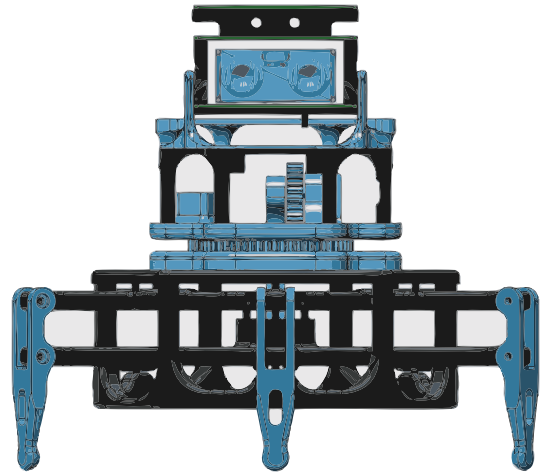
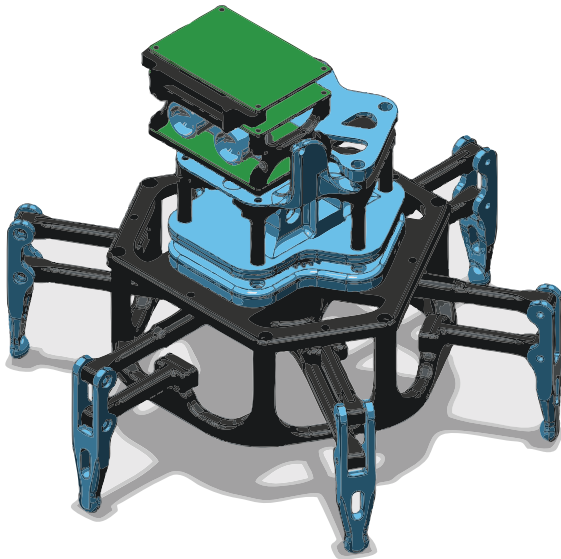
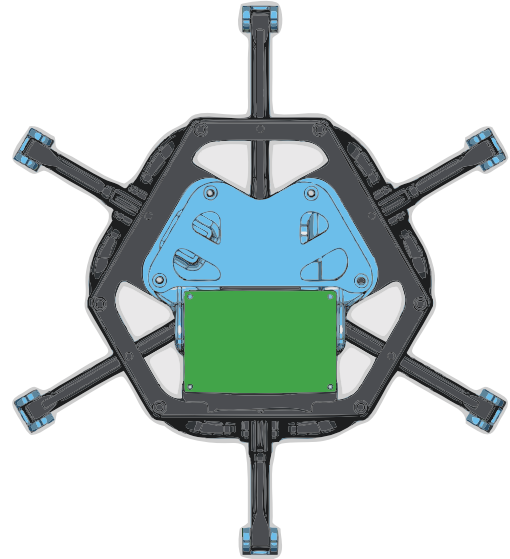


Assembly Manual



Hardware Index

Bearings

10x - 8x4x3mm

Washers

4x - ID 3mm x 1mm

8x - ID 4mm x 1mm

Screws

20 x - M3 x 8mm

18x - M3 x 10mm

21x - M3 x 12mm

5x - M4 x 14mm

12x - M2 x 8mm

Ball Studs

12x - M3 5mm Ball

Motors

1x 200RPM 6V N20

1x 300 RPM 6v N20

1x SG90 Micro Servo

Assembly A

Drive Mech

1x Lower Cage

1x Lower Cage Lid

1x TriLink

3x SlideLink

3x Extended Link Cap

6x Link Cap

6x Leg

6x Control Link

Assembly B

Drive Mech

1x Drive Cage

1x GearBox

1x Upper Collar

1x Rotatory Gear

1x Rotatory Base

1x Lower Collar

1x Plunger

1x Rotation Pinion

1x Drive Pinion

2x Spur Gear

3x 1mm Bearing Spacer

2x 2mm Bearing Spacer

Assembly C

Head Mech

1x Head Mount

1x Platform

1x Head Base

1x Sensor Bracket

2x Head Bracket

Assembly A - Leg Mech

1 Add ballstuds to Lower Cage and TriLink



6x M3 5mm Ballstud

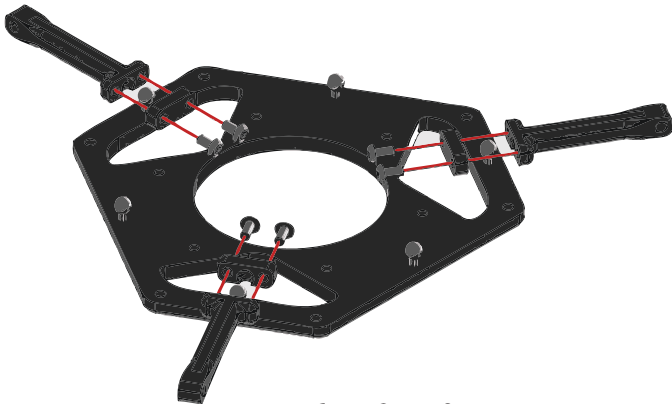
2 Attach Slidelink and Control Link. Repeat 3 times.



12x M3 x 8mm

Lower Control Link Requires Extended Link Cap!

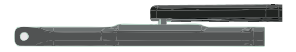
3 Add Ballstuds and Control Links to Lower Cage Lid



6x M3 x 8mm
6x M3 5mm Ballstud

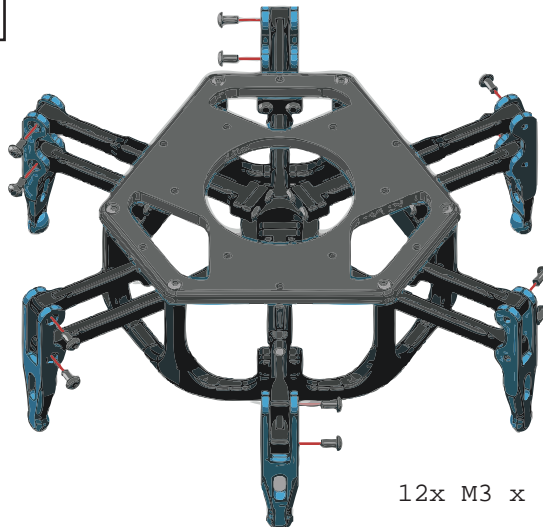
4 Screw Lower Cage to its lid.

Slide each ballstud into its channel



6x M3 x 10mm

5 Screw each leg into its links

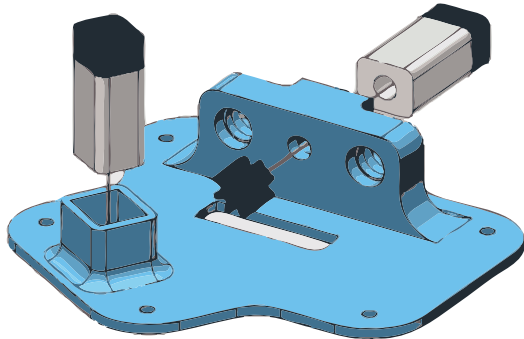


12x M3 x 12mm

Assembly B - Drive Mech

1 Install both gear motors.
Add drive pinion (with collar).

200rpm Gear Motor 300rpm Gear Motor

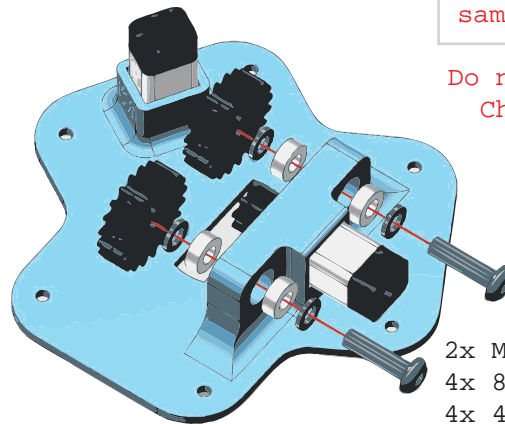


2 Add plastic spacers between bearings.
(not visible)



Align Gears in same orientation!

Do not overtighten!
Check movement.

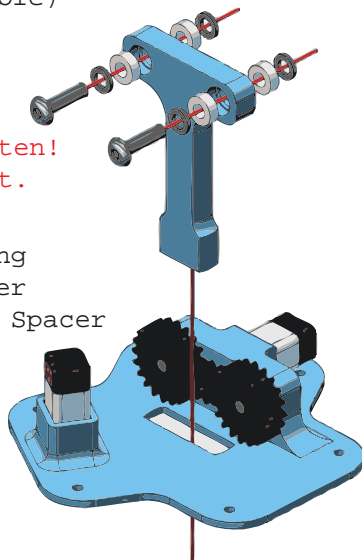


2x M4 x 14mm
4x 8x4x3 Bearing
4x 4mm ID Washer
2x 2mm Bearing Spacer

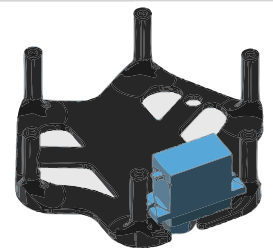
3 Add plastic spacers between bearings.
(not visible)

Do not overtighten!
Check movement.

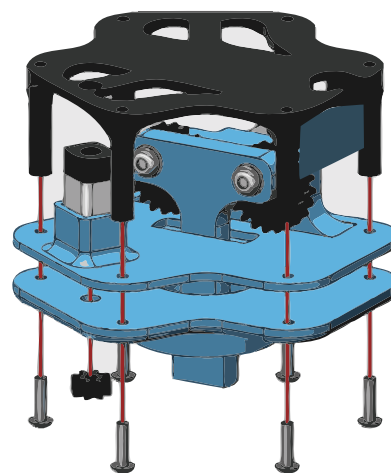
2x M4 x 14mm
4x 8x4x3 Bearing
4x 4mm ID Washer
2x 1mm Bearing Spacer



4 Install drive cage and upper collar.
Add rotary pinion.

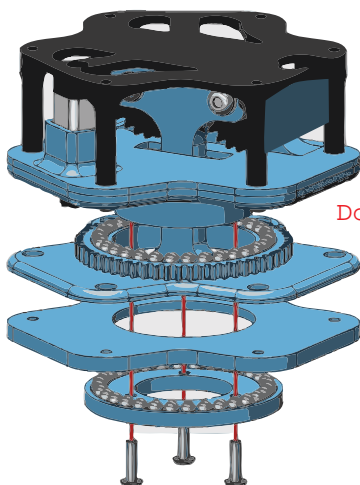


2x M2 x 8mm
Install Servo



6x M3 x 12mm

5 Assemble rotary components, adding ball bearings.



Do not overtighten!
Check movement

64x 4.4mm BB
3x M3 x 12mm

6 Attach Drive Mech to Leg Mech.
Manually rotate drive mech to access screws. Add 1mm spacer between bearings.

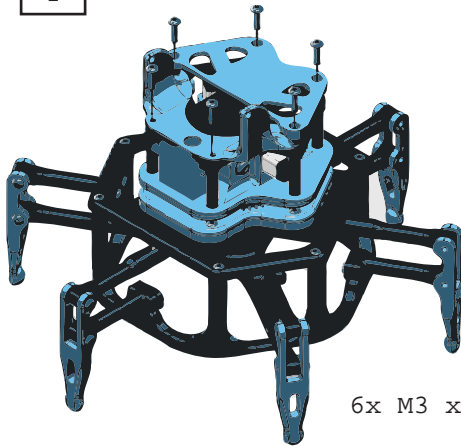
Two washers may be required!
Check movement



6x M3 x 10mm
1x M4 14mm
2x 8x4x3 Bearing
1x 3mm ID Washer

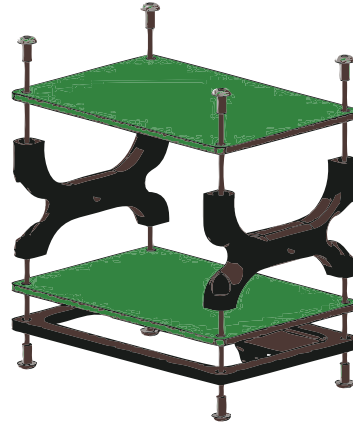
Assembly C - Head Mech

- 1** Install the Head Mount and Platform



6x M3 x 10mm Screws

- 2** After mounting your electronics to the circuit boards, attach to the Head Brackets, along with the Head Base



8x M2 x 8mm

- 3** Install the additional Sensor Bracket if required. Additional boards may be stacked. Mount the Head, linking the servo to the Head Base with linkage.



Additional M2 x 8mm
2x M3 x 8mm

- 4** Finished! Batteries can be mounted with velcro to the platform behind the head.

Now it's time to engineer your robot's circuits, or to write your program!

Good luck, and please enjoy!



Please write any questions or comments to Pilotgeek45@gmail.com . This is my first production version of this design, so it may not be perfect. Your feedback and contributions will help make future designs better! If you would like to contribute design changes, or a solution for a microcontroller to operate it (arduino sketch, etc), I'd love to see it!

Thanks for your support!