

# Desktop Fan Project Introduction

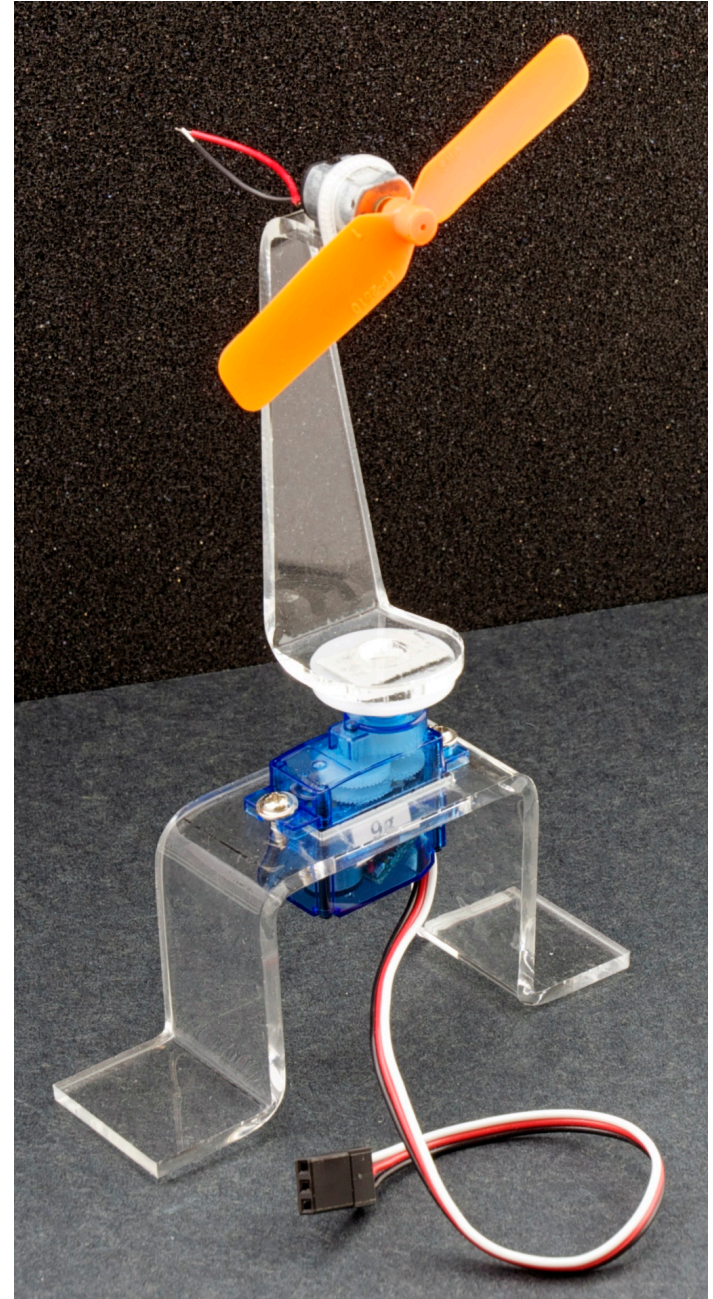
EAS 199A  
Lecture 7  
Fall 2011

# Goal

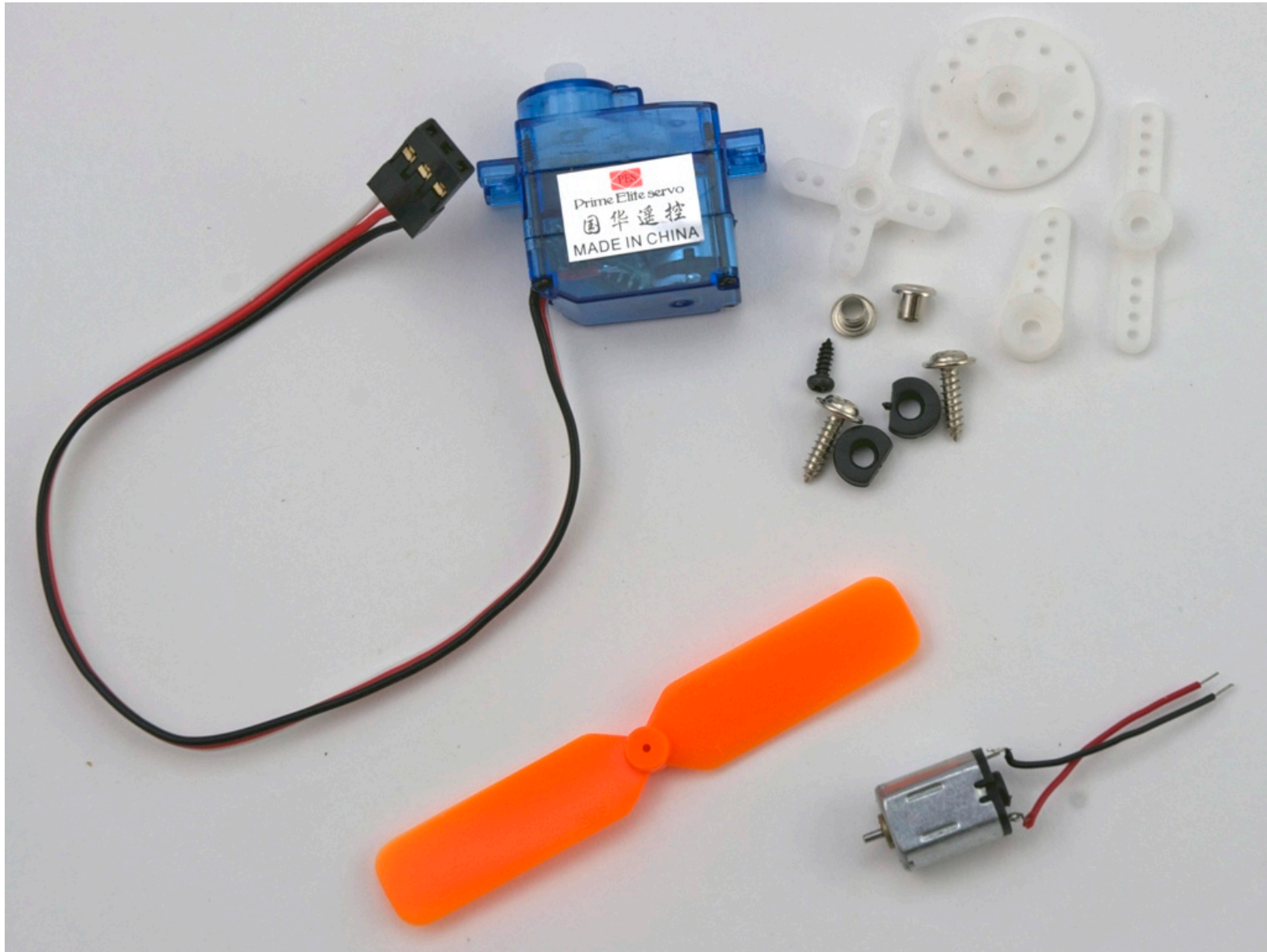
- Build a desktop fan from parts in the Sparkfun Inventor's Kit
- Work in teams of two
- Learn new skills
  - ❖ Controlling a servo and DC motor
  - ❖ Make a 2D drawing with Solidworks
  - ❖ Send drawings to Laser cutter
  - ❖ Soldering
- Due during the week of October 31
  - ❖ In-class demonstration

# Tasks

- Measure servo and DC motors
- Sketch on paper the acrylic dimensions
- Create Solidworks model of the base and prop support
- Cut acrylic parts
- Assemble system
- Write Arduino program to control servo and DC motor

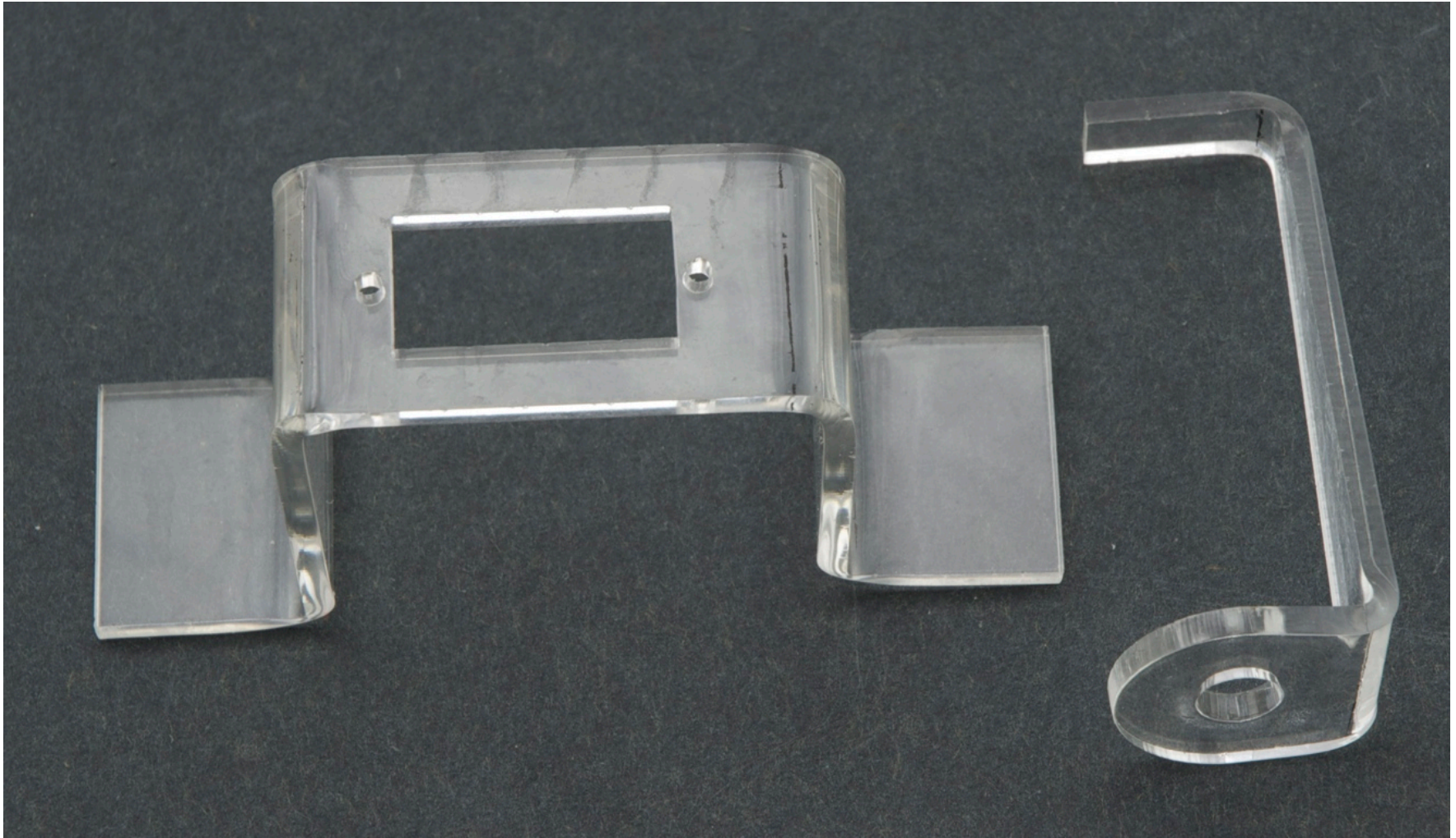


# Propellor and Parts from Inventor's Kit



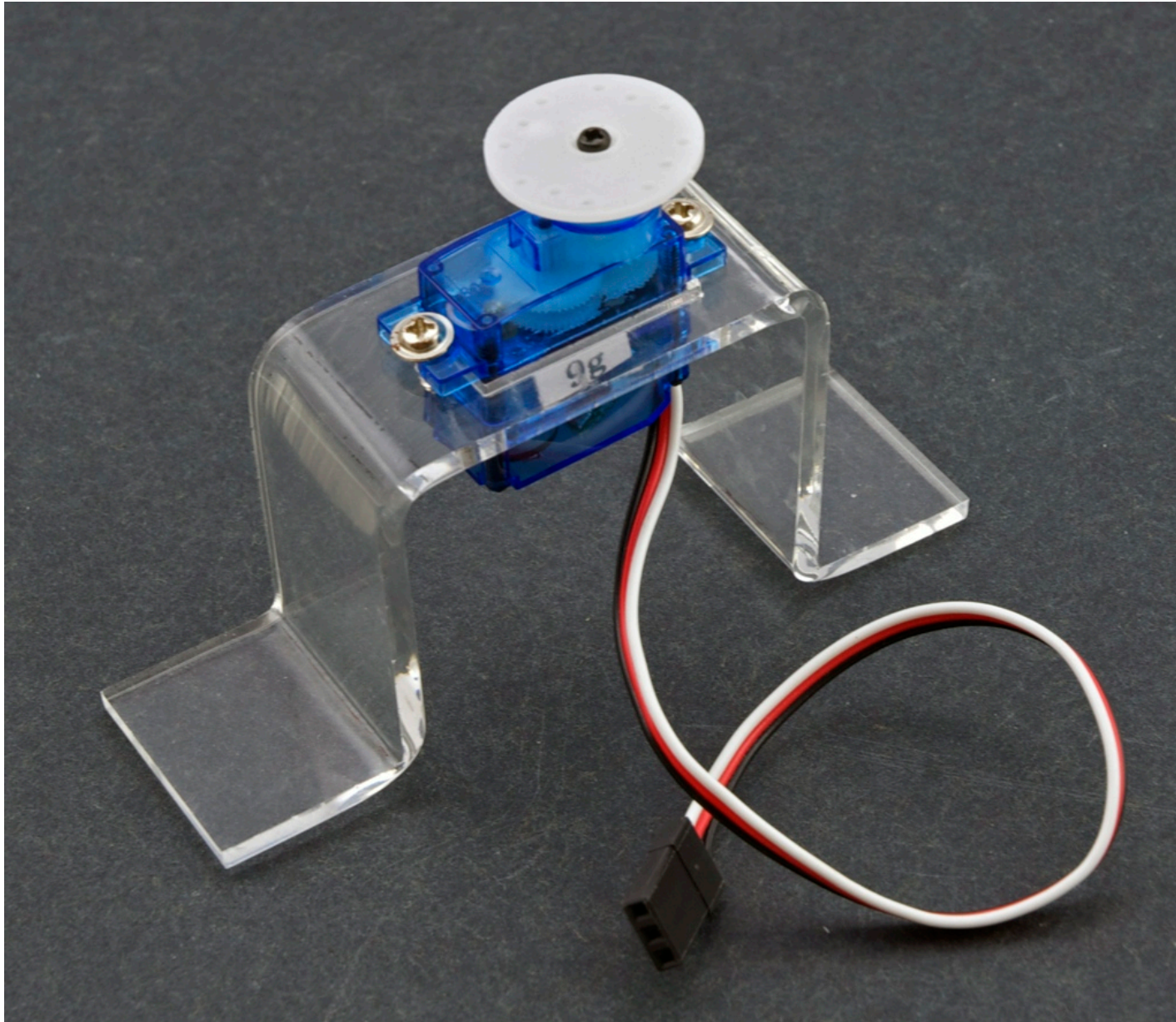


# Acrylic parts



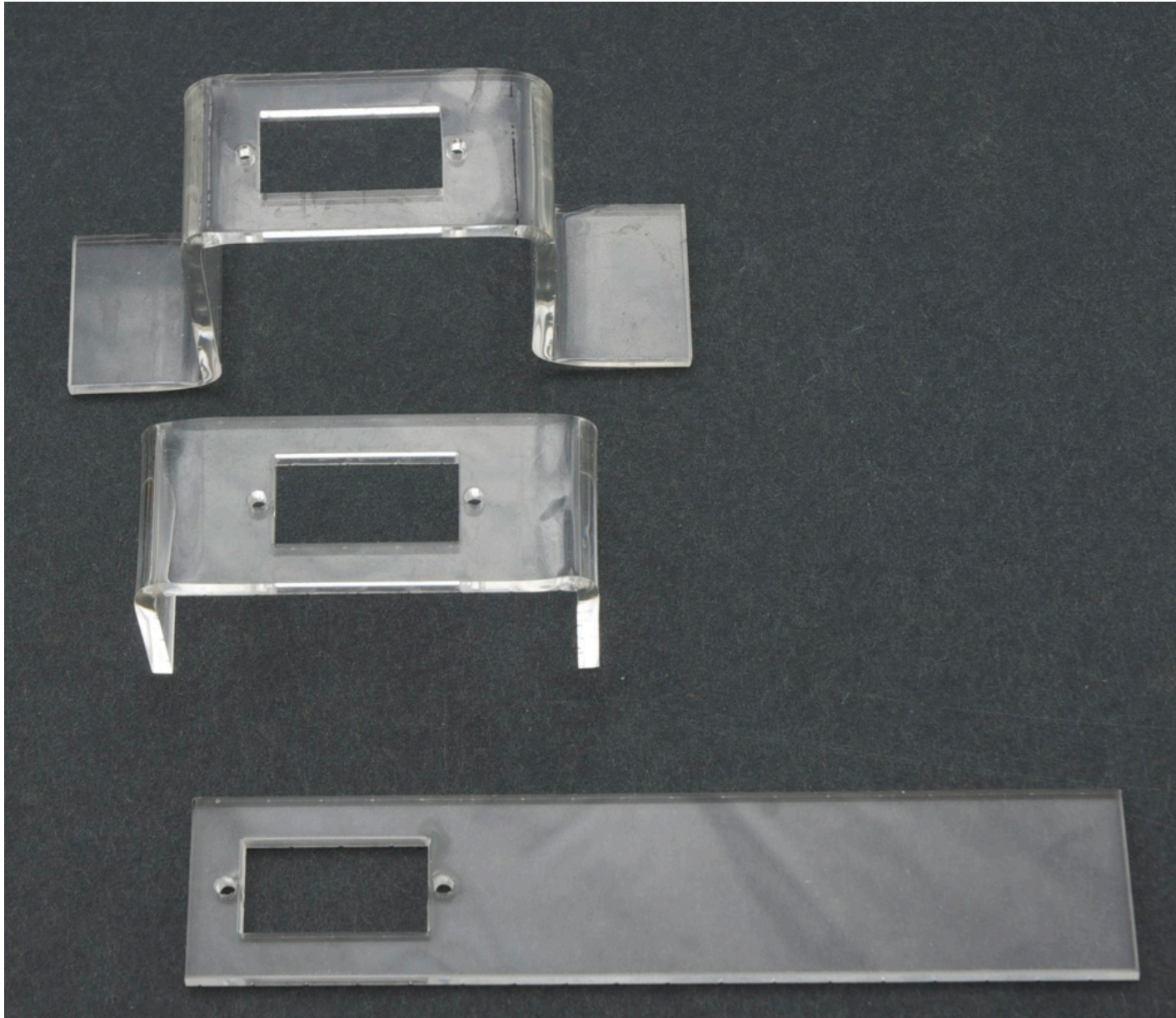


# One base design

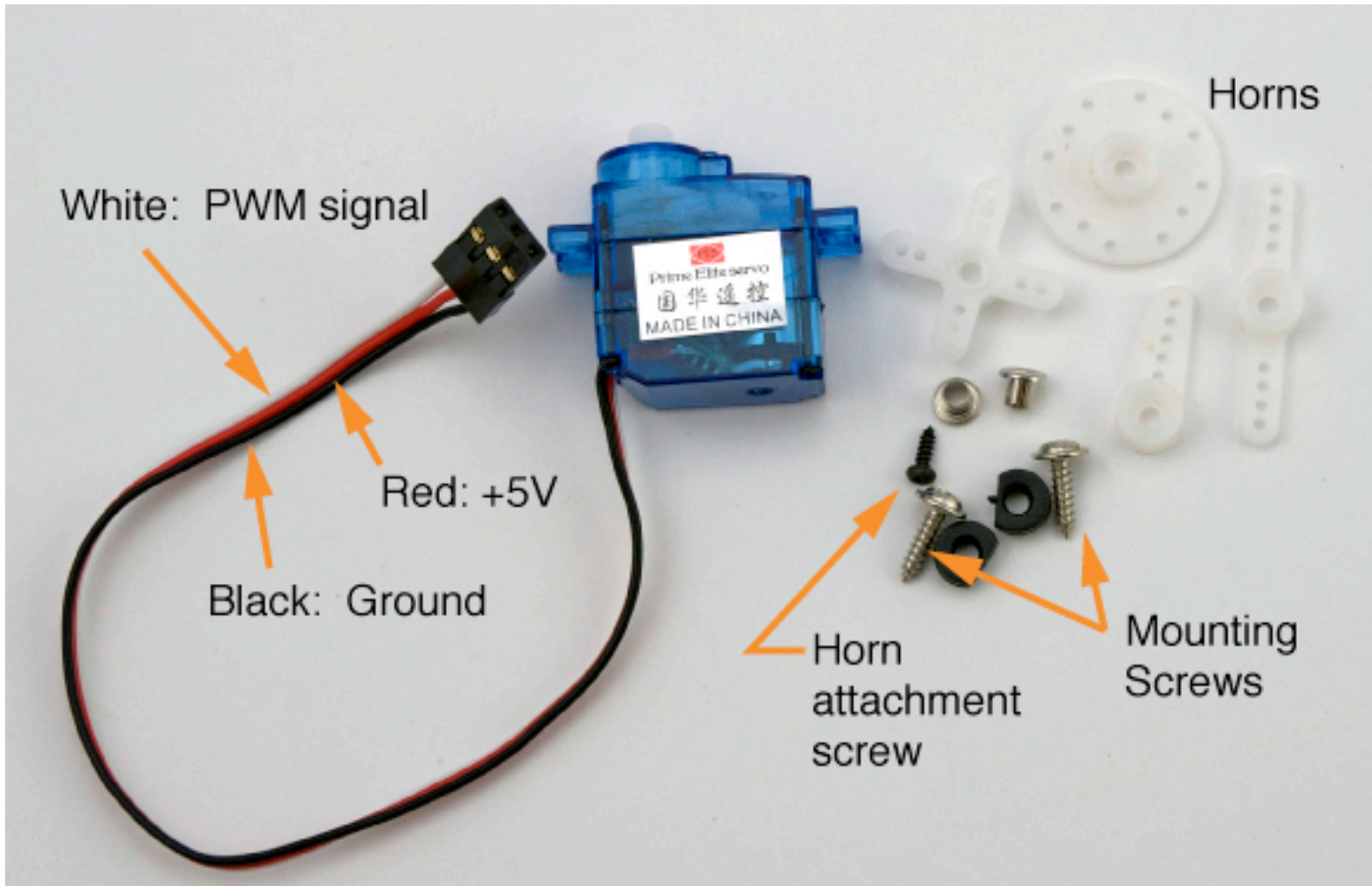




# Alternative base designs



# Servo Motor





# Fan Project: First Steps

- Make a hand sketch of the structural parts
- Measure the Servo and mounting screws
- Use measurements to add dimensions to the sketch
- Redraw the sketch as a 2D “flat” drawing
  - ❖ Laser cutter works on thin sheets in 2D
  - ❖ Use the acrylic bender after parts are cut
- Watch the Laser cutter video:
  - ❖ <http://youtu.be/DJA8EmBUfLo>