Holonomic Drive

(original design by FVC 3053, '06-'07, Occam's Engineers, posted at http://www.chiefdelphi.com/media/photos/28621 and photo 28620)

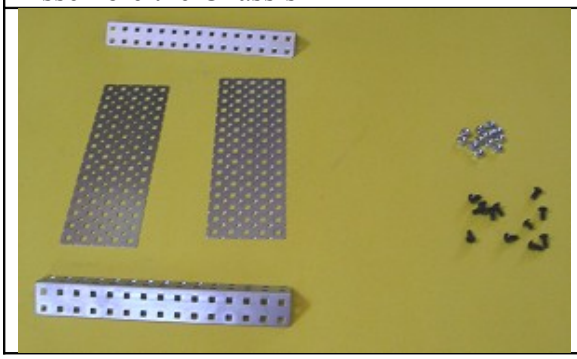
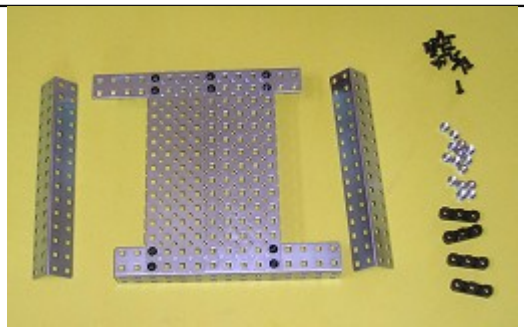
Parts needed:
1 Starter kit
1 Metal & Hardware kit
1 Extra Motor Module
4 Omniwheels (large or small)
1 Programming Kit

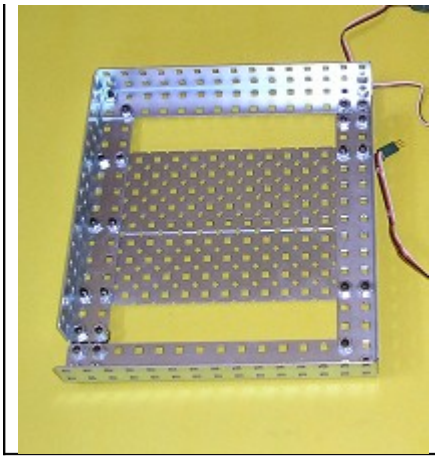
Note: The FVC/FTC bundle kit essentially includes both the Starter Kit and Metal & Hardware Kit.

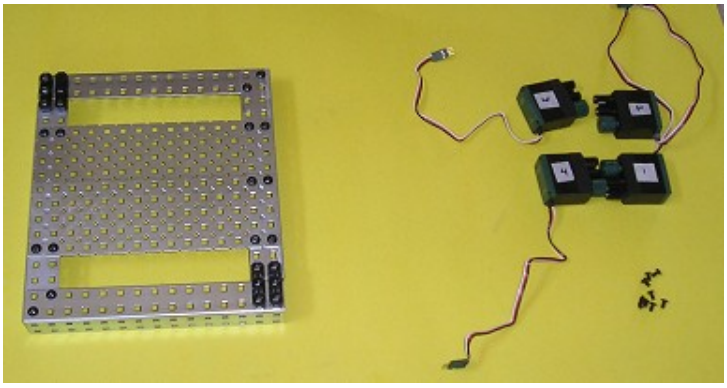
Pieces to cut: None

Project notes:
A holonomic drive typically enables a robot to rotate in place, move in any direction, or do both at the same time. This bot is fairly simple to build and fun to drive. The left joystick is used to shift the robot up/down/left/right. See if you program the bot to spin as well.

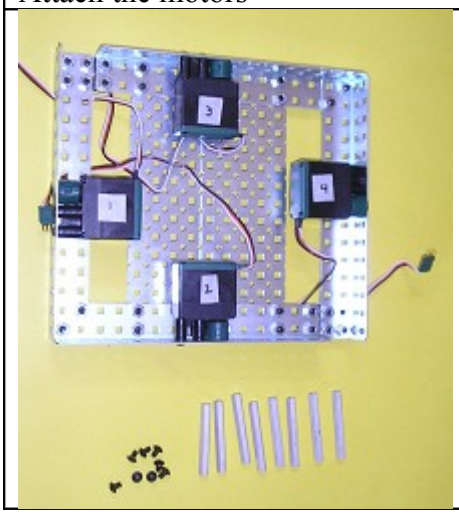
Building Procedure:

Assemble the Chassis	
	

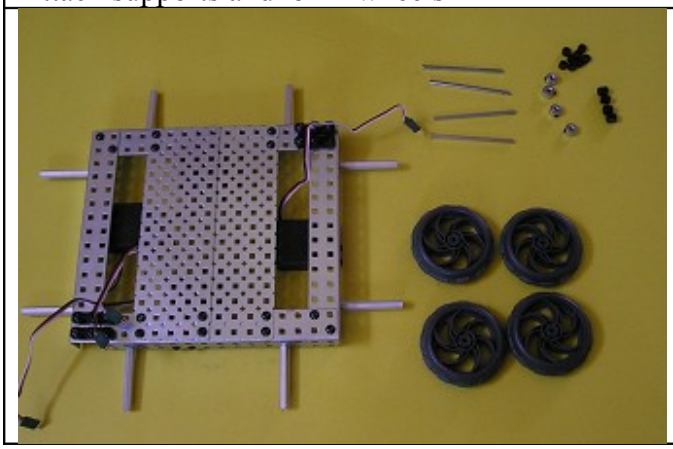


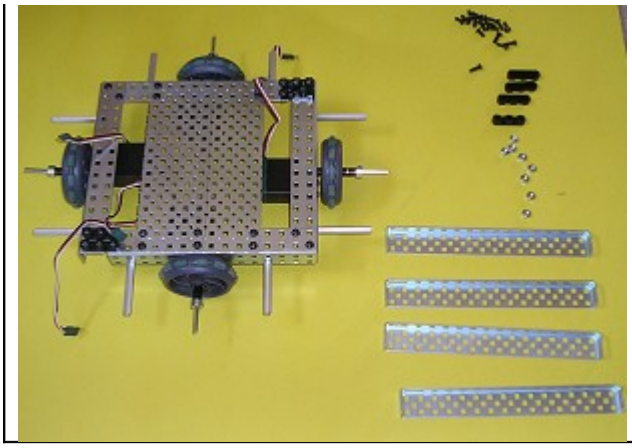


Attach the motors

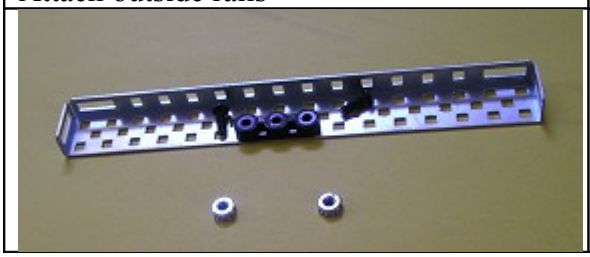


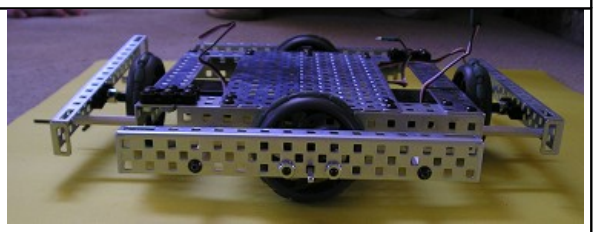
Attach supports and omniwheels



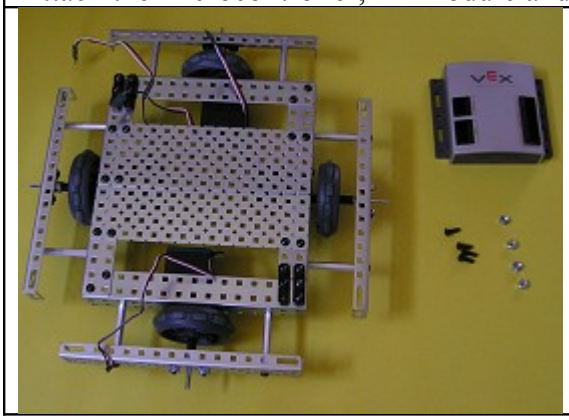


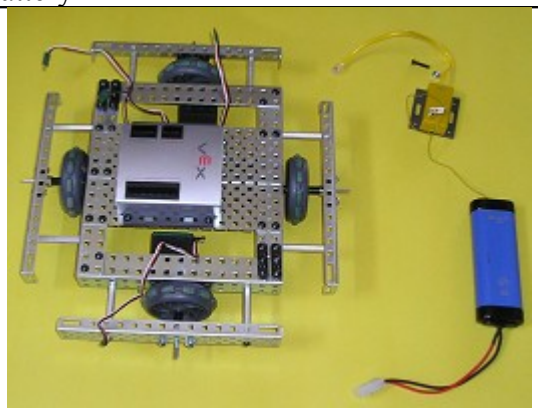
Attach outside rails



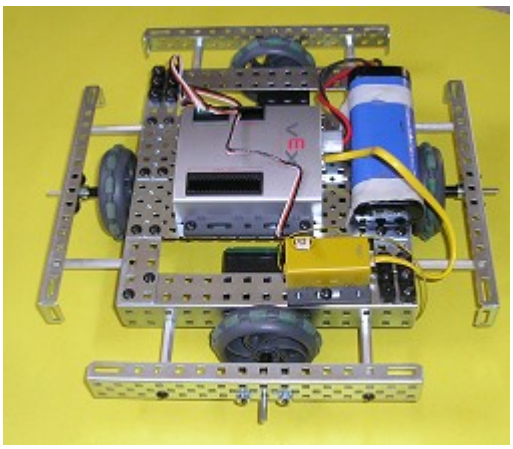


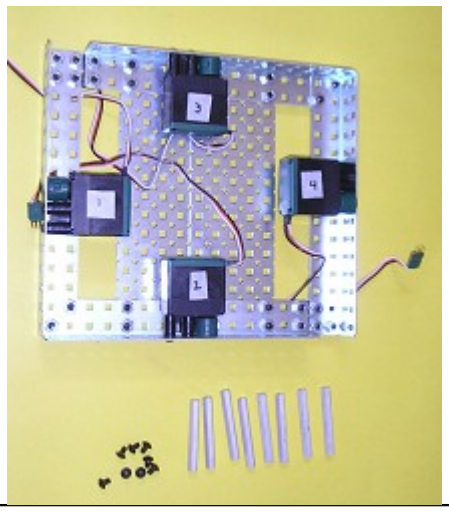
Attach the microcontroller, RF module and battery





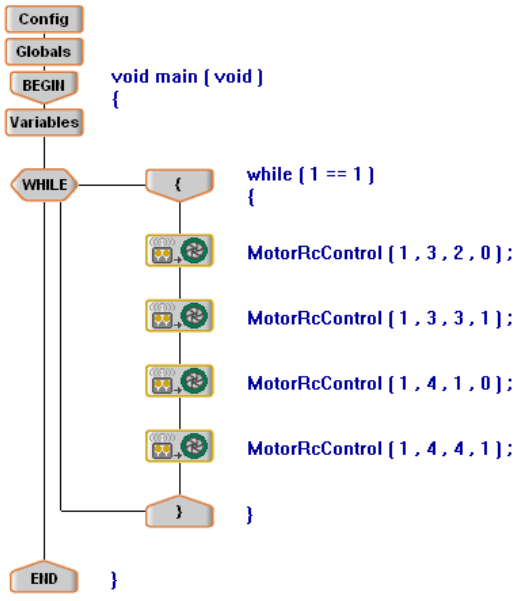
Attach the motor wires - motors labeled 1, 2, 3, 4 plug into ports 1, 2, 3, 4
Viewed from the bottom, the motor numbers go counter clockwise





Programming:

The following program allows the left joystick to shift the bot up/down/left right.




```
1  #include "Main.h"
2
3  void main ( void )
4  {
5      while ( 1 == 1 )
6      {
7          MotorRcControl ( 1 , 3 , 2 , 0 ) ;
8          MotorRcControl ( 1 , 3 , 3 , 1 ) ;
9          MotorRcControl ( 1 , 4 , 1 , 0 ) ;
10         MotorRcControl ( 1 , 4 , 4 , 1 ) ;
11     }
12 }
```