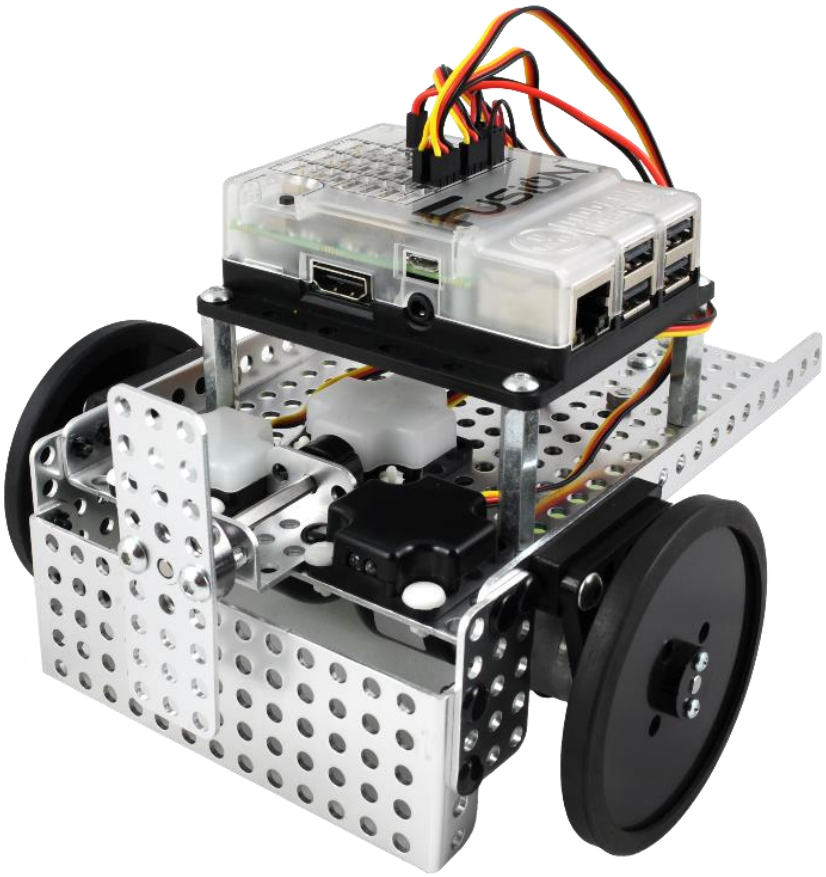
BOXLIGHT®
robotics

Mimio MyBot
Base Kit
Assembly Instructions



*For kits supplied with **BLACK** wheels*

Includes Assembly Steps for Planetary Explorer Kits

Version 1.4c
Boxlight Robotics

Powered by FUSION™

Base Kit Build Instructions

Use these step-by-step instructions to assemble the **MyBot Base Kit** robot from the components shown above (and detailed on the following pages).

NOTE: These instructions are for Base Kits supplied with BLACK wheels only.

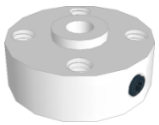
Special Note for Planetary Explorer Kits

These instructions include additional steps to support Planetary Explorer Kit assembly as well as how to upgrade a base kit with the Planetary Explorer sensors.

Note: Specifications listed are subject to change without notice.

Illustrated List of Components

x2
04-0305
3x5 Gusset Plate

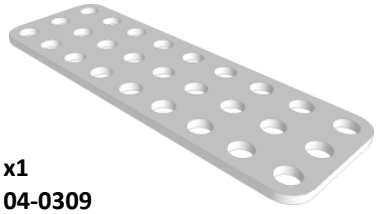


(Used together)

x1
08-0007
4mm Axle Hub

x1
11-3204
M4 Set Screw

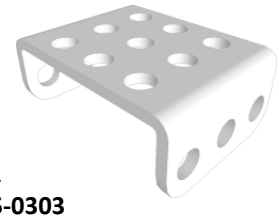
x2
13-0134
DC Motor, 6v, 185RPM



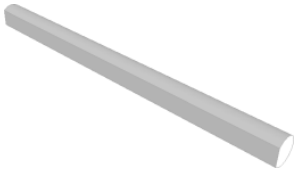
x1
04-0309
3x9 Gusset Plate

x2
08-0020
4mm D-Shaft Axle Collar

x2
45-1025
Motor Mount

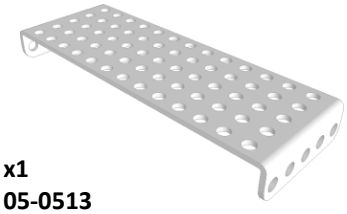


x1
05-0303
3x3 Flanged Plate



x1
10-0052
4mm x 52mm D-Shaft

x2
45-1020
Motor Mount Spacer

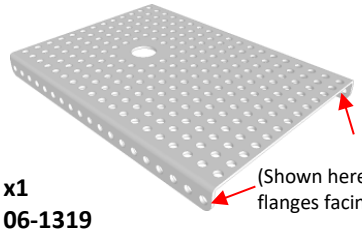


x1
05-0513
5x13 Flanged Plate

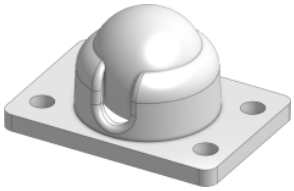
Note: *Your kit may be supplied with either round standoffs (as shown) or hexagonal standoffs.*

x8
09-0005
32mm M4 Threaded Standoff

x2
45-1410
72mm Wheel



x1
06-1319
13x19 Flanged Plate



x1
45-2100
19mm Ball Caster

x1
45-0300
6v Battery Clip

Illustrated List of Components (continued)

x6
11-4116
M4 x 16mm Screw

x14
11-6001
Quick Connect, Short (black)

x1
45-2005
Integrating Gyro

x28
11-4108
M4 x 8mm Screw

x6
11-6002
Quick Connect, Medium (white)

x1
45-2006
Optical Distance Sensor

x4
11-3106
M3 x 6mm Phillips Head Screw

- or -

x20
11-4501 – or – **11-4502**
M4 Hex Nut

x1
45-2007
Touch Sensor

x1
50-0076
Tool Kit *(may differ from illustration)*

x1
15-0016
Storage Box *(for spare fasteners & parts)*

x1
45-1300
6v Battery Pack (NiMH)

x1
52-2022
Fusion Controller Kit

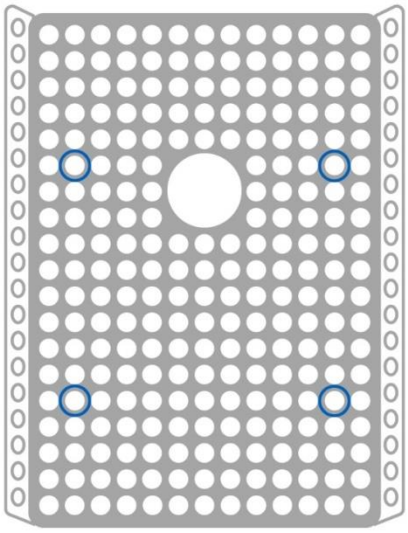
Fusion Controller Module (from kit)

x1
45-1301
Battery Charger

Assembly and Orientation Guides

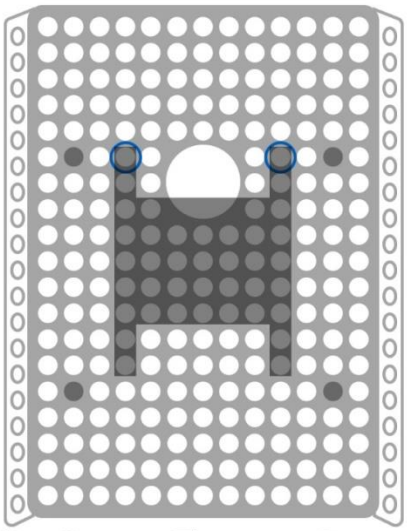
Based on suggestions from other users, we have included these diagrams which may help during assembly. They are used ***with*** these instructions but ***do not replace*** these instructions. They are a supplement to the *MyBot Base Kit Assembly Instructions v1.4c* for kits with black colored wheels. The number in the upper-left corner of each image corresponds to the step in the instructions which follow.

1



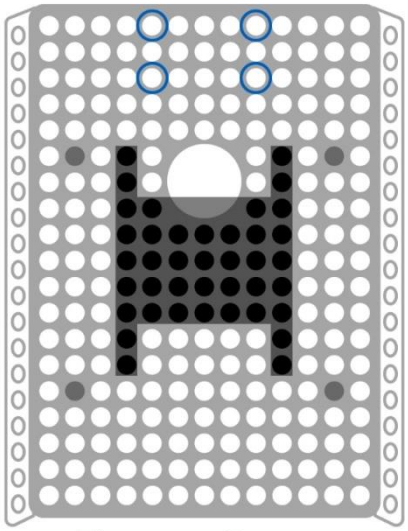
Flanges **Up**

2



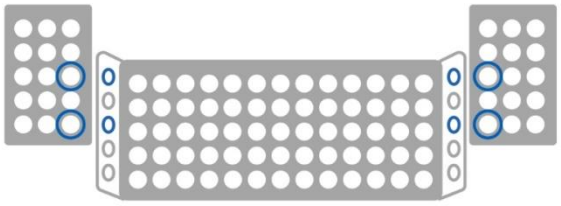
Flip Over - Flanges **Down**

3



Flanges **Down**

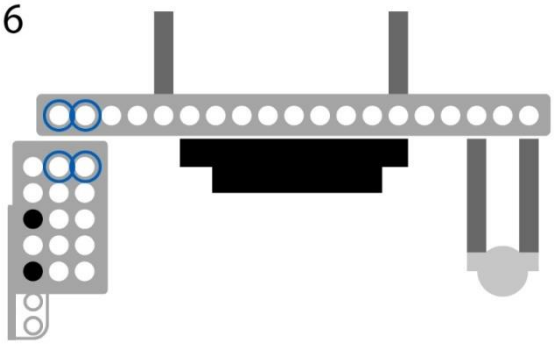
5



3x5 Plates on **Outside**

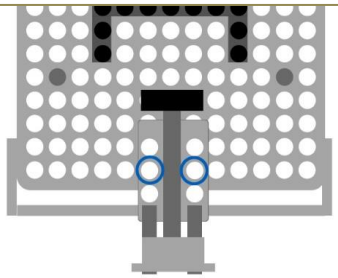
Do NOT Disassemble the quick-connects! Just line up and push!

6



Front - Flanges **Up** - Back

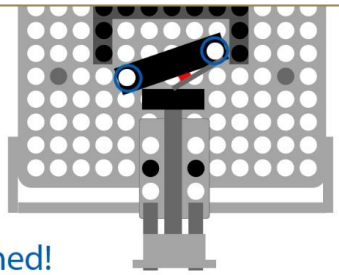
10

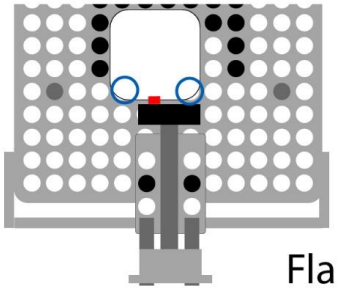


Flanges **Up**

11

The touch sensor needs to activate when pushed!

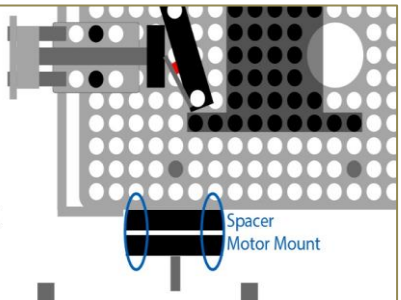


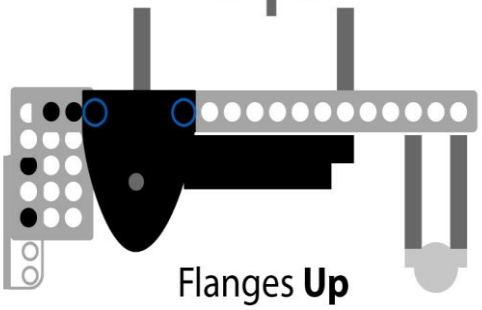


Make sure the white quick-connects come from the **bottom** up!!

Flanges **Up**

15





Flanges **Up**

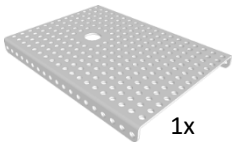
19

Pay close attention to the **orientation** of the wires!!

The colors matter.

Double-check your **motor** wiring when done.

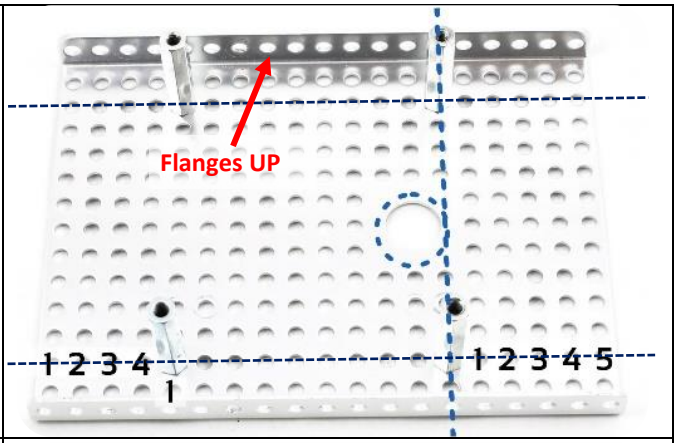
STEP 1 – Preparing the Base Plate:


1x

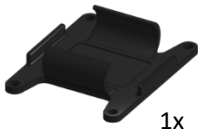

4x


4x (8mm)

1. Using four (4) M4 x 8mm Screws, attach four (4) M4x32mm Standoffs to the 13x19 Flanged Plate as shown.
   a. Insure that the standoffs and the flanges on the plate are on the same side.
   b. There should be one empty row of holes between the flanged edge and the standoffs.



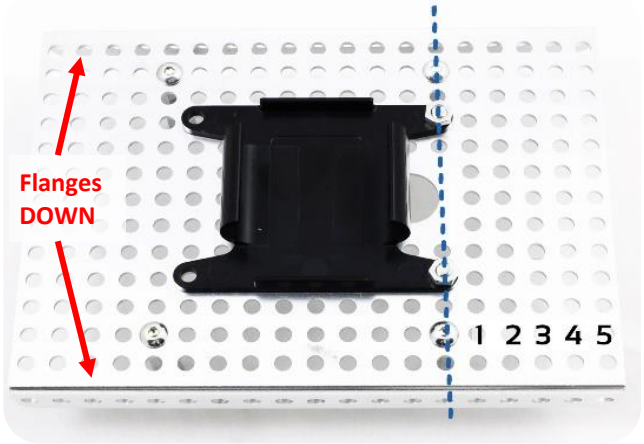
STEP 2 – Attaching the Battery Clip:


1x


2x


2x (8mm)

2. Flip the flange over and attach the battery clip using two M4 Hex Nuts and two M4 x 8mm Screws..
   a. Make sure the nuts are on the same side as the battery clip.
   b. Secure the battery clip ***only*** on the end with the large circular hole through the flanged plate. The other end is not attached with screws and nuts.

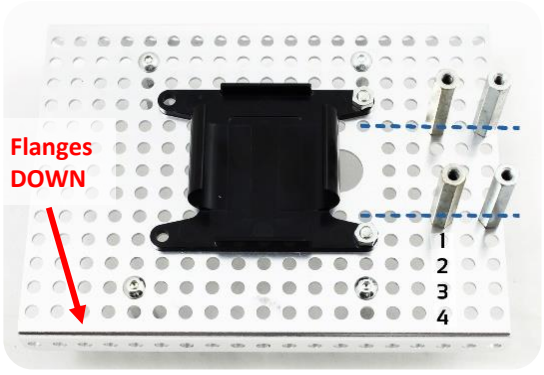


STEP 3 – Preparing to Attach the Ball Caster:


4x


4x (8mm)

3. Using four (4) M4 x 8mm Screws, attach four (4) M4x32mm Standoffs to the 13x19 Flanged Plate as shown.
   a. Insure that the standoffs are on the same side as the battery clip.
   b. ***Do not*** fully tighten the screws until after Step 4. This will make lining the holes up easier.

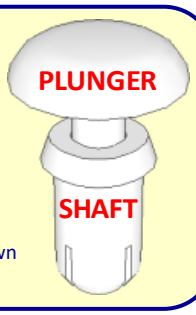


A Quick Word about the Quick-Connect Fasteners…

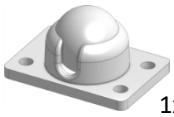
In the steps which follow, you will use the black and white quick connect fasteners to attach parts. These fasteners are like rivets; the **shaft** is inserted through holes in the parts, then the **plunger** is pressed down to expand the bottom of the shaft to lock the parts in place. *There is no need to remove the plunger from the shaft prior to the first use.*

TIP: The flat end of the rubber eraser on the back of a pencil is a handy tool for pushing the plunger into the locked position.

To remove the fasteners and reuse them, simply push the tip of the plunger (that extends out the bottom of the shaft) to raise the plunger cap, then pull the plunger up to release the shaft and remove the fastener. During reuse, it is often helpful to remove the plunger from the shaft, install the shaft through the parts to be fastened, then insert the plunger back into the shaft and press it down to lock in place.



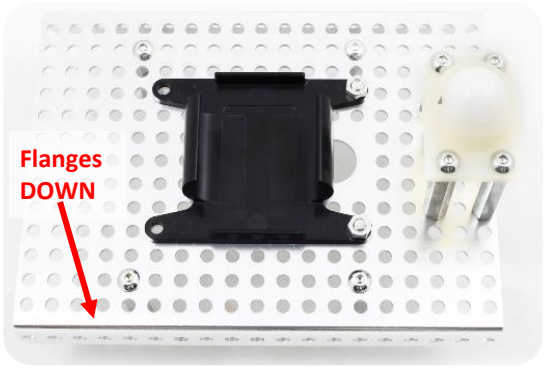
STEP 4 – Attaching the Ball Caster:



1x

4x (8mm)

4. Using four (4) M4 x 8mm Screws, attach the 19mm Ball Caster to the ends of the standoffs.
   a. ***Do not*** fully tighten the screws until all of them are in place and the Ball Caster is straight and even.
   b. Fully tighten all 8 screws beginning with those holding the Ball Caster to the standoffs, then the ones holding the standoffs to the Flanged Plate.



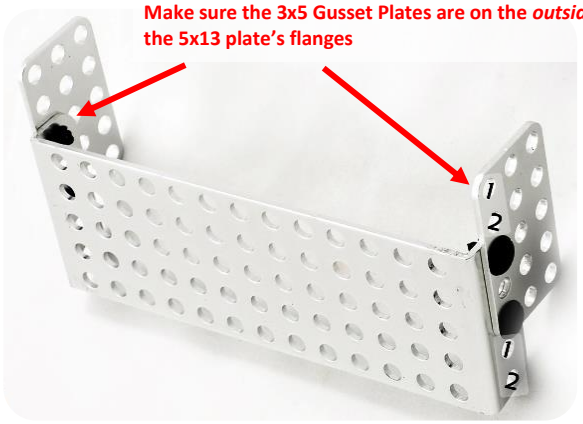
STEP 5 – Assembling the "Cow Catcher":

1x

2x

4x

5. Using two (2) of the Small Quick Connects on each side, attach a 3x5 Gusset Plate to each end of the 5x13 Flanged Plate as shown.
   a. Insert the quick connect through the hole in the Gusset Plate and the Flanged Plate so that the plates are together, then firmly push the head of the quick connect to lock the pieces in place.
   b. The head of the quick connect will be flush against the plate when fully engaged.

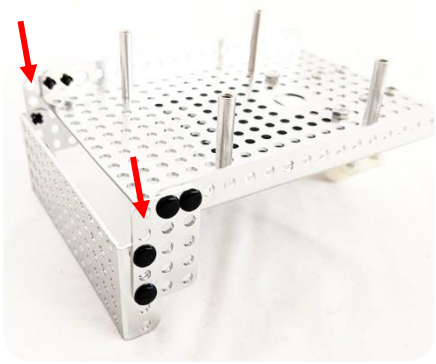


STEP 6 – Attaching the "Cow Catcher":

4x

From Step 5

6. Align the assembled Cow Catcher at the front of the robot as shown and attach it with two (2) quick connects on each side.
   a. Be certain that there is one empty hole on the gusset plate that extends beyond the flange on the robot's base plate.

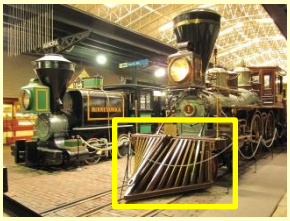


Why is this called a "Cow Catcher"?

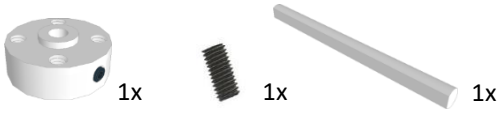
In the early days of rail transportation, collision with an object on the tracks (like a stray cow wandering around on the plains and prairies) could do a lot of damage to the train. To help avoid collisions, the engines would have a wedge-shaped piece on the front to lift and push an object aside.

While it is unlikely that your robot will encounter a cow laying it its path, the "cow catcher" helps prevent the robot from running over other objects that might be in the way and could cause damage.

The cow catcher was invented in 1838 by Charles Babbage. He was a mathematician, inventor, design engineer, and originated the concept of a digital programmable computer – just like the computer that powers your MyBot Robot! He is considered by some to be *the father of the computer*



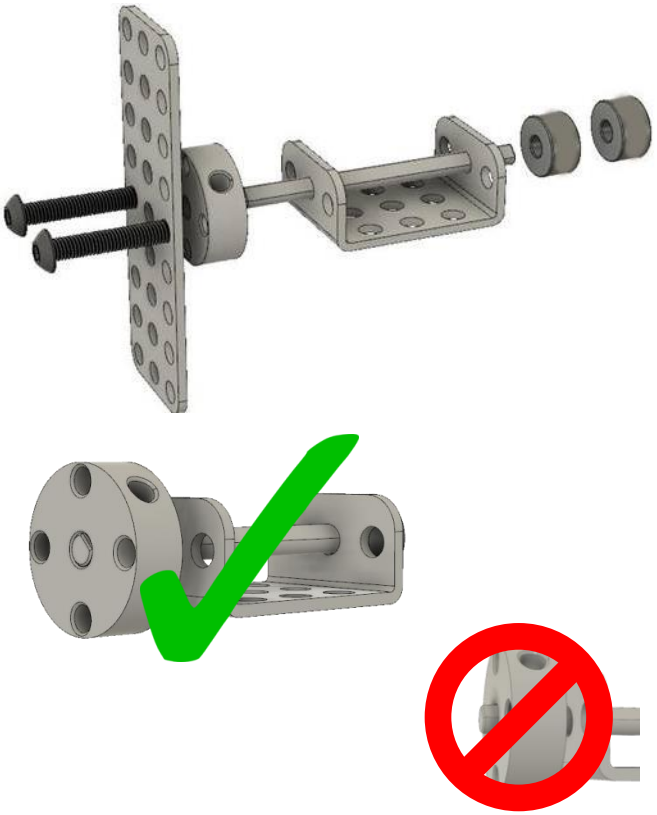
STEP 7 – Assembling the Touch Sensor "Plunger" – Part 1:



1x 1x 1x

The Plunger extends the reach of the touch sensor in front of the robot. An exploded image is shown here. These instructions will build the plunger in steps.

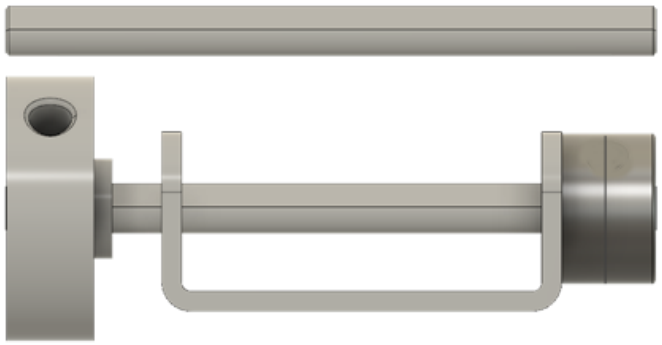
7. Begin by threading the Set Screw into the Axle Hub. Since the set screw is so small, it helps to put the set screw onto your allen wrench, then line it up with the hole on the side of the hub and screw it in about half-way. Confirm that the shaft slides easily through the center hole of the hub.
   a. Next, place the Axle Hub on a flat surface with the 'dimple' facing up (as shown in the parts drawing above).
   b. Insert the axle into the center hole of the hub so that it is standing straight up with the flat of the shaft facing the set screw.
   c. Without lifting or tilting, tighten the set screw to securely hold the shaft in the axle hub.
   d. Inspect the flat end of the Axle Hub. The shaft should be flush with the surface



STEP 8 – Assembling the Touch Sensor "Plunger" – Part 2:

1x 2x

8. With the Axle Hub still on the table, slide the 3x3 Flanged Plate onto the shaft using the center holes on the two flanges.
   a. Align one of the Axle Collars with the D-shape of the shaft and push the Collar onto the shaft. You may find that using a small hammer to tap the collar down will help. (Alternately, using a quarter-sized coin between the collar and your hand will help you apply more force to the collar.) Push the Collar so it is flush with the end of the shaft.
   b. Using the same procedure, press the second Collar onto the end of the shaft and press it down so it is flush with the end of the shaft.



When complete, the length of this plunger will be the same as the length of the shaft by itself.

STEP 9 – Assembling the Touch Sensor "Plunger" – Part 3:


1x


2x (16mm)

9. Using two (2) M4 x 16mm screws, attach a 3x9 Gusset Plate to the front of the Axle Hub.
   a. The screws will pass through the holes in the 3x3 Flanged Plate and prevent the shaft from rotating.

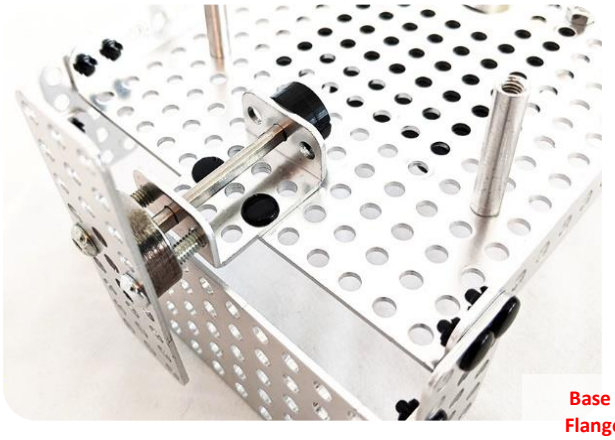
NOTE: For Planetary Exploration Kits, please use Step P9 on page 18.

STEP 10 – Attaching the Touch Sensor Plunger:


1x


2x

10. Using two (2) of the Small Quick Connects on each side, attach the Touch Sensor Plunger to the top-front of the robot's base plate.
    a. As shown, the Flanged Plate is centered on the base plate with five (5) empty holes on each side.
    b. Note that the Flanged Plate hangs off the edge.



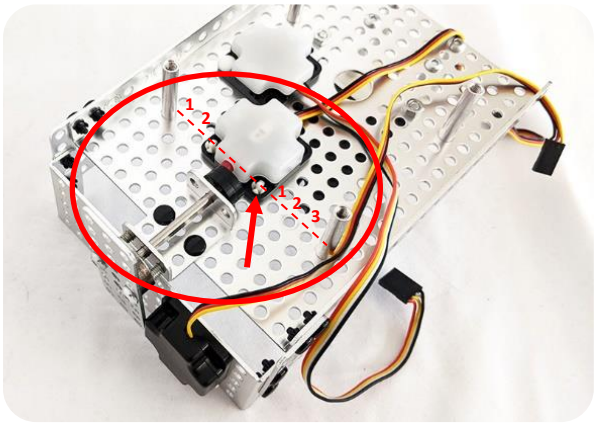
Base Plate Flanges UP

STEP 11 – Mounting the Touch Sensor:


1x


2x

11. The Touch Sensor is mounted using two (2) Medium Quick Connects. For this sensor, the quick connects **must come up from the bottom of the base plate**.
    a. The sensor is positioned so that the plunger presses the red button on the front of the sensor.
    b. The sensor cannot be perfectly centered so place it between the standoffs as shown, with two (2) empty holes on one side and three (3) empty holes on the other.



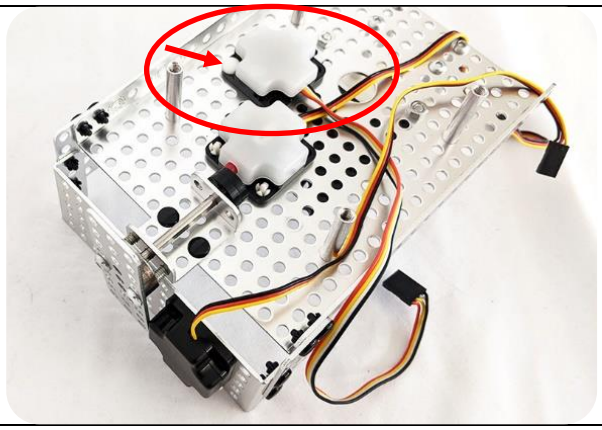
Note: Your kit may be supplied with a different style of Touch Sensor. If so, please follow the directions included with that device.

STEP 12 – Mounting the Integrating Gyro:


1x


2x

12. The Integrating Gyro is mounted using two (2) of the Medium Quick Connects. These are inserted from the **top** of the robot's base plate.
    a. The gyro can be mounted as shown or placed so that the back of the sensor is against the flange.



STEP 13 – Mounting the Optical Distance Sensor:

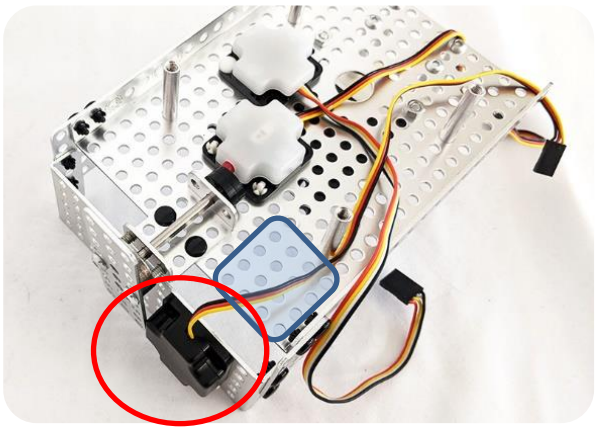

1x


2x

13. The Optical Distance Sensor is mounted using two (2) of the Medium Quick Connects to the front of the Cow Catcher.
    a. Align the end of the sensor with the bottom of the Cow Catcher plate and attach using the Quick Connects
    b. Make sure the sensor does not interfere with the motion of the plunger.

- ○ *In this downward facing position, the Optical Distance sensor can be used for line-following activities.*
- ☐ *The sensor can also be mounted facing forward on the top of the base plate to detect objects in the robot's path.*

NOTE: For Planetary Exploration Kits, please use Steps P13.1, P13.2, and P13.3 starting on page 19.



STEP 14 – Preparing the Motors:


2x


2x


4x (M3 x 6mm)

14. Using two (2) M3 x 6mm screws, attach a motor to each motor mounting plate.
    a. Use the 'vertical' holes only. The 'horizontal' holes do not line up with the motor.
    b. Insure that the motor oriented so that the wire is on the top (at the narrow end) of the motor mount.
    c. Slide the cable-tie holding the wire to the motor so that the latching end of the cable-tie is on a side, and is not at the bottom (ie: towards the wide end of the motor mount).

STEP 15 – Mounting the Motors on the Robot:

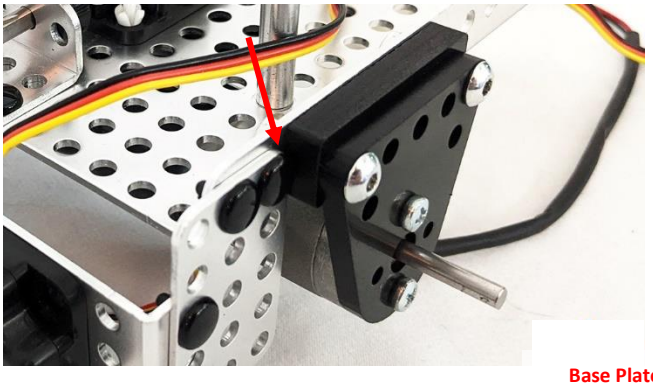

2x


2x


4x (16mm)


4x

15. Using a Motor Mount Spacer ***between*** the Motor Mount and the side flange of the robot's base plate, attach a motor to each side of the robot and secure with two (2) M4 x 16mm screws and Hex Nuts.
    a. The motors are mounted directly behind the cow catcher's 3x5 Gusset Plates. Do not leave any empty holes between the plates and the motor.

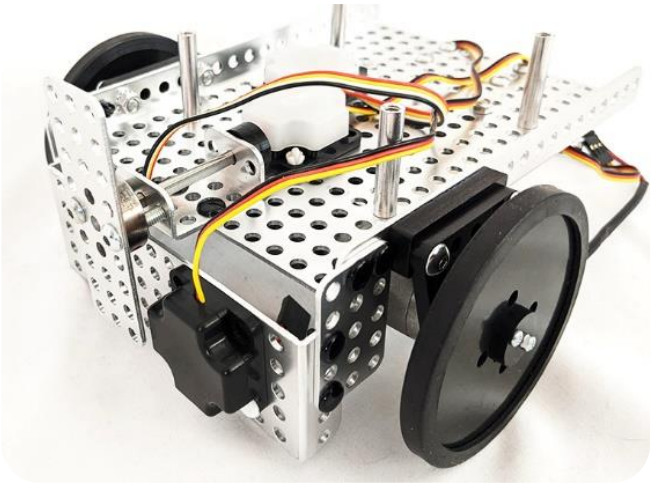


Base Plate Flanges UP

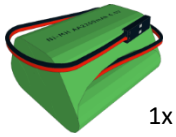
STEP 16 – Attaching the wheels


2x

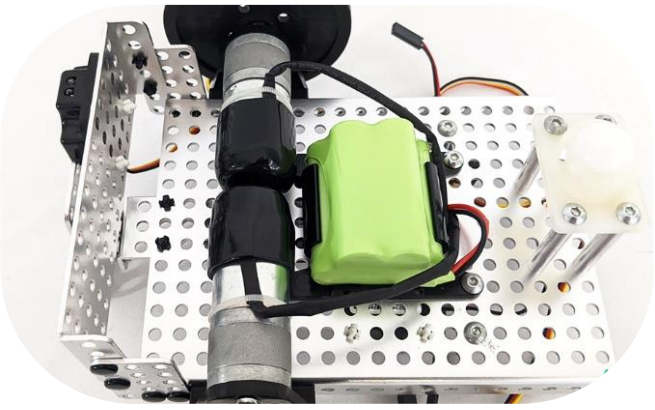
16. The wheels are pressed onto the motor shafts using the same technique used to press the Axle Collars on to the Plunger shaft.
    a. With the wheel hub screws to the outside, align the D-shaped cutout to the motor's axle and press it onto the shaft.
    b. It may be easier to place the wheel on a table and push the robot/motor down into the wheel.
    c. The motor shaft should be flush with the wheel hub (or extend slightly) when properly installed.



STEP 17 – Install the Battery and Prepare for Wiring:


1x

17. Insuring that the battery wire is towards the back of the robot, snap the battery pack into the battery clip on the bottom side of the robot.
    a. Route the wires from the motors and the battery pack through the large hole and to the top-side of the robot.
    b. Arrange the wires neatly along the bottom of the robot; using some small twist-ties or cable ties to help keep them in place.

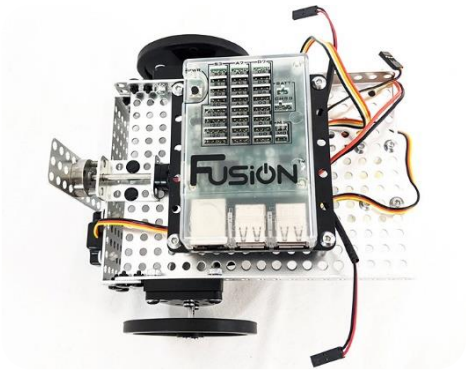


STEP 18 – Attaching the Fusion Controller:

1x

4x (8mm)

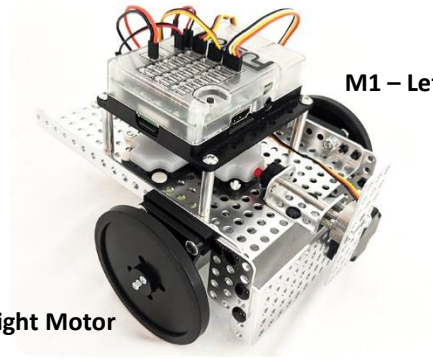
18. Using the M4 x 8mm screws, mount the Fusion Controller to the standoffs on the top-side of the robot as shown.
    a. Before mounting, you might want to consider neatening the wires from the sensors and use small twist-ties or cable-ties to keep them in place.



STEP 19 – Wiring the Robot:

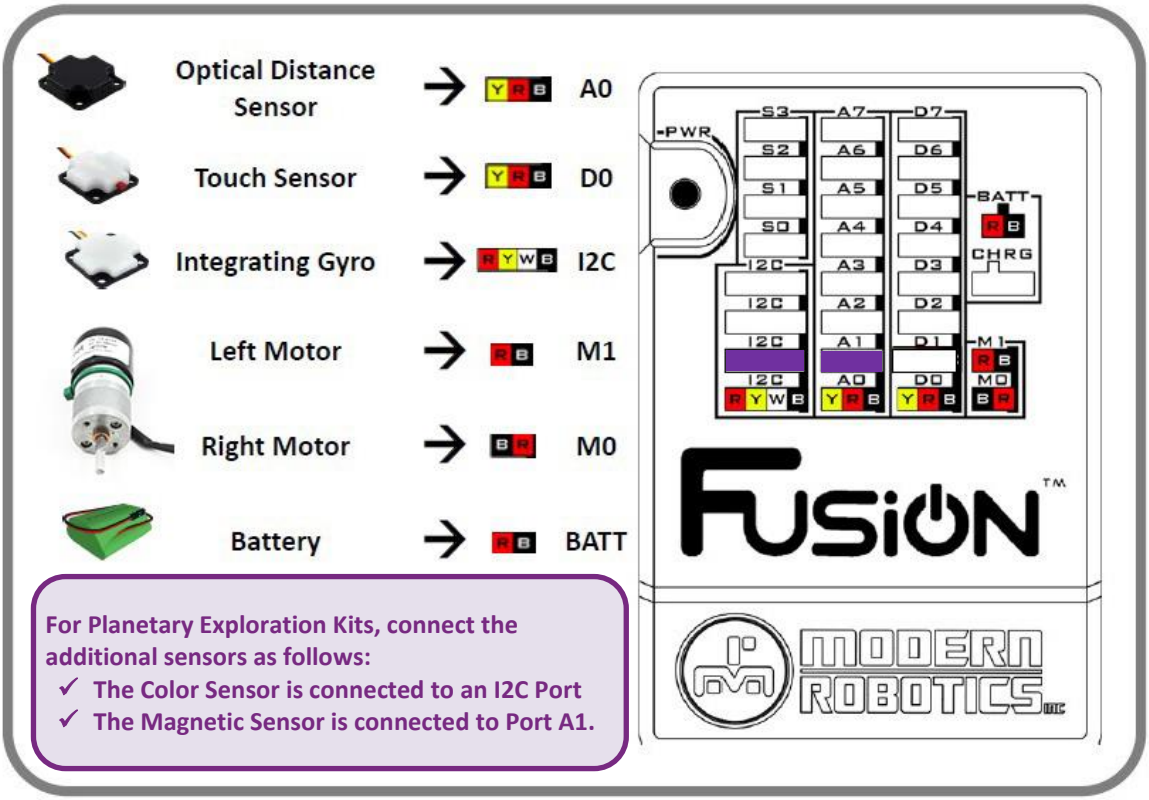
19. Referring to the Wiring Chart, insert the wires into the correct ports on the Fusion Controller.
    a. Note that with the word **Fusion** toward you, all of the black wires are to the right – with one exception: M0 (the right motor).
    b. It is recommended to connect the battery wire ***last***.

NOTE: For Planetary Exploration Kits, see the additional connection information in the box below.



M1 – Left Motor

M0 – Right Motor



Getting Started – Connecting, Creating an Administrator Account, and Updating the Software

This section provides step-by-step instructions on getting started with the MyBot Fusion Controller. To access the online version of these instructions, please visit http://boxlightrobotics.com/fusion_docs/Getting_Started_Topic.

Getting Started - Connecting

1. **Powering the Fusion Controller:**
   The Fusion Controller is powered by the supplied battery pack which should be charged before use.

   To Charge the Battery:
   - Plug the battery into the BATT connector on the Fusion Controller.
   - Plug the Battery Charger into a suitable power outlet and connect the wire to the CHRG connector of the Fusion Controller. The BLACK wire must be to the right when the word Fusion is facing you.
   - Allow 9-12 hours to fully charge the battery. Use the LED indicator as a guide to charge status.

   Charging Notes:
   - ✓ The battery will only charge if the Fusion is OFF.
   - ✓ Only the approved charger should be used to charge the battery.

   Powering the Internal Processor via USB:
   While the robot will only work when being powered from the battery, you can power the computer inside the Fusion Controller through the microUSB Port on the side of the panel of the unit.
   - Connect the USB cable supplied with your Fusion Controller kit to a USB Port on your computer or a suitable USB Power Supply. Connect the other end to the microUSB Port on the side of the Fusion Controller. *A green LED near this connector will light when power is connected.*
   - This will only power the computer allowing you to access the User Interface; it will not power motors, servos, or other devices connected to the Fusion.

   USB Power Notes:
   - ✓ The Fusion requires a source capable of supplying 5v at 1000mA (1 Amp). Some computers may not be able to supply this power.
   - ✓ Power received via the USB Port **will not** charge the Fusion's Battery pack.
   - ✓ If the RED LED on the back end of the Fusion Controller (near the PWR Button) flashes or goes out during USB Powered operation, your USB Source is not able to provide sufficient power. *It is not recommended to operate under these conditions*.

2. **Turning on the Fusion Controller:**
   Press the PWR Button on the Unit. A green LED that is roughly under the letter 'o' in the Fusion logo will begin to flash slowly. This indicates that the controller is booting up. When the LED lights solid, the Fusion is ready to use.

Getting Started – Connecting *(continued)*

3. Connecting to the Fusion Controller:

On your computer, activate the WiFi and look for the Wireless Network being generated by the Fusion Controller. The Network's name will look like **`FusionAP_xxxxxx`**. You can see the actual network name (known as the SSID) on a label on the side of the Fusion Controller and also on the inside lid of the Fusion Controller Box. Select this network and enter the case sensitive passkey **`mrifusion`**. Once the network is connected you are ready to open the Fusion's user interface.

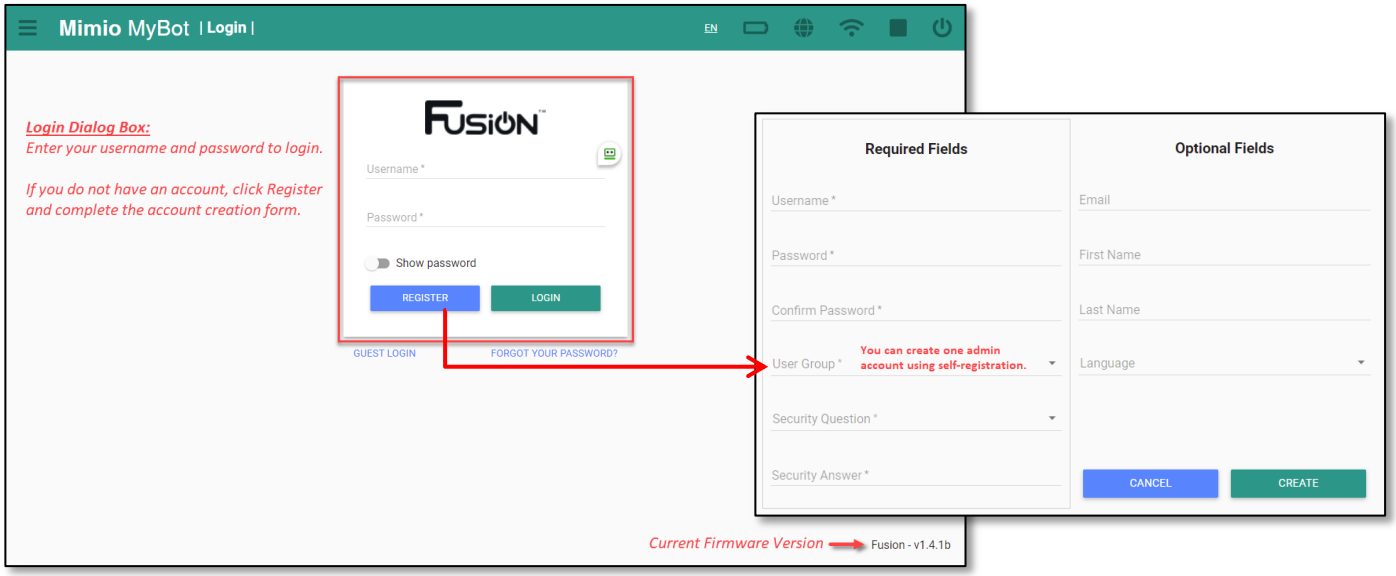
Important: If you have any other network connections on this computer – especially WIRED connections – you should disconnect them to prevent communication problems.

4. Opening the Fusion's User Interface:

Open the Browser on your computer (Google Chrome or Microsoft Edge is recommended). Enter the URL **`my.bot`** and press Enter. After a few moments, the Fusion's Login Page should be displayed.

Trouble-shooting Tips:

- If the computer says it cannot find the my.bot URL, it suggests that you still have another active network connection, or that security software may be preventing proper address resolution. Please try the following:
- Instead of the **`my.bot`** URL, enter the address: **`http://192.168.50.1:8080`** and press enter.
- If connection is established using this URL, it confirms that you either have another active network connection of security software is preventing proper address resolution.
- If the direct address entry does not access the Fusion's Login Page, there may be other problems with your connection or security software. Contact your network administrator for assistance.



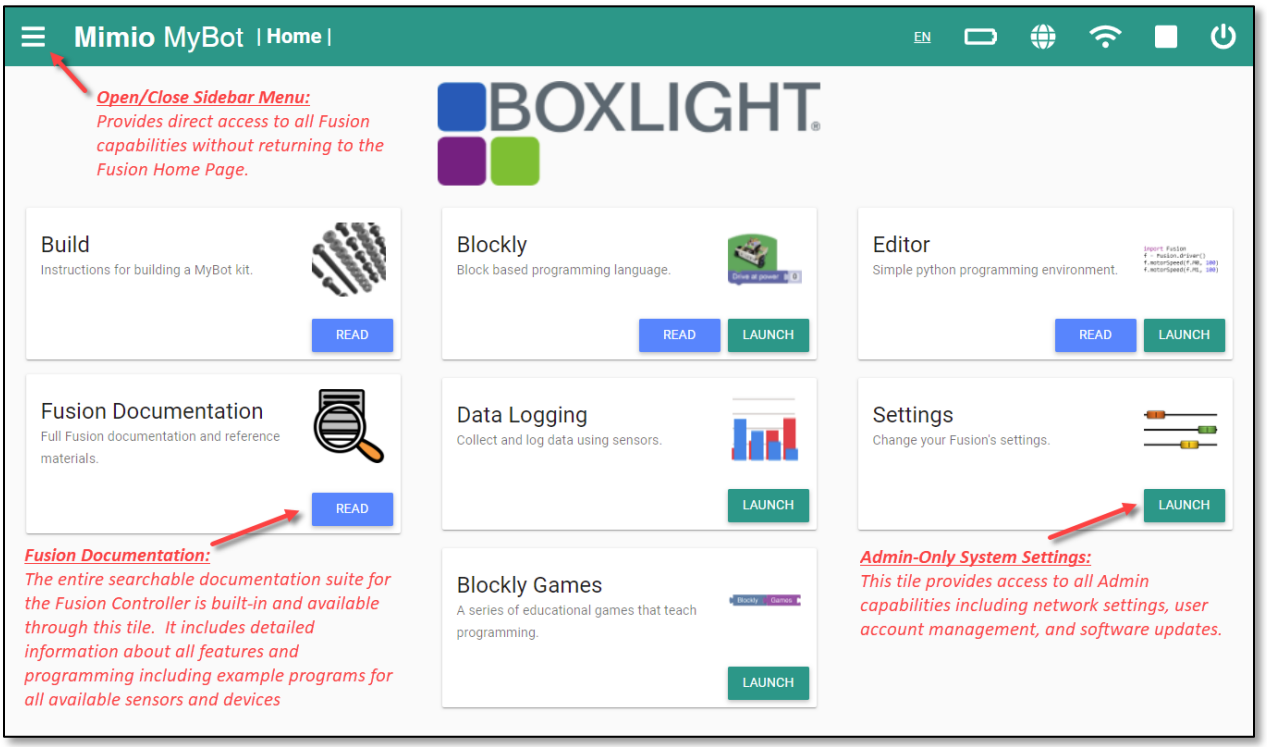
Getting Started – Creating and Logging-in to an Administrator Account

1. On the Login Page, click REGISTER:

- ✓ This will allow you to self-register or create an account. There are two types accounts on the Fusion Controller: USER accounts and ADMIN accounts.
- ✓ As these names suggest, the USER accounts are for users who are developing and running programs for the Fusion. Each user account has its own private storage space for programs that is not accessible to other users. The USER accounts cannot access any of the Fusion Management features such as account management and password changes, configuring the networking features, and updating the firmware.
- ✓ The ADMIN account has access to all of the features of the Fusion Controller as well as developing programs stored in the Admin's private storage.
- ✓ You should have at least one ADMIN account for system management. While an Admin user can create additional ADMIN-type accounts from the user account management page, the Fusion allows for a single ADMIN Account to be created via the self-registration form.

- Complete the form, selecting ADMIN as the User Group type.
- Click on CREATE to complete the account creation and login to the Fusion using the new Admin account.

The Fusion Home Page is displayed and shown below. Additional information about the home page features can be found by selecting the Fusion Documentation tile, then selecting the ***Web Interface*** tile from the Documentation Suite.



Getting Started – Checking for and Updating the Fusion Software

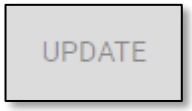
1. **Connect the Fusion Controller to the Internet:**
   (Note: Insure that the battery is fully charged or adequate USB Power is being provided before attempting a software update. Power failure during an update could require the return of your Fusion Controller for servicing.)

   In order to check for and install a software update, the Fusion Controller must be connected to the Internet using a wired connection.
   - Using a standard CAT5-type Ethernet Cable, connect the Fusion's Ethernet port to a suitable router/switch port on your network.
   - The Fusion should automatically request and obtain an IP Address from your network and connect to the Internet.
   - Observe the Internet Status Indicator on the Fusion's title bar. When internet access has been made, the icon will change from  to 

Note: When the Fusion Controller is connected to the Internet, it acts like a mini-router and provides that internet access to the WiFi network it creates. Thus, internet requests from the computer connected to the Fusion's WiFi will automatically forward to the internet

2. **Check for Software Update:**
   - Open the **SETTINGS** tile from the Fusion Home Page, then select the SOFTWARE sub-page. If there is a software update available, the UPDATE button on the upper right of the screen will be green. If no update is available, the button will be gray:

     Update Available 

     Update NOT Available 

3. **If an Update is Available, Click the UPDATE Button to Begin:**
   - The Fusion will start the update process. It may ask if you are sure you want to do the update before proceeding.
   - During the process, it will put some progress messages on the screen. It may pause for what seems like a long time but it is still working.
   - When the update is complete, the unit will either reboot or turn itself off pending on the requirements for that update. If it does shut down, simply repower the unit and allow it to start. You will be running the new version of software.

Special Note: What to do if your unit does not show an update available:

This may be normal, since you may already have the most current version of the software. The bottom right corner of the login screen shows what version you are running.

There is a problem on some units running versions from 1.4.0 to and including 1.5.0 where the update check mechanism does not always detect an available update.

If your unit is running one of these versions and your Fusion is connected to the internet (as indicted by the Internet Status Indicator), but it has not detected an update after about 2 minutes, please follow the procedure found on page 21. This procedure manually triggers the update detection process.

Special Assembly Instructions for Planetary Exploration Kits or Upgrades

The Planetary Exploration Kit includes 2 additional sensors for the robot: a color sensor and a magnetic field sensor. These special assembly instructions detail the changes to Base Kit steps to add these sensors to the build.

Illustrated List of Additional Components

x1
06-0309
3x9 Flanged Plate

x2
11-4120
M4 x 20mm Screw

x1
45-1021
3 Hole Spacer

x1
45-2018
Color Sensor

x2
11-6001
Quick Connect, Short (black)

x4
11-6002
Quick Connect, Medium (white)

x1
45-2020
Magnetic Field Sensor

STEP P9 – Assembling the Touch Sensor Plunger – Part 3

STEP P9 – Assembling the Touch Sensor "Plunger" – Part 3:

1x

2x (20mm)

P9. Place the 3-Hole Spacer between the 3x9 Gusset Plate and the Axle Hub, use (2) M4 x 20mm screws to attach the plate to the hub.
   a. The screws will pass through the holes in the 3x3 Flanged Plate and prevent the shaft from rotating.

Continue with step 10 on page 10.

STEPS P13.1, P13.2, AND P13.3 –SENSOR MOUNTING

STEP P13.1 – Mounting the Optical Distance Sensor:


1x

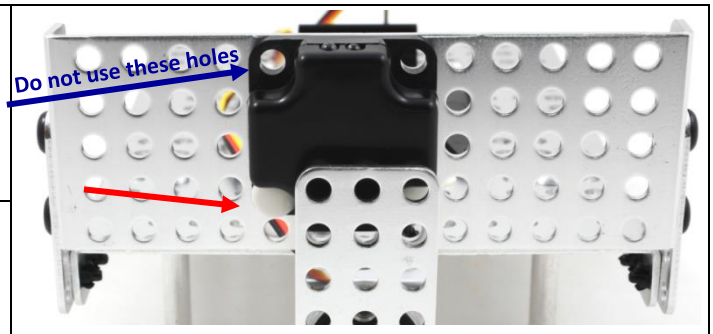

2x

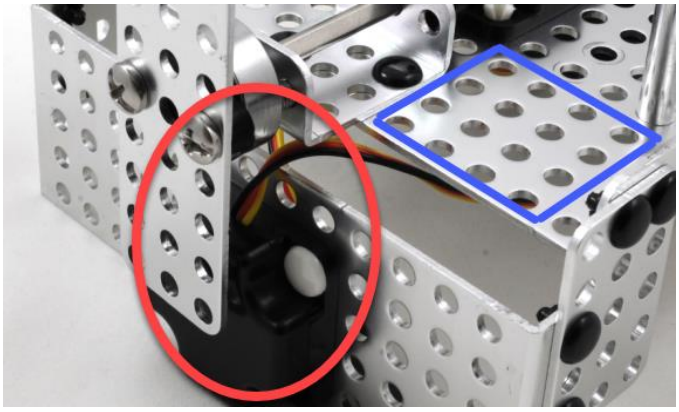
P13.1 The Optical Distance Sensor is mounted using two (2) of the Medium Quick Connects to the front of the Cow Catcher. For the Planetary Exploration robot, the sensor is positioned directly under/behind the front of the plunger.

a. Align the end of the sensor with the bottom of the Cow Catcher plate, center it to sit behind the plunger front plate, and attach using the Quick Connects.
b. Use the mounting holes on the wire-end of the sensor.
c. Make sure that neither the sensor nor its wire will interfere with the motion of the plunger.

○ *In this downward facing position, the Optical Distance sensor can be used for line-following activities.*

☐ *The sensor can also be mounted facing forward on the top of the base plate to detect objects in the robot's path.*





STEP P13.2 – Mounting the Extra Sensor Plate:

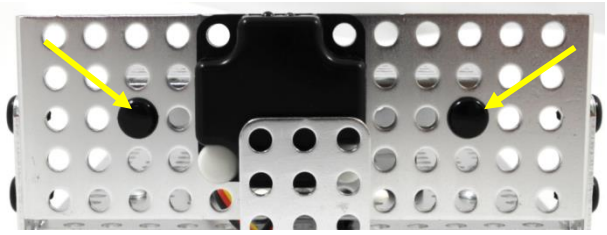

1x


2x

P13.2 Mount the 3x9 Flanged Plate to the inside of the Cow Catcher using the 2 small Quick Connects.

a. The flat side of the plate should face down *(remember – this picture is a bottom view. In addition, the motors have been removed to provide better visibility).*
b. The Plate is centered on the Cow Catcher with two empty holes on either side of the plate.
c. Use the two holes shown for the Quick Connects.

Continue with step P13.3 on the following page...



STEP P13.3 – Mounting the Two Additional Sensors:


1x


1x


4x

P13.3 Position the sensors so that the wires face the motors as shown and secure each sensor using two (2) of the medium Quick Connects.

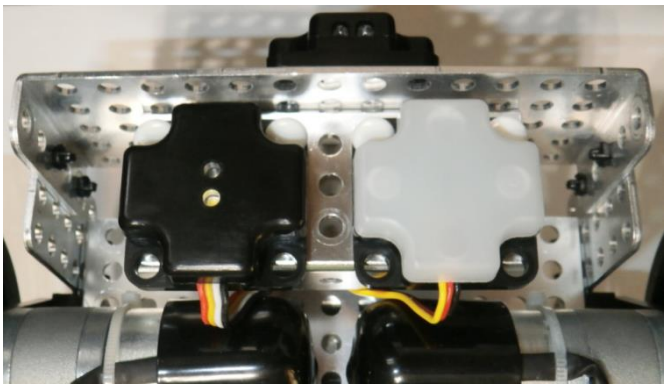
a. Route the wires under the plate and to the top-side of the robot through the gap between the base plate and the Cow-Catcher. (Note: these wires can join the wire coming from the Optical Distance Sensor and be held in place with a small twist-tie or cable-tie.)

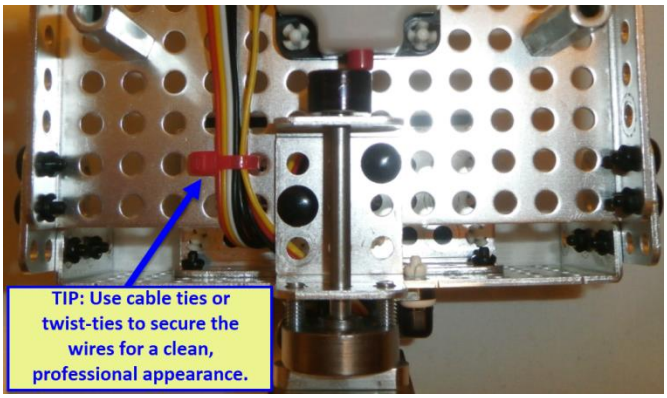
During *Step 19 – Wiring the Robot*:

- ✓ The color sensor gets connected to an I2C port.
- ✓ The Magnetic Field Sensor gets connected to Port A1.

Remember that with the word Fusion toward you, all of the black wires from the sensors are to the right.

Continue with step 14 on page 11.





MANUALLY TRIGGERING THE UPDATE DETECTION PROCESS:

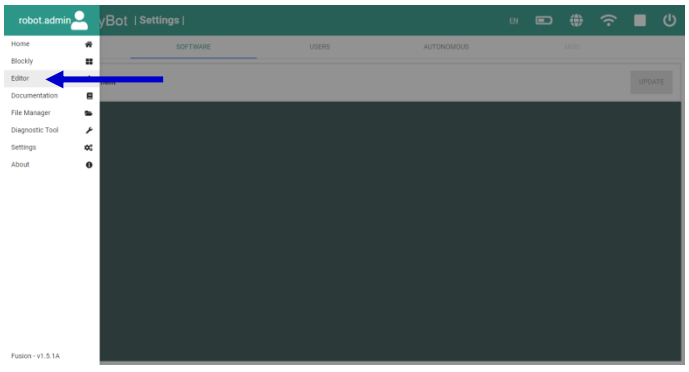
There is a problem on some units running versions from 1.4.0 to and including 1.5.0 where the update check mechanism does not always detect an available update.

If your unit is running one of these versions, your Fusion is connected to the internet (as indicted by the Internet Status Indicator), but it has not detected an update after about 2 minutes, this procedure manually triggers the update detection process. ***NOTE:*** *This procedure is ONLY required one time and only if your unit is running versions 1.4.0 to 1.5.0.*

1. Launch the Python Editor:

Open the side-bar menu and select the Editor.

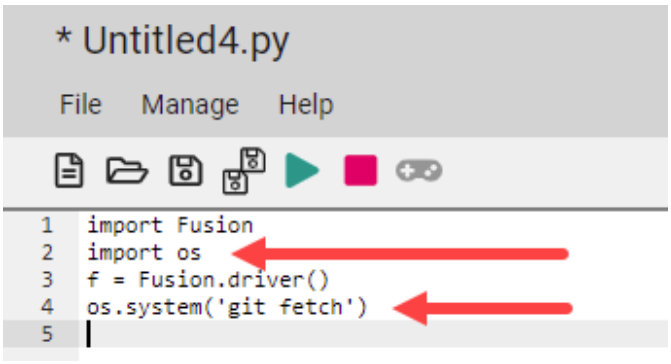
(You could also return to the Fusion home page and select the editor tile.)



2. Modify the Program:

Add two lines to the program template as shown:

```
import Fusion
import os
f = Fusion.driver()
os.system('git fetch')
```

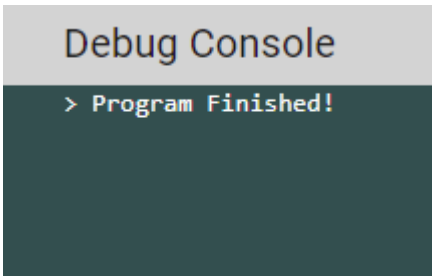


3. Run the Program:

Run the program by clicking the green arrow on the tool bar.

The editor will ask you for a name (or use the Untitled.py name suggested). You can enter any name, but this procedure is a one-time process. Newer versions of the Fusion software have corrected the update detection process.

The program will run and may generate some lines of output in the Debug Console, ending with "> Program Finished".



4. Return to the Update Page:

The UPDATE button should show an available update within a minute.