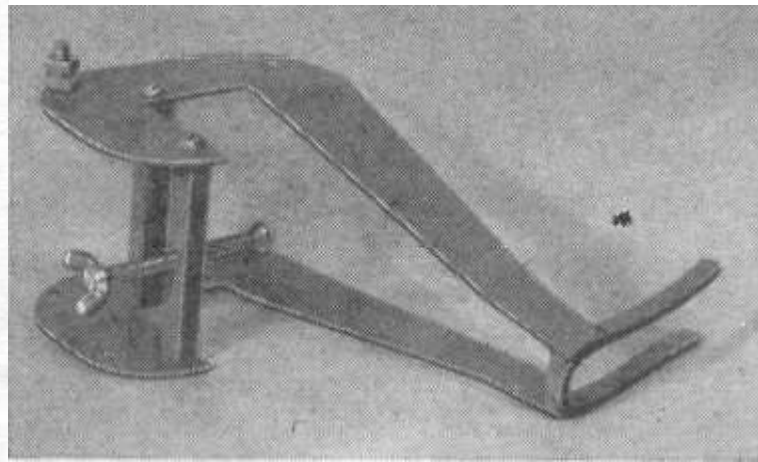
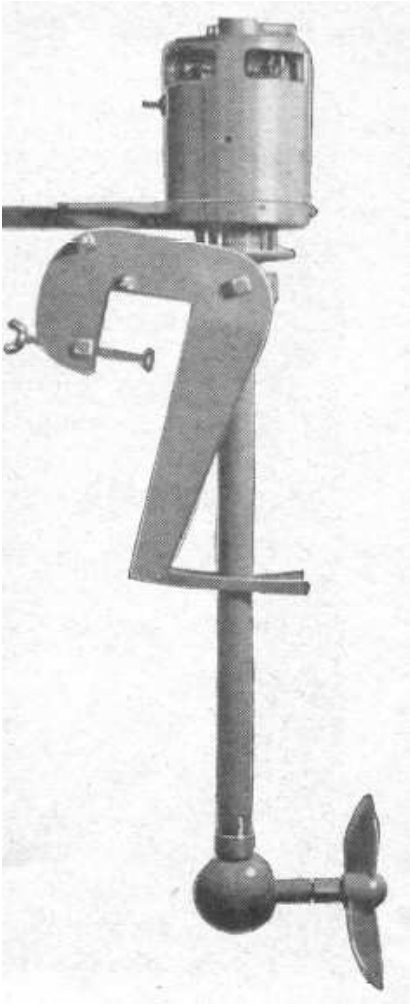


## Build Your Own Electric Trolling Motor



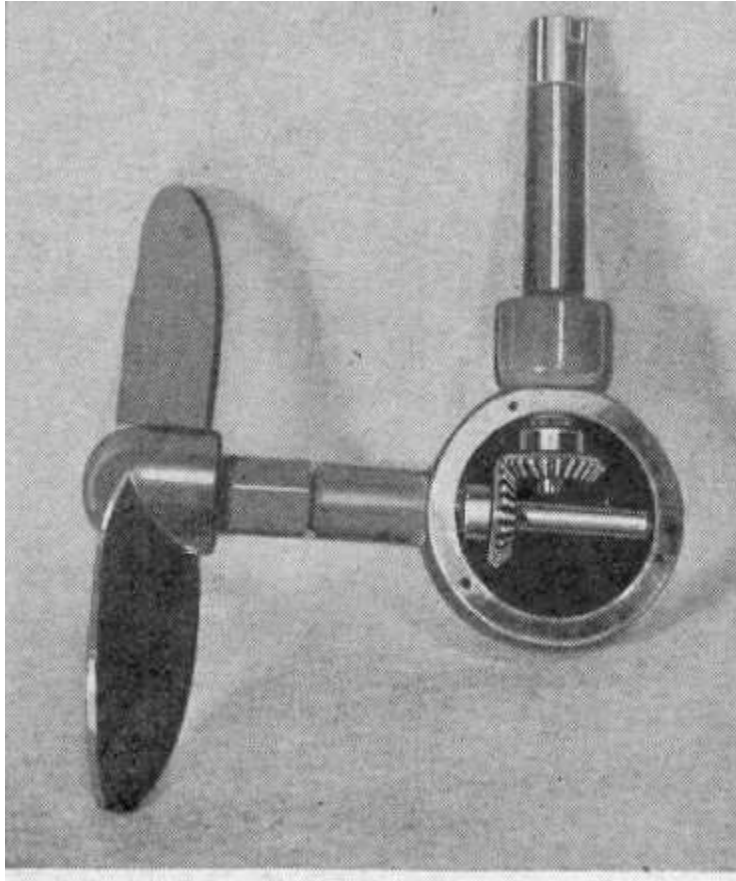
If you want to effortlessly glide over the water, or gracefully sneak up on the fish or fowl, then you need an electric trolling motor. The one shown in these plans is powered by a auto generator bought from a wrecking yard. The unit is light and will run on a single charge for hours.

Construction details will vary depending on the generator used. Buy the generator before fabrication begins. The motor shown came from a Model A Ford, but any three brush generator will do. The only changes done to it is removing the adjustable (third) brush and connect its lead (from the field winding) directly to the insulated terminal atop the housing. The generator will run when hooked up to any 6 volt battery drawing from 10-12 amp.



Cut off the threaded part of the shaft. Center drill the end of the shaft to a depth of  $\frac{3}{4}$ " using a  $\frac{3}{8}$ " bit. Drill a transverse hole using a  $\frac{3}{16}$ " bit and cut a slit down to the hole using a hack saw. The generator is mounted on a  $\frac{3}{4}$ " brass pipe flange using four bolts. A steel bar where a wooden grip is mounted serves as a tiller handle.

The transom mount was fabricated using two sections  $\frac{3}{32}$ " cold rolled steel plate bent as shown and connected by steel spacers. The spacers are tapped at each end  $\frac{5}{16}$ "-18 to receive machine bolts. One spacer is also drilled and tapped to receive a clamp screw, which will secure the motor to the boat. The clamp screw may be fitted with a cross pin or a wing nut.



For the gear box you will need a section of 2 1/2" OD X 7/8" brass pipe with a minimum wall of 1/4". You may fabricate the piece from a solid rod of brass. Drill two perpendicular holes to accommodate the down shaft and the propeller shaft. This must be done with precision, you may want to drill two undersized holes and perfect them with a 5/8" reamer.



The ball bearing should be selected for speed and radial load to fit into the 5/8" hole. It is retained by a recessed brass disk soldered to the gear box.

A notch is cut at one end where the propeller goes.

The two gearbox covers are turned from 7/16" brass. Three holes are drilled and countersunk. Next cut the paper gaskets to fit inside the covers.

The down shaft was machined from 3/8" drill rod turned to form a ball at each end where holes are drilled to hold cross pins. A 22" length of brass pipe completes the lower end.

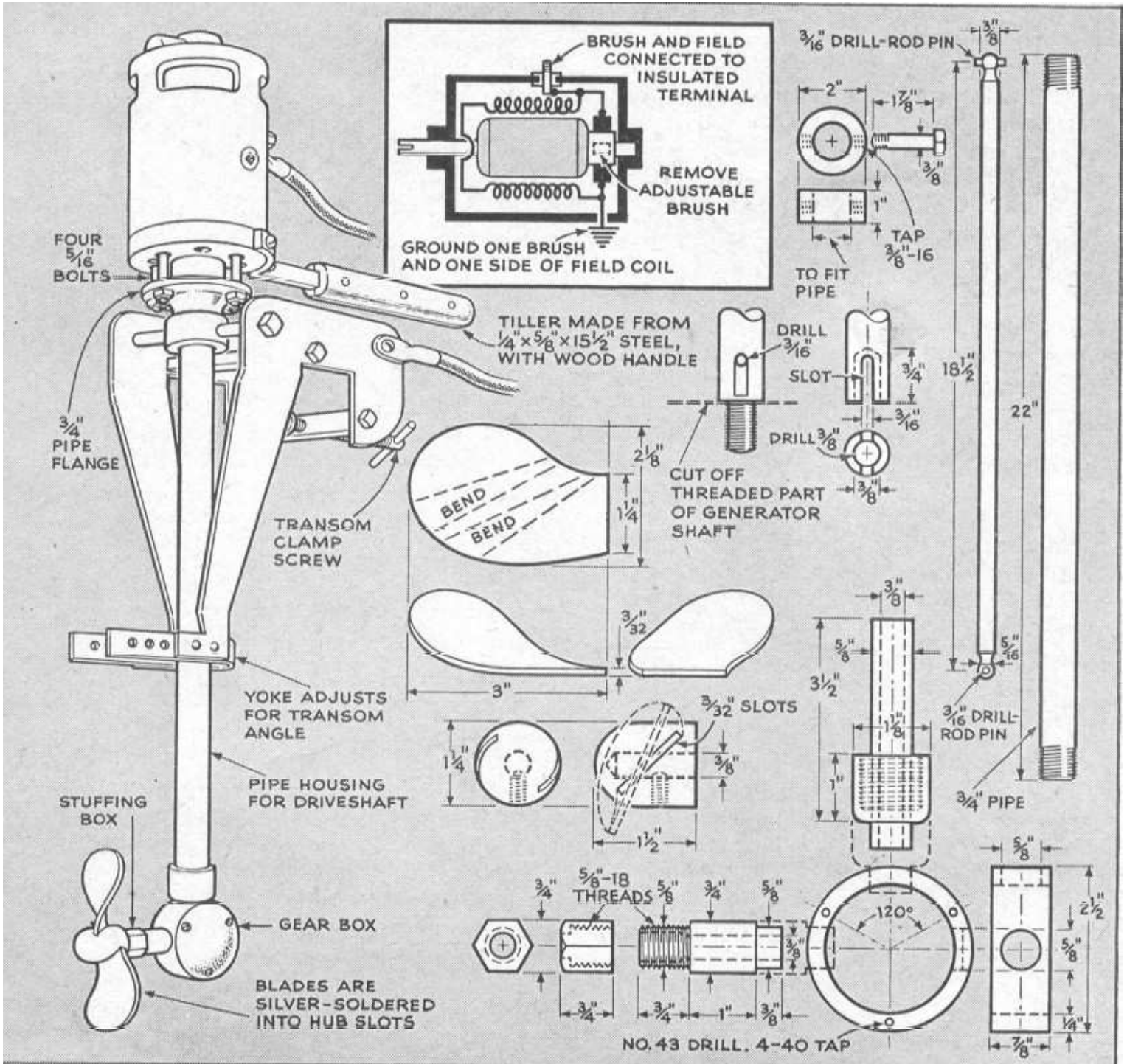
A collar is drilled to accommodate two bolts then slipped down the brass pipe. A brass pipe flange is then threaded onto the top end.

### **Putting It All Together**

Insert the propeller shaft inside the gearbox, sliding it through the beveled gear all the way into the ball bearing. Holding the second bevel gear insert the short shaft slide in and tighten the set screw. Brass washers should be used to adjust gear meshing.

Pack the gear case with grease and bolt down the covers. The pipe should also be packed with grease.

A propeller is turned from 1 1/4" hub, sawing two cuts at 45°, and soldering two blades cut off 3/32" brass. An alternative is to buy a plastic propeller from a boating supply store.



Heavy cables should be used to supply current to the motor, such as # 12. Likewise a heavy duty switch should also be used.

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