

Space Cruiser

Building description of the Space Cruiser:

It is easiest to mount the components from low to high. All resistors are mounted horizontally. For this, bend both wires at an angle of 90 degrees, taking into account the distance between the holes on the PCB. Insert the resistance through the PCB and carefully bend the wires slightly apart at the bottom of the PCB. The print can now be turned over to solder without the resistance falling out of the print. Cut the legs just above the soldering after soldering. Also do this for all other components with longer legs such as the LEDs and the capacitors. When in doubt about the correct placement, look at the photos.

Tip 1: The balls at the beginning of the line can be coloured in to indicate which parts have already been assembled.

Tip 2: When in doubt about the mounting of a component, look at the photo of the built-up print. Once soldered wrongly, repair can sometimes be very difficult.

Tip 3: A component bending template can prove good for the resistances.



Assembly order

Mount the following resistors:

- R1, R2, R3, R7: 8,2 K Ω (grey, red, red, gold)
- R4, R5, R6: 220 Ω (red, red, brown, gold)
- Mount the following transistors Q1, Q2 en Q3.

ATTENTION: this must be mounted correctly. Look carefully at the drawing on the print. The flat side of the transistor is clearly recognizable.

Mount LED D1 en D6 (yellow).

- Mount LED D2 en D4 (red).
- Mount LED D3 en D5 (green).
- Mount LED D7 (see remark below).

ATTENTION: the LEDs may only be mounted in one way or they will not work. Take a good look at the drawing on the print. On the LED is a flat side, on this flat side is also the short leg. The short leg should therefore be in the hole on the print on the flat side of the LED. The print is set up in such a way that with all LEDs the flat side has to be on the side of the nose of the rocket, the long legs are on the side of the engine.

ATTENTION: LED D7 has a transparent housing but gives blue light. It is possible that D7 cannot be completely pierced through the holes so that it comes flat on the PCB. With an electronic pliers, the projections on the legs can be adjusted slightly so that it fits. Optionally, you can also cut the legs just above the projections, pay attention to the flat side of the LED.

- Mount the electrolytic capacitors C1, C2 en C3.

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Printopdruk	Component
R1	8.2 K Ω
R2	8.2 K Ω
R3	8.2 K Ω
R4	220 Ω
R5	220 Ω
R6	220 Ω
R7	8.2 K Ω
C1	47 μ F
C2	47 μ F
C3	47 μ F
Q1	2N3904
Q2	2N3904
Q3	2N3904
D1	LED geel
D2	LED rood
D3	LED groen
D4	LED rood
D5	LED groen
D6	LED geel
D7	LED blauw
BT1	9V batterijclip

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LET OP: deze mogen maar op één manier gemonteerd worden. Het lange pootje moet in het gaatje op de print waar + bij staat. Op de condensator staat de – pool aangegeven op de behuizing.

- Mount the 9V battery connection.

ATTENTION: the supplied PCB indicates at the connection BT1 what the plus and minus must be.

To be sure: the black wire comes to the side of the B (black) the red on the side of the 1. Feed the wires from below through the PCB and then from above through the solder hole. Solder the wires. The wires can then be pulled tight (see photos). Mount the 9V battery connection.

ATTENTION: the supplied PCB indicates at the connection BT1 what the plus and minus must be. To be sure: the black wire comes to the side of the B (black) the red on the side of the 1. Feed the wires from below through the PCB and then from above through the solder hole. Solder the wires. The wires can then be pulled tight (see photos).



The Space Cruiser is now ready for use!

Connect a 9 Volt battery and see what happens.

TIP: the holes in the fins or the nose can be used to hang the Space Cruiser with a string for example.

