

# LARGE SCALE WORKING TOWING WINCH CONSTRUCTION

(HAR250)

**To assemble you will need an Allen Wrench Set and CA Glue.**

It is best to first assemble the winch using adhesive tape so that you can determine where to bore mounting holes when attaching to the deck. The winch is controlled by a proportional channel on your radio transmitter. You will connect a 10 amp marine speed control of your choice to the winch motor power leads.

Step 1: Assemble the cable guiding system. This comes complete with eight aluminum tubes and eight brass pins. These intertwine to create the cable guide as shown in the following image:



Step 2: Insert the large bearing into the surround as shown in the following images:



Step 3: Insert motor into the circular motor mount as shown in the following images:  
(Note: Attach the supplied power wires to the terminals of the motor at this point as future steps will not allow for much working room on the motor terminals.)



Step 4: Insert the motor and motor mount through the reel support and through the large bearing into the center of the spool as shown in the following images:



Step 5: Insert the small bearing into the opposite side of the spool as shown in following image:



Step 6: Insert small tube/axle into the reel support as shown in following image:



Step 7: Complete the spool and reel support by connecting the two sides together sliding the motor shaft into the spool and tightening the grub screw (1/16") onto the shaft as shown in following image:



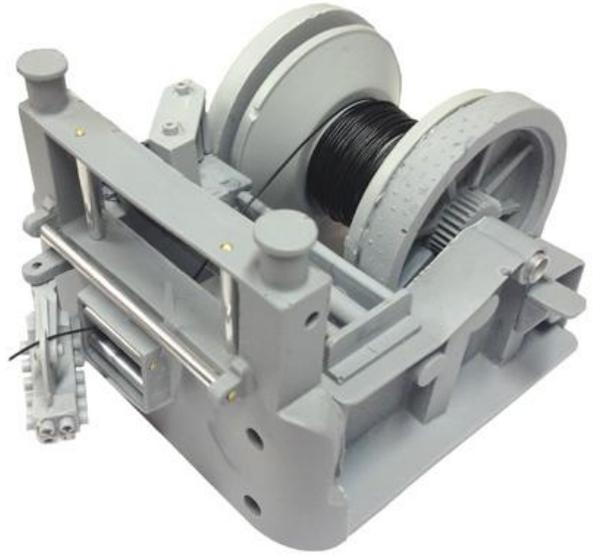
Step 8: Install the spool assembly into the winch side supports as shown in following image:  
Install a screw of your choice into the spool center, allowing a sufficient space for your towing line. Take up a sufficient amount of line on the spool so that the line totally covers the spool even when the line cannot be drawn up tighter by the winch motor.



Step 9: Attach the cable guide arm with the ninth brass pin to the front (this may require a little boring of the holes as they can sometimes clog during the casting process, try using a small diameter nail or sewing needle to clear the hole). Now attach the entire front piece to the side pieces using CA Glue and the four provided screws as shown in the following image:



Step 10: Complete construction by adding the small armature and accessories as shown in the following image:



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