

TeacherGeek[™] Sumo Bot Vehicle Application Guide

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TeacherGeek's Sumo Bot Vehicle Activity is the perfect way to encourage unique design and innovation. The flexibility of this system also provides the opportunity for creative competitions from the traditional sumo ring (arena) to collecting and delivering balls or blocks to elevated goals by integrating the TeacherGeek hydraulics into the vehicle design.

The following step by step guide is one example of a basic steerable vehicle that can be modified with additional TeacherGeek gears or pulleys for more speed and power. You can also add plows, lifts or whatever your design requires. This is by no means the only or the best design. You are encouraged to incorporate your own ideas and innovations. Design possibilities are limitless and the TeacherGeek system allows you to engineer and reengineer until your ultimate vehicle is complete.





QUICK-START GUIDE

- □ The *TeacherGeek Quick-Start Guide* provides a great reference for techniques, tools and tips used to assure successful building.
- Before beginning construction, take time to review this important information..

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TEACHERGEEK SUMO BOT PARTS

PART	QUAN.	DESCRIPTION
Α	4	12" DOWELS
В	4	HOLE PLATE
С	1	PERPENDICULAR BLOCK
D	4	10-24 X 5/8" PAN HEAD MACHINE SCREW
E	4	10-24 HEX NUT
F	2	MOTOR
G	2	MOTOR SHAFT ADAPTOR PIN
Н	2	MOTOR MOUNT
I	2	50 TOOTH GEAR
J	2	40 TOOTH GEAR
К	2	20 TOOTH GEAR
L	2	10 TOOTH GEAR
М	4	STOP CLIP
N	2	WHEEL
0	2	WHEEL STRETCH TIRE



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GEAR COLORS CAN VARY

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CHASSIS ASSEMBLY

Cut 2 dowels 150 mm (5 7/8")
 Slide dowels through the reamed corner holes of one side and insert into unreamed holes of the other hole plate.



□ This completes the basic chassis for the vehicle.

□ Slide the end hole of a perpendicular block on to one of the dowels so it is 19 mm (3/4") from the hole plate as shown. This establishes the front of the vehicle.





GEARS, WHEELS AND AXLES

 Cut two dowels 89 mm (3 ½").
 Draw a pencil line 13 mm (1/2") from one end of each dowel.
 Install a TeacherGeek clips so

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 Install a TeacherGeek clips so they align with pencil marks as shown.



Insert the ends of the dowels through the center hole of the gears as shown.





GEARS, WHEELS AND AXLES



Install a TeacherGeek clips so they align with pencil marks as shown.







Front of Vehicle

INSTALLING TRACTION TIRES

- Coat the outside of the wheel with a common glue stick.
 When it becomes tacky, carefully stretch the tire over the wheel.
 - □ Adjust the tire so it is centered on the wheel .



MOTOR WIRING

- 20 Uviring of the motors depends on the type of controller used.
 - □ If the <u>TeacherGeek Total Controller</u> is used, wiring instructions are included in the <u>Total Controller Guide</u>.
 - □ If other controllers are used, follow the appropriate wiring diagram.



TRY ADDING TEACHERGEEK HYDRAULICS





TEACHERGEEK PULLEY DRIVEN VEHICLE EXAMPLE

