# LINKAGE TEST

This test should confirm whether the PerfectPass throttle cable & linkage connection is properly working.

With key OFF, push the manual throttle to 1/2 open position.  Now take black knob on servo and slowly turn the knob in a counterclockwise direction, and then in a clockwise direction.

As you rotate the knob back & forth, you should see the throttle lever on engine opening & closing very smoothly with each step of the motor. As you turn the knob counterclockwise which lets out cable, the throttle will close back towards neutral. When you rotate it clockwise the throttle will open.

As you rotate the knob back and forth (slowly and quickly), the throttle should open & close very smoothly and the brass L Adapter at linkage should be rotating as well to follow cable.  <u>At no point should the throttle cable catch, hook or come into interference with any part that could disrupt the cable movement.</u>

<u>If the cable is rubbing against a decorative engine cover, fuel rail, motor box</u> etc, adjust servomotor and cable to improve alignment. Many plastic decorative engine shrouds can cause this problem. Remove temporarily and run boat if you suspect this could be a problem.

Final Test: With key OFF, push manual throttle to full open position. Watch PerfectPass throttle cable to ensure it can move freely without binding or interference.

## Boat Speeds Past Set Speed

If the system beeps to confirm engagement, but continues past set speed, perform a Servo Motor Test and Linkage Test. If these tests indicate all is well, it could be a Throttle Return Spring problem**.**

**Throttle Return Spring**: PerfectPass can open the throttle (by turning clockwise), but relies on the engine return spring to close the throttle when the servo turns counterclockwise.  (The return spring is always applying pressure against the throttle back towards the neutral position.) If  the servo turns counterclockwise to slow the boat, but the throttle lever on engine does not move or moves very slowly, the return spring could be weak, broken, etc.

If you feel the spring is weak or damaged, an external return spring can be added.