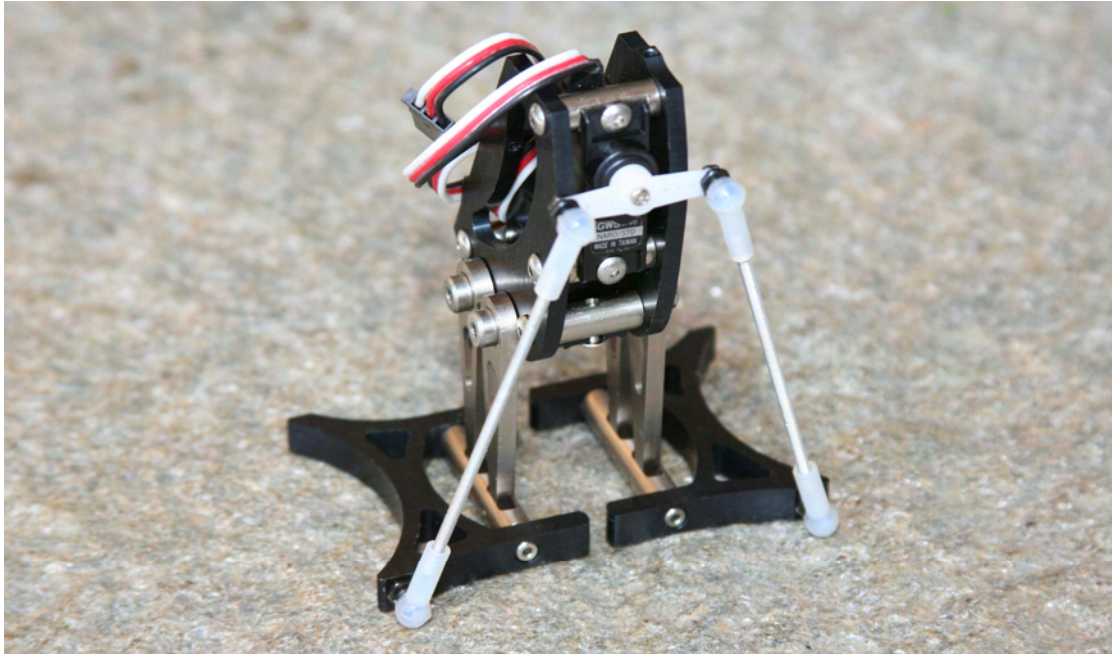


Step 12: Connect the tilt servo horn and feet with the threaded rods

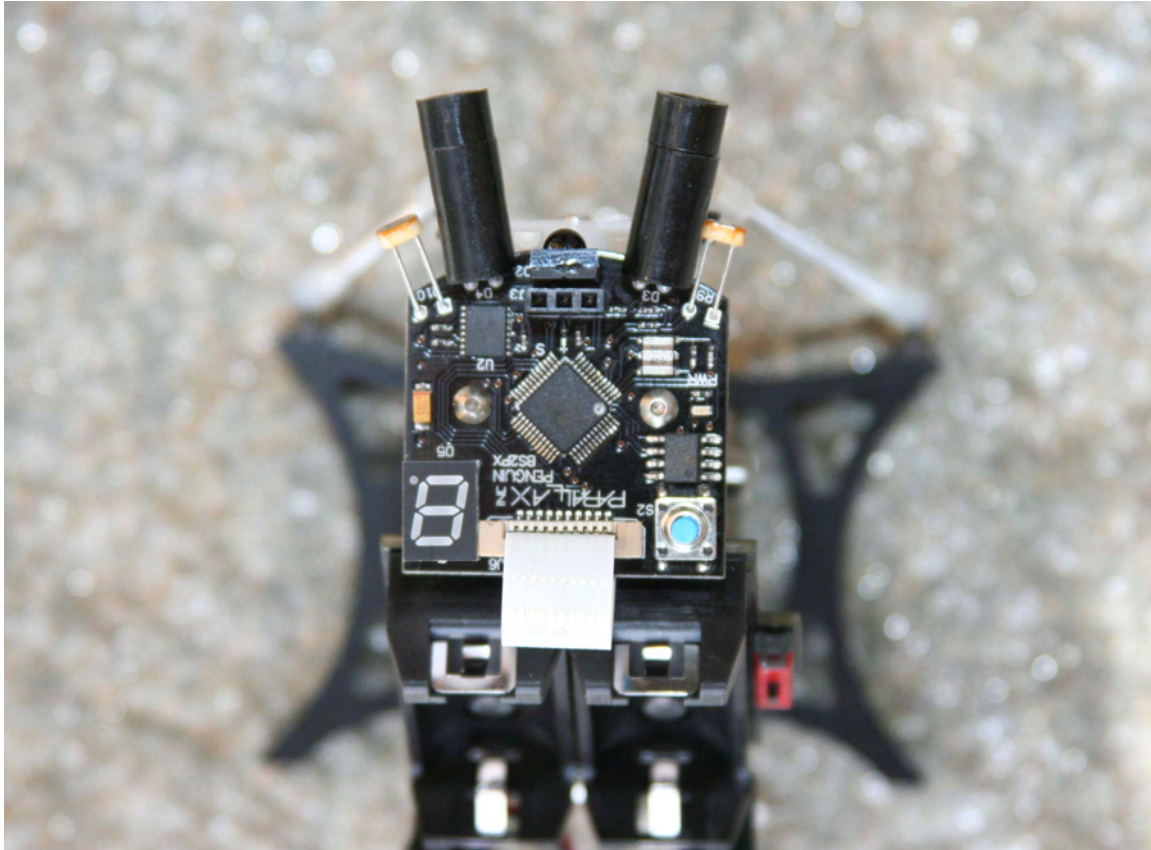
Now you're ready to snap the two threaded rods onto the front of the Penguin. The ball joints can be snapped onto the feet by hand. Attaching them to the servo horn ball joints is a bit more difficult. For this you can use a small pair of pliers. Place one jaw of the pliers behind the ball link's post, and the other on the outside of the plastic ball socket. Future adjustments can be made quite easily by disconnecting the ball link socket from the feet only. To disconnect them, use a small screwdriver as a lever against the foot. Cover the foot with a cloth to prevent scratching.



Bad Penguin Posture? You may have rotated the tilt servo off-center while attaching the linkages. If the servos are centered, the Penguin will have its feet close together and will be standing straight up, and the tilt servo horn will be horizontal. If the tilt servo is not horizontal, remove the screw and very gently pull the horn off of the spline. Re-run Penguin-CenterServos.bpx, which should bring the feet together. Replace the horn on the spline, and replace the screw.

Step 13: Attach BASIC Stamp 2px24 board to the Penguin body

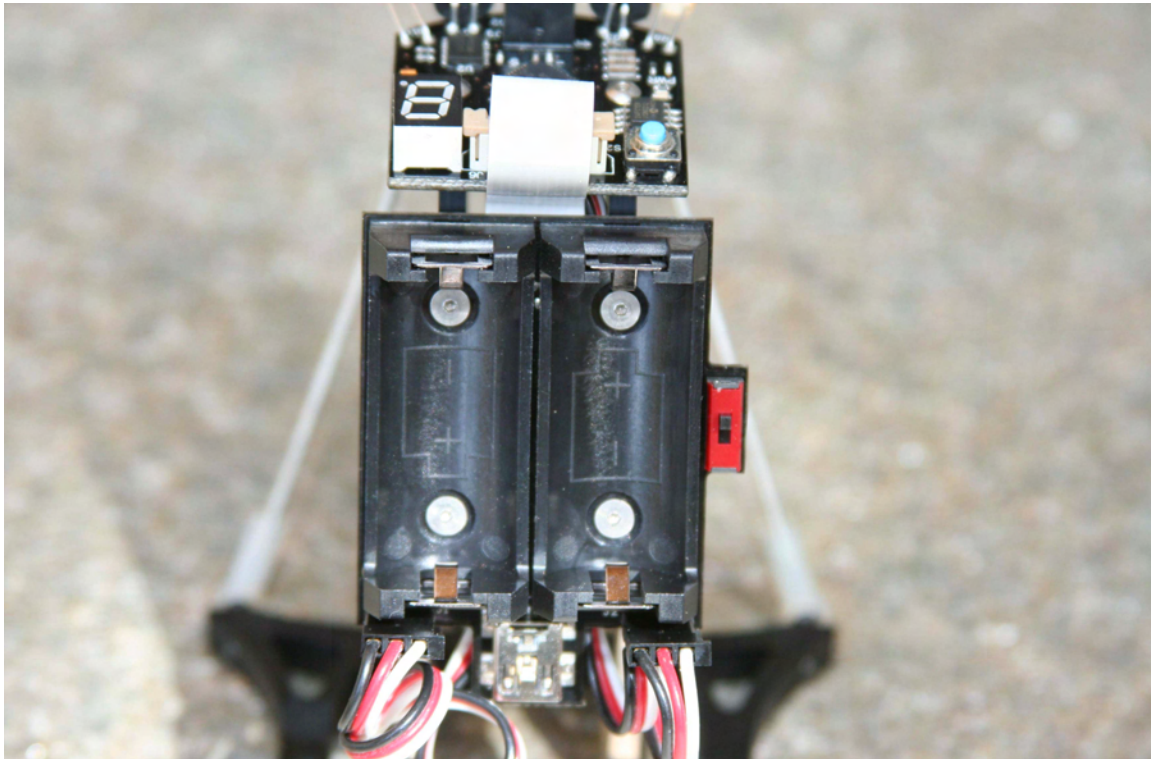
The Penguin's top board contains the BASIC Stamp 2px24 circuitry. It is mounted on the top of the Penguin using (2) 2-56 1/4" button socket cap stainless steel screws and the 0.050" hex key. You'll need to fold the tilt servo's wire over to tighten the board against the top of the Penguin.



Step 14: Attach Power Pack board to the Penguin body

The Penguin's power pack board is installed using (4) 2-56 ¼" long flathead screws and the 0.050" hex key. When you mount this board be sure that the servo wires are not preventing it from properly seating into position.

Plug the servos back in. Connect the stride servo to J1 and the tilt servo to J2; make sure the white leads are on the right, as shown in the photo.



Step 15: Install batteries and tidy servo wires

Install (2) CR123 batteries into the Penguin's power pack. The batteries will be oriented in opposite directions; refer to the pictorial molded into the bottom of the battery holder's plastic surface. Coil up the servo wires behind the robot. It's also possible to hide them in the Penguin's body, but that requires substantial attention to detail considering the lack of free space.



Step 16: Penguin is finished

Congratulations. Your Penguin is complete and ready for programming!

