



Stinger Robot Kit

Assembly Manual





Stinger Bolt Packs

The Stinger Kit comes with 7 bags of parts, each one corresponding to each assembly step. Each bag contains a label describing the contents, but for completeness, we have included descriptions of each kit below.





Bolt Pack # 1

- Two Aluminum Drive Hubs
- Two 10-32 Set screws
- Four M3 x .5 x 6mm Stainless Steel Pan Head Phillips Screws
- Four #4 Stainless Washers



Bolt Pack #2

- One Stainless Steel Caster (wire)
- One Caster Wheel
- One Aluminum Pivot Hub
- Four 3/32" Collars & Set Screws





Bolt Pack #3

- Four 1" Aluminum Hex Male/Female Standoffs
- Four 1/4" Aluminum Hex Male/Female Standoffs
- Eight 4-40 Stainless Steel Nuts
- Four 4-40 x 3/8" Stainless Flat Head Phillips Screws
- Four 4-40 x 1/4" Stainless Flat Head Phillips Screws



Bolt Pack #4:

- Six 4-40 x 3/8" Stainless Pan Head Phillips Screws
- Six 4-40 Stainless Nyloc Nuts
- Two 6-32 x 1/4" Pan Head Phillips Screws
- Two #6 Stainless Washers



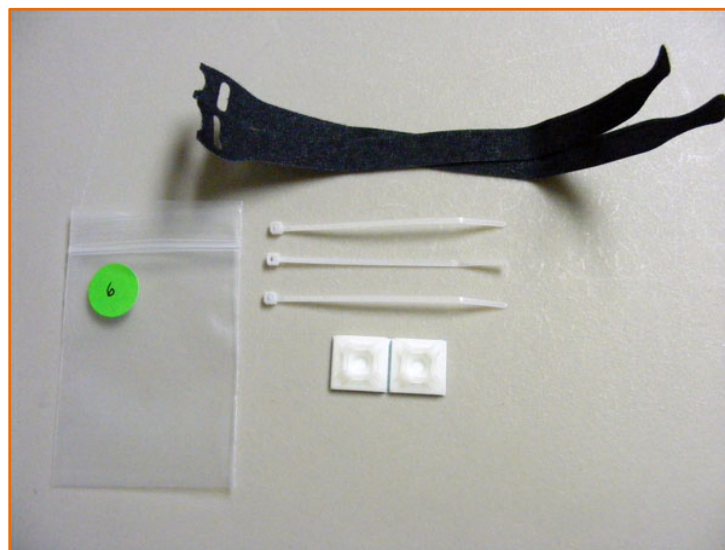
Bolt Pack #5

- Two ¼" Aluminum Hex Male/Female Standoffs
- Two 4-40 x ¼" Stainless Pan Head Phillips screws
- Two 4-40 Stainless nuts



Bolt Pack #6

- Two Velcro Tie Straps
- Three ¼" x 4" Tie Wraps
- Two Tie Wrap Squares with adhesive

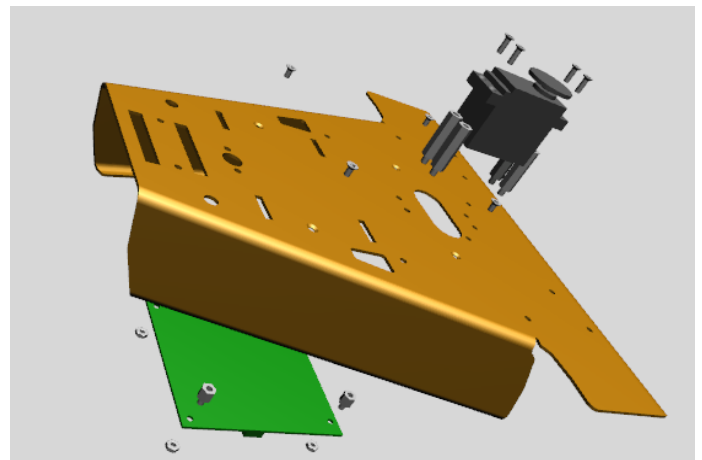
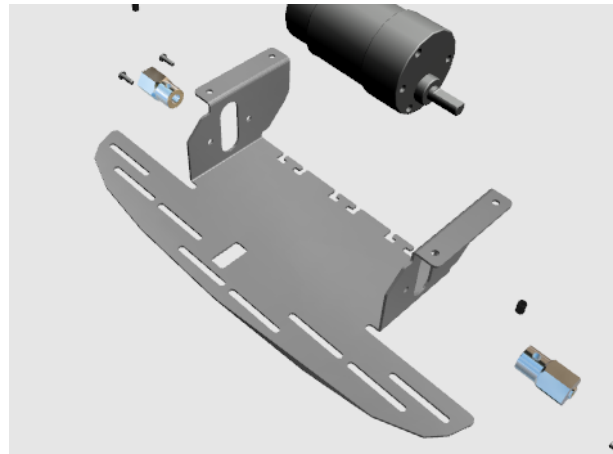


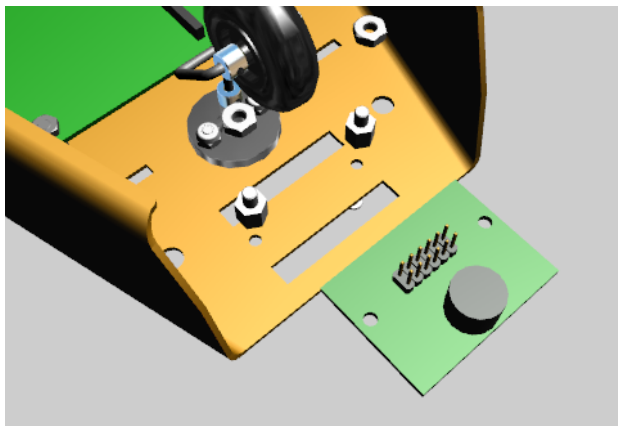
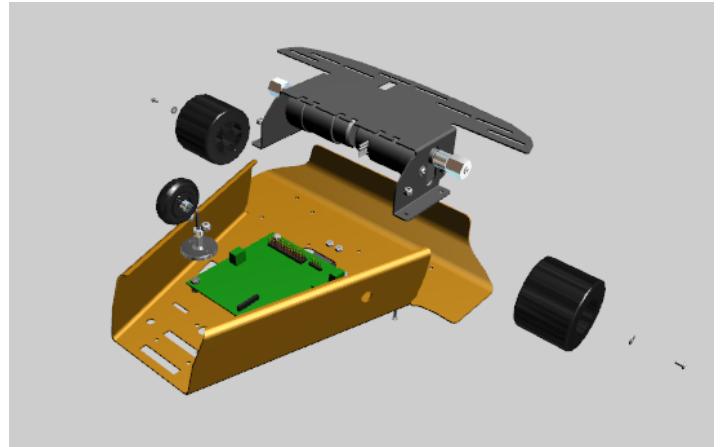


Bolt Pack #7

- One 0.050" Hex Wrench
- One 3/32" Hex Wrench









Serializer Wiring Guide



- 1.) Plug encoder connectors from motors into the encoder ports on the Serializer. **Make sure you watch the polarity of the plugs!** The red lead wire should connect to the Vcc pin on each port.

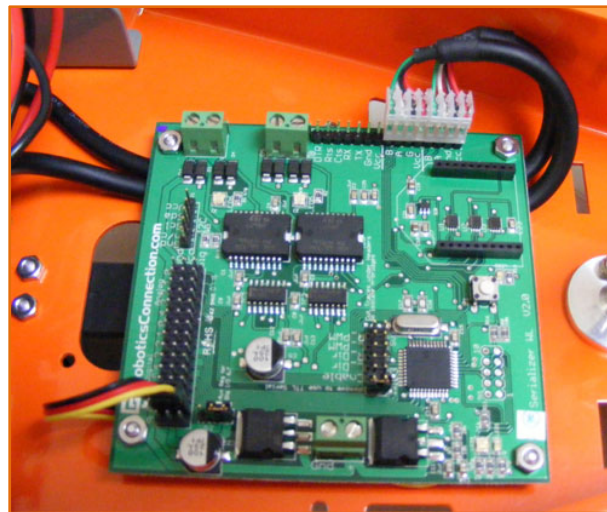


Figure 1.0 – Plugging Encoders into the Serializer Encoder Ports

- 2.) Bolt the Wiring Harness/Switch assembly into the shell as shown. You will need to remove the nut and washer from the switch to begin with, then insert the switch through the hole, and secure with the washer and nut.

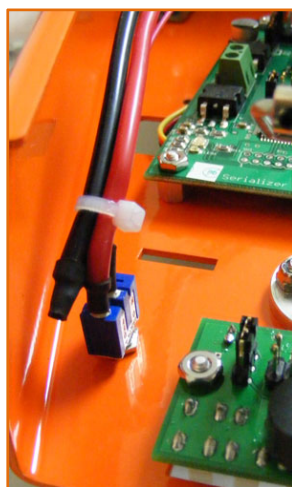


Figure 2.0 – Switch inserted from bottom



Figure 3.0 – Switch bolted into shell



- 3.) Strip about ¼", or 5mm, worth of insulation from the ends of the thin power wires on the wiring harness as shown.

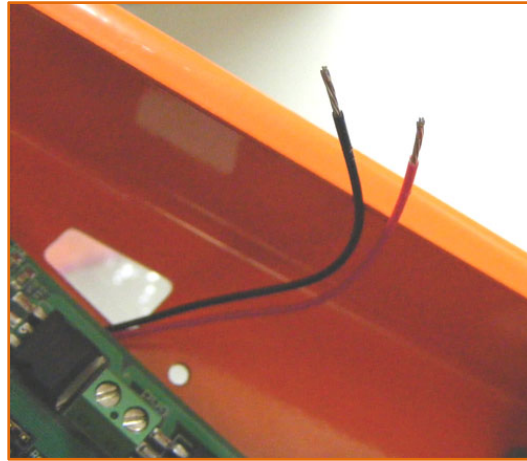


Figure 4.0 – Wiring Harness power lead ends stripped

- 4.) Connect power leads to Serializer power screw terminal port. **MAKE SURE YOU WATCH POLARITY, OTHERWISE DAMAGE WILL OCCUR, AND WE ARE NOT RESPONSIBLE!!!** The **red** wire should connect to the '+' screw terminal, and the **black** wire should connect to the '-' screw terminal, as shown below. Note, the keep the power wires tidy, you can route them underneath the Serializer as shown below.



Figure 5.0 – Wiring Harness power leads properly connected to Serializer



- 5.) Run the motor wires over to the green motor terminals (see Figure 7), keeping the wiring close to the chassis. Cut the excess wire from the ends of the motor leads if you wish. **Make sure that you don't cut them too short!!!** You can actually leave them the stock length if you wish. Then, strip $\frac{1}{4}$ ", or 5mm, of insulation from the ends, as shown below.

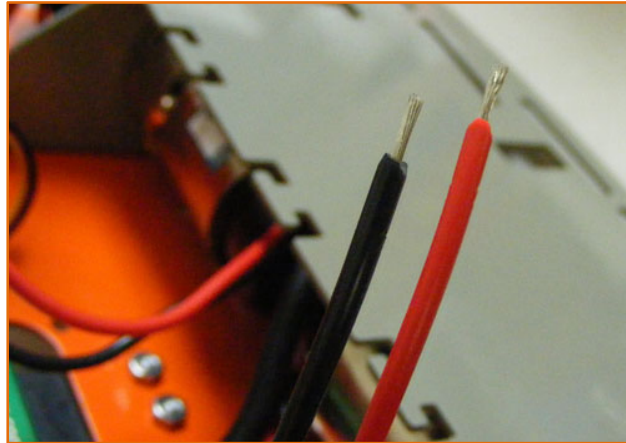


Figure 6 – Stripping insulation from motor wires

- 6.) Connect each motor lead pair to each of the motor screw terminal ports on Serializer. Both red wires should be placed on the two inner screw terminals, and the black wires should be placed on the two outer screw terminals as shown below.

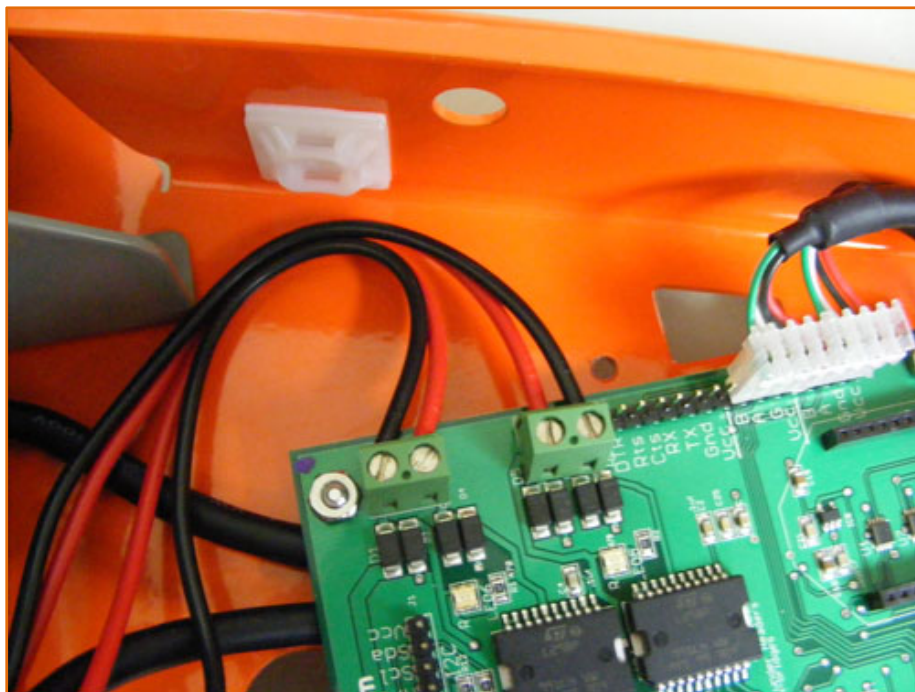


Figure 7 – Connecting motor wires to Serializer Port



- 7.) Attach one of the wire tie squares, with adhesive, to the inside of the Stinger as shown. Then, use a tie wrap to secure the motor wires.

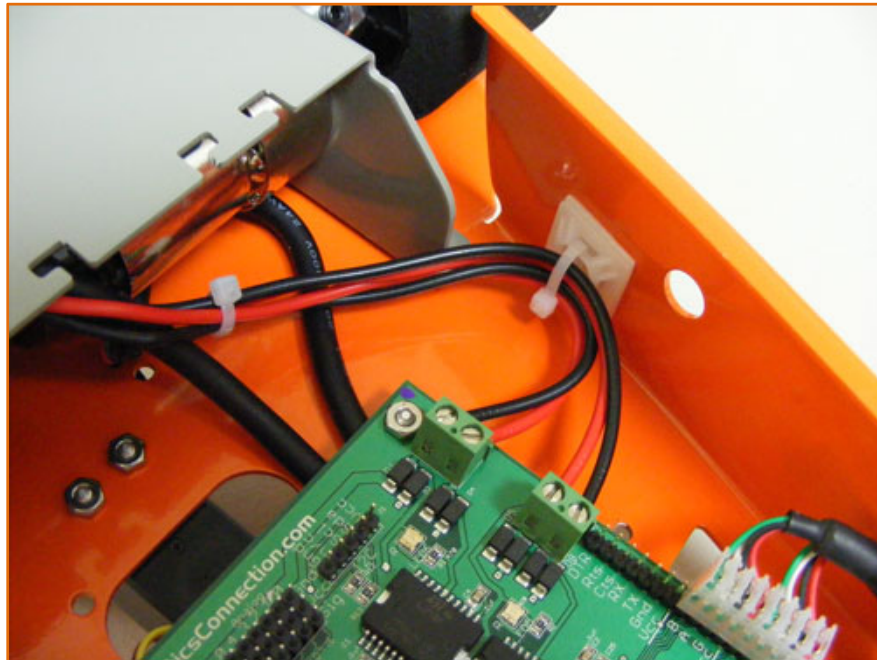


Figure 8 – Attaching wire tie square to secure motor wires

- 8.) Your wiring should now match the diagram below:



Figure 9 – Overall Wiring Diagram



- 9.) Insert the Bluetooth antenna into the hole in the side of the Stinger shell. The antenna cable will end up being located inside the chassis, as shown below.

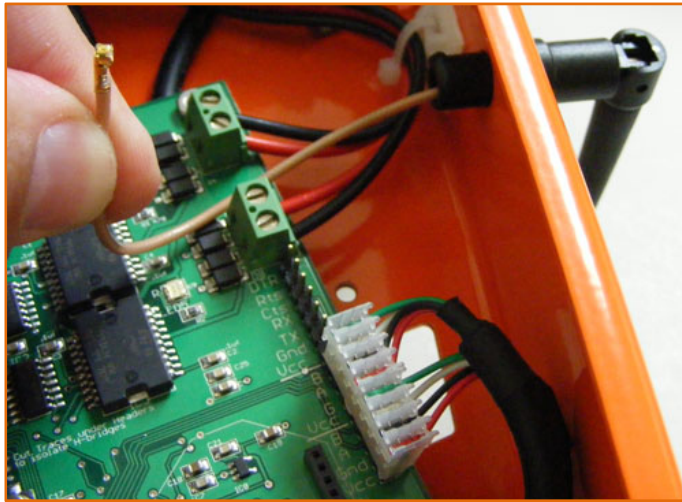


Figure 10 – Bottom View of Antenna inserted into Shell

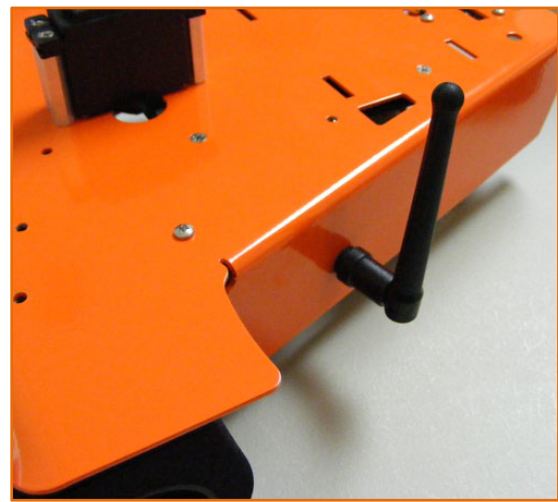


Figure 11 – Outside view of Antenna

- 10.) Attach the antenna to the Bluetooth Module, and secure it using a tie wrap it as shown.

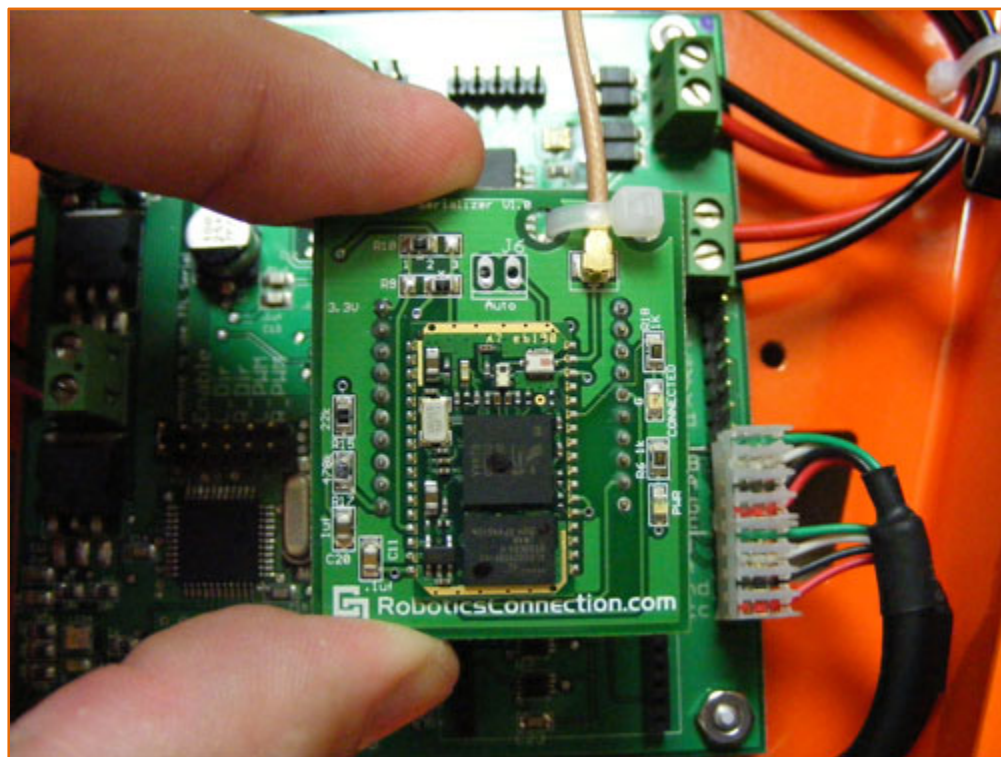


Figure 12 – Antenna wire secured to Bluetooth module



11.) Now, plug in Bluetooth module into the Serializer as shown, noting the orientation. If you plug it in backwards, we are not responsible for damage, so please ensure proper orientation!

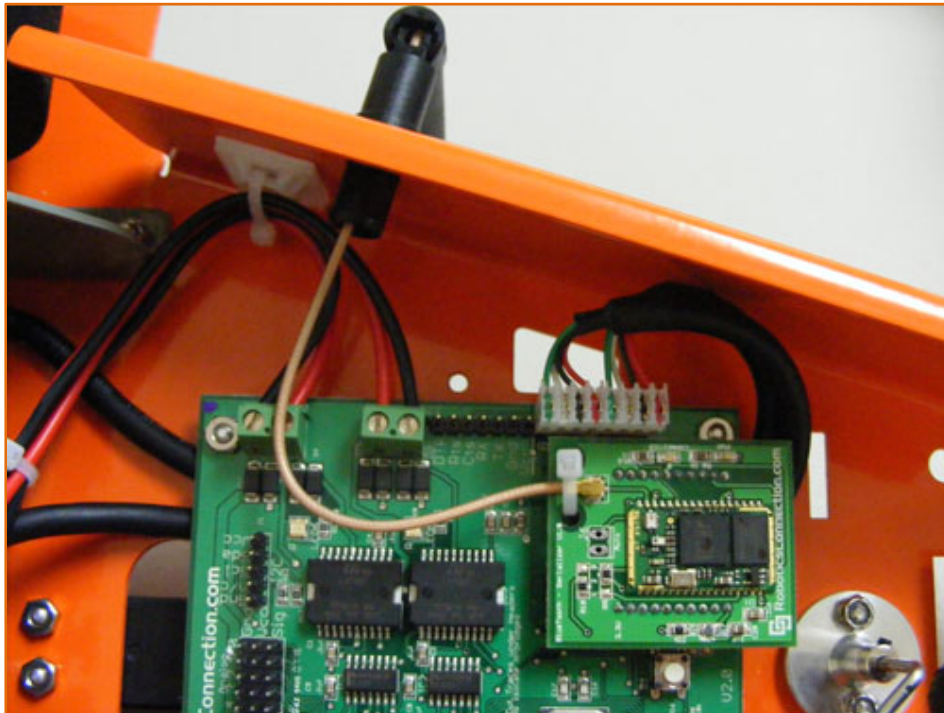


Figure 13 – Inserting Bluetooth module into Serializer

12.) Finally, insert the velcro battery straps, used to secure the batteries.

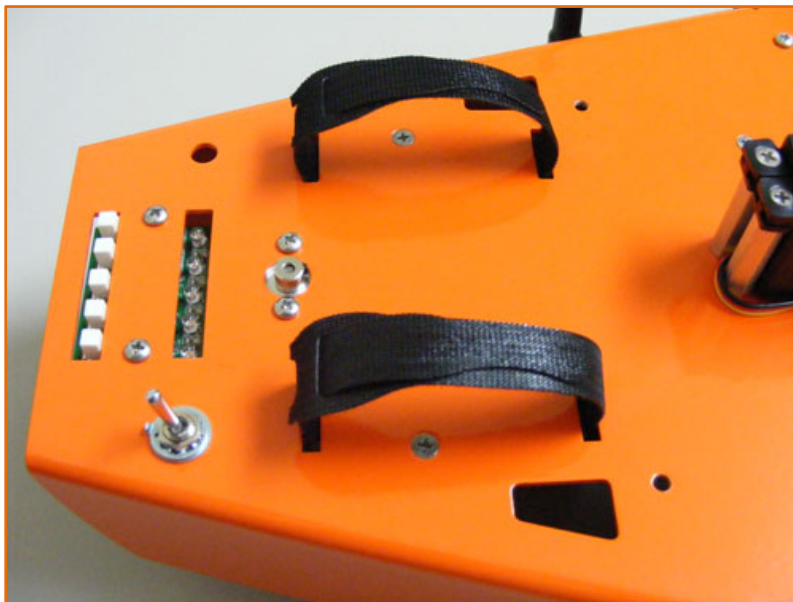


Figure 14 – Inserting the Velcro Straps

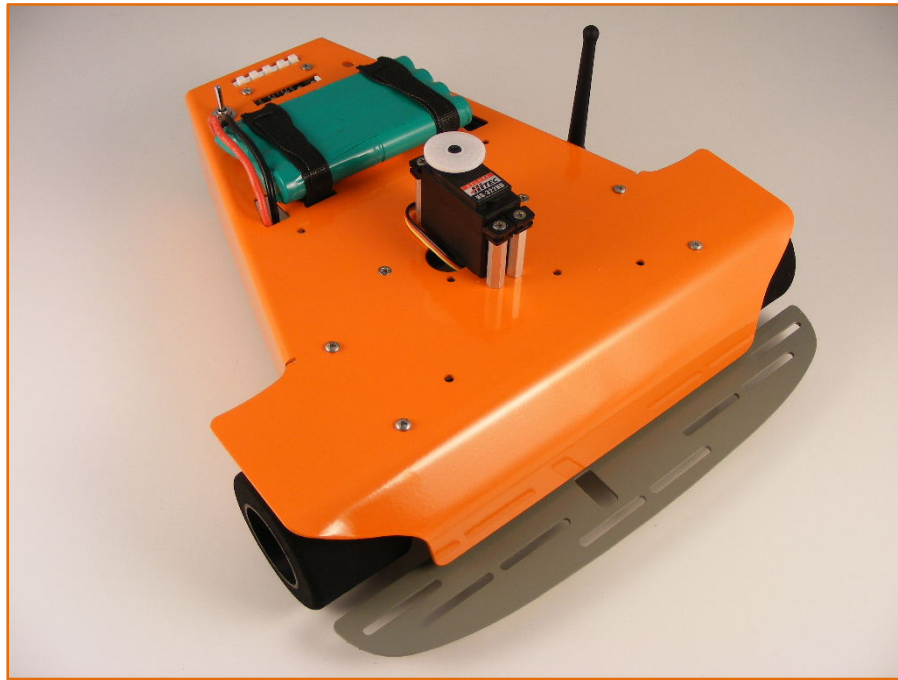


Figure 15 –Assembled Stinger with pan servo, Push Button I/O Board, and batteries.

