

# SIMPLE ROBOT KIT

## USER GUIDE

Rev. 1.00

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### MATERIALS CHECKLIST

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Before getting started, get to know all of the parts in your kit:

- A. 1 x 6v AA battery holder
- B. 4 x AA battery
- C. 3 x servo horn
- D. 1 x servo tester
- E. 1 x 9g servo motor (180° range)
- F. 3 x screw
- G. 1 x 3mm screwdriver



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### POWER UP YOUR SERVO TESTER

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**STEP 1:** Insert the 4 AA batteries into the battery holder. Push the negative side (flat end) of 1 battery against the spring of the battery holder and slide the battery into place. Repeat for the other 3 batteries.



*This can be tricky and small fingers can get pinched, so an adult should be on hand to help.*



**STEP 2:** Insert the socket of the battery holder wires into the “IN” prongs on the right side of the servo tester. Match up the black wire of the battery holder with the negative (bottom) prong of the servo tester. A blue light at the top of the servo tester should light up.



*If the servo tester doesn't light up, check your batteries to see if each one was properly inserted into the battery holder.*

**ENERGY-SAVING TIP:** To avoid draining the batteries, unplug the battery holder when not in use. If steps 1 and 2 have been properly completed but the blue light doesn't light up, your batteries may need to be replaced.

## CONNECT YOUR SERVO MOTOR



**STEP 3:** Take 1 servo horn (any), and fit it on top of the motor shaft. It should fit snugly. Insert a screw (any) into the largest hole of the servo horn. Use the mini screwdriver to tighten the screw.



**STEP 4:** Insert the socket of the servo motor wires to the “OUT” prongs (any row) on the servo tester's left side. Match up the brown wire of the motor with the negative (bottom) prong of the servo tester.

## EXPERIMENT WITH YOUR SIMPLE ROBOT



**STEP 5: Manual Mode** - Twist the yellow dial on the servo tester back and forth. The servo horn on top of your motor should rotate. The range of motion for servo motors is 180 degrees (half-circle).

**STEP 6: Automatic Mode** - Find the “Select” button on the lower left corner the servo tester. Push down on the button until the blue light is on “Auto.” Your servo motor should now move automatically. To go back to manual mode, push on the button again until the blue light is back on “Man.”

**CONGRATULATIONS!** You're now ready to start building robots! Gather some tape, scissors, cardboard, and other craft materials from around your home and start inventing! Here are some project ideas to get your creative juices flowing: catapult, drawbridge, carnival game, mini-golf game, etc. For more project ideas, visit our website: [barnabasrobotics.com/curriculum](http://barnabasrobotics.com/curriculum).