Application Note #1   6/29/2005

Compatibility of WW-01 with Wheels and Mechanisms

Manufacturer	Product	Compatible?	Use CS-040?
Tigerbotics	Injection Molded Wheel	yes	no
Budget Robotics	O-Wheel	yes	yes
""	Reversible Foam Wheel	yes	yes
""	Ribbed Rubber Wheel	yes	yes
Rogue Robotics	Rogue Blue 3" Molded Foam Wheel	yes	yes
Parallax	BoeBot/SumoBot	no*	
NetMedia	Servo Wheel	no	
Robodyssey	Polyurethane Skate Wheel	no	
""	Solid Aluminum Wheel	no	
Futaba	Servo Horns	yes	yes
GWS	Servo Horns	yes	yes
Hitec	Servo Horns	yes	yes

* compatible stickers available tenatively Q2 2005

The WW-01 was designed for use with injection molded wheels manufactured by Tigerbotics and sold by a variety of robot stores, including Acroname Inc. These wheels have a recessed area surrounding the hub upon which the WW-01 codewheel sticker is mounted.

There are many other robot wheels available. Some use servo horns (normally used in RC vehicles to connect the output shaft of an RC servo to the mechanism being articulated, such as a flap) mounted to the wheel with screws.

Nubotics has produced two different Codewheel Spacers to allow for use of these types of wheels, and also to allow the use of WW-01s with RC servo horns generally:

- CS-040-01 Universal Codewheel Spacer
  contains 36 one mm diameter holes for use as drilling guides; these holes line up with the holes in many standard servo horn designs

- CS-040-02 Codewheel Spacer for Wheels
  contains a specially designed pattern of 10 holes large enough to clear the screw heads used to mount the horns on many popular wheels

A related product is available to mount the codewheel sticker at the proper height when using the WW-02 Incremental Encoder with Solarbotics GM2 or GM3 motors, which have long shafts:

- CS-100 Blank Codewheel Spacer

The CS-040 Codewheel Spacers are compatible with these wheels:

Budget Robotics:
"O-Wheel" SKU: OWHL
"Reversible Foam Wheel" SKU: WHEEL525
"Ribbed Rubber Wheel" SKU: WHEEL-RIBBED

Rogue Robotics:
"Rogue Blue 3" Molded Foam Wheels"

Incompatibility List

Unfortunately, some wheel designs place the backside of the wheel too close to the servo case, leaving no room for the WW-01 sensors to operate. These wheels include:

NetMedia:
"Servo Wheels" SKU: SWHEELS

Robodyssey Systems:
"Polyurethane Skate Wheel" SKU: PSWP
"Solid Aluminum Wheel" SKU: SSAWS

One more manufacturer, Parallax Inc., has redesigned the Tigerbotics wheel and made the hub area too large in diameter, so the standard WW-01 codewheel sticker does not fit:

Parallax:
"Boe-Bot/SumoBot Wheel" SKU: 721-00001