Solder 16 AWG wires to the back of the motor on the encoder board.
Notice that the new current “bottleneck” is not the connection between the encoder board and the motor. The encoder board cannot be easily removed without damage so I did not try to add more solder to this connection.

Photo and Design Modification
By: Richard Nguyen
Another view of one of the new solder joints.

Photo and Design Modification
By: Richard Nguyen
Use heat shrinks to prevent shorts, wire organization, and strain relief.

Photo and Design Modification
By: Richard Nguyen
Make the wires offset by about 90 degrees to that it won’t get in the way of the encoder wheel.
Orient the motor so that the hall effect sensor is seen along the tube. This allows the motor to go in further without crushing the hall effect sensor.
The wires are offset, so after making a second offset hole, the wires can be fed through the offset hole without interference. It is a tight fit though. Accurate measurements should be made. Also make sure the hole is drilled in a place where the side caps won’t block it.
The motor does stick out about 5mm.

Photo and Design Modification
By: Richard Nguyen
Make an offset hole since the wires are offset. Also the center hole can be used as access to the motor when need to remove it.