Modifying the Vigor VS-2 Servo for Continuous Rotation

Scott Bezek

6.270 Organizers
Massachusetts Institute of Technology

January 2012
Unscrew the 4 screws
Remove the bottom cover
Gently open the top gearbox

Be careful not to lose any gears!
Remove the gearbox cover completely
Remove gears and set them aside
Release the potentiometer

Insert a screwdriver into the tab holes near the potentiometer, and press *outwards* to release the locking tab.
Remove the motor and PCB

Use a screwdriver to gently pry the PCB out of the case. Be sure the potentiometer has been released first!
Remove the motor and PCB
Rearrange potentiometer

Bend the potentiometer so that it points out the side of the case rather than the top (compare to previous picture)
Mark drill location

Mark the case where a hole needs to be drilled for the potentiometer.
Drill potentiometer hole

The hole should be big enough for the “sleeve” at the base of the potentiometer shaft.
Prepare potentiometer

Notice the plastic “nub” at the bottom of the potentiometer? This needs to be removed so it can rest flush with the case.
Prepare potentiometer

Use diagonal cutters to remove the nub.
Prepare potentiometer

No more nub!
Remove potentiometer tabs

See that locking tab that held the potentiometer in place? It’s going to get in the way, so remove it!
Remove potentiometer tabs

Use a screwdriver or pliers to break the tabs off inside the case.
Replace motor and PCB

Carefully slide the motor and PCB assembly back into the case. The potentiometer should poke through the hole you made.
Prepare output gear/ shaft

The output gear has a tab that limits its rotation to 180 degrees. This needs to be removed.
Prepare output gear/shaft

Clip the limiting tab off with diagonal cutters. Remove as much as possible or the gears may scrape inside the motor.
Prepare output gear/ shaft

No more limit!
Align gears

Put the gears back into place - make sure all the teeth mesh cleanly.
Reattach the gearbox cover

Put all the covers back on and screw everything together.