2-Wire Motor 393

The 2-Wire Motor 393 is the primary actuator used in the VEX Robotics Design System. Build rotational mechanisms using this motor. Drive bases, rotational joints, conveyor belts, or anything that spins can be built using the 2-Wire Motor 393.

Connection

The 2-Wire Motor 393 does not have an internal motor controller.
The motor connects directly to 2-Wire Motor Ports (Ports 1 & 10 on the Cortex Microcontroller). For 3-Wire Motor Ports (Ports 2-9 on the Cortex), a Motor Controller must be used in between the Microcontroller and the motor.

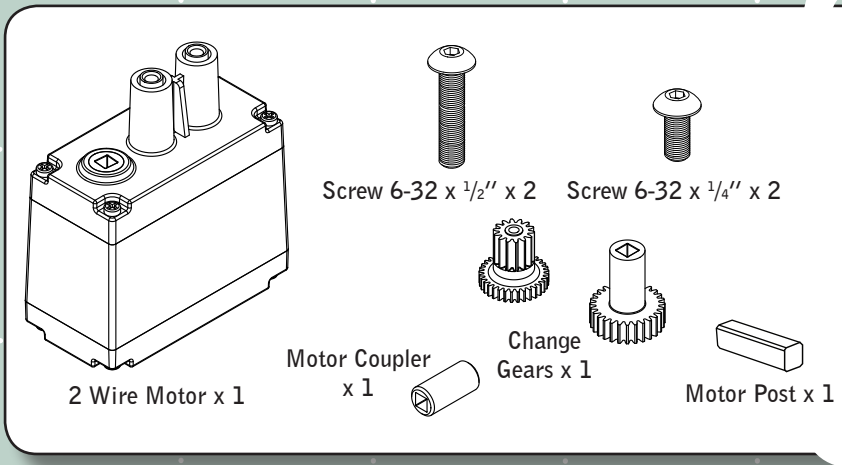
High Speed Option

Want to go faster than the standard motor but still have the same output torque as the standard motor? No problem! The 2 Wire Motor 393 kit can be configured into "high speed" or "turbo" versions. Simply follow the "Gear Change Procedure" step-by-step instructions to increase the output speed by up to 140%.

Motor Specifications

All motor specifications are at 7.2 volts. Actual motor specifications are within 20% of the values below.

Description	As Shipped	High Speed Option	Turbo Option (not included)
Stall Torque	1.67 N-m [14.76 in-lb]	1.04 N-m [9.2 in-lb]	0.70 N-m [6.2 in-lb]
Free Speed	100 RPM	160 RPM	240 RPM
Stall Current	4.8 Amps		
Free Current	0.37 Amps		



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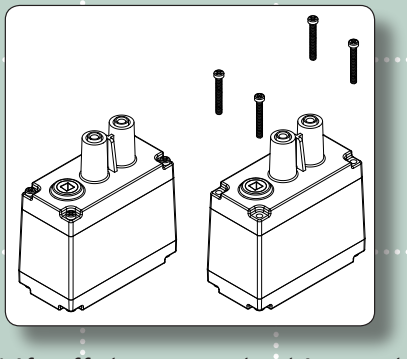
For More Information, and additional Parts & Pieces refer to:
www.vexrobotics.com

2-Wire Motor 393, continued

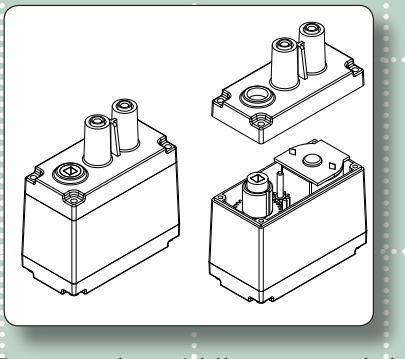
Gear Change Procedure

To configure the high speed option, follow these instructions:

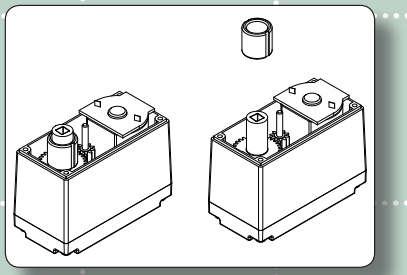
1. Remove the four screws in the corners of the front of the motor case.



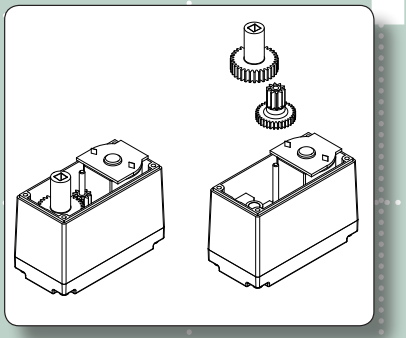
2. Lift off the top cover. Do not disturb the gears inside.



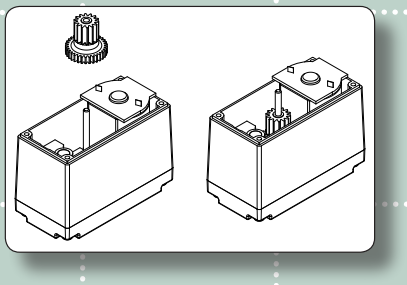
3. Lift off the output bushing and place to the side. This will be used later.



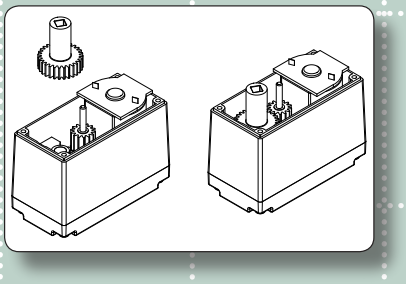
4. Remove the middle gear and the output shaft gear.



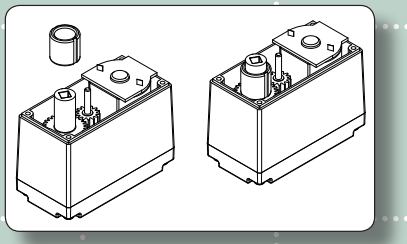
5. Install the high speed middle gear.



6. Install the high speed output shaft gear.



7. Install the output bushing removed in step 3. Make sure the bushing orientation is as shown.



8. Replace the cover and four screws removed in steps 1 and 2.