

# Mark Line Spool Reel System

designed by

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Using spools and cordless drill winder, is an efficient addition to a tug and barge in placing and retrieving marks.



Spools are made from 3" ABS black plastic pipe and 1/4" ABS sheet plastic. Center 3" pipe section is 4" long. Each side of the spool is made of two discs glued concentrically, 6" for the outer disc and ~3" cemented inside the 6" disc that just fits the inside of the pipe. This allows the center pipe section to be cemented firmly to and centered on the 6 inch discs. Parts are cemented with black ABS plastic pipe cement. Holes are drilled as outlined below and counter sunk to smooth and the edges of the discs sanded smooth. The line is fixed to the center of the spool through a 1/8" hole with the line knotted (figure 8) inside the pipe. We originally used fishing line spools obtained from fishing tackle stores. Spools are for bulk

line of various types and test and loaded on customer's reals and sold by the foot or yard. These spools worked, but were quite fragile. Breakage was a problem. Hence the ABS plastic spools used now.

The spool holder is used to let the line go out as the tug/ barge is transporting the mark to the desired location. When the mark has been towed to where we want it, we stop the



flow of the line and the mark and anchor slide off the barge. Let the line flow out as anchor drops to the bottom. After the line becomes slack, tie it off to something stable on the float or shore from which you are sailing.



The spool holder is made of 1/2" and 3/4" copper pipe. Solder joints do not have to be water tight, only strong enough to hold the parts together. The clip goes through the hole in the cap on the end of the spool spindle to keep the spool from sliding off as the line is unwinding as the tug is pulling it out.



The spool has center holes in each side that are just large enough for the spool to slide on the spindle. Two additional holes are placed in each side of the spool equidistant from the center and spaced so the metal winding fork will fit into them.



To bring the line and mark in, we use a cordless drill/driver with a winding fork made of 1/8" metal stock with three holes threaded for three machine screws that are approximately two inches long and 5/16" in diameter. Thread the screws all the way into the metal plate and stabilize them with a bit of solder or maybe Loctite will

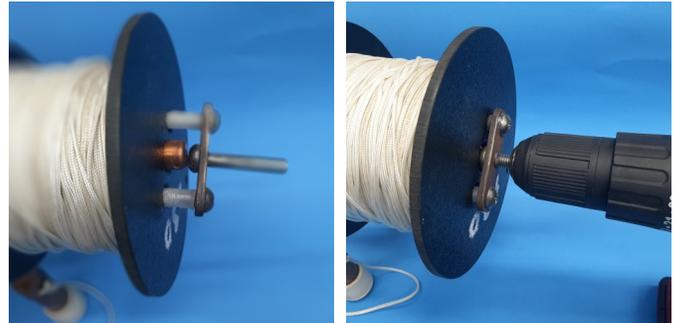
work. I've placed Teflon tubing over the screw threads to minimize wear of the spool holes. The tines of the fork now are a bit less than 3/8" in diameter. Holes in the spool should be an appropriate diameter to accept the finished fork.





The winding fork is mounted in a cordless reversible drill/driver. An inexpensive one from Harbor Freight will do. <https://www.harborfreight.com/power-tools/drills-drivers/cordless-drills-drivers/18v-cordless-38-in-drilldriver-kit-58389.html>, or something similar should be sufficient. The one in my picture is more powerful and durable than is needed. Retrieving the line with the driver is preferable to winding the line on a spool by hand as it does not twist the line and fowling/tangling during future use is not a problem.

To retrieve the mark, start by pulling the line until the anchor is free from bottom mud and weeds. The spool holder is placed on a solid surface and held with one hand while the drill/fork is placed into the spool, rotation direction set and the line is rolled in. The driver doesn't need much power. Once the anchor is pulled off the bottom, weeds may cling to it, but it doesn't take much torque to reel it in



Alternatively, the spool holder can be held on an inexpensive plastic sawhorse. The one shown is from Harbor Freight, but their less expensive sawhorse is a better fit for my spool holder. <https://www.harborfreight.com/31-in-pvc-folding-sawhorse-350-lb-capacity-61979.html>.



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Questions? Contact Allan at 206-920-2854