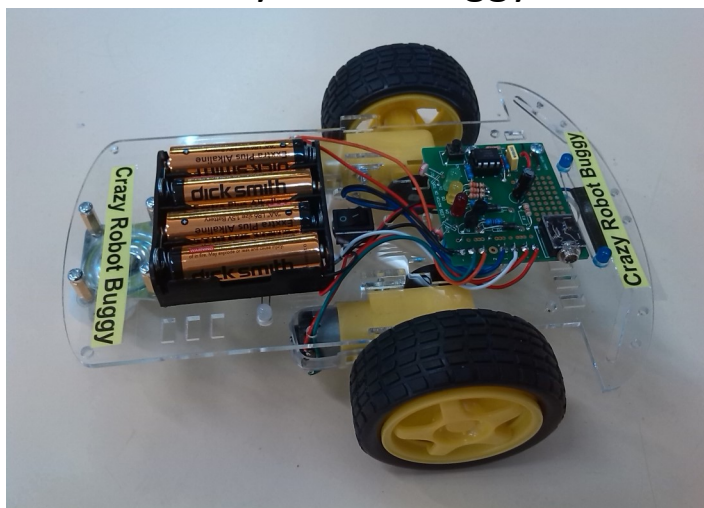


How to Build your Crazy or Infrared, Robot Buggy

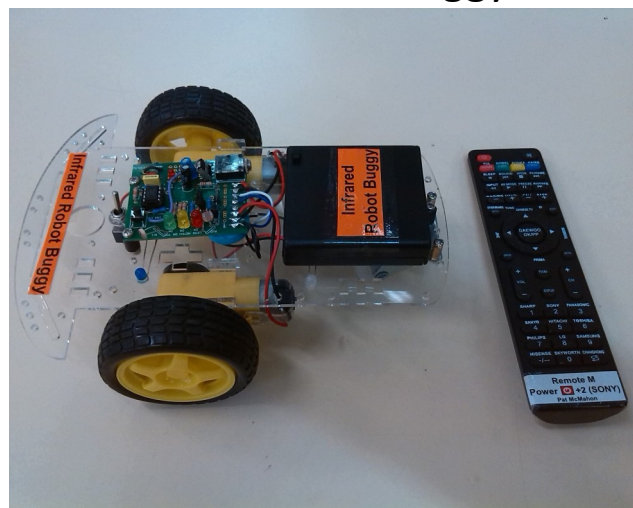
Pat McMahon– V1– 17/2/2016

Design Brief – Using a Wiltronics Robot Base (RO2815), build your own Crazy or Infrared Robot Buggy to run from your 8M2 Picaxe Uniboard.

Crazy Robot Buggy

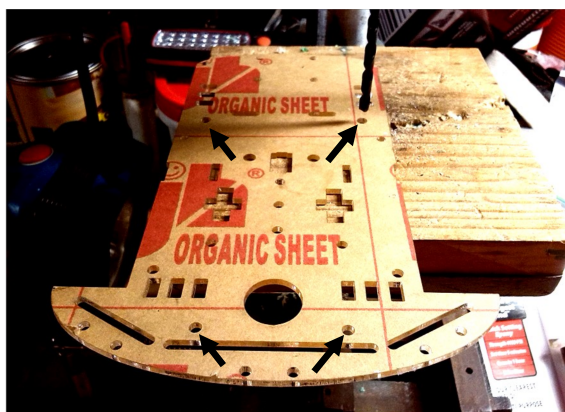


Infrared Robot Buggy



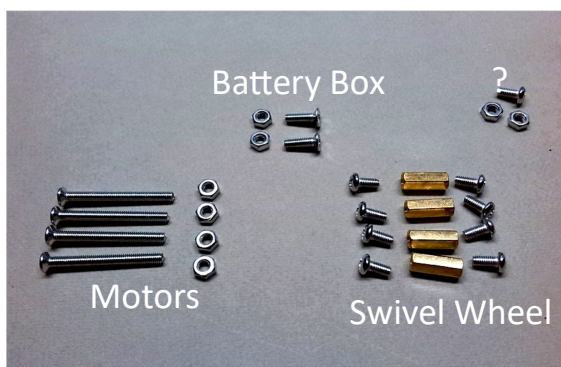
Below are some of the Production Steps, Tick off each box as you complete a task and Document it.

- Enlarge & Drill 4.9 mm diam holes, if you want LED's.
- Remove the paper protection film from both sides of Plastic.

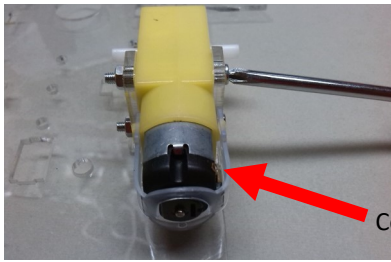


- Lay out all the fasteners in groups.

- Insert the 4 Motor Clamp T Pieces in the Base.

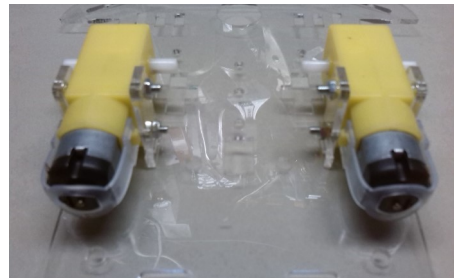


- Insert & fasten the motor, copper terminals facing out.

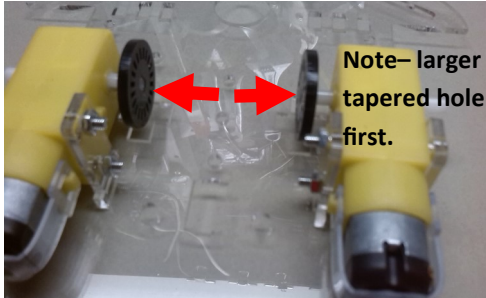


Copper Terminals

- Insert both Motors underneath Base Plate.

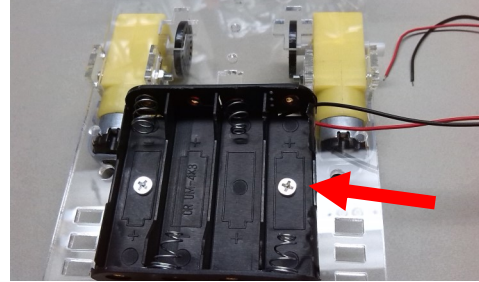


- Attach encoder (tapered centred holes) onto shafts.

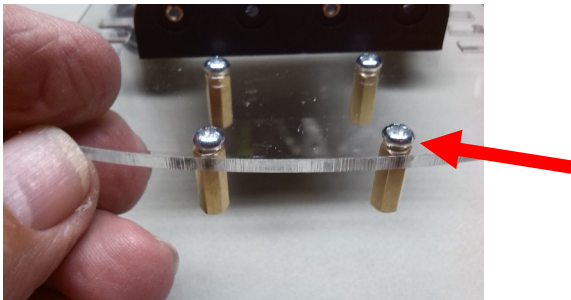


Note- larger internal tapered hole of encoder first.

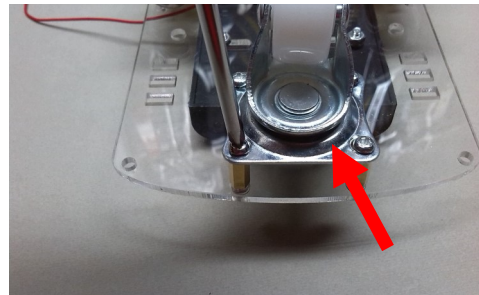
- Attach Battery Box on top of Base Plate



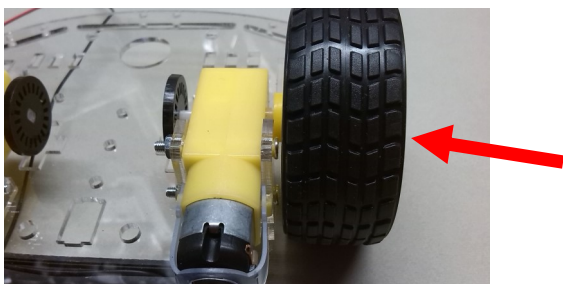
- Loosely attach swivel wheel brass spacers.



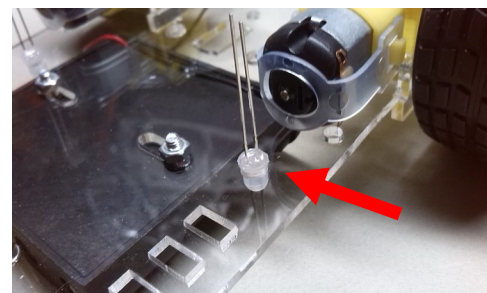
- Underneath attach the swivel wheel castor.



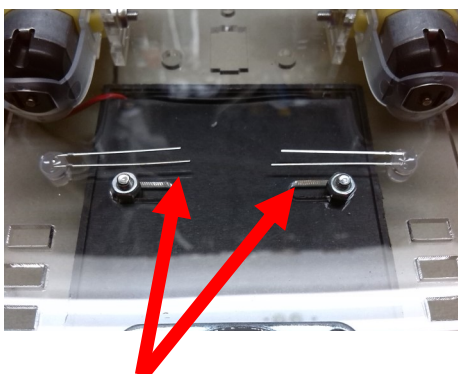
- Press fit on the 2 Wheels, allowing clearance.



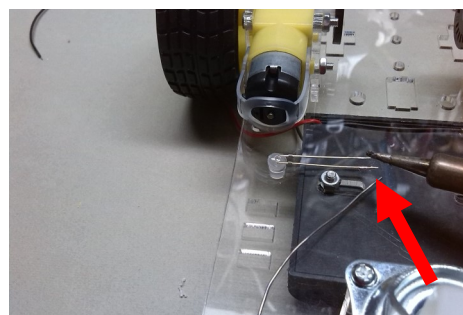
- Insert from underneath the LED's in the 4.9 mm holes.



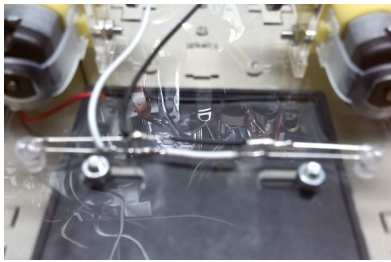
- Bend over all the LED Legs towards each other.



- Tin all the LED ends with solder.

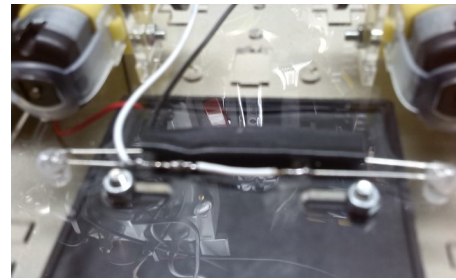


- Join the LED Legs, Black for short (-), White for (+) &

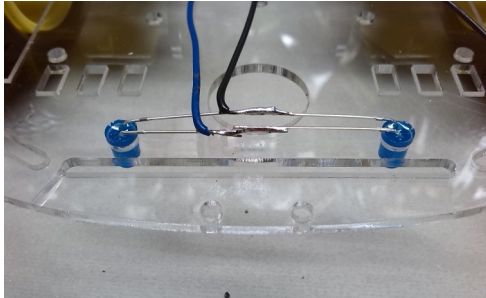


attach longer wires.

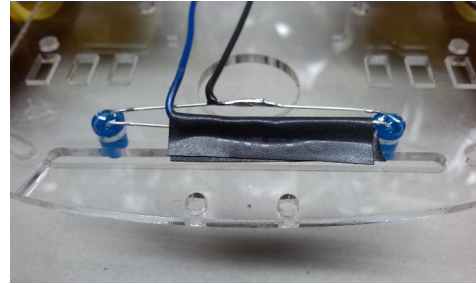
- Insulate or tape one of the wire leads to stop shorting.



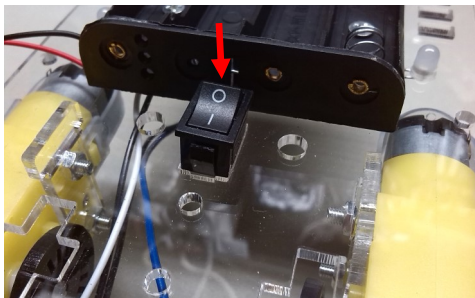
- Do the same for any other LED's.



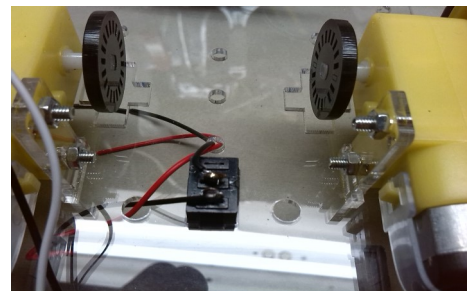
- Ensure you insulate to stop shorting.



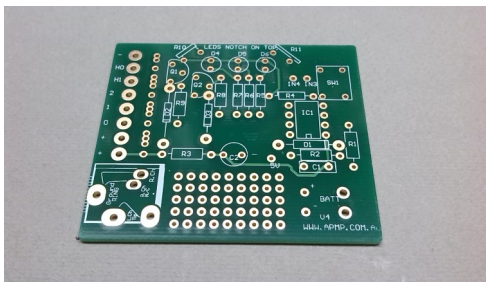
- Insert Rocker Switch on top of Base Plate & push home.



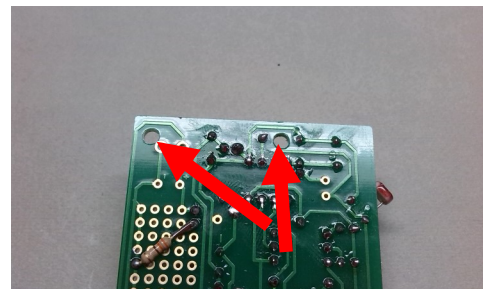
- From Battery Box, cut & solder both black (-) ends to the
rocker switch.



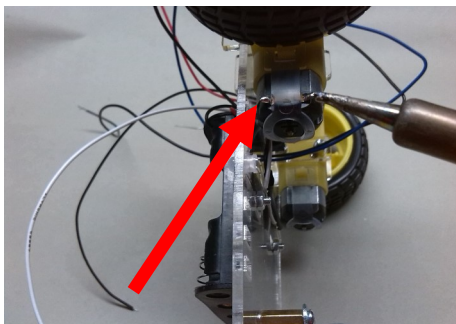
- Get your Picaxe 8M2 Uniboard.



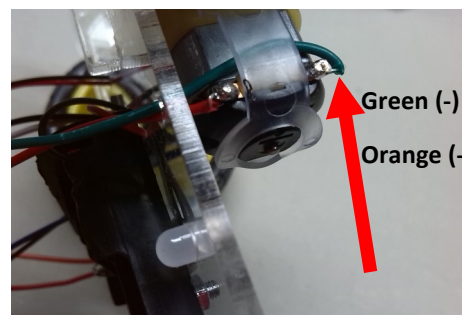
- Before populating. Carefully drill 2x 3mm holes for mounting.



- Solder 2 x Red (+) wires to the top of each Motor terminal.

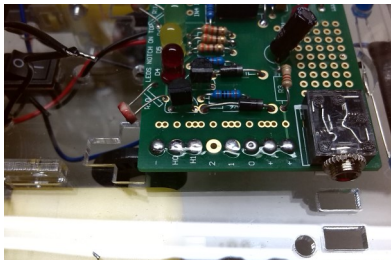


- Solder 2 x Coloured (-) wires to the bottom of each Motor.



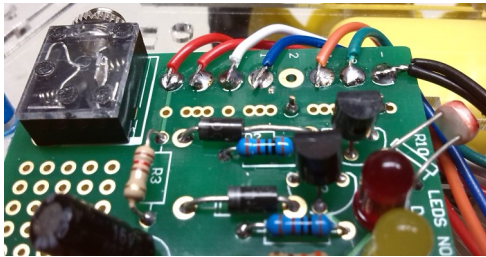
Green (-) Left side bottom
Orange (-) Right side bottom

- Put a solder bubble (tin) on —,H0,H1,1,0,+,+

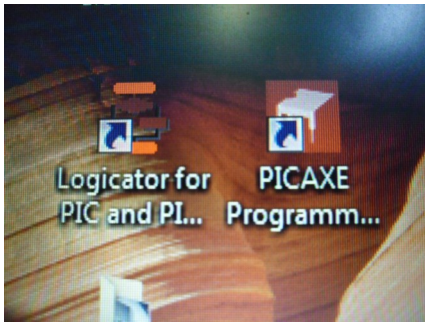


on open doughnut pads.

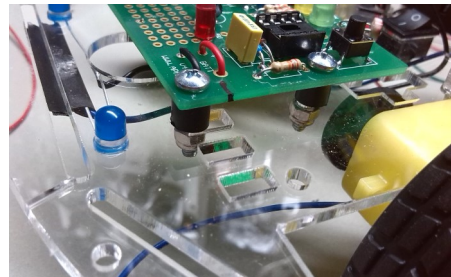
- Solder Reds to + +, white to 0, blue to 1, Orange to H1, Green to H0, Blacks to —.



- Program using Picaxe Programming Editor or Logicator.

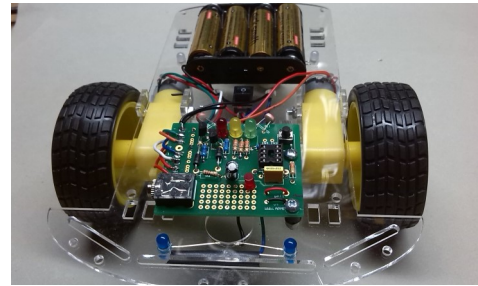


- Use 2, 12mm spacer blocks & fasten PCB with M3x16 metal

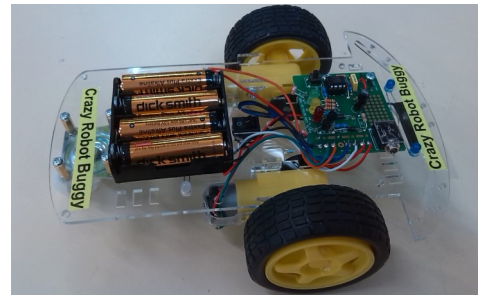


threads & nuts to base.

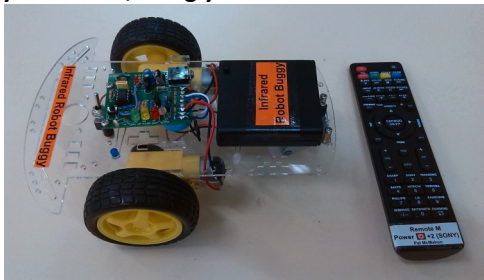
- Insert 4 x 1.5V batteries in battery box.



- If building a Crazy Robot Buggy, modify programming to your desired actions.



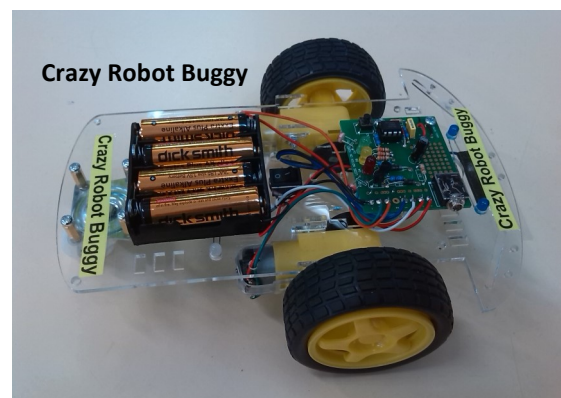
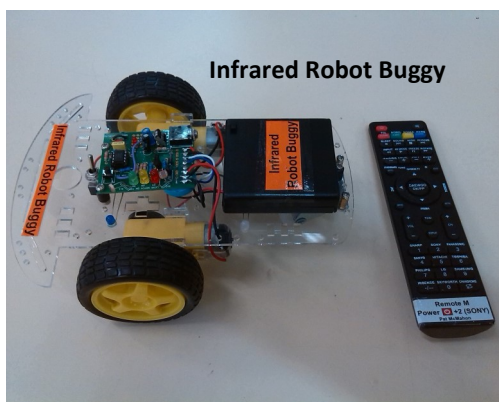
- If building a Infrared Robot Buggy, modify programming to your desire, using your Universal Remote.



- Caution– Before testing and modifying your programming, as the plastic base is brittle, ensure all testing is done with the Buggy on the floor. Also ensure that your Buggy doesn't run into a wall or object, as you could strip the gears. DON'T leave the Buggy power on, as someone with the same remote, could run your model off the bench and OUCH!

You have gained valuable experience in building, testing, programming, modifying and documenting, either your Infrared Controlled Robot Buggy or your Crazy Robot Buggy.

Well Done!



Colour Wire Connections for Scorpio Infrared Robot Buggy with Reverse, using Pat's 14M2 Picaxe Microcontroller & Scorpio L293D Motor Driver PCB

Pat McMahon - V1 - 10/3/2019

- This visual page, labels & lengths of coloured wire required, are for the configuration of the 14M2 & Motor Driver as below.
- This configuration and using Pat's Scorpio Infrared Buggy program will give the correct movement with the Remote.
- The wire colours listed below are for identification purposes only, you can use any colour wire you have.
- The various ~ lengths of each wire required for a neat and economical Buggy and are in (mm), after labels.

