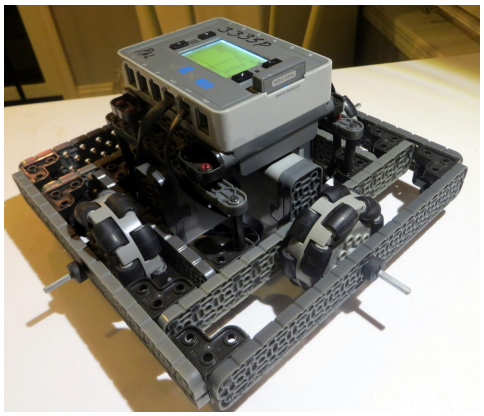
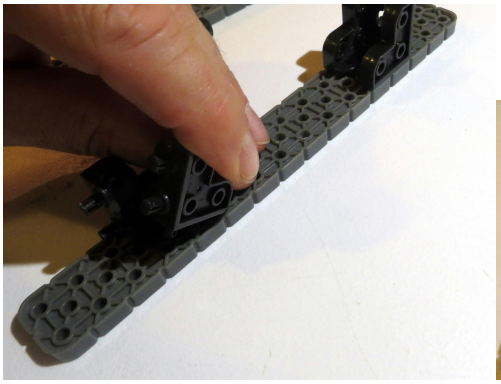
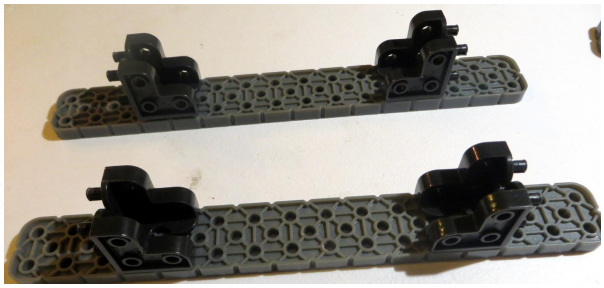
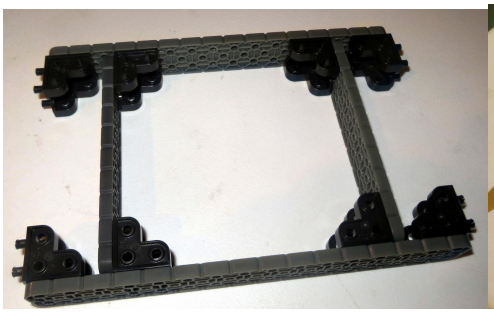
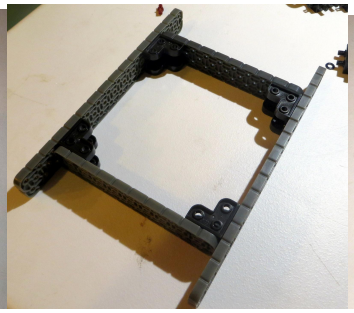
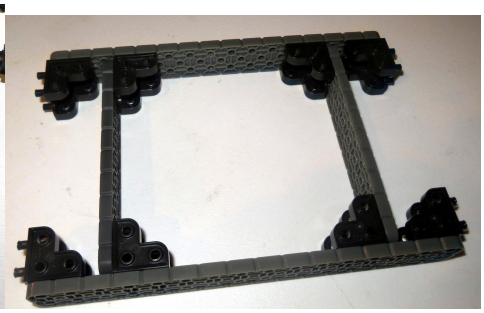
Slide Drivetrain



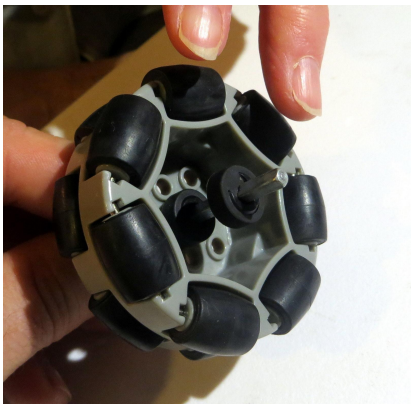
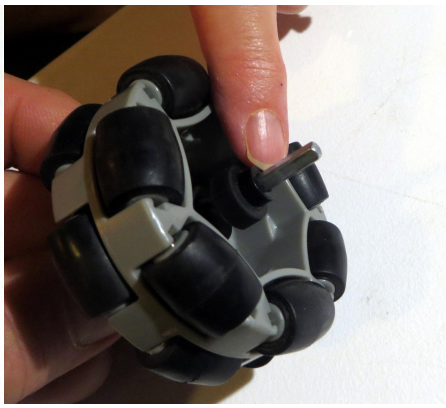
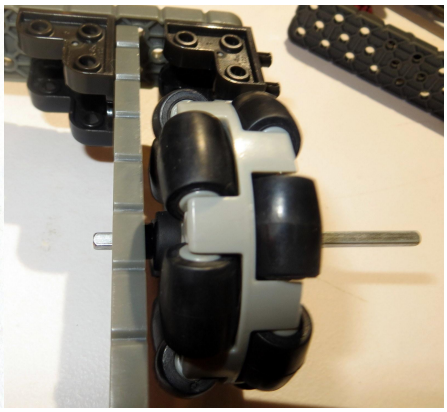
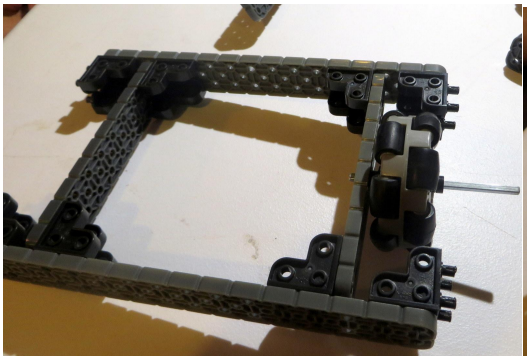
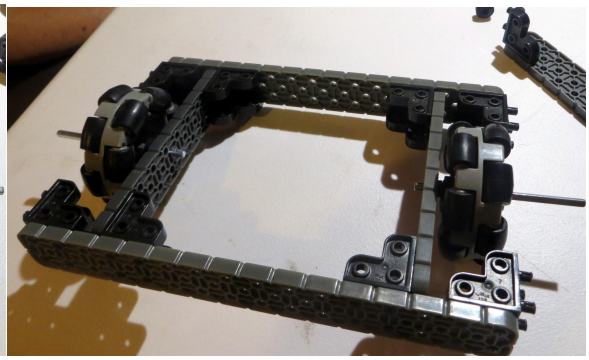
Before you start, make sure you have the right parts available. Set these parts on a table, and put all other parts away for now.

Brain & Battery	(4) #3 shafts	6() 2x16 beams	(4) 2x2 black connectors
(4) motors	(12) spacer washers	2 () 2x10 Beams	(4) thin washers
(4) smart cables	(12) Rubber washers	2 () 1x10 Beams	(24) corner brackets
(4) Omni wheels	(4) 4x Standoffs		

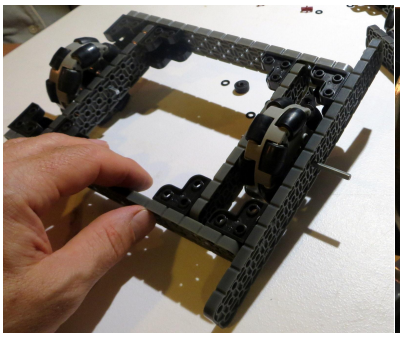
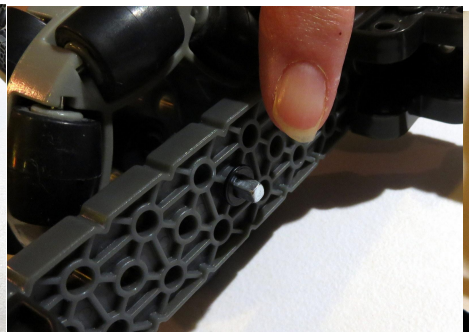
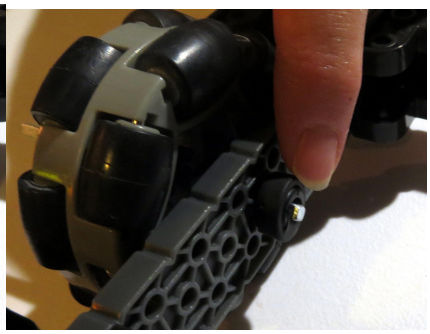
Step 1. Build frame. Supplies (2) 2x16 beams, (8) corner brackets, (2) 2x10 beams

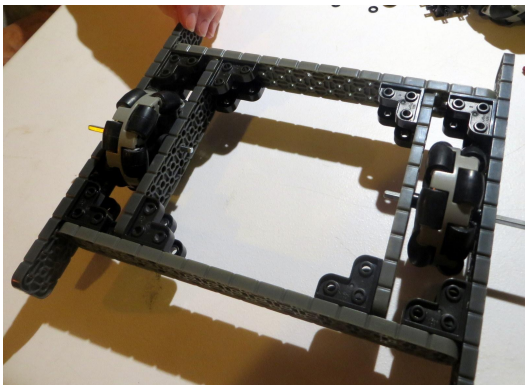






Step 2. Attach first set of wheels. (2) Omni wheels, (4) rubber washers, (2) spacer washers, (2) #3 shafts

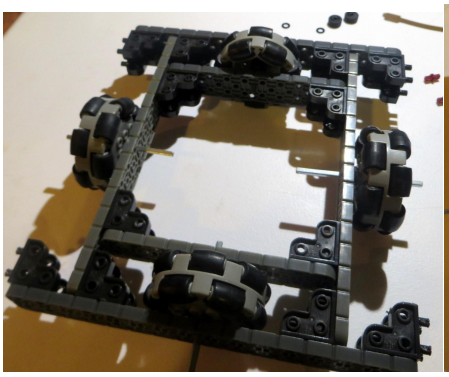
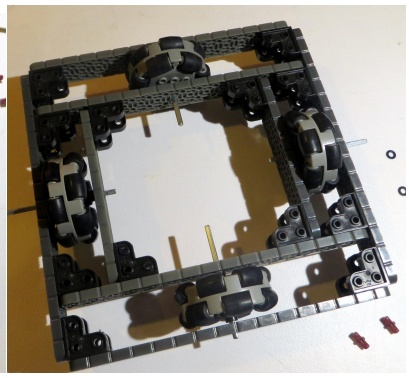






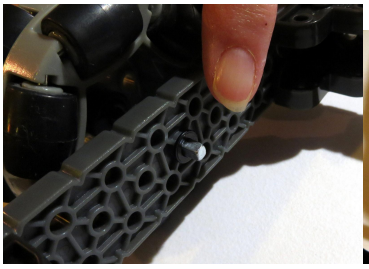
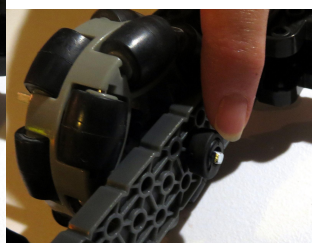
Step 3. Add supports and lock in wheels. (2) 2x16 beams, (2) thin washers, (2) rubber washers

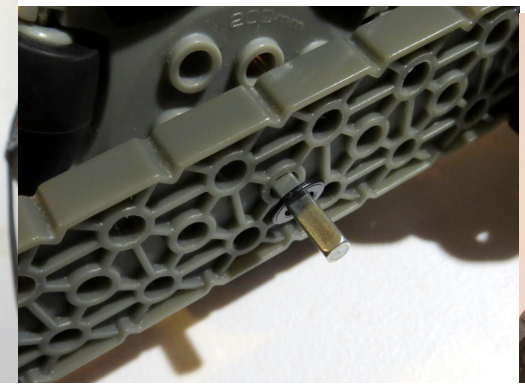
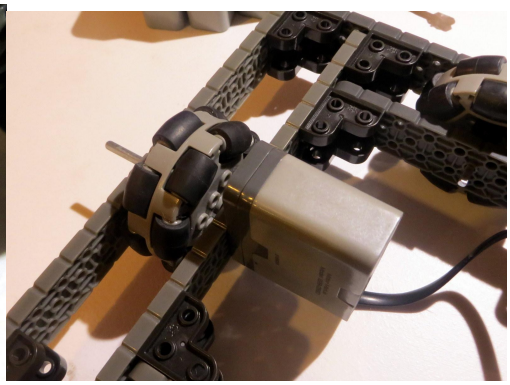
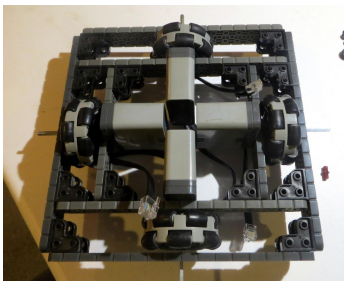


Step 4. Add second set of wheels. (8) corner brackets, (2) omni wheels, (2) #3 shafts, (6) rubber washers, (2) spacer washers, (2) thin washers, (2) 2x16 beams

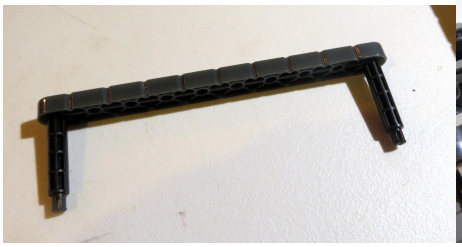
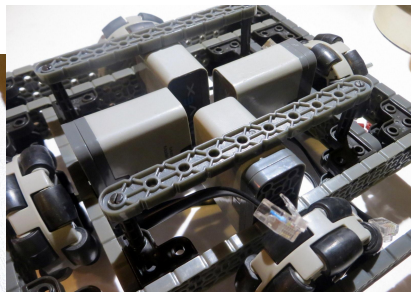
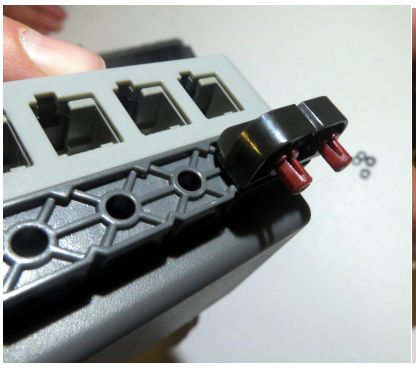



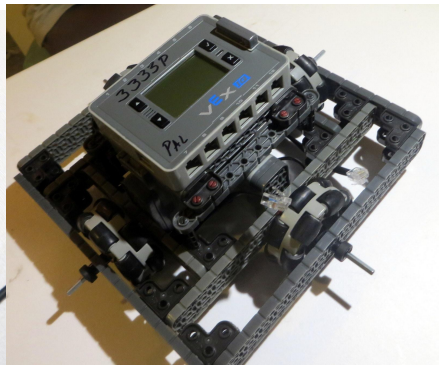



Step 5. Attach motors. (4) motors, (16) normal connectors, (4) thin washers, (4) medium length smart cables

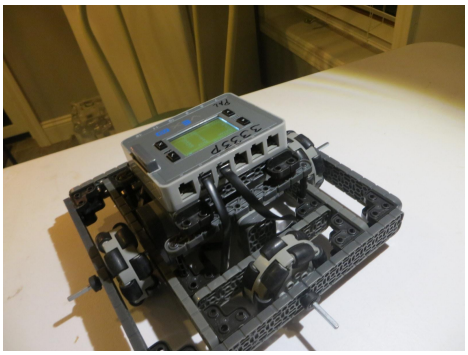





Step 6. Attach brain, (4) 4x standoffs, (2) 1x10 beam, (4) 2x2 brackets, (8) normal connectors



Step 8. Attach the smart cables to the brain.



Running the Robot

Note that with special programming the joysticks could be used to drive all 4 motors.

#CODE Cut & Paste everything below this line into Robot C

```
#pragma config(Motor,  motor4,    frontDriveMotor,   tmotorVexIQ, PIDControl,
encoder)
#pragma config(Motor,  motor5,    rightDriveMotor,   tmotorVexIQ, PIDControl, encoder)
#pragma config(Motor,  motor10,    rearDriveMotor, tmotorVexIQ, PIDControl, reversed,
        encoder)
#pragma config(Motor,  motor11,    leftDriveMotor,   tmotorVexIQ, PIDControl,reversed, encoder)

//*!!Code automatically generated by 'ROBOTC' configuration wizard               !!*//


task main()
{
        signed char cLeftRight;
        signed char cFrontBack;
        signed char cTwist;
        while(1)
        {
                cLeftRight = getJoystickValue(ChB);
                cFrontBack = getJoystickValue(ChA);
                cTwist = getJoystickValue(ChC);
                setMotorSpeed(frontDriveMotor,cFrontBack+cTwist);
                setMotorSpeed(rearDriveMotor,cFrontBack-cTwist);
                setMotorSpeed(leftDriveMotor,cLeftRight-cTwist);
                setMotorSpeed(rightDriveMotor,cLeftRight+cTwist);

                //Wait the timing interval
                wait1Msec(25);
        }
}
```