



PIONEERS IN
ENGINEERING

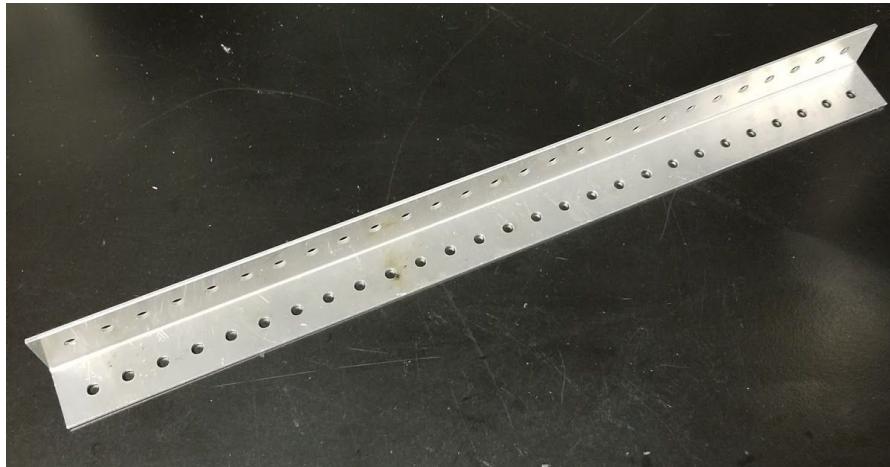
Kit Extension Catalog 2018

Mechanical Parts

Metal and Structure:

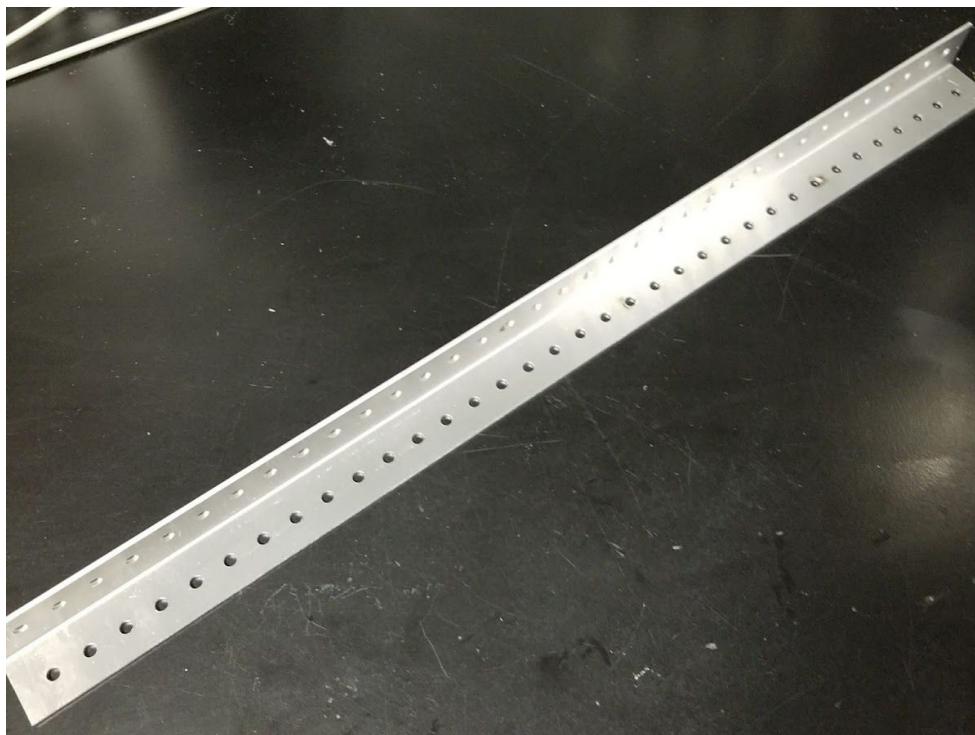
27-Hole PiE Metal:

5 Panda Points



35-Hole PiE Metal:

4 Panda Points

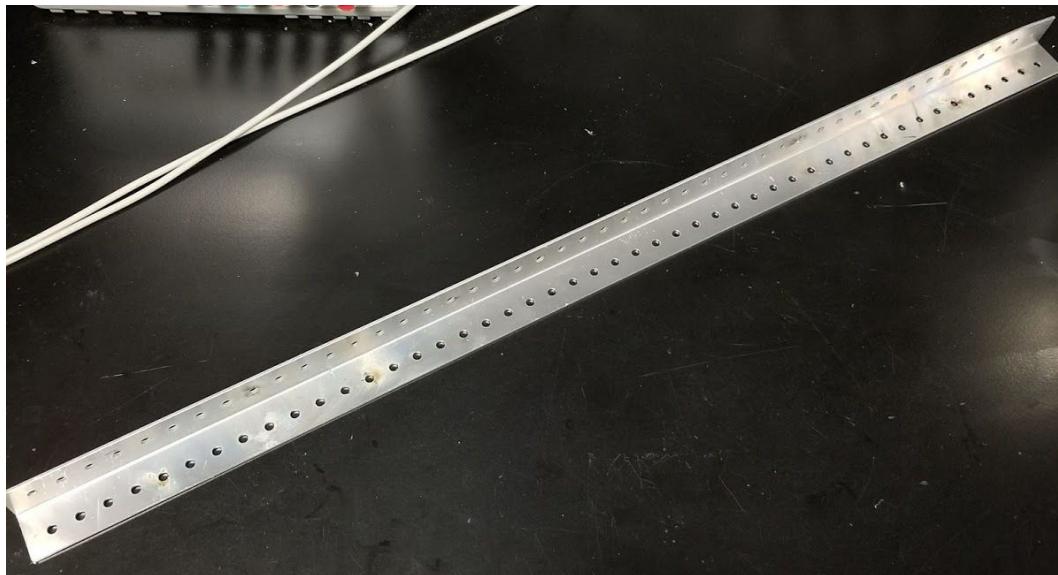




PIONEERS IN
ENGINEERING

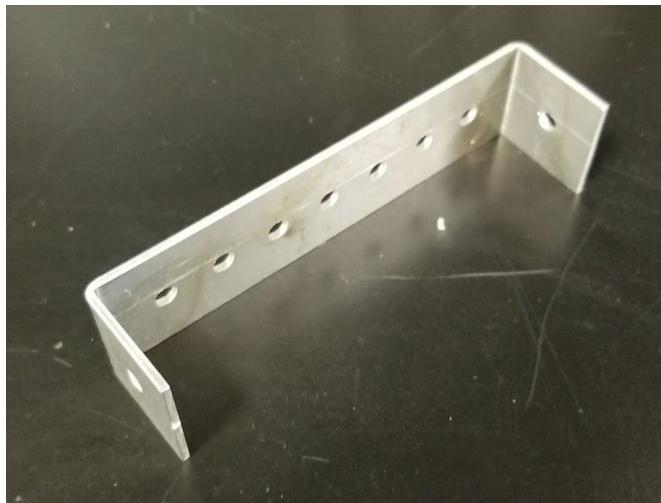
47-Hole PiE Metal:

3 Panda Points



Standoff:

2 Panda Points



Motor Mount:

2 Panda Points

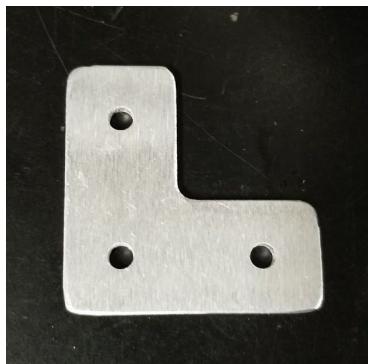




PIONEERS IN
ENGINEERING

Angle Brackets:

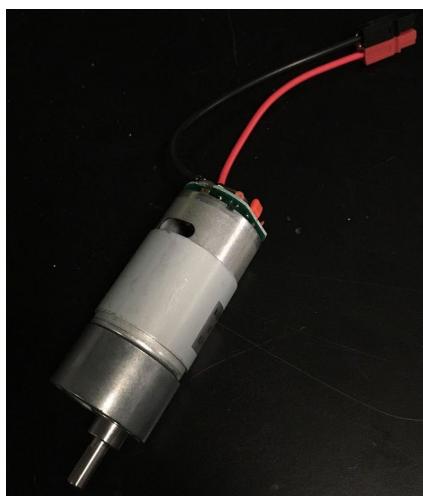
1 Panda Point



Motors and Actuators:

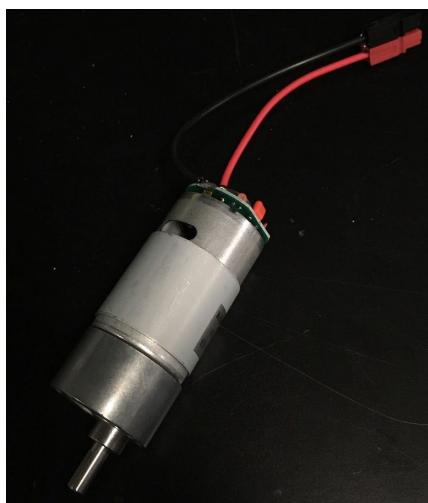
Pololu Motor 6:1 (Torque):

8 Panda Points



Pololu Motor 30:1 (Speed):

8 Panda Points





PIONEERS IN
ENGINEERING

Servo Motor:

4 Panda Points



Shafts and Hardware:

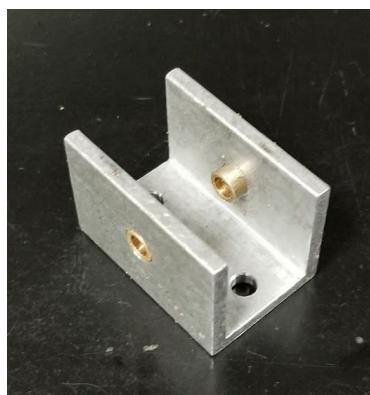
Drive Shaft 6" (Axe):

3 Panda Points



Bearing Blocks:

3 Panda Points



Bearing Flats:

1 Panda Point





PIONEERS IN
ENGINEERING

Pillow Blocks:

[1 Panda Point](#)



Shaft Collars:

[1 Panda Point](#)



Plastic Spacers (8 mm):

[1 Panda Point](#)



Plastic Spacers (3 mm):

[1 Panda Point](#)





PIONEERS IN
ENGINEERING

Gears and Wheels:

4" Wheel:

5 Panda Points



2.5" Wheel:

3 Panda Points



Omni Wheel:

7 Panda Points





PIONEERS IN
ENGINEERING

Hub Gear:



3 Panda Points

High Strength 84 Tooth Gear:

5 Panda Points



High Strength 60 Tooth Gear:

4 Panda Points



High Strength 36 Tooth Gear:

4 Panda Points





PIONEERS IN
ENGINEERING

84 Tooth Gear:

5 Panda Points



60 Tooth Gear:

4 Panda Points



36 Tooth Gears:

3 Panda Points



12 Tooth Gears:

2 Panda Points





PIONEERS IN
ENGINEERING

Pinion Gears:

3 Panda Points



Fasteners:

8-32 Hex Nut:

0 Panda Points



8-32 Screw (1" height):

0 Panda Points



8-32 Screw (3/4" height):

0 Panda Points

- *given in Base Kit*



8-32 Screw (1/2" height):

0 Panda Points



8-32 Screw (3/8" height):

0 Panda Points



M3 x 8-mm Screws (Motor Screws): 0 Panda Points





PIONEERS IN
ENGINEERING

3-32 Hex Key:

- 8-32 Screws



1 Panda Point

5-64 Hex Key:

- Shaft Collar's Set Screw + Motor Mount Screws



1 Panda Point

1-16 Hex Key:

- Hub Gear's Set Screw



1 Panda Point

Sprockets and Chain:

High Strength 30-tooth Sprocket: 3 Panda Points



High Strength 24-tooth Sprocket: 3 Panda Points





PIONEERS IN
ENGINEERING

High Strength 18-tooth Sprocket: **3 Panda Points**



High Strength 12-tooth Sprocket: **3 Panda Points**



High Strength 6-tooth Sprocket: **3 Panda Points**



High Strength Chain Links: **4 Panda Points/20 Links**



Chain Attachment Links: **4 Panda Points/10 links**





PIONEERS IN
ENGINEERING

Tank Tread:

Tread Links:

4 Panda Points/15 links



Tank Tread Traction Links:

4 Panda Points/10 links



Conveyor-belt Base Links:

4 Panda Points/10 links



Short Conveyor-belt Inserts:

1 Panda Point



Medium Conveyor-belt Inserts:

1 Panda Point



Tall Conveyor-belt Inserts:

1 Panda Point





PIONEERS IN
ENGINEERING

Nitrile Treads:



4 Panda Points/ft

Tank tread drive/idler wheels:



4 Panda Points



Double Bogie wheel assemblies:

4 Panda Points



Single Bogie wheel assemblies:

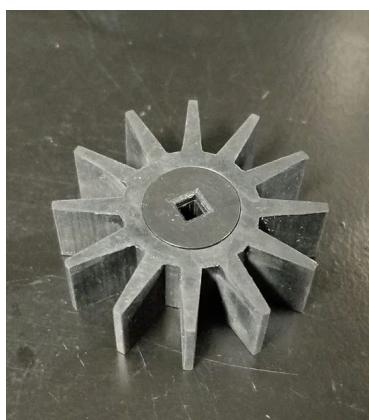
4 Panda Points



Miscellaneous:

Rollers:

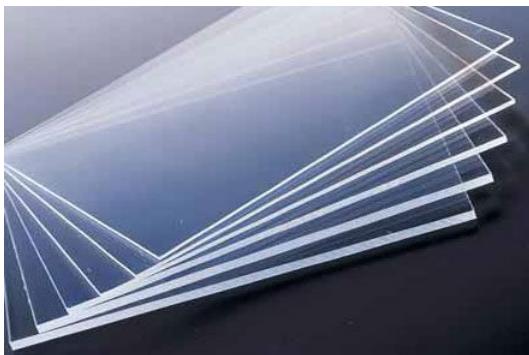
2 Panda Points



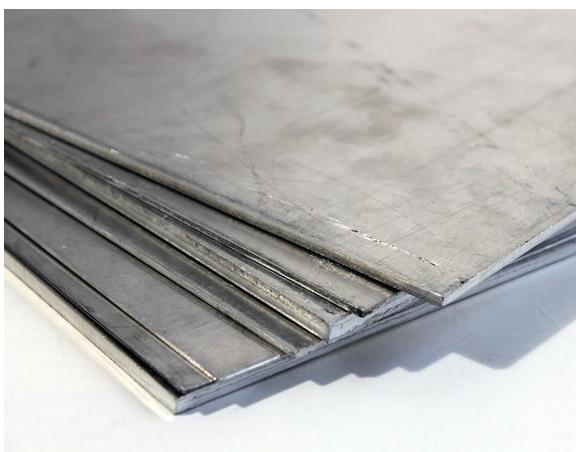


PIONEERS IN
ENGINEERING

Plastic Clear Sheet Polycarbonate: [TBD](#)



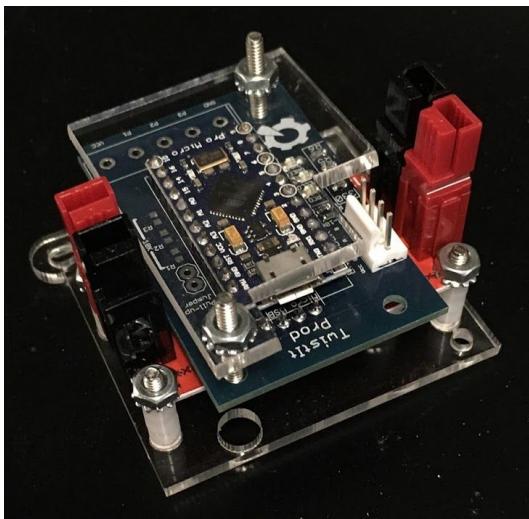
Aluminum Sheet 12"x12": [TBD](#)



Electrical Parts

Sensors:

Motor Controller: [10 Panda Points](#)





PIONEERS IN
ENGINEERING

Servo Controller:



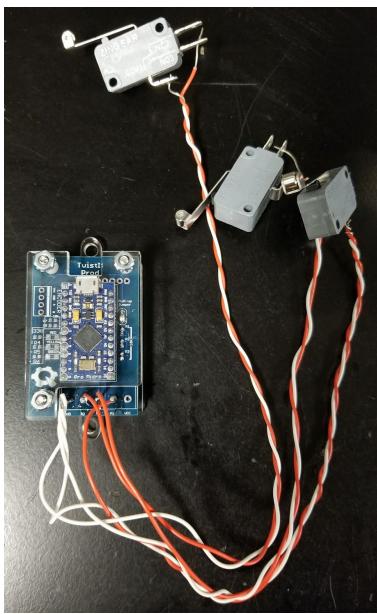
5 Panda Points

RFID Sensor:



4 Panda Points

Limit Switches:

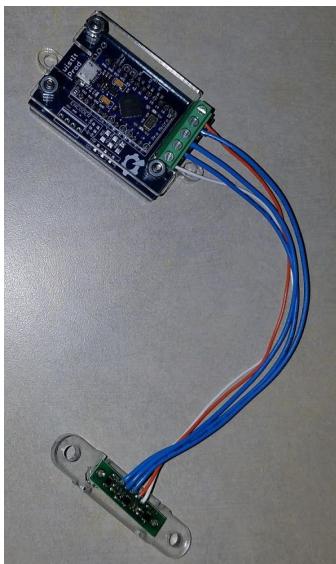


4 Panda Points



PIONEERS IN
ENGINEERING

Line Follower :



4 Panda Points

USB Hub:

5 Panda Points

- *Only one more per team (one is given in base kit)*



Wiring:

1ft USB Micro Cable:

2 Panda Points





PIONEERS IN
ENGINEERING

3ft USB Micro Cable:



2 Panda Points

Anderson Connector:



2 Panda Points

Zip Ties:



0 Panda Points

Velcro - 1":



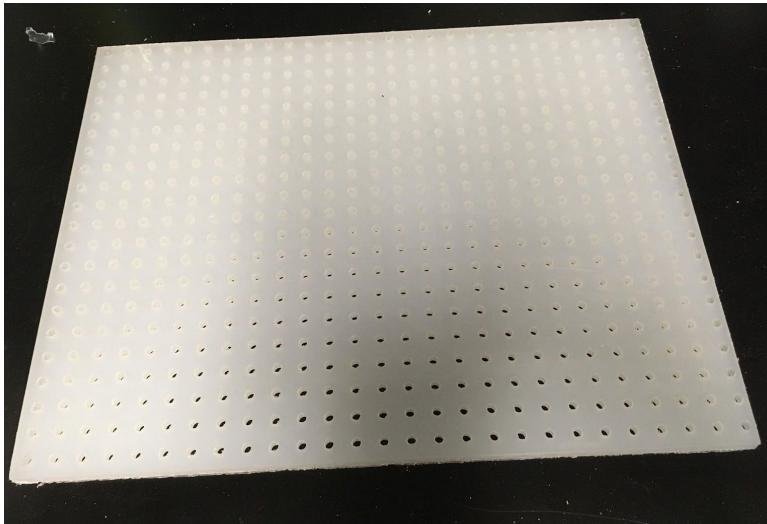
0 Panda Points



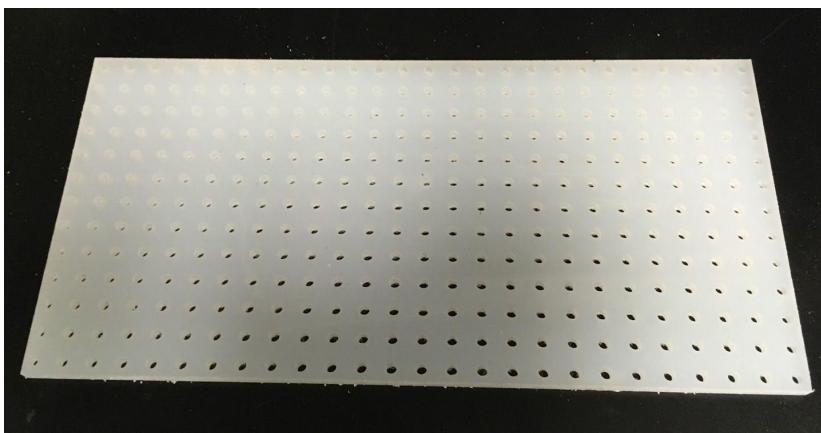
PIONEERS IN
ENGINEERING

Replacements

- Parts given in Base Kit, shouldn't need more
- Plastic Perforated Sheet 10.5x13.5:



Plastic Perforated Sheet 6.5x13.5:



11/32" Wrench:





PIONEERS IN
ENGINEERING

Team Flag:



Router:



Wifi Dongle:



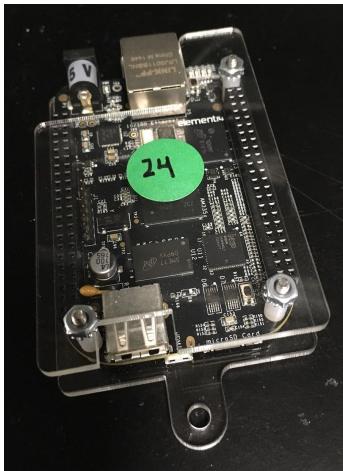


PIONEERS IN
ENGINEERING

Power Distribution Board:



BeagleBone Black:



Battery Charger:





PIONEERS IN
ENGINEERING

Battery:



Controller:

