ELEGOO Smart Robot Car Kit V4.0

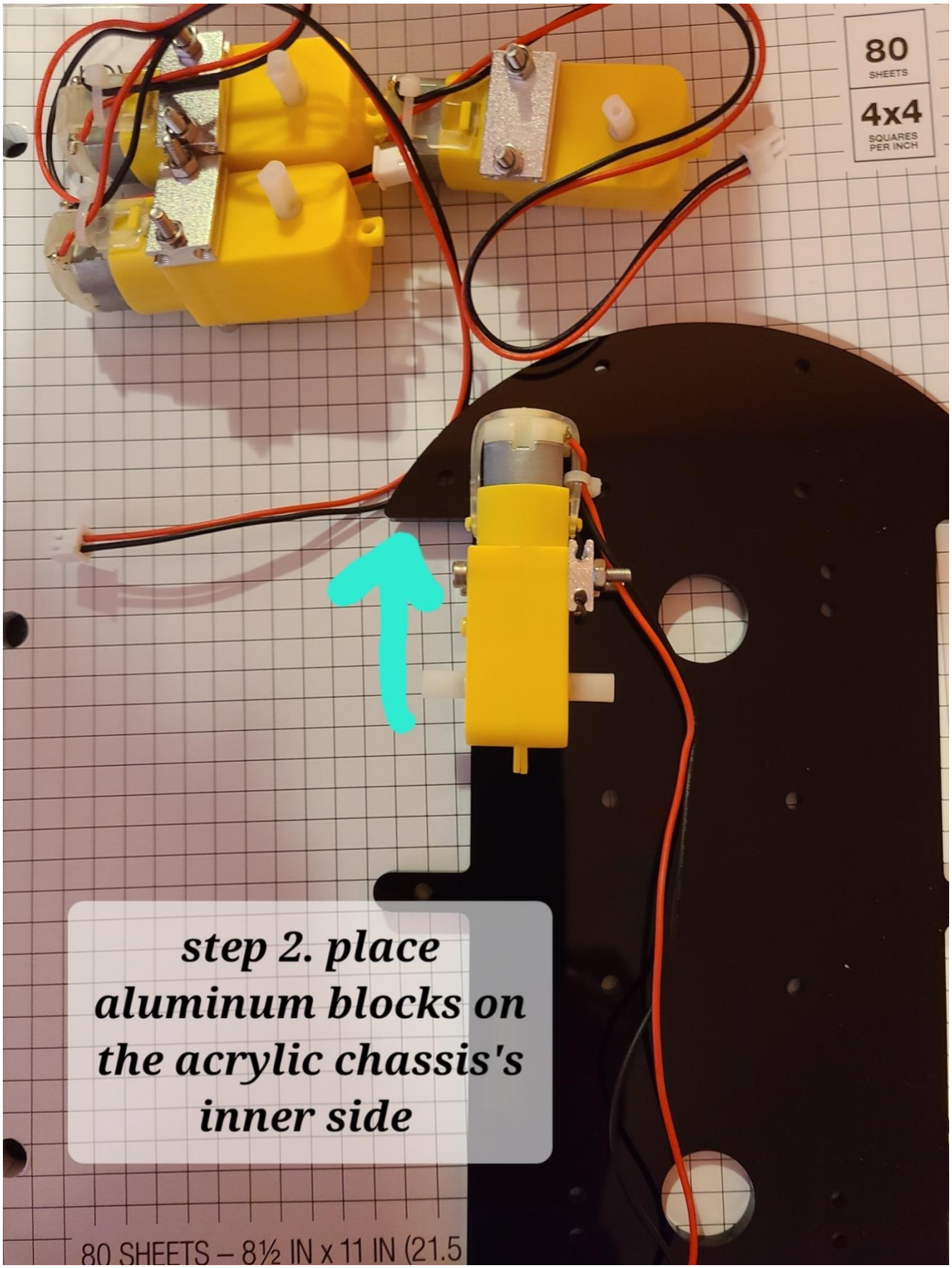
Visual Documentation of Robotic assembly
Callyn

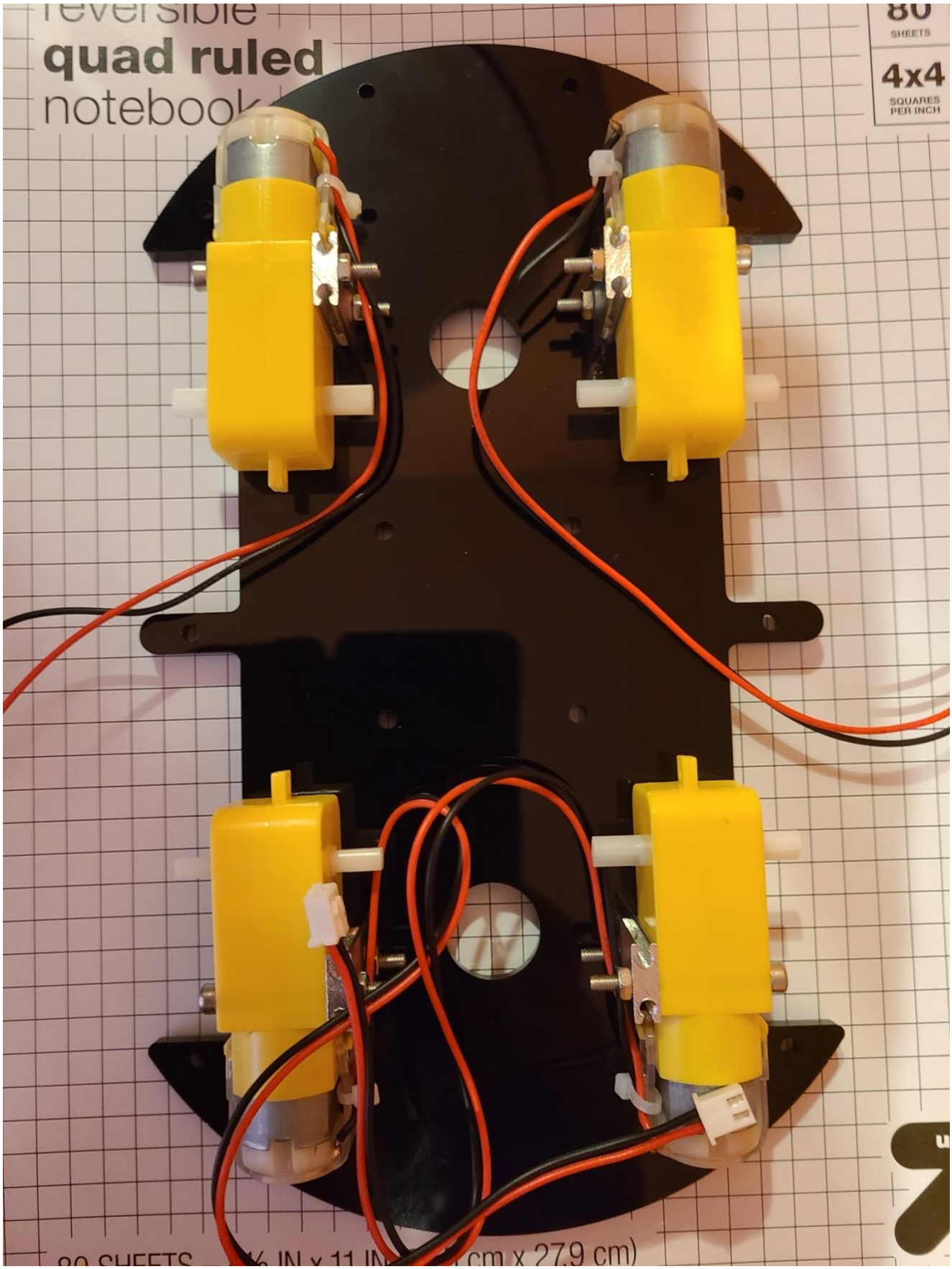
I decided to buy the ELEGOO smart car robotics kit (V4) on amazon to dive a bit into microcontroller programming. The Smart Robot Car kit comes in a nice plastic box with top layer organizer and includes assembly instructions along with a link to the demo tutorial/programs. I was particularly interested in learning more about the Arduino since I've dabbled with this tiny but powerful microcontroller back in 2020.

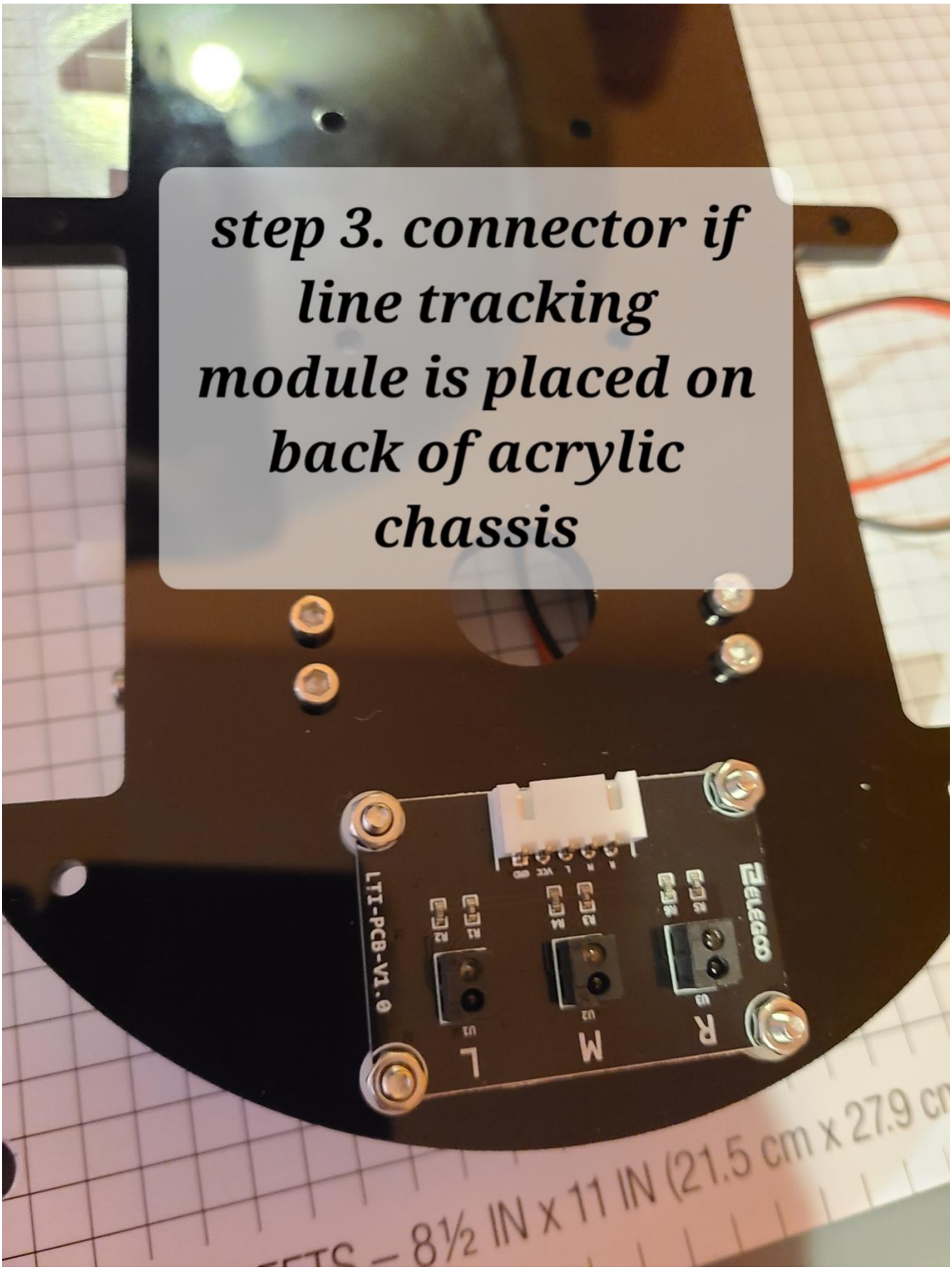
The Arduino UNO is a low-cost, flexible, and easy-to-use programmable open-source microcontroller board that can be integrated into a variety of electronic projects. This board can be interfaced with other Arduino boards, Arduino shields, Raspberry Pi boards and can control relays, LEDs, servos, and motors as an output.

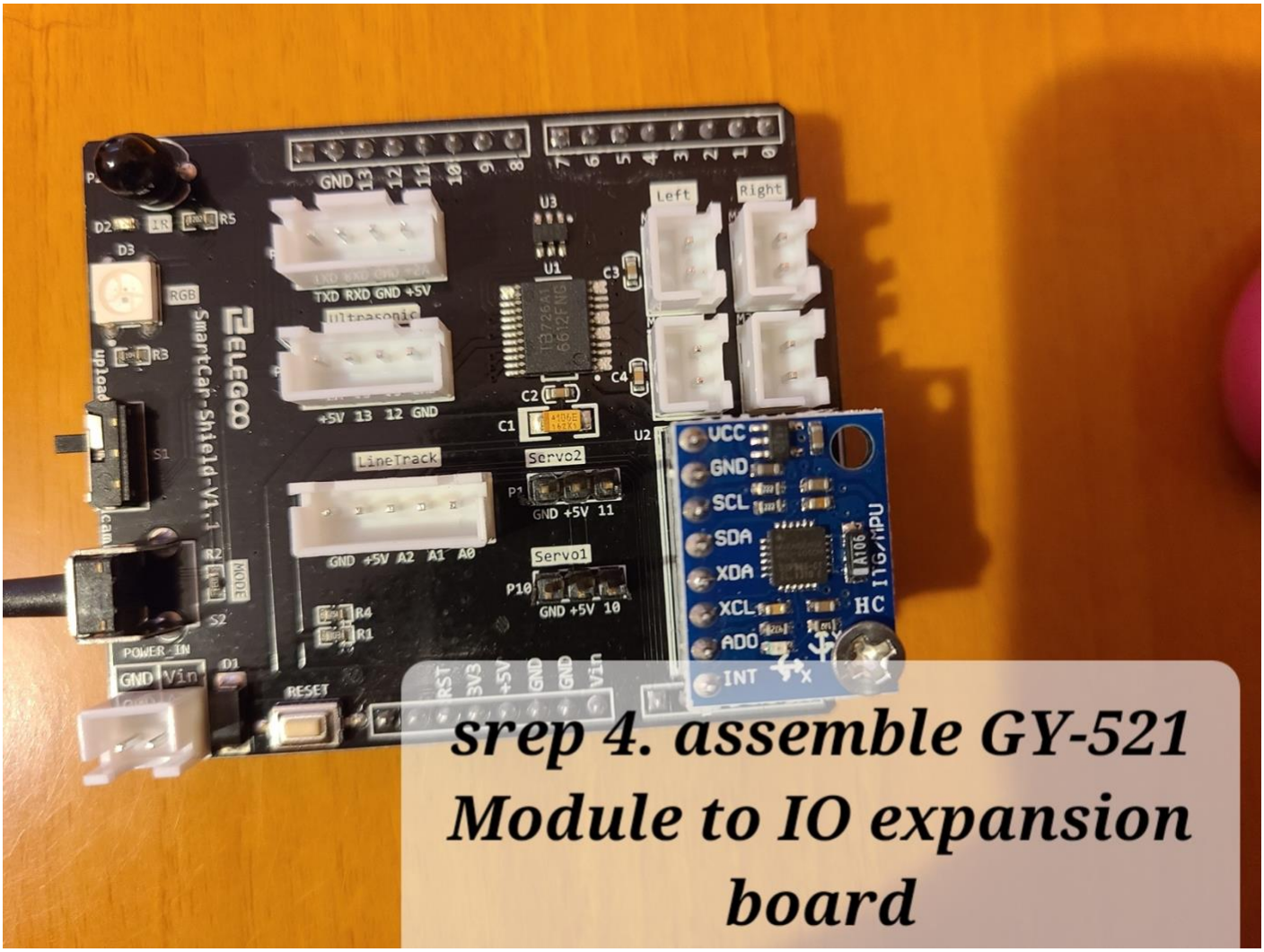
Arduino UNO features AVR microcontroller Atmega328, 6 analogue input pins, and 14 digital I/O pins out of which 6 are used as PWM output.

I wanted to document this before I started programming the robotic car for learning purposes.


80
SHEETS
4x4
SQUARES
PER INCH
step 2. place aluminum blocks on the acrylic chassis's inner side
80 SHEETS – 8½ IN x 11 IN (21.5

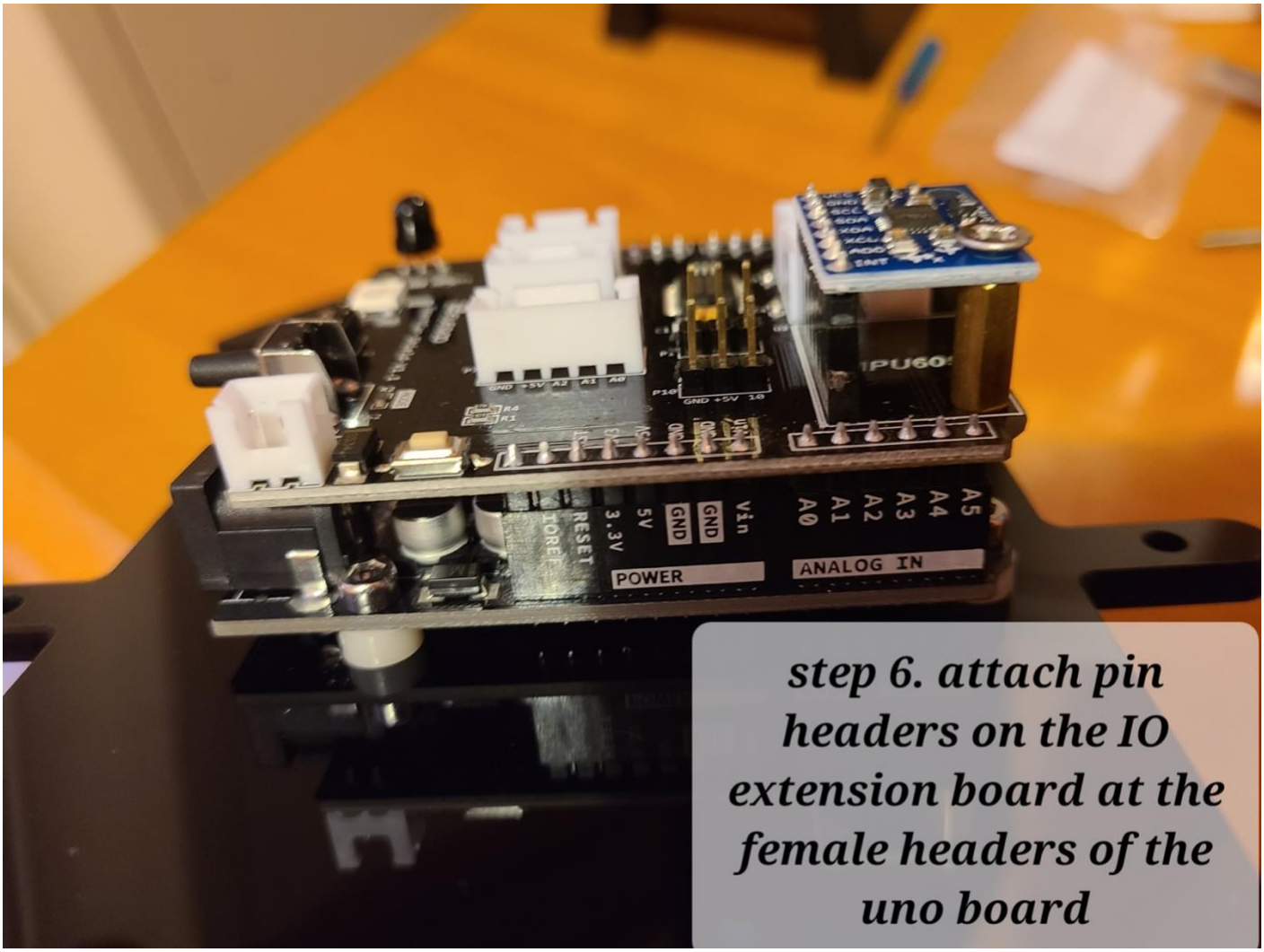

quad ruled
notebook
80
SHEETS
4x4
SQUARES
PER INCH


step 3. connector if line tracking module is placed on back of acrylic chassis
LTI-PCB-V1.0
L
M
R
8½ IN x 11 IN (21.5 cm x 27.9 cm

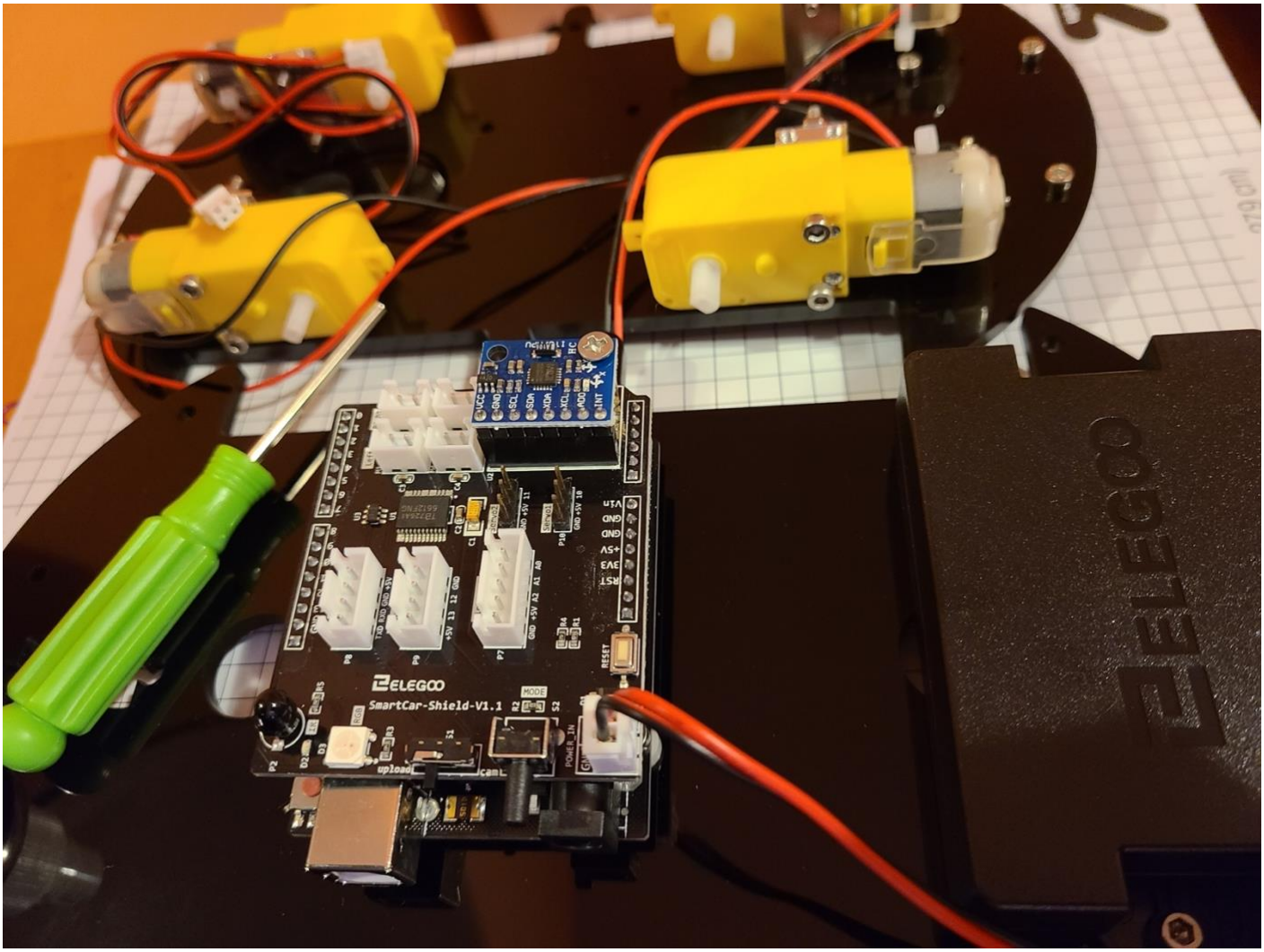


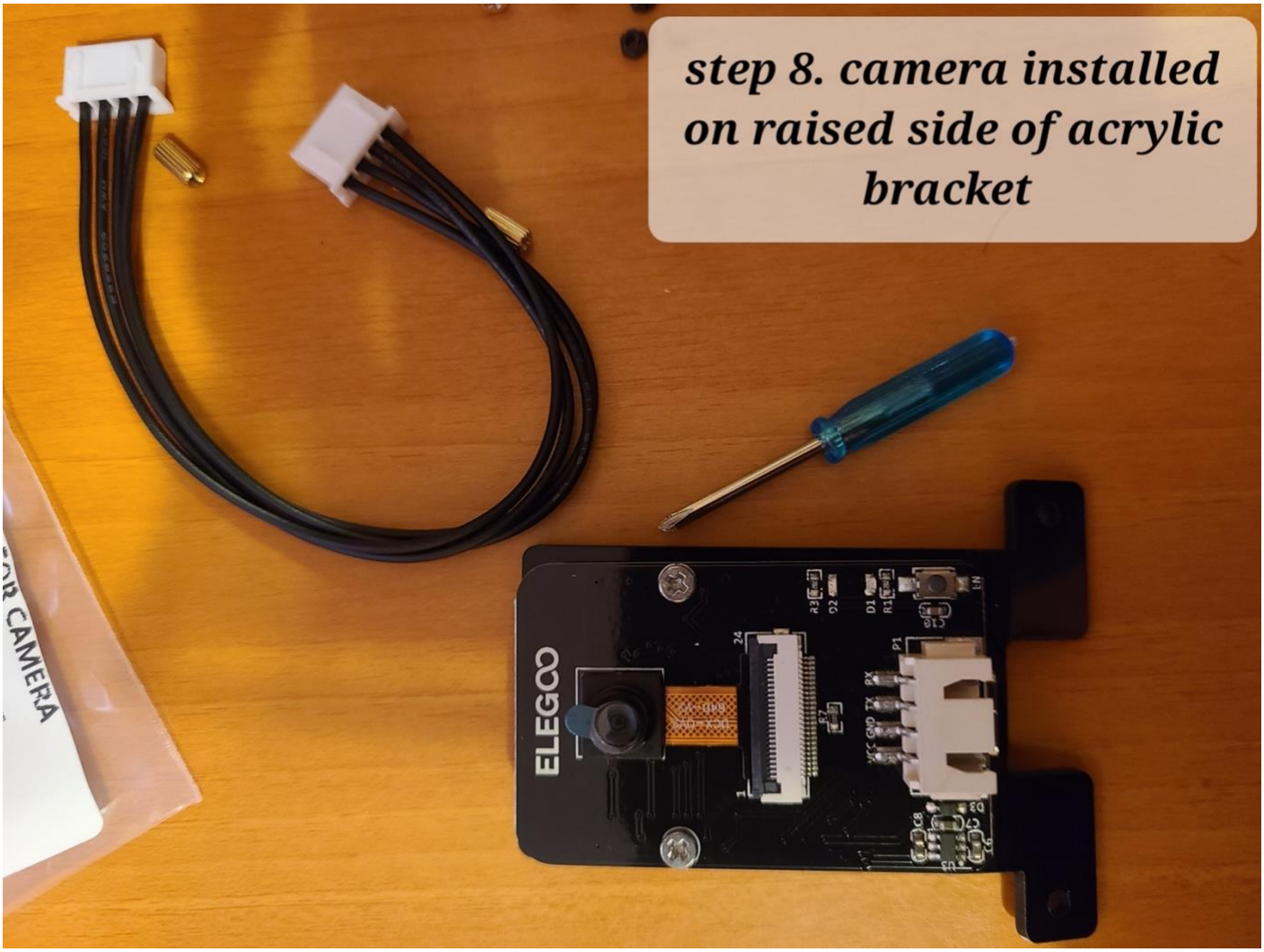
*Step lol


step 5. assemble uno
to acrylic board
RESET
AREF
GND
DIGITAL (PWM~)
ELEGOO
UNO R3
ON
POWER
ANALOG IN
www.elegoo.com

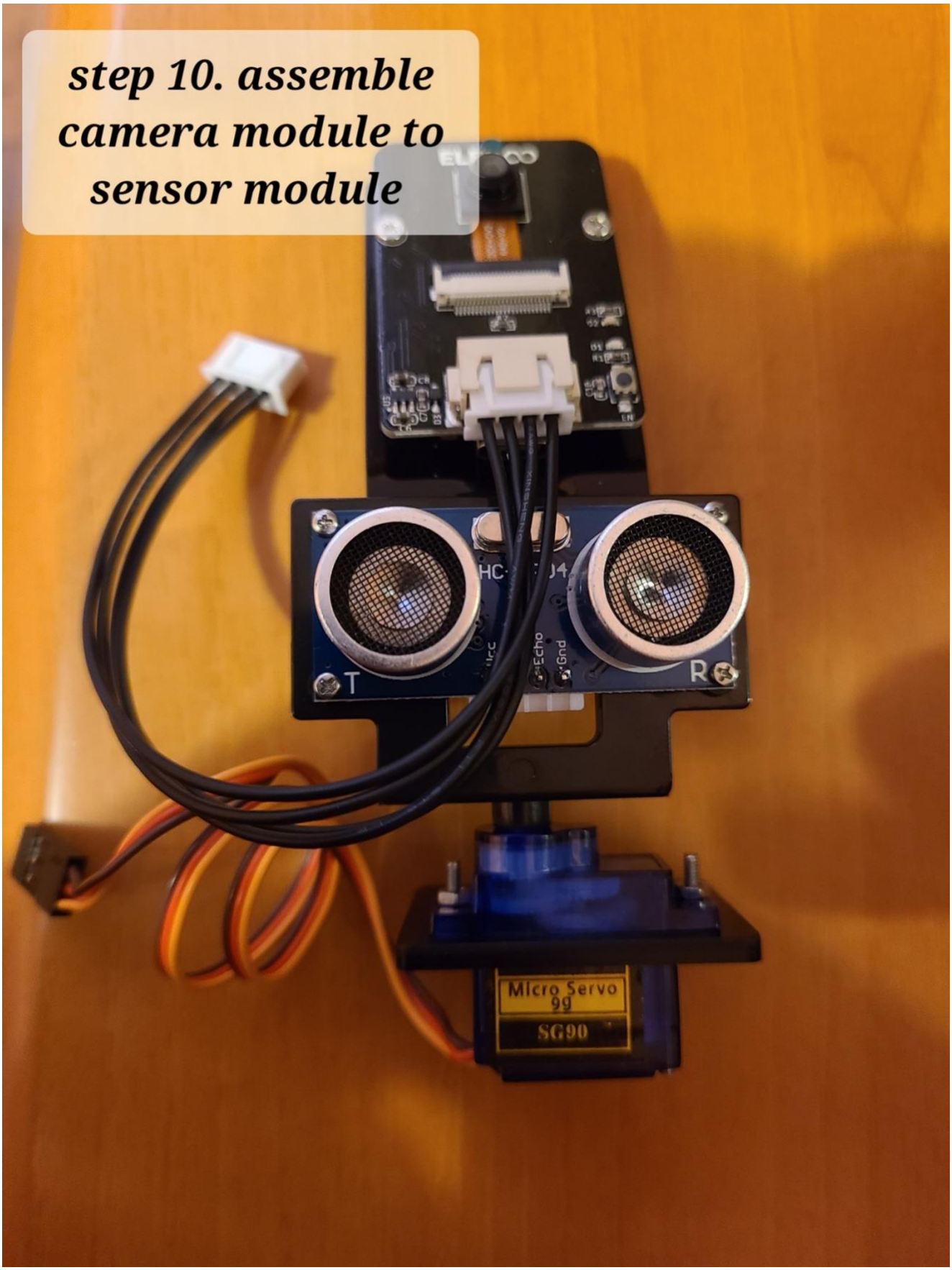

step 6. attach pin headers on the IO extension board at the female headers of the uno board
POWER
ANALOG IN
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5

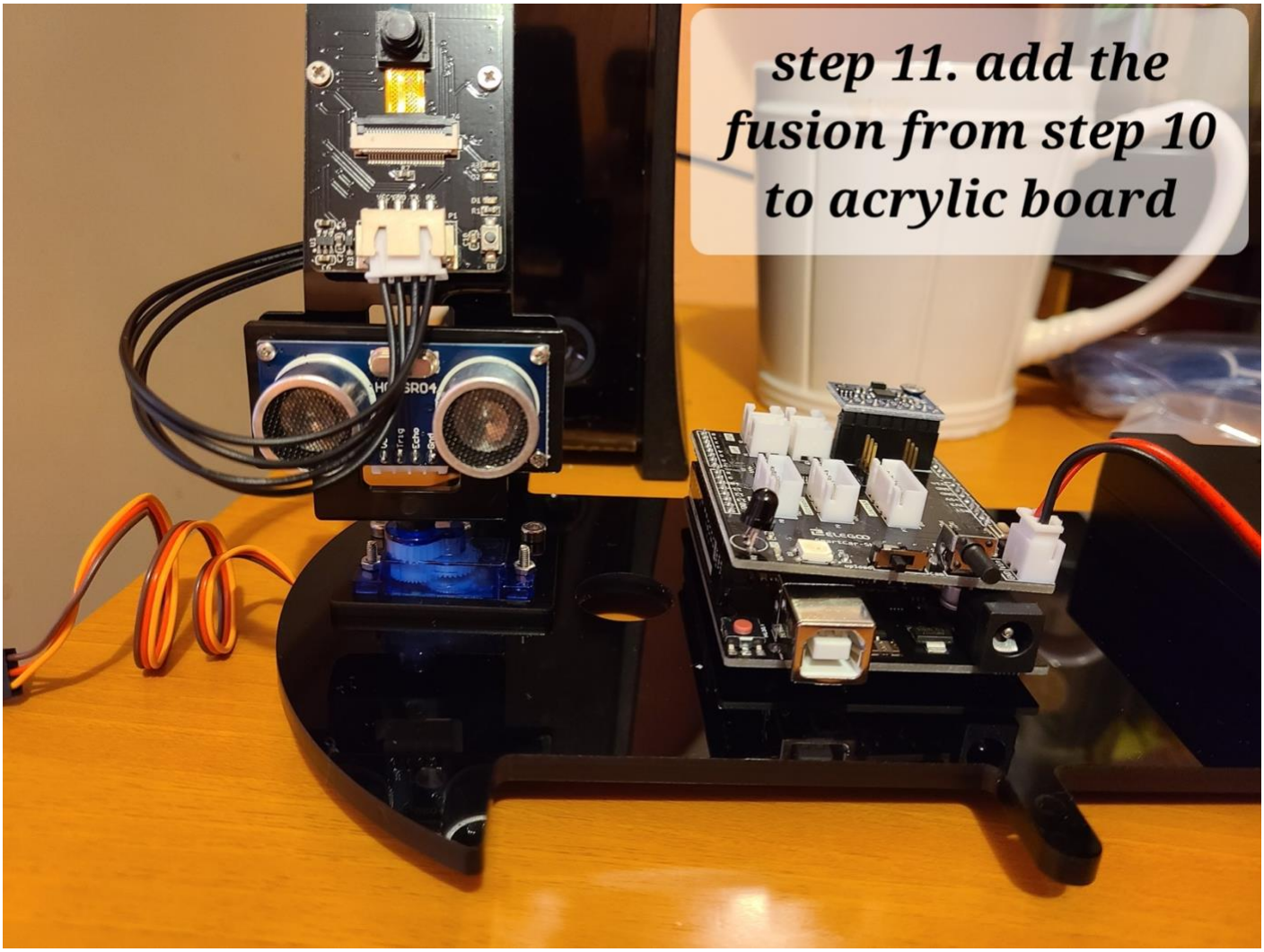

step 7. installing
battery
SmartCar-Shield-V1.1
ELEGOO
POWER IN
RESET
MODE
VCC
GND
SCL
SDA
XDA
XCL
ADO
INT
MPU6050

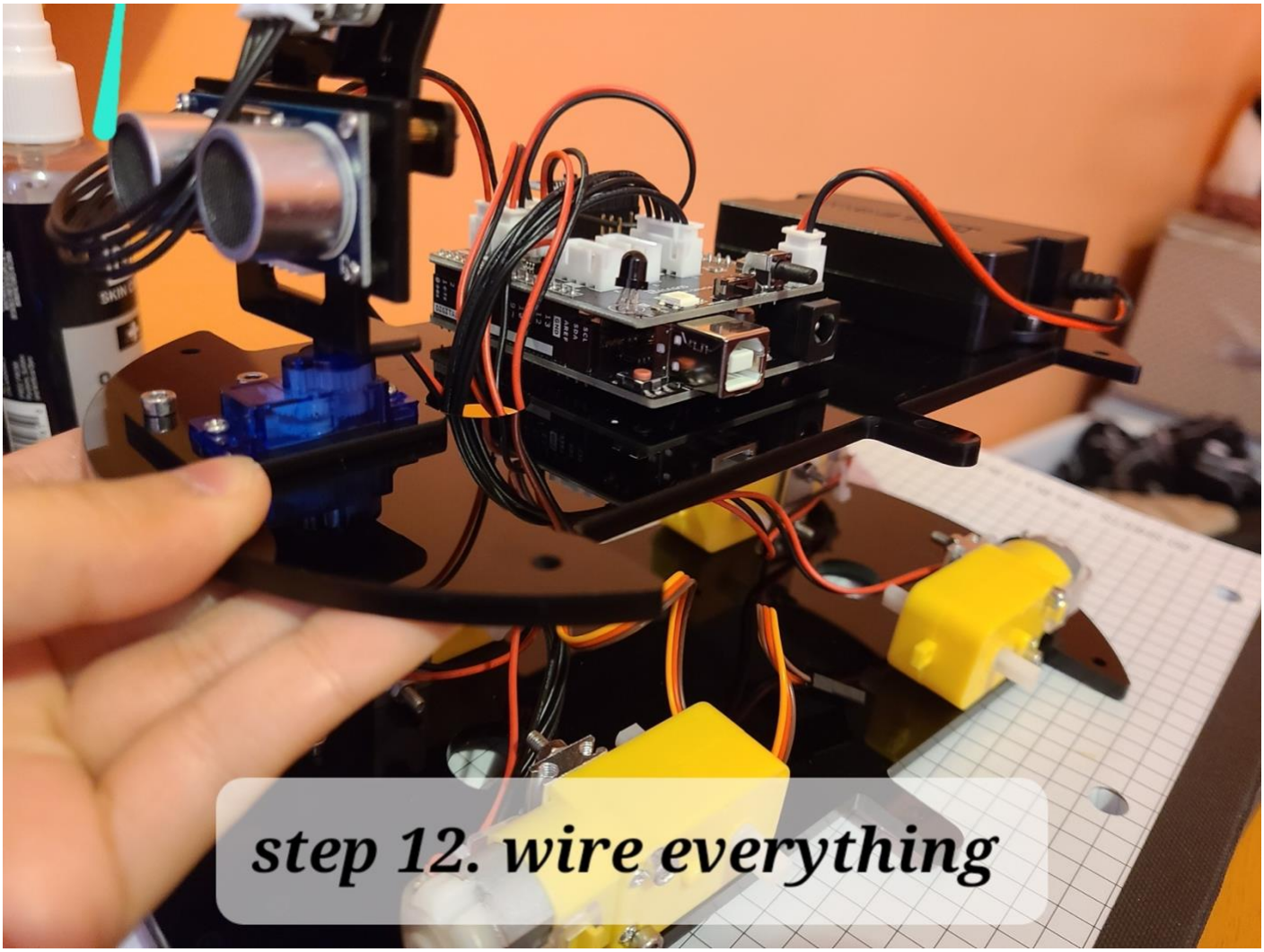

ELEGOO
SmartCar-Shield-V1.1
RESET
MODE
POWER_IN
upload
cam
VCC
GND
SCL
SDA
XDA
XCL
ADO
INT
Vin
GND
GND
+5V
3V3
RST

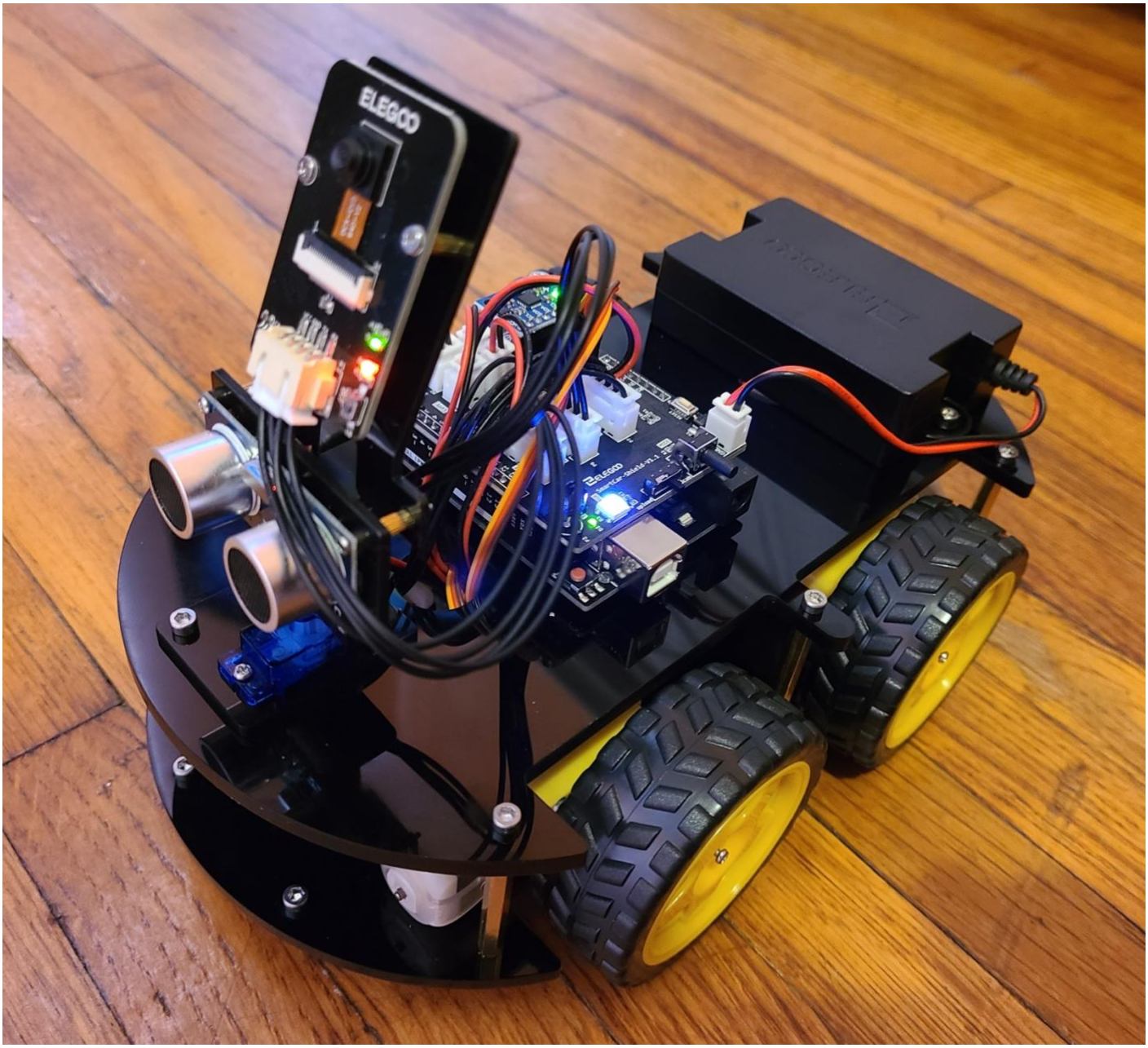

step 8. camera installed on raised side of acrylic bracket
ELEGOO


HC-SR04
Vcc
Trig
Echo
Gnd
T
R
Micro Servo
9g
SG90
step. 9 attaching
Micro servo to
sensor module


step 10. assemble camera module to sensor module
Micro Servo 9g
SG90
T
R
Echo
Gnd


step 11. add the
fusion from step 10
to acrylic board


step 12. wire everything



Finished result!