

## Shop Built Motorized Router Lift

*By John Nixon*

Most woodworkers have one of those semi-useless powered screwdrivers lying around the shop. Here's how I turned mine into a useful router lift for my Hitachi M12V.

I started by disassembling the body of the screwdriver, removing the battery and switch. I then cut the tail end off the screwdriver (where the battery was housed) and soldered a length of stranded wire to the positive and negative terminals of the motor.

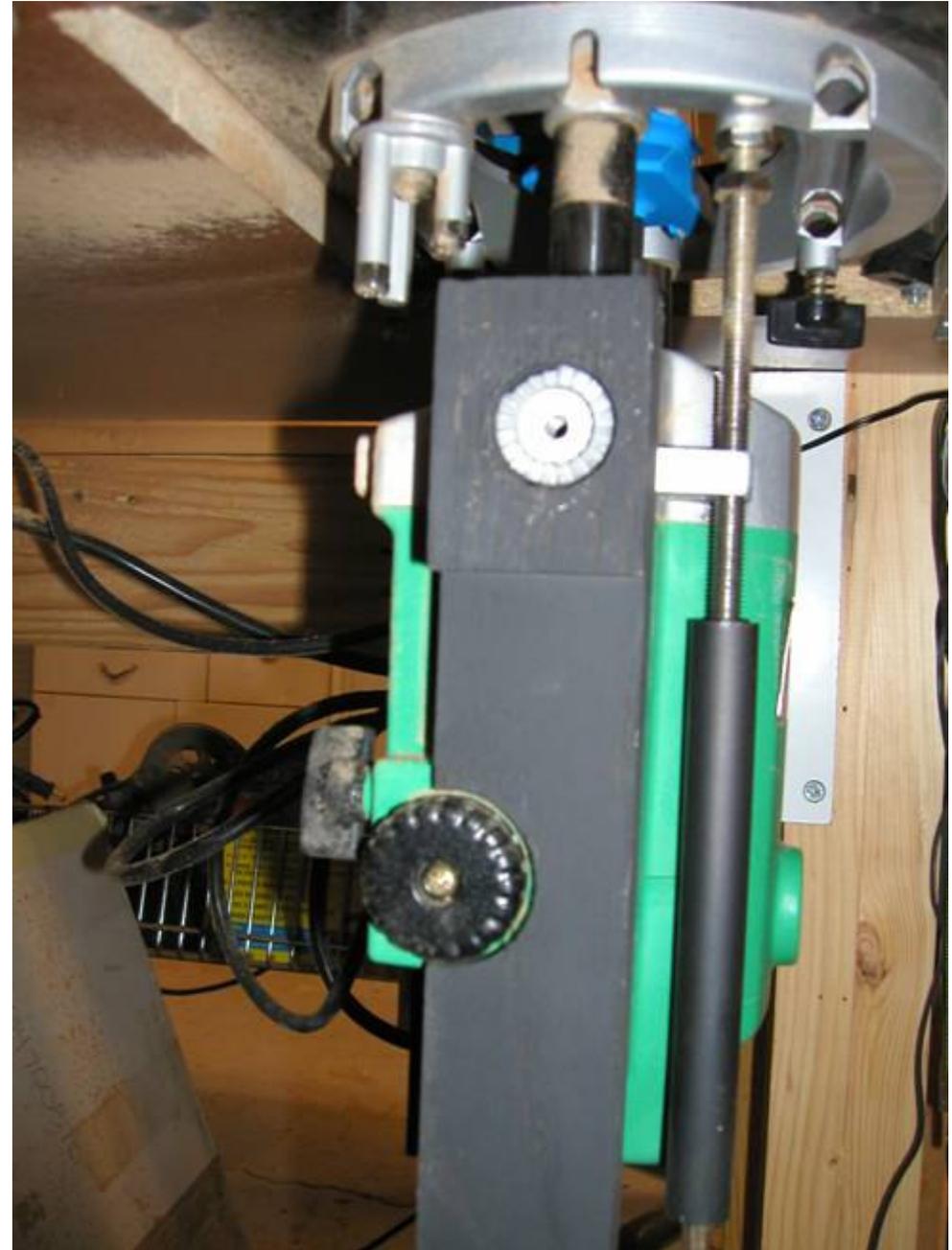
Next, I mounted the cannibalized screwdriver to a piece of oak with polyurethane glue and a few small screws (shown at right).

The screwdriver unit has a hole to accept a threaded knob that allows it to connect to the main vertical support which is connected to the router (shown below).



## Vertical Support Member

I removed the left-hand handle of my router to reveal a post with a threaded hole. The vertical support member is made of oak and has a large hole that fits over the post where the router handle once mounted (shown at the right). The vertical support member is held in place by a machine screw and a large washer (shown below).



## The Drive Shaft

The Hitachi M12V moves up and down by a nut on threaded shaft turning against the body of the router. To make this task easier, I removed the springs that normally assist in the router's plunge action.

The drive shaft used by my motorized lift is constructed of a piece of copper pipe with a nut that matches the router's threaded rod soldered in one end. The other end also has a nut soldered in place, but there is a hex bit soldered inside the nut which allows for easy connection to the screwdriver.

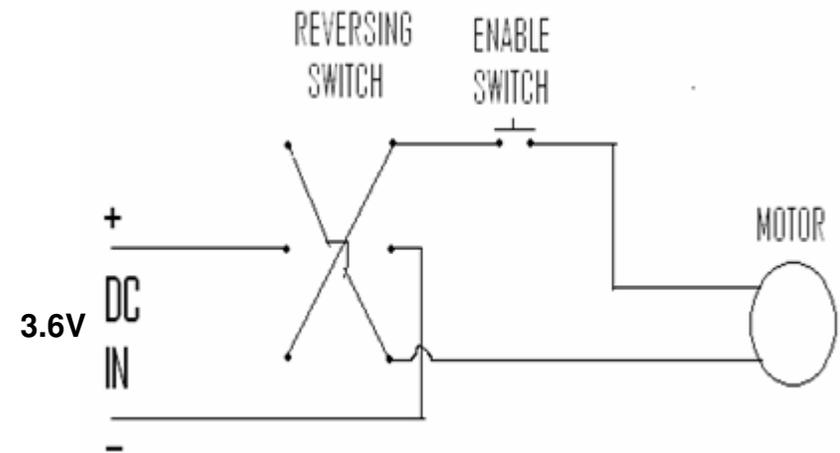
The hex connection makes installation and removal of the motorized unit a snap. The hex drive is also somewhat forgiving if the drive and motor are not perfectly aligned.



## The Controls

I wired the motorized router lift to have a toggle switch for controlling the direction of the motor (up / down), and a contact switch for activating the lift.

The unit is powered by an AC to DC transformer that delivers the required voltage to the motor.



## The Finished Lift

The finished lift works better than I imagined it would. The action on this motorized lift is great. I can pulse the switch and move the router in very small increments. Having this lift also makes lowering the router to change bits much easier.

