MLT-42 Kit Assembly Manual

Assembly

This is a MLT-42 tracked robot platform and is equipped with 42mm motors, a motor controller, and Spektrum remote control. This is a rugged robot platform. By default, the treaded robot handles up to 15lbs of additional payload and travels 200ft/min.

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

Contents

Mechanical Assembly

Motor Installation

Using eight M4x8 screws, mount the motors to the two corners. Use a small amount of threadlock to prevent the screws from backing out from vibration. The motors will mount directly to the chassis no extra holes need to be drilled.

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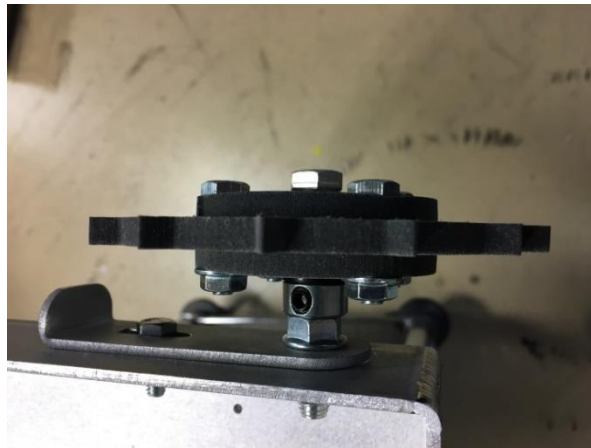Contact
(919) 557-9162
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Wheel and Track Assembly

Assemble the wheels. From the picture you can see how we assembled the drive wheels first with the nuts on the inside. There is also a set screw on the side of the shaft that goes into the motor shaft.

The idler wheels are assembled as shown. After this insert the bearings on each side of the wheel.

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Page 3 of 8

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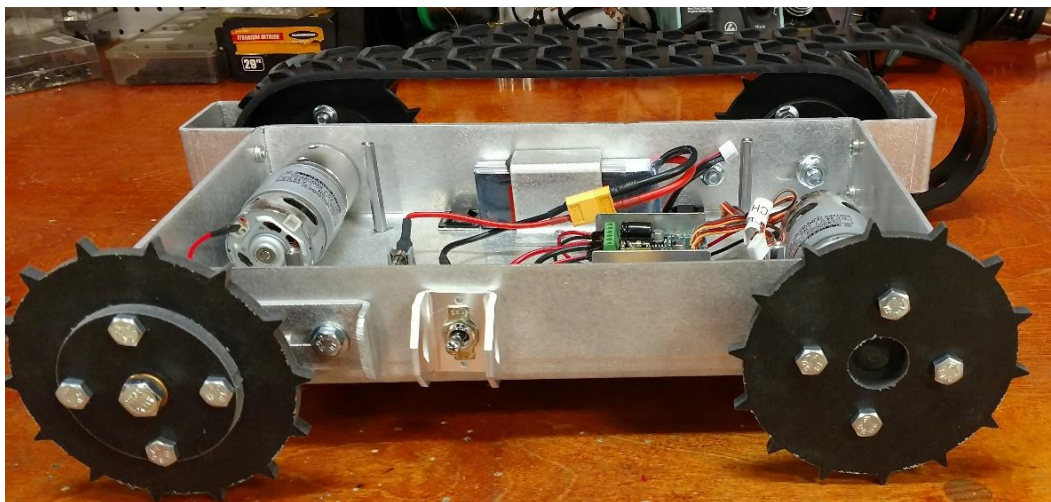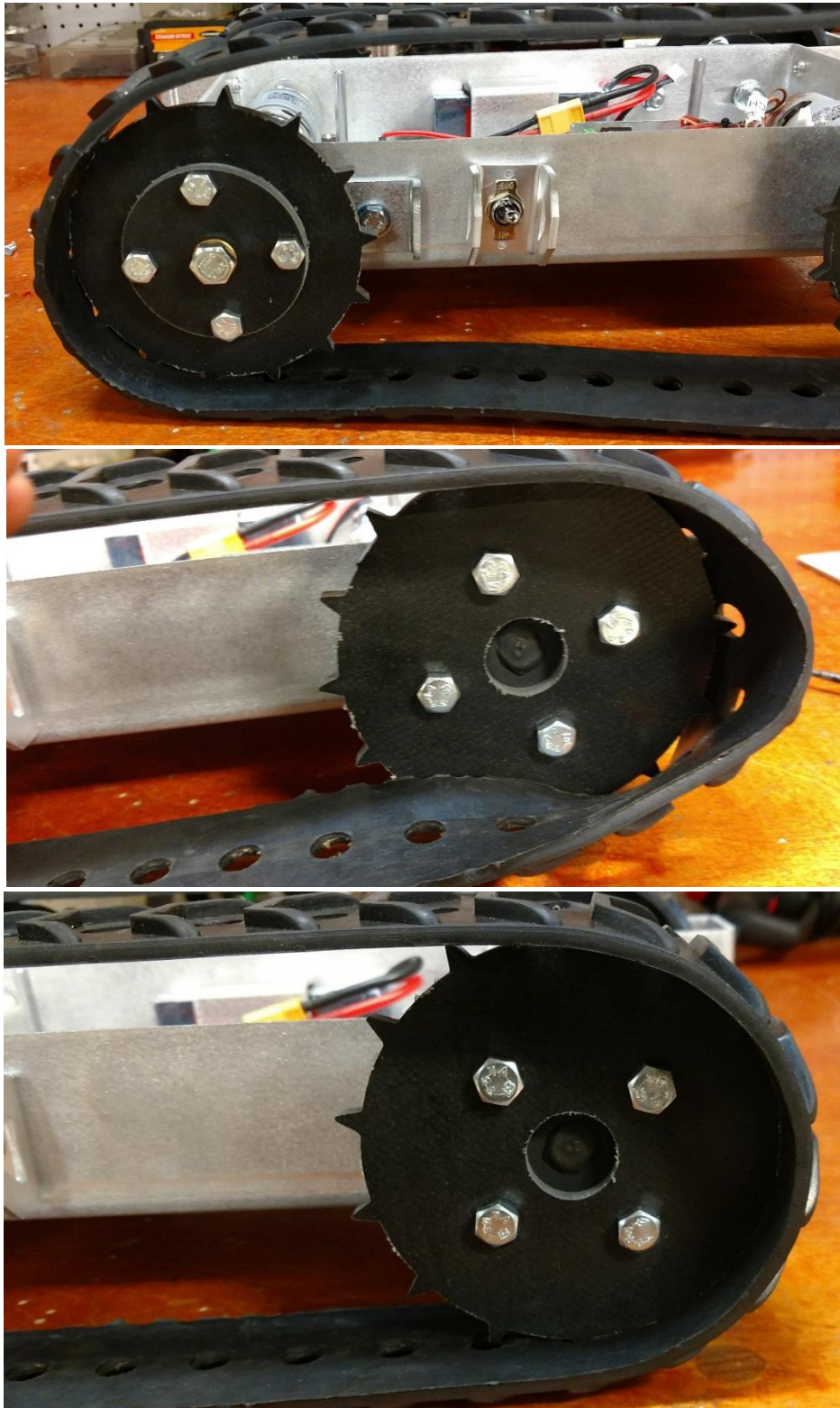Revised: June 22, 2018

Page 4 of 8

Here we have the idler wheel and tension assembly put together. Look at the picture to see how the lock collar goes into the shaft assembly. Notice the plastic washer between the lock collar and the bearing also.

Now mount the motor into the chassis. Notice the setscrew in the shaft of the wheel. Be sure to get it aligned with the flat spot of the motor shaft. This is very important. Use Loctite to keep it from backing out during operation.

Once the wheels are mounted, "roll" the tracks onto them. Start by wrapping the tracks around one of the wheels and part of the way onto the other wheel. Now rotate the tracks and wheels until the track falls into place onto the wheels. You may have to do this a couple of times to get the right tension in the tracks.

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Page 5 of 8

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Page 6 of 8

Electrical Assembly

For electrical assembly, please follow the provided schematic on our website:

Sabertooth RC Schematic

When using the LiPo Batteries, the Sabertooth needs to have DIP Switch 3 set in the OFF Position as well.

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

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.

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

1. Insert the bind plug into the receiver and power on the robot.
2. While pressing the Bind button, power on the transmitter.
3. Release the Bind button after the receiver's LED stays illuminated. This indicates the receiver is bound to the transmitter.
4. Power off the robot and transmitter, remove the bind plug from the receiver.
5. If the wheels are not 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.

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Page 7 of 8

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Page 8 of 8