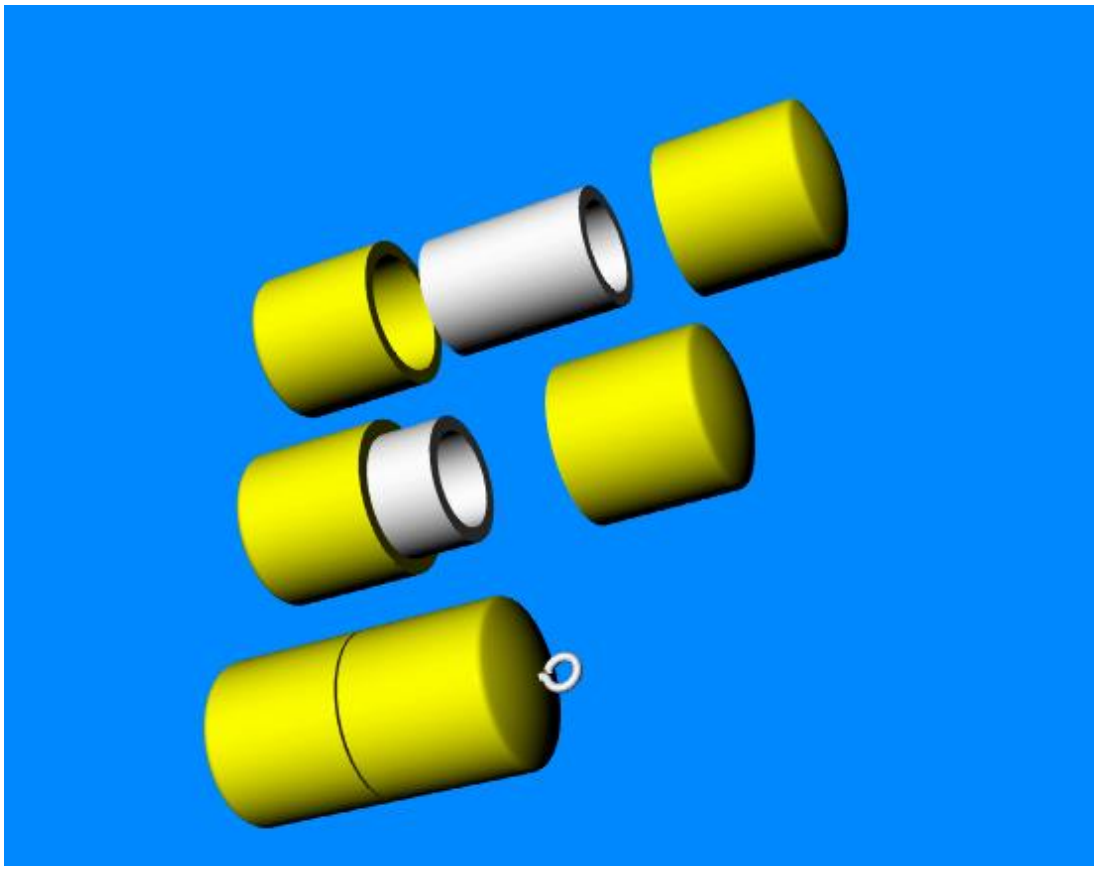
Alternative to Aluminum Bracket

Over the recent past, a few changes have been made to my launcher. One, I did add a small pressure gauge to make it easier to pressurize the tank and keep an eye on the pressure. I ordered a small one from McMaster-Carr and it seems to work well. It mounts with a 1/8 NPT thread and I mounted it on the tank-to-valve coupler in the area where there were two layers of PVC to get maximum material for the threaded hole. It's about 90 degrees from the inflation valve.

Another modification was to replace the aluminum mounting bracket with one I designed and fabricated with a 3-D printer. A picture of the reel with the neon green bracket is shown below. It has a saddle which fits the 1 ¼ inch PVC Coupler used to attach the reel to the barrel. A .stl file is available from nr4c@icloud.com if you wish to print a bracket instead of bending sheet metal.

The String Weight (bullet)

Now for the working part of the whole shebang, the projectile or bullet, or string weight. This is the item which pulls the string from the reel and over the tree. I use two (2) 3/4 inch PVC caps glued together with cement using a short (approx 1 1/2") piece of 3/4" PVC pipe. I usually glue the tube to one cap, set it aside to dry and do several at a time. You will lose one or two so it pays to have an extra one with you. While the first section is drying, I also drip in a 1 OZ "egg" sinker from the fishing department to add a little extra weight to pull the line down through the limbs and foliage. Then drill a small hole (1/16) in the center of the remaining cap and cement it onto the first, the tube will align them perfectly. Don't worry if the weight rattles a bit. The hole serves two purposes, one, it lets the air out so the second cap goes on all the way with little effort. And it also provides a starter hole for a small screw-eye to attach the string. I used to tie a loop in the string and loop it through the 'eye' and then over the weight and pull tight. After the shot, slip the weight back through the loop and remove the string and tie the next line to the loop and pull back from the reel to pull up bigger line or the antenna. The next picture shows the three steps in the assembly of the weight.



Also note that a coat of "Yellow" paint after assembly makes the weight easier to see in the tree or on the ground. Also, I have found it helpful to clean the end of the screw-eye where it butts against the shaft, close it up tight with pliers and apply a small amount of flux and solder this gap closed and make sure the solder makes a nice clean shinny fillet. This keeps small string from escaping and provides a smooth surface free of snags for the string. You can also attach a swivel assembly here to attach the line, may be useful for small line.

In Conclusion...

I hope you have as much fun with your antenna launcher as I have with mine. It sure makes putting a wire in that tall pine a lot easier than most other ways I've tried. We have over a dozen launchers in my local club of varying designs. But this model has been the favorite for the past year as it is very simple and easy to duplicate and it works really well.

Also, many have tried more normal fishing reels but the Saunders reel is really not that much more expensive than a good fishing reel, and it works so much smoother, and no moving parts and no settings to forget while in use. Give it a try, I think you'll be glad you did.

Oh, and check my web-site for other fun things I've built.

Membership News

PVRC had a rare shutout in the last month – no new members were reported.

Chapter leaders please remember to complete the Meeting Attendance Report.

Upcoming Contests and Log Due Dates

Contests This Month

- **Mar 5 - ARRL DX SSB**
- **Mar 12 – Africa All Mode**
- **Mar 13 - NA Sprint RTTY**
- **Mar 19 – BARTG RTTY**
- **Mar 19 – Russian DX**
- **Mar 26 – WPX SSB**

Logs Due This Month

- **Mar 20 – NA Sprint RTTY**
- **Mar 22 – ARRL DX CW**

See WA7BNM's Contest Calendar for more detail and the latest information.

The Editor's Last Word – John K3TN

Thanks to Ted N9NB, Tim N3QE, John N3AM, Bill N3XL, Howie N4AF and Bill NR4C for submissions for this month's newsletter. Great stuff – keep it coming! If you have any good ARRL DX stories or photos, or anything else – send to jpescatore at aol dot com.

From the PVRC Treasurer – Bill N3RR

PVRC has chosen not to implement an annual Dues requirement. We depend on the generosity of all of our club members to finance our annual budget. In addition, active PVRC members are expected to participate and submit logs for at least two PVRC Club Competition contests per year.

When contemplating your donation to PVRC, each member should consider the benefit you are receiving from PVRC and its many opportunities for your personal growth in our wonderful hobby, then donate accordingly.

Direct donations to PVRC via Credit Card or PayPal may be made by clicking this "Donate" button and clicking the next Donate button that appears on your screen:

Eyeball QSO Directions

The latest info on local club meetings and get together will always be sent out on the PVRC reflector and posted on the PVRC web site.

NW Region: Meetings are generally held on the third Tuesday of each month at: Chef Lin, 417 S Jefferson St. Frederick,MD 21701 Phone #: 301-620-0664(2675) The meeting begins at 7:00 PM.

Contact: Jim WX3B

DC Metro: Meets monthly the second Monday of each month, except June, July & August). The location alternates between the below MD and VA locations. Pre-meeting dinners start at 6:00 pm and meetings start at 7:30 pm.

VA LOCATION: Anita's, 521 E. Maple Ave, Vienna, VA. Tel: 703-255-1001. Meets at this location during the months of February, April and October.
Contact: Rich NN3W

MD LOCATION: Max's Café. 2319 University Blvd W, Wheaton MD 20902. Tel: 301-949-6297 People usually begin arriving at the restaurant around 6:00. Meets at this location during the months of January, March, May, September and November. Contact: Art K3KU

The Laurel, MD Region: Bill N3XL The PVRC get-together is held at the first LARC meeting each quarter at the clubhouse.

The Annapolis Crew: Dan K2YWE Meetings are held on the 4th Wednesday of each month at Broadneck Grill in Annapolis. We gather at about 5:30 PM and order dinner about 6. We break up usually before 8 PM. E-Mail K2YWE to be put on the e-mail reminder list.

PVRC-NC: The **PVRC-NC East** chapter meetings are held at Manchester's Bar and Grill on the 9100 block of Leesville Rd. in North Raleigh, with "QRM" beginning at 6:00pm and the dinner meeting following shortly thereafter. The meeting is held monthly on the 1st Thursday of most months, cancellations or changes usually announced on the PVRC-NC website.

The **PVRC-NC West** chapter meets the 3rd Monday of each month (except December) at about 7:00 PM at Hams Restaurant, 414 S. Stratford Rd., Winston-Salem on the south end of the Thruway Shopping Center. We meet in the front meeting room of the restaurant. A wide variety of cold 801s and Sports bar menu available. Contact Henry Heidtmann W2DZO, full info at http://www.w4nc.com

Over the Hill Bunch: The group meets for lunch at noon alternately in Maryland at the Sir Walter Raleigh Inn 6323 Greenbelt Rd, Berwyn Heights, MD or in Virginia at Anthony's restaurant in Falls Church. Meetings generally are held on the last Wednesday of the month and are subject to change. Meetings are announced by E-

Mail. All PVRC members, non-members interested in membership and guests are welcome. For information contact Roger Stephens, K5VRX, 703-658-3991 for Virginia meetings; or Cliff Bedore W3CB or get on 147.00 for Maryland meetings.

Downtown Lunch Group: Meets on the 3rd Wednesday or Thursday of the month in the downtown area of Washington, DC. Locations occasionally change, but are always Metro accessible. Details are sent out on the PVRC reflector. Feel free to contact Eric W3DQ or Brian WV4V for details and directions.

Southwest VA Chapter: The Southwest VA group meets each Wednesday at about 8:30 AM at Hardees at 20265 Timberlake Road in Lynchburg, VA. This is an informal gathering, but normally has about 10-12 attendees. Contact Mark Sihlanick N2QT, Tel: 434-525-2921

Eastern Shore Chapter: Meets every three months, on the second Saturday of April, July, October and January at noon. In keeping with the tradition established by SK Dallas W3PP we will also meet at the contest station of Eric WG3J one hour before the start of most major contests. Contact Eric Hudson WG3J

Location: Delmar Pizza, north west corner of the intersection of highways 13 and 54 in Delmar, De.

Southern Maryland Chapter: Currently on hiatus, if interested in meeting contact the Chapter Chair, Tom Shelton, ND3N via email or (240)

Colonial Capital Chapter: Meets the 2nd Thursday of each month at 8:30 am
Location: Hot Stacks Restaurant, 6495 Richmond Rd, Williamsburg, VA 23188
757-565-1105

Contact: Bill Conkling NR4C

The Tidewater Chapter meets the 3rd Tuesday of every month at Frankie's Place for Ribs located in the Fairfield Shopping Center on the corner of Kempsville Rd and Providence Rd in Virginia Beach. The meeting starts at 7:00 PM.

Contact either Chapter Chair: Don Lynch, W4YZT, or Ron Young, W8RJL All amateurs are invited.

If you'd like to add or correct a listing, contact K3TN for inclusion in the Newsletter!

Now a Word From Our Sponsors

PVRC doesn't ask for dues, but the Club does have expenses. Please donate online here. You can also support the Club by buying from the firms listed who advertise in the newsletter, or by getting your company to sponsor the newsletter!

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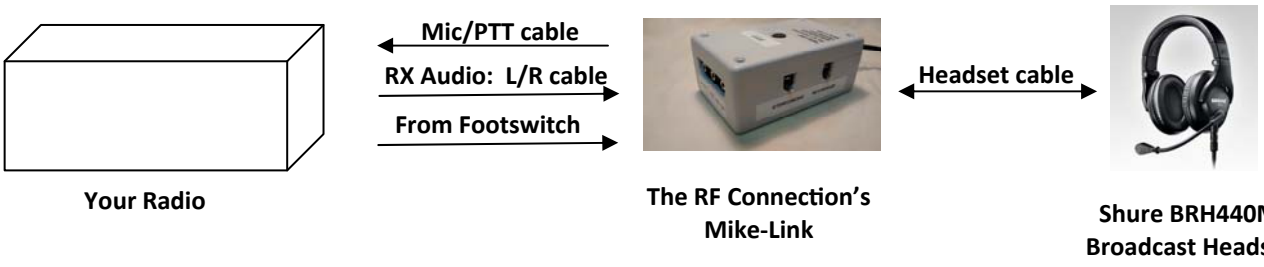

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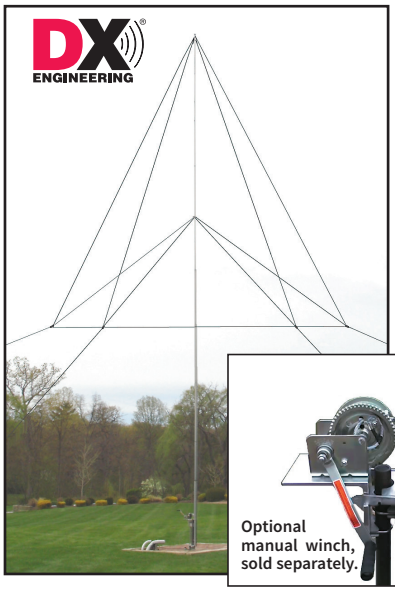

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