Inventing Mechanical Add-on Kit

Product ID: **32001**

Overview

The Mechanical Add-On Kit provides provides the pieces to convert the Inventing Electronics Base Kit into a rolling robot or motion-inspired inventions for the Henry Ford Invention Convention Worldwide. The desired outcomes of the Inventing Kit Series are inspiration, inventive ability (with electronics, sensors, motors), and self-confidence; Parallax provides examples while students bring ideas, identify problems, and create real-world solutions in their inventions.

A simple rolling robot can be built around a chassis using cardboard, foam-core board or from 3D printing. Even easier, the servos can be attached to the breadboard bottom using double-sided sticky-tape, or consider converting the box to a robot. The tail wheel is mounted with the aluminum brackets. The confidence and creativity gained by a classroom of unique robots may be even more impactful than building from a kit with instructions!

With a bit of student-added creativity and craft supplies, the continuous rotation servo motors and other kit hardware can be used to raise or lower things, automate a process requiring repetitive motion, or make a working physical animation for holidays.

The programming environment for the Invention Kit Series is BlocklyProp. BlocklyProp is a well-documented visual programming language based on Google's open-source Blockly. After using the Electronics Base Kit with the Mechanical Add-On Kit students will have the ability to envision new solutions using a wide variety of sensors and devices supported in BlocklyProp simply by looking at the BlocklyProp Reference.

Features

- Servos, wheels and tail wheel for robot drivetrain or student-created inventions
- Mounting hardware: screws, nuts, aluminum brackets
- PowerPal Module provides for several voltage levels needed for motors or sensors from battery pack (in the Electronics Base Kit)

Application Ideas

- Rotate a camera, sensor, or holiday animation
- Customize a simple rolling robot to make an invention prototype — robotic line painter, cat exerciser, etc.
- Combine with Security Add-On Kit to make radar-like distance detection devices
- Combine Environmental Add-On Kit to create mobile environmental measurement inventions — solar trackers, or robotic farming working models

Details

Kit Contents

- (1) PowerPal Module (#32133)
- (1) Standard Servo (#900-00005)
- (2) CR Servo (#900-00008)
- (2) ActivityBot Wheel (#721-00021)
- (2) O-ring tire (#710-00200)
- (2) Tail Wheel Ball 1" (#700-00009)
- (6) Universal Straight brackets (#720-00012)
- (6) Universal L brackets (#720-00011)
- (1) Small Robot Hardware Pack (#570-00001)
- (1) Cotter pin (#700-00023)
- (1) Parallax screwdriver (#700-00064)
- (1) Parallax Combination Wrench (#700-10025)
- (1) Battery Holder, 5AA (#753-00007)
- (5) 10 k-ohm resistor (#150-01030)
- (4) 3-pin straight header (#451-00303)

Parts and quantities subject to change without notice. Servos require 5AA batteries, not included.
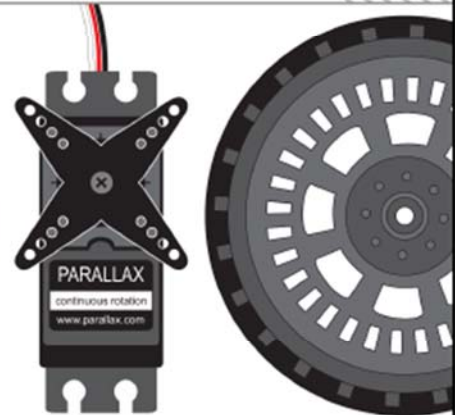
MECHANICAL ADD-ON KIT

INVENTING KIT SERIES

```
repeat  rate ▾  from   1   thru ▾   200   by   5
do    CR servo PIN  8 ▾  speed   rate ▾
      pause (ms)   100

repeat  rate ▾  from   -1   thru ▾   -200   by   -5
do    CR servo PIN  8 ▾  speed   rate ▾
      pause (ms)   100

servo PIN  8 ▾  disable
```

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continuous rotation
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STANDARD SERVO
CR SERVOS
WHEELS
BRACKETS
HARDWARE

Equip your FLiP to make things move!

Kit includes a standard servo, two continuous rotation servos, wheels, brackets, nuts & screws, and a PowerPAL module.

Electronics Base Kit required, not included.

TUTORIALS & SUPPORT: www.parallax.com/inventingkit

EQUIP YOUR GENIUS:

ELECTRONICS BASE KIT	MECHANICAL ADD-ON KIT	ENVIRONMENTAL ADD-ON KIT	SECURITY ADD-ON KIT
32000	32001	32003	32002

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