EGRA ROBOTIC ARM
Assembly Guide
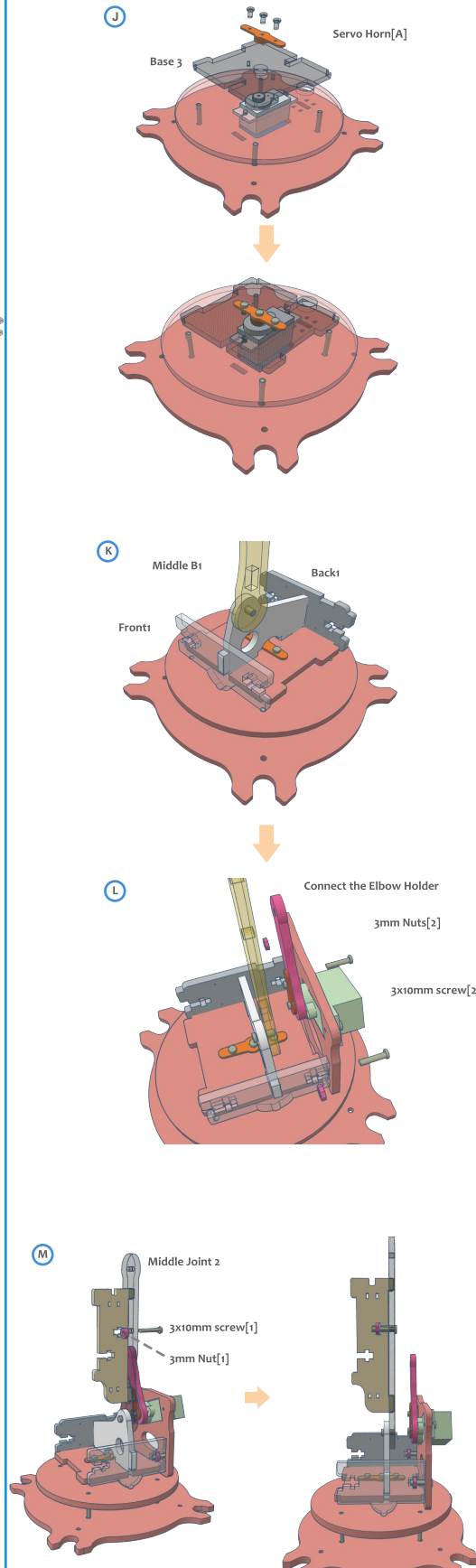
Column 1

A Base

Servo[1]

2x6mm screws[2]

B Base2

Base 2

3mm Nuts[4]

3x25mm screw[4]

C Middle Joint 1

3x8mm screw [1]

This is a Force Fit Screw

Middle B1

D 2x6mm[2]

Servo Motor

Shoulder Servo Holder

Use servo screws [2] to the Output Shaft

Use Servo Horn to adjust the Shoulder Servo for Calibration

E

Full Extended Position

F Shoulder Joint 1

G 2x6mm[2]

Servo Motor

Elbow Servo Holder

Use Servo Horn to adjust the Elbow Servo Calibration

H

Full Extended Position

I Elbow Joint 1

Servo Horn[B]

Use Servo Screws [2] to the Output Shaft

Column 2
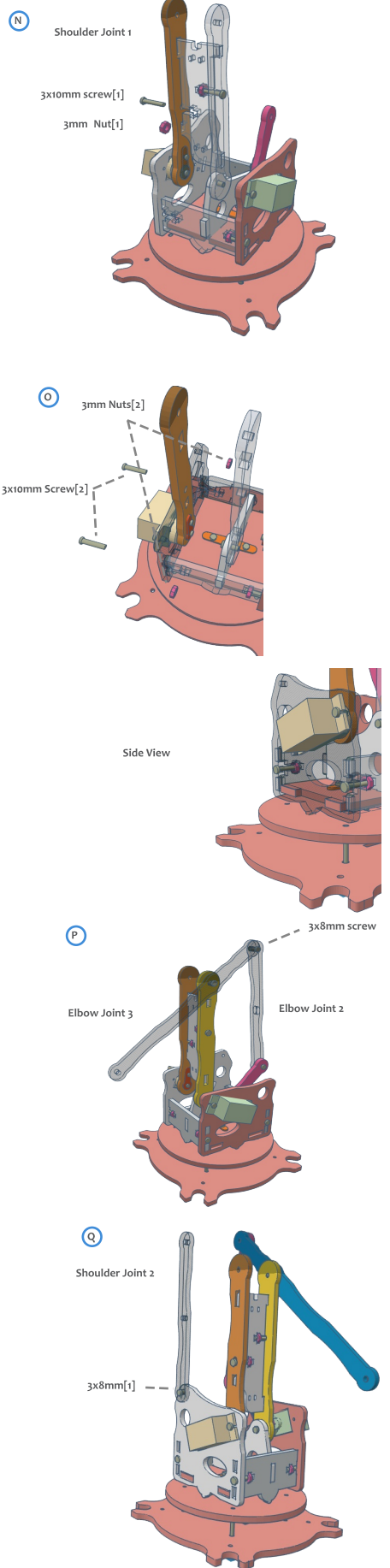
Before you place the Servo Horn together with Base3. Position the Servo in the center.

Place the Servo screws [3] to the Ouput Shaft.

J

Servo Horn[A]

Base 3

K Middle B1

Front1

Back1

L Connect the Elbow Holder

3mm Nuts[2]

3x10mm screw[2]

M Middle Joint 2

3x10mm screw[1]

3mm Nut[1]

Column 3

N Shoulder Joint 1

3x10mm screw[1]

3mm Nut[1]

O 3mm Nuts[2]

3x10mm Screw[2]

Side View

P 3x8mm screw

Elbow Joint 3

Elbow Joint 2

Q Shoulder Joint 2

3x8mm[1]

R

3x8mm screw

Shoulder Joint 3

This is a Force Fit Screw

S

3x10mm screw **This is a Force Fit Screw**

Shoulder Joint 4

T

Isometric View

U

3x8mm Screw

This is a Force Fit Screw

Shoulder Joint 5

Isometric View

V

Gripper B2

Gripper 2

Gripper 1

Servo Motor

Gripper B1

W

3x10mm screws[3]

X

Y

3x6mm screw

Gripper Right

Z

3x6mm screw

Gripper Left

1

Gripper Gear1

Gripper Gear2
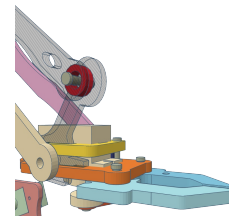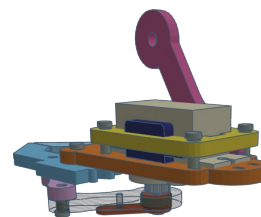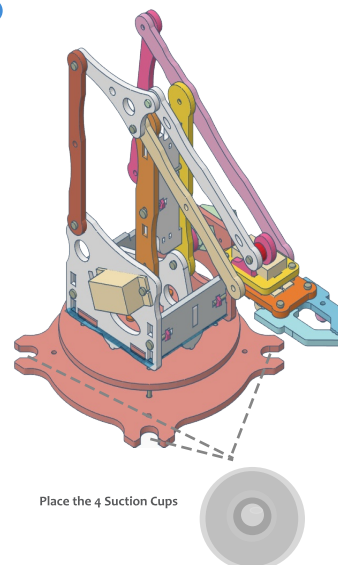
3x6mm screw[2]

This is a Force Fit Screw

Servo Horn

Use servo screws [2] to the Output Shaft

Gripper Perspective views

2

Place the 4 Suction Cups

3

BUCK CONVERTER /STEPDOWN DC-DC

GROUND

Servo's **BROWN** wires to the Ground

IN-   **OUT-**

IN+   **OUT+**

7.2V or VIN

Measure the output voltage make sure its 5V DC.

Servo's **RED** wires to the +5V output

SERVO MOTOR	Digital PINS
GRIPPER	PIN 3
ELBOW	PIN 5
SHOULDER	PIN 6
BASE	PIN 9

*Note: Use PWM pins for Servo motors signal input.

Screws:
  3x25 mm [4]
  3x10 mm [13]
  3x6 mm [4]
  2x6 mm [8]
  3x8 mm [7]
Nuts:
  3 mm [10]

GRIPPER	PIN 3
ELBOW	PIN 5
SHOULDER	PIN 6
BASE	PIN 9

GRIPPER

ELBOW

SHOULDER

BASE

GizDuino w/ATmega328P v5

Input Supply
7 to 12VDC

Buck converter

GND

5Vdc

Adjust
output voltage
to 5Vdc

7.2Vdc/Vin

GND