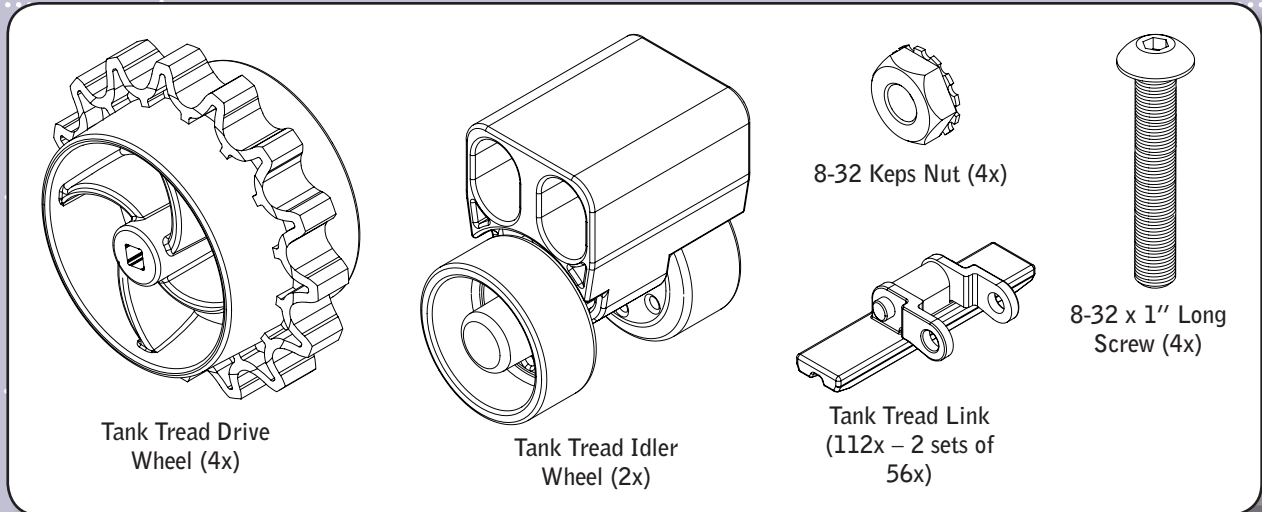


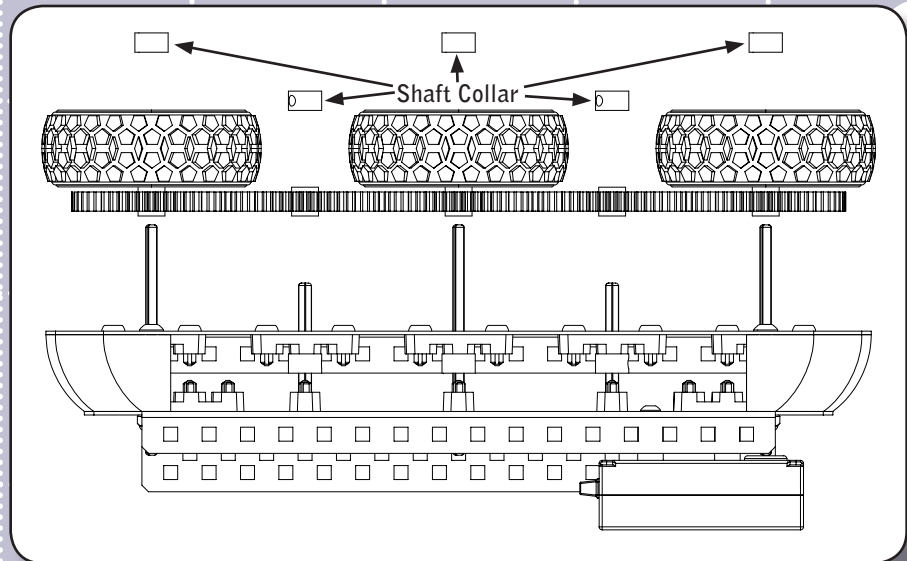
VEXplorer Tank Tread Kit

With Tank Treads installed, your VEXplorer will be able to scale mountains with ease. Tank treads distribute a vehicle's weight more evenly than wheels, allowing a robot to maneuver in loose sand, or on spongy surfaces which would otherwise cause the robot to sink. Treads will also keep the robot from high-centering; this will allow a robot to climb over obstacles, or move over rough terrain. The Tank Tread Kit will allow you to take your VEXplorer to places it could never go before.



Note: Installation may be easier on a disassembled VEXplorer robot. If your VEXplorer is already assembled, read through the following instructions and decide whether you feel capable of installation without disassembly.

The first step to installing Tank Treads on the VEXplorer, is to remove the wheels and gears from each of the drive modules. To do this, remove the outside Shaft Collar from the end of each of the 5 drivetrain shafts. Leave the shafts and motors in place. Save the removed Shaft Collars, you will need some in a later step.



Limited 90-day Warranty

This product is warranted by Innovation First against manufacturing defects in material and workmanship under normal use for ninety (90) days from the date of purchase from authorized Innovation First dealers. For complete warranty details and exclusions, check with your dealer.

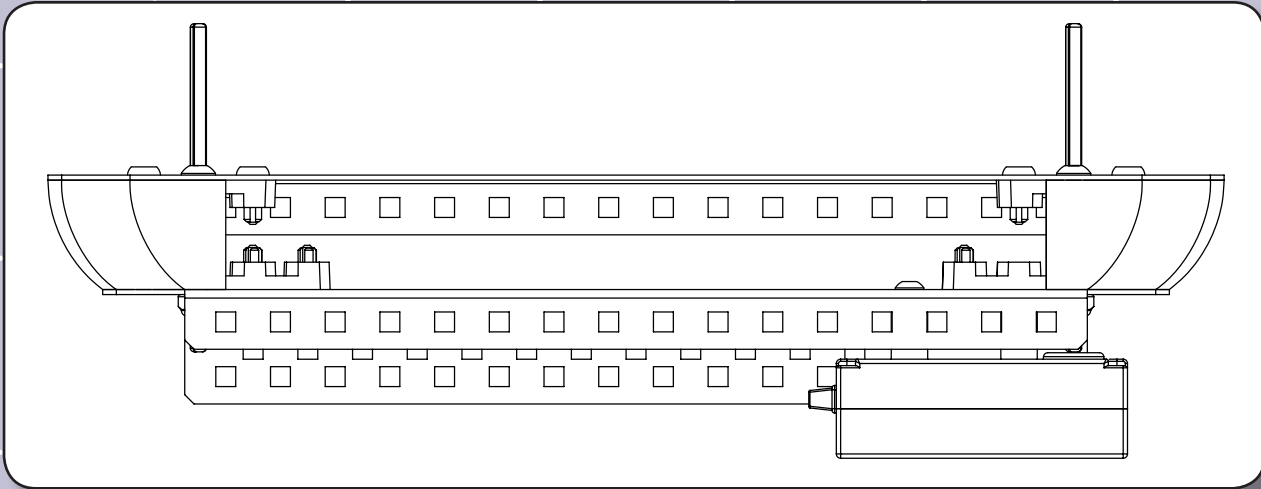
Innovation First, Inc.
1519 IH 30 W
Greenville, TX 75402

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www.VexRobotics.com

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VEXplorer Tank Tread Kit, continued

Once the wheels and gears are off, you now need to remove the 3 “middle shafts”. These shafts are not used with the tank tread system. These shafts are easily removed by removing their shaft collars. Also remove the (6x) bearings from these 3 shafts by pressing out the bearing pop rivets. The illustration below shows the 3 shafts and 6 bearings removed.

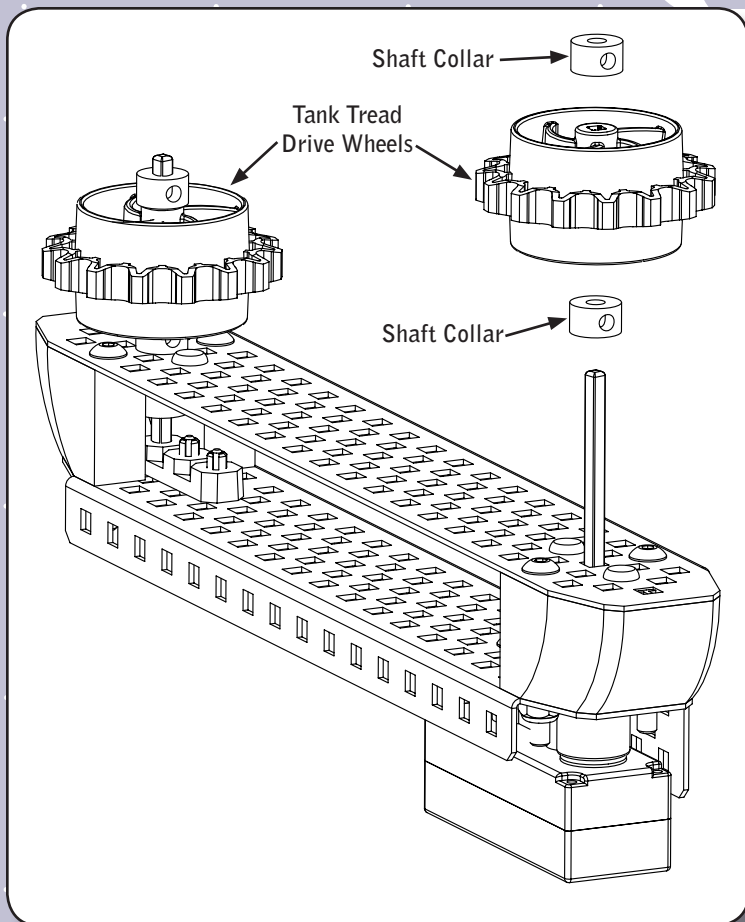


First install a Shaft Collar on each of the shafts, against the drive module chassis. (You will need to use the Shaft Collars that you previously removed from VEXplorer drive module.)

Note: It is important to prevent “slop” in the shafts. Try to make sure that the 2 Shaft Collars firmly “clamp” onto the chassis, holding the shaft from sliding in or out.

Now install the Tank Tread Drive Wheels, and then install another set of Shaft Collars to keep the Drive Wheels from sliding off.

Ensure the Drive Wheels are free of interference and spin relatively freely. (The wheel which is connected to the VEXplorer Motor, will have the resistance of the motor, but should otherwise turn freely.



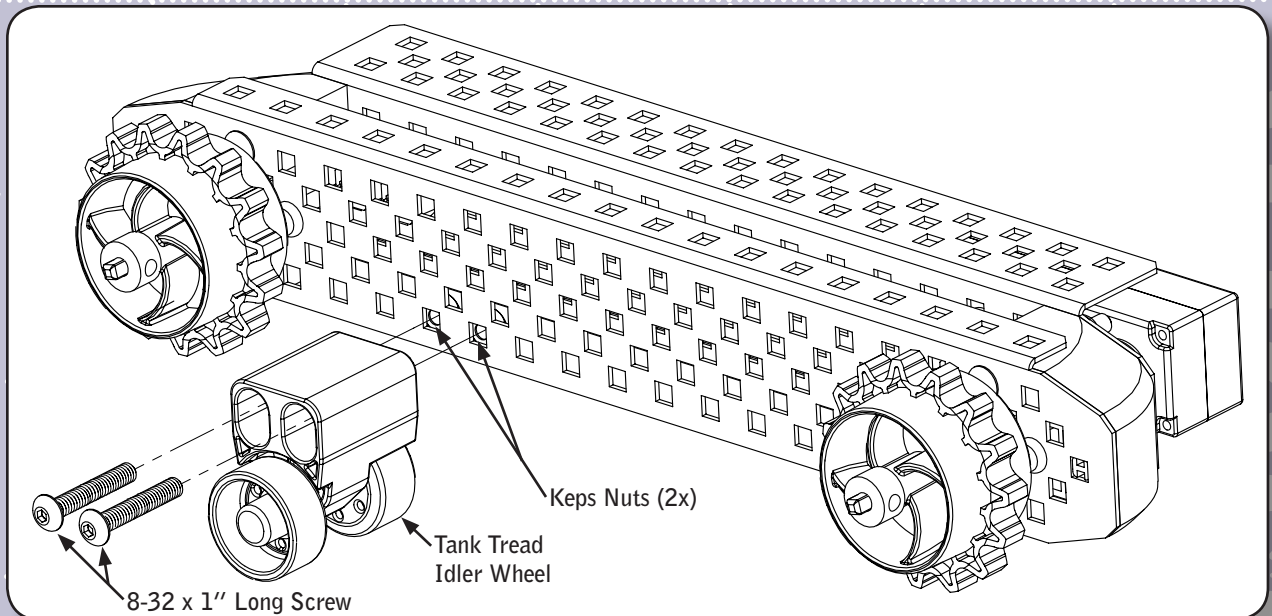
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VEXplorer Tank Tread Kit, continued

After the Drive Wheels are installed and secure, install the Tank Tread Idler Wheel, using the 1" Long Screws, and Keps Nuts. This part should be installed with the mounting screws in the bottom row of holes, on the drive module, as shown.

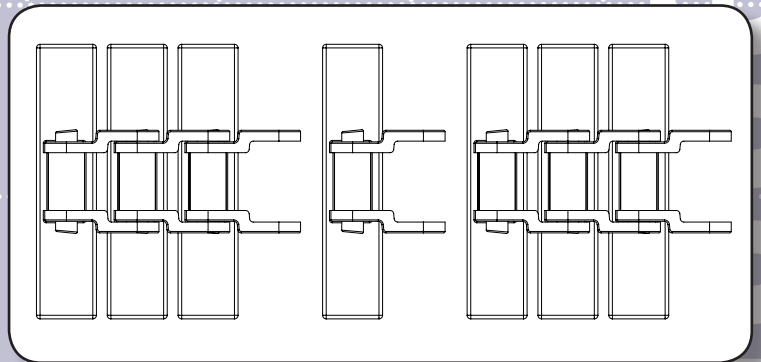
Note: This part has one flat "mounting face," ensure that this face is the one flush with the drive module or the screws will not be long enough.

We recommend using the specific mounting holes shown. Other holes will still work, but it will change the nature of the tread-profile, which will affect robot handling. Experimentally modifying this profile can result in different performance, try different positions, and see what happens.



This Idler Wheel has mounting "slots" in it. These slots allow for tensioning of the Tank Treads. These can be arbitrarily set now, and adjusted later.

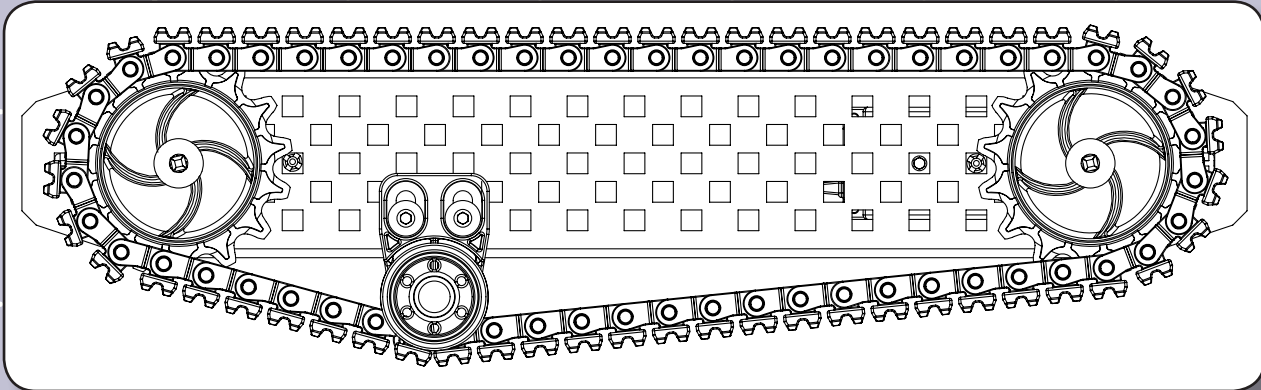
The last step in the assembly process, is to install the Tank Tread itself. Vex Tank Tread comes as a series of interlocking links. These links can be added or removed from a section by simply snapping them together or apart. Just bend the arms out – Gently! The material is slightly flexible, which makes it easy to separate links from the rest of the section.



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VEXplorer Tank Tread Kit, continued

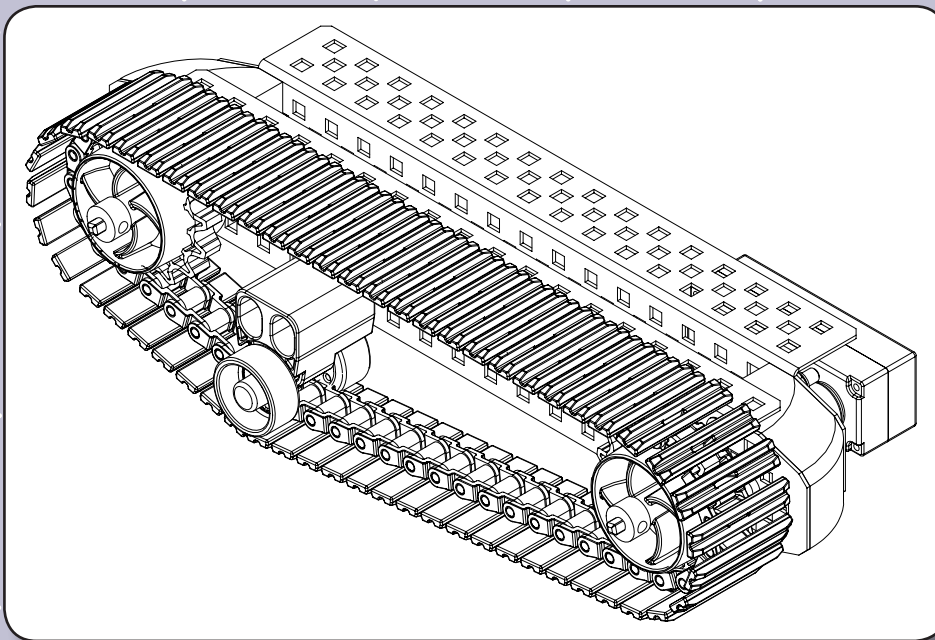
Stretch each 56-link section around the Drive Wheels, and Idler Wheels, and connect them together. It shouldn't be too difficult to connect the ends of the tread. If you find yourself having problems, try loosening your Idler Wheel to de-tension the tread.



You need to build (2x) modules; one like the one above, and a mirrored version for the other side. After both modules are fully assembled, you can loosen the mounting screws, and slide the Idler Wheels until the Tank Tread is tensioned well. The tread should be tight, and only have a little bit of flex up and down.

- Do not over-tighten, as it will result in additional friction in the system, and poor performance.
- Do not under-tighten, as it could result in the Tank Treads bunching up and/or popping off the drive wheels.

Try to ensure that your Idler Wheels are both set at the same "height". If they are uneven, it could negatively affect the performance of the VEXplorer; in this case, the VEXplorer would not sit flat on the ground.



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