

IG42-SB4, 4WD All Terrain Robot Platform

Assembly and Operation

This 4WD wheeled robot platform is equipped with 52mm motors, a motor controller, and Spektrum remote control. This platform allows you to make your own custom sized robot platform.

Images shown may not be an exact representation of the robot's features listed in this document

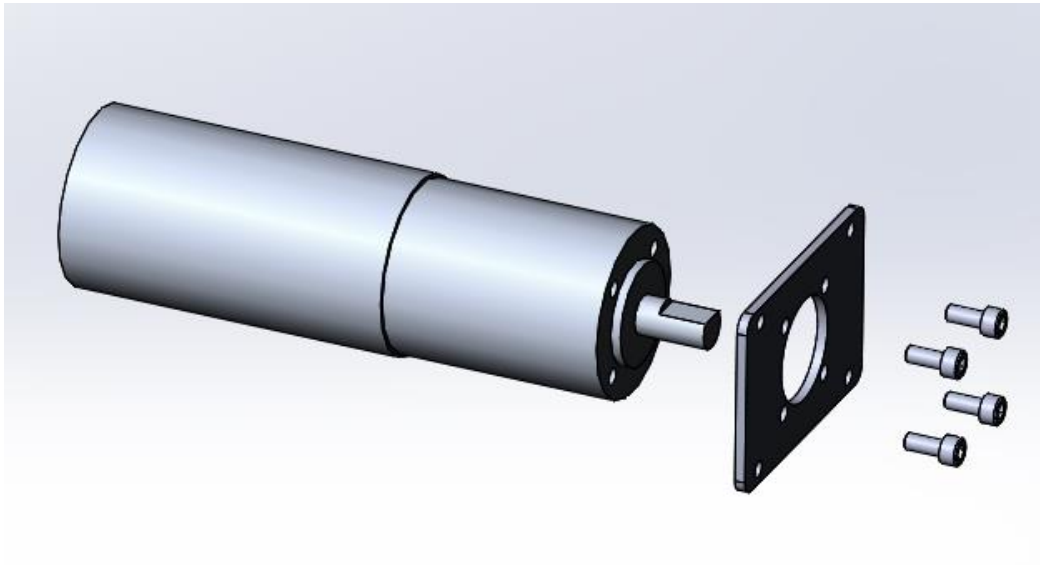


Contents

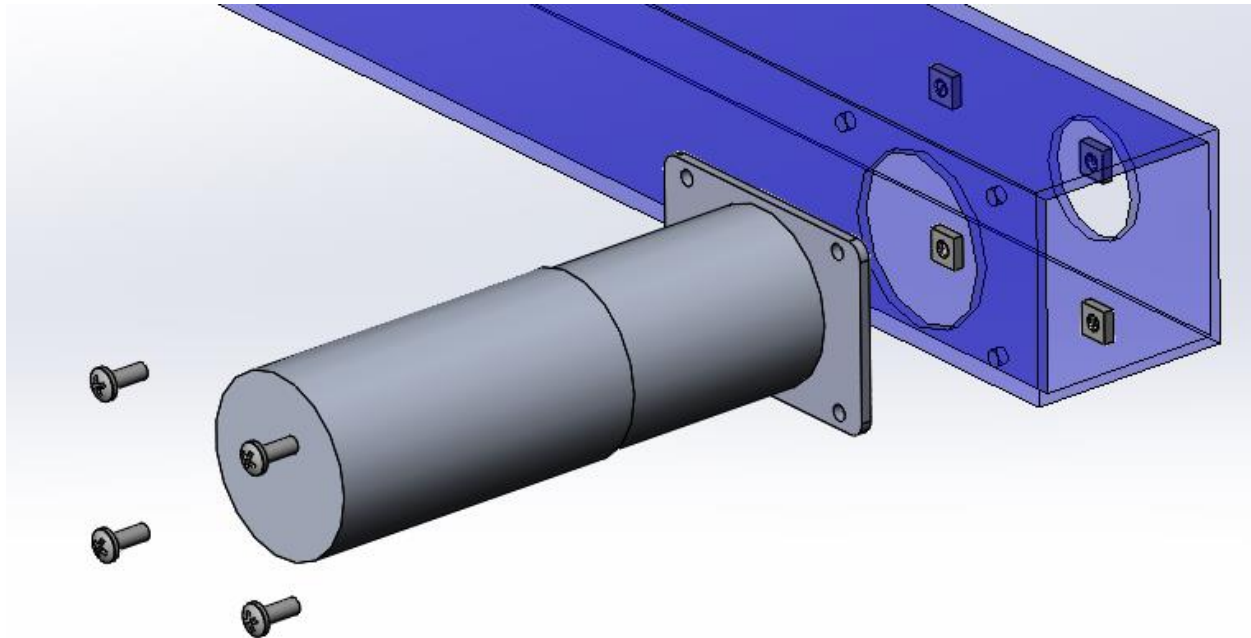
Mechanical Assembly	3
Electrical Assembly	6
Operation.....	7
General Terms.....	7

Mechanical Assembly

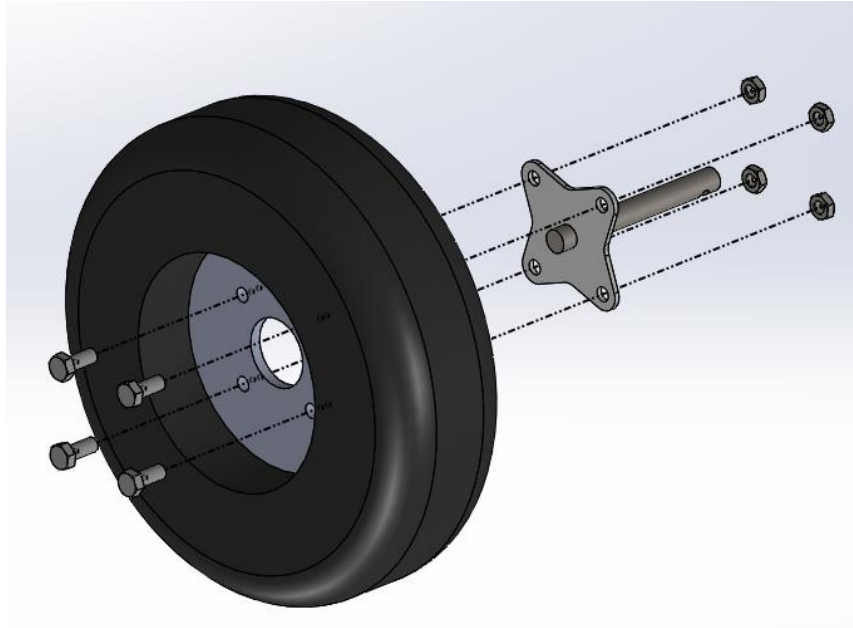
1. Start by mounting the motors to the motor plates. Use the included M5x12 screws and Loctite.



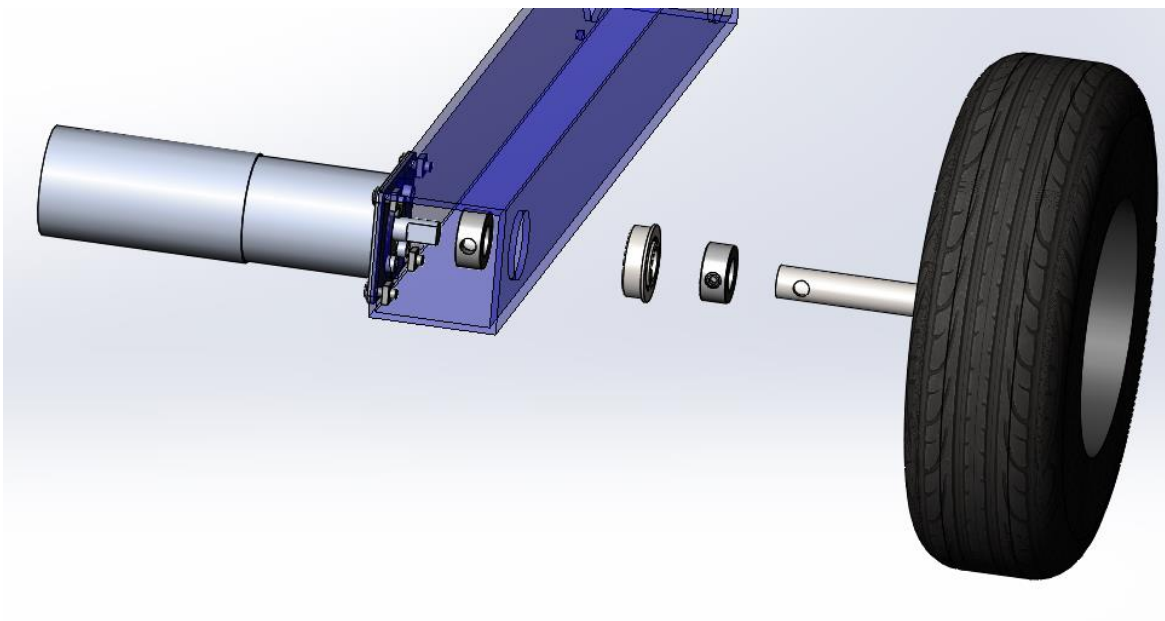
2. Next, mount the motor plate to the chassis tube using the motor plate hardware kit. Leave the screws slightly loose for now until shafts are mounted.



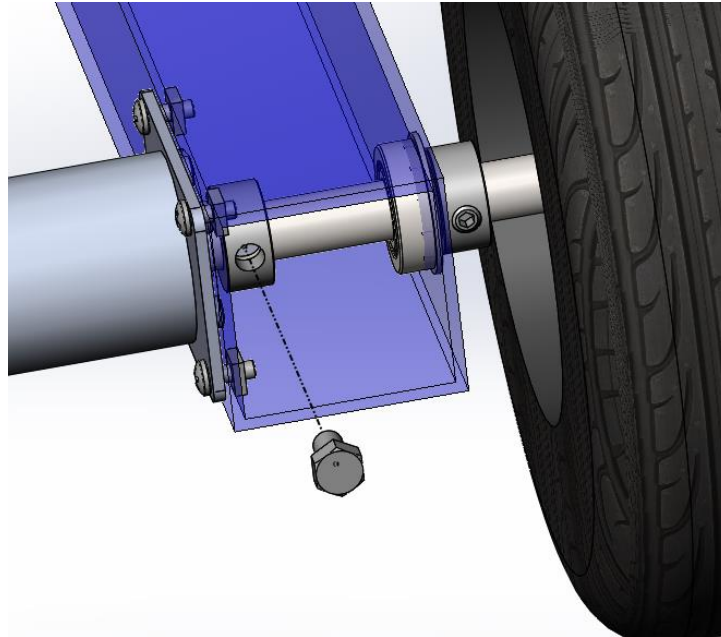
3. Mount the wheels to the shafts using the included hardware and Loctite.



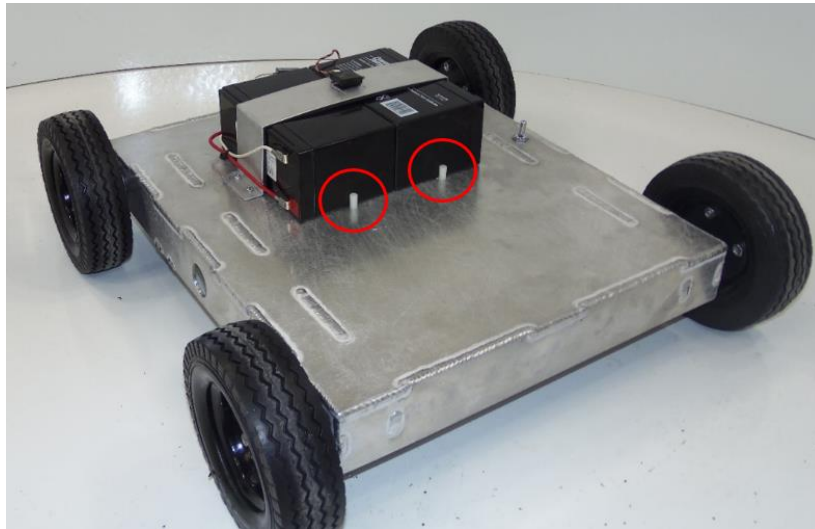
4. Slide the wheel shaft onto the motor shaft with two shaft collars and a ball bearing (see image below for proper order and orientation). Make sure the flat part of the motor shaft is accessible (if it is not use a battery to spin the motor until it is) and line it up with the holes in the inner lock collar and wheel shaft.



5. Remove the set screw in the inner lock collar that will tighten down on the motor shaft and replace it with the provided 5/16 hex head screw. Make sure this screw is tightened down through the hole in the wheel shaft and onto the center of the flat spot on the motor shaft. Slide the outer lock collar against the ball bearing and tighten so the bearing can not come out of place. Use Loctite so the screws do not back out.



6. At this point, go back and tighten the motor plate screws. Use Loctite or silicone caulk to keep the screws from loosening.
7. Position the batteries on the chassis where you want them to be mounted. Use the battery bracket to mark the necessary mounting holes to be drilled (typically these will be 1/8" holes). Drill the holes in the chassis and mount the battery bracket using the included hardware and, if necessary, foam tape to ensure a tight fit. Also included in the battery bracket hardware kit are some plastic spacers. These are to keep the batteries from sliding underneath the battery bracket (see picture below). Position the spacer against the end of each battery and use a drill bit through the spacer to mark the hole in the correct place. Drill out hole to 13/64" and mount the spacers with the included hardware. A different robot is shown below but the same steps apply.



8. Pick a spot to mount the switch and motor controller. If you ordered the switch bracket, use this to mount the switch so you don't have to drill a large hole. Mark and drill holes all holes to 1/8" (1/2" for switch if not using the switch bracket).

Inflating the tires

Before running the robot on the ground, make sure the tires have been inflated. Running the robot with a flat tire can cause the tube to spin inside of the tire and damage the valve stem. For this reason it is a good idea to check the tires periodically to make sure they are inflated.

Electrical Assembly

For electrical assembly please find the appropriate schematic on our website:

[Schematics](#)

For additional support on wiring, soldering, and crimping, please read the following support pages:

[Electric Motor Hookup Support](#)

[Electric Power Hookup Support](#)

[Soldering Tips](#)

[Crimping Wires](#)



Operation

1. Before powering on the robot make sure it is up on blocks so the wheels can spin freely. Occasionally some or all of the wheels start as soon as the motor controller gets power. In this case the settings of the motor controller need to be changed.
2. Make sure to use the correct DIP switch settings. If using a Sabertooth motor controller in R/C mode switch 1 should be DOWN (closest to the number) and all other switches should be UP. If using a different mode see the manual for the motor controller you are using on Dimension Engineering's website.

Binding a Spektrum Remote

3. Insert the bind plug into the receiver and power on the robot.
4. While pressing the Bind button, power on the transmitter.
5. Release the Bind button after the receiver's LED stays illuminated. This indicates the receiver is bound to the transmitter.
6. While the robot and transmitter are still powered on, remove the bind plug from the receiver.
7. If the wheel aren't moving as desired, it may be necessary to swap the Aileron and Elevator plugs or to reverse the channels on the transmitter. To reverse channels see the instructions for "Servo Reversing" in the Spektrum documentation.

General Terms

1. SuperDroid Robots, Inc is not responsible for special incidental or consequential damages resulting from any warranty or under any legal theory, including, but not limited to lost profits, downtime, goodwill, damage to, or replacement equipment or property, or any cost of recovering, reprogramming, or reproducing any data stored. ANY LIABILITY SHALL BE LIMITED TO REPLACEMENT OF DEFECTIVE PARTS. SuperDroid Robots, Inc. is further not responsible for any personal damages, including, but not limited to bodily and health damages resulting from any use of our products.
2. SuperDroid Robots, Inc. makes no representations as to the fitness of its products for specific uses. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS HEREBY EXCLUDED.
3. Agreements shall be construed in accordance with the laws of the State of North Carolina, and the rights and obligations created hereby shall be governed by the laws of North Carolina.
4. In the event a dispute or controversy arises, such dispute or controversy (including claims of default) shall be brought in the courts of Wake County, North Carolina and the plaintiff hereby agrees to this choice of venue.