



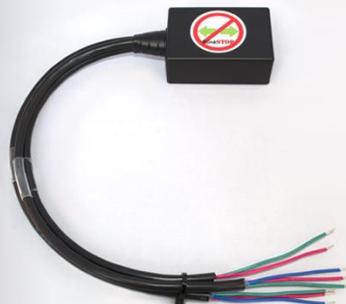
*Blink*STOP

assembly instructions

"the units are great and a real boon to kit car ownership"

"the products are top quality"

BlinkSTOP: Super smart auto-cancelling indicator control in a weight and power-efficient module



"BlinkSTOP is a top quality piece of kit. You won't go wrong and it's easy to fit"

"BlinkSTOP works perfectly .. very easy to install"

Thank you for purchasing BlinkSTOP!

BlinkSTOP, the smart and easy way to add indicator cancelling to your kit car.

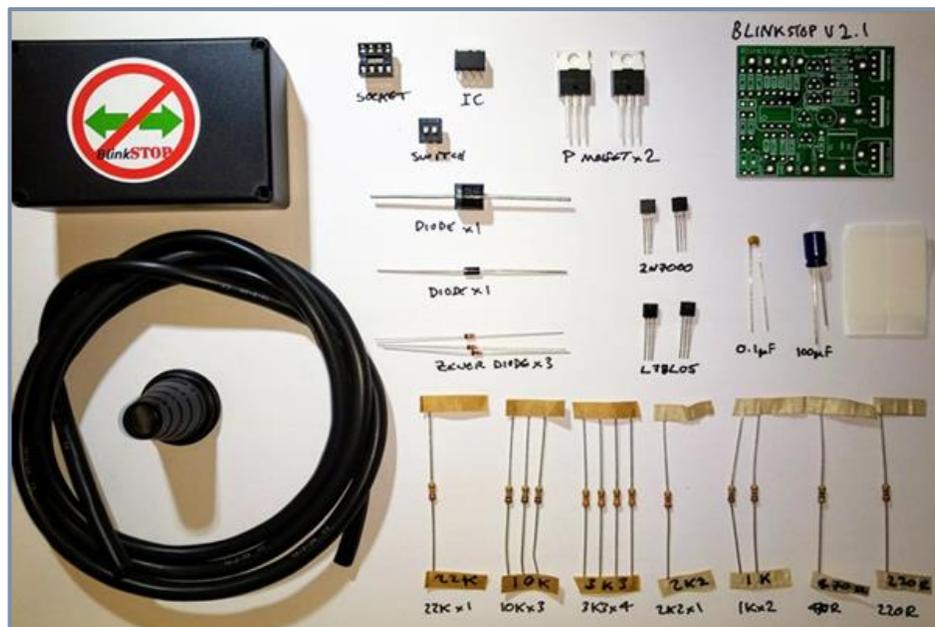
Here's all the information you'll need.



CONTENTS

BlinkSTOP printed circuit board
1 x ATtiny85 microcontroller chip
1 x ABS case
1 x chip socket
1.5m 3-core wire
1 x sleeve grommet
1 x DIP switch
2 x T0-92 L78L05 5V regulator
1 x 2K2 resistor (red red red)
3 x 10K resistor (brown black orange)
1 x 470R resistor (yellow violet brown)

2 x 1K resistor (brown black red)
4 x 3K3 resistor (orange orange red)
1 x 22K resistor (red red orange)
1 x 220R resistor (red red brown)
1 x 100uF capacitor (large polarised)
1 x 100nF (0.1uF) capacitor (small ceramic)
1 x Schottky diode (small)
2 x T0-220 P-MOSFET (large)
1 x P6 diode (large)
3 x 5.1V Zener diode (glass)
2 x T0-92 2N-7000 N-MOSFET (small)



YOU WILL NEED

Earthing strap	<i>Soldering iron, solder</i>
Wire cutters	<i>18mm step drill</i>
Flux cleaner or rubbing alcohol	<i>Small, stiff brush such as an old toothbrush</i>
<i>Optionally, magnifying glass, utility knife, solder sucker</i>	

HINTS AND WARNINGS

Please read the assembly instructions carefully before commencing

Not all of the solder holes are used on the board, so please double check before soldering

BlinkSTOP contains components that may be damaged irreparably by static shock – please ALWAYS wear an earthed wrist strap.

Ensure your iron has a clean tip of no more than 2.3mm and is suitable for precision soldering.

Apply heat to the component leg where it protrudes through the reverse side of the PCB for a few seconds before touching with the solder. You should find that the solder is immediately drawn to the board and the iron can then be removed.

Avoid touching the green solder mask with the iron because the direct heat will damage it and could cause solder to jump across to an adjacent circuit.

Avoid prolonged contact of the component with the iron (>6sec), as this can cause component damage.

You may find it helpful to spread the legs of resistors slightly, to hold them to the board, before soldering.

Assembly

STEP 1

Not all of the solder holes are used on the board, so please double check before soldering.

Start with the resistors and diodes, noting the labels on the PCB carefully and matching the colours from the parts list.

The resistors can be fitted in any direction, but the diodes **MUST** be fitted with the band at the correct end as shown – the Zener diodes have one fitted in the opposite direction to the other two.

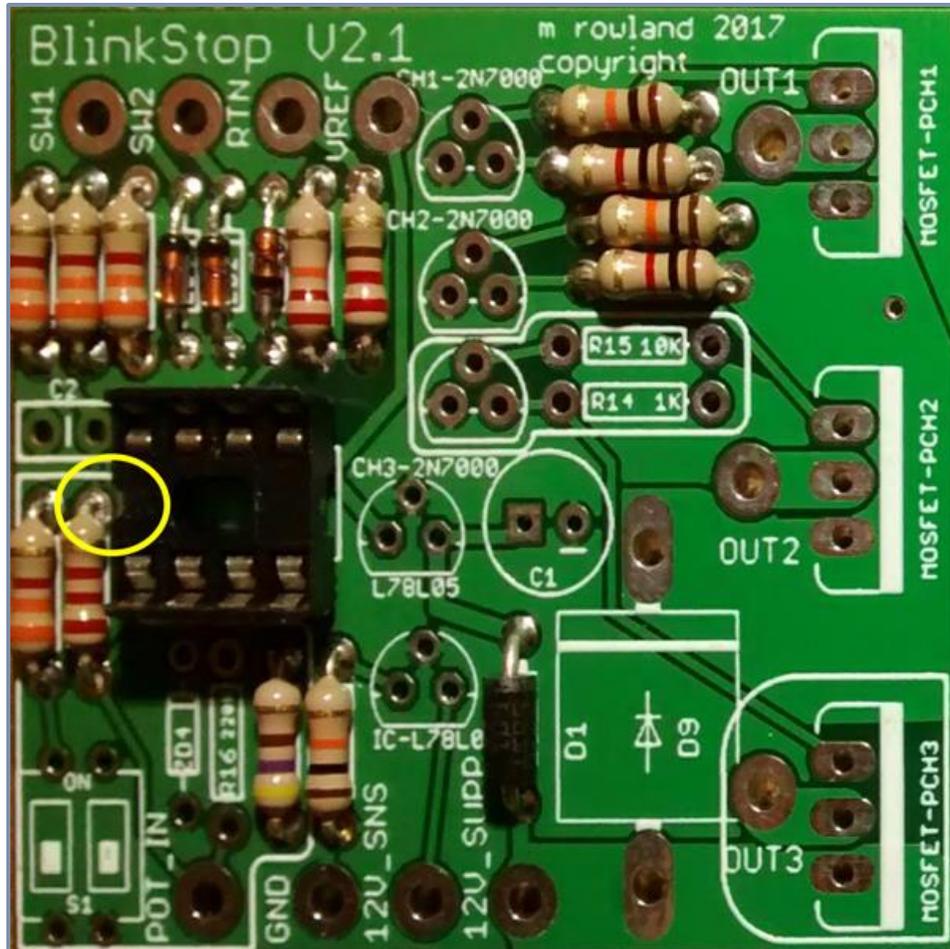
After soldering, snip the legs back flush with the solder joint on the reverse side of the board.



STEP 2

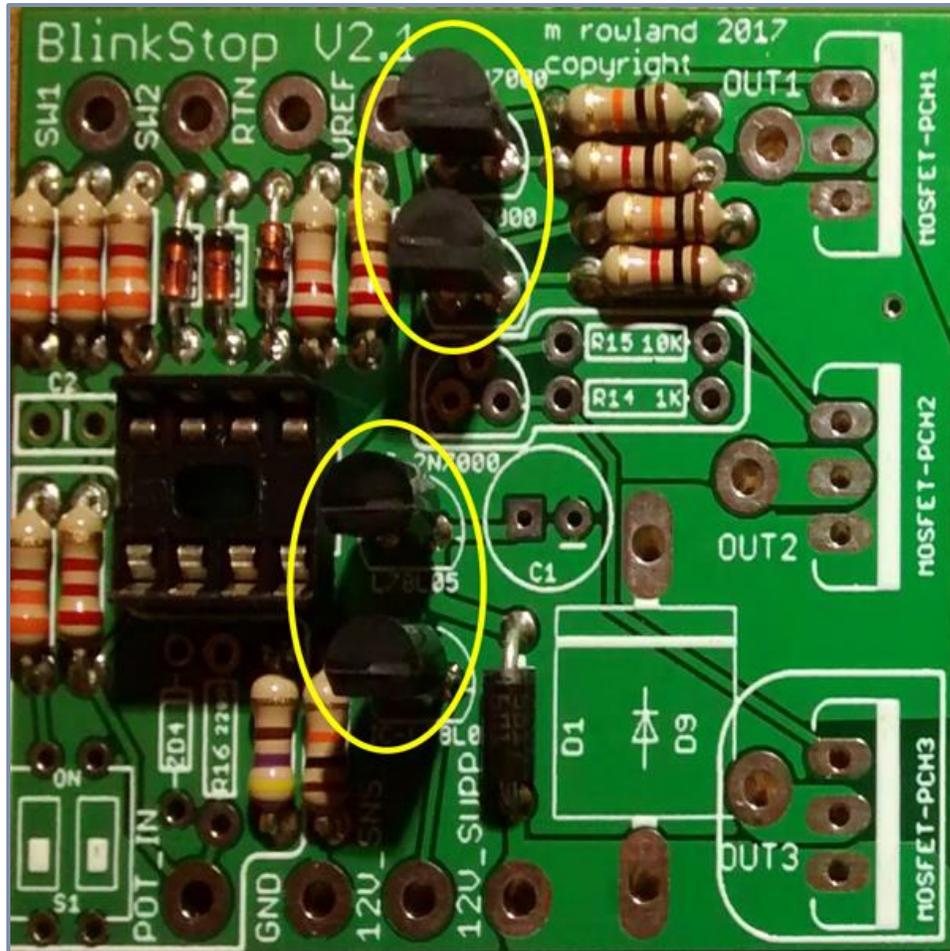
Now fit the chip socket which has a small indentation at one end. Fit this to the left as shown on the PCB – the chip has a matching dot to show its orientation.

Do not fit the chip until the board is complete and cleaned.



STEP 3

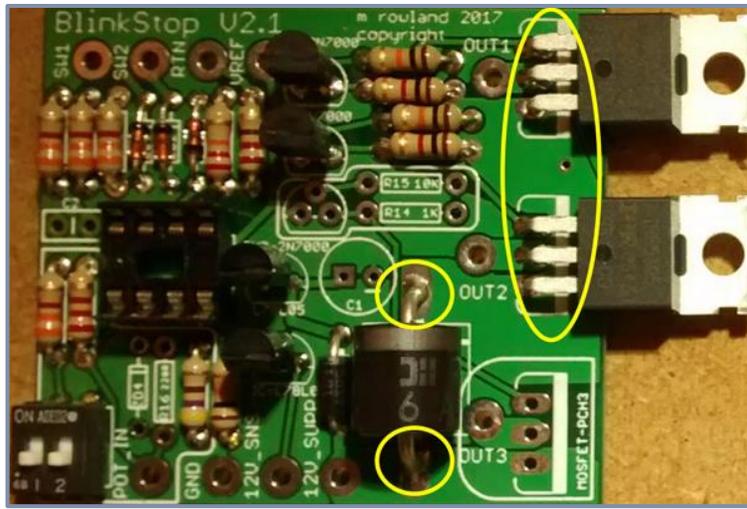
Fit the 2 x L78L05 regulators (bottom) and 2x 2N7000 MOSFETs (top), paying attention to the correct orientation of the flat face (see below and PCB marking).



STEP 4

Add the switch, then carefully bend the legs and fit the P-channel MOSFETs and large diode.

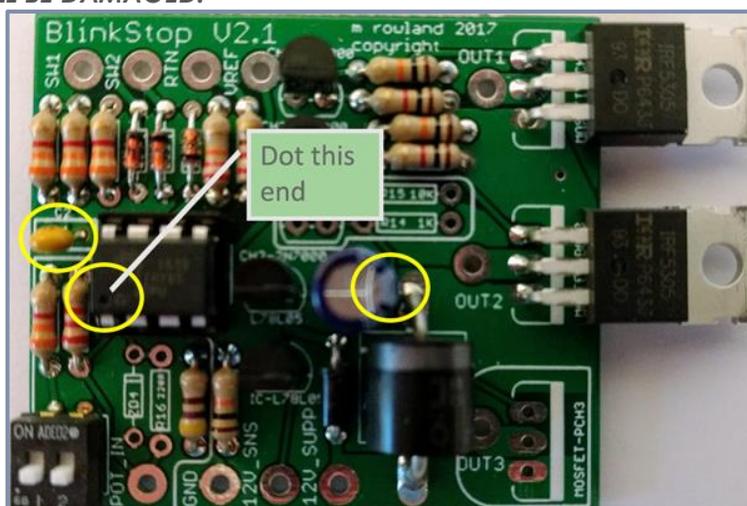
Check that the solder has flowed through the board cleanly for a very good joint as this is the high current part of the board.



STEP 5

The small 100nF capacitor can be fitted in either direction, but the large 100uF capacitor **MUST** be fitted with the -ve symbol as shown.

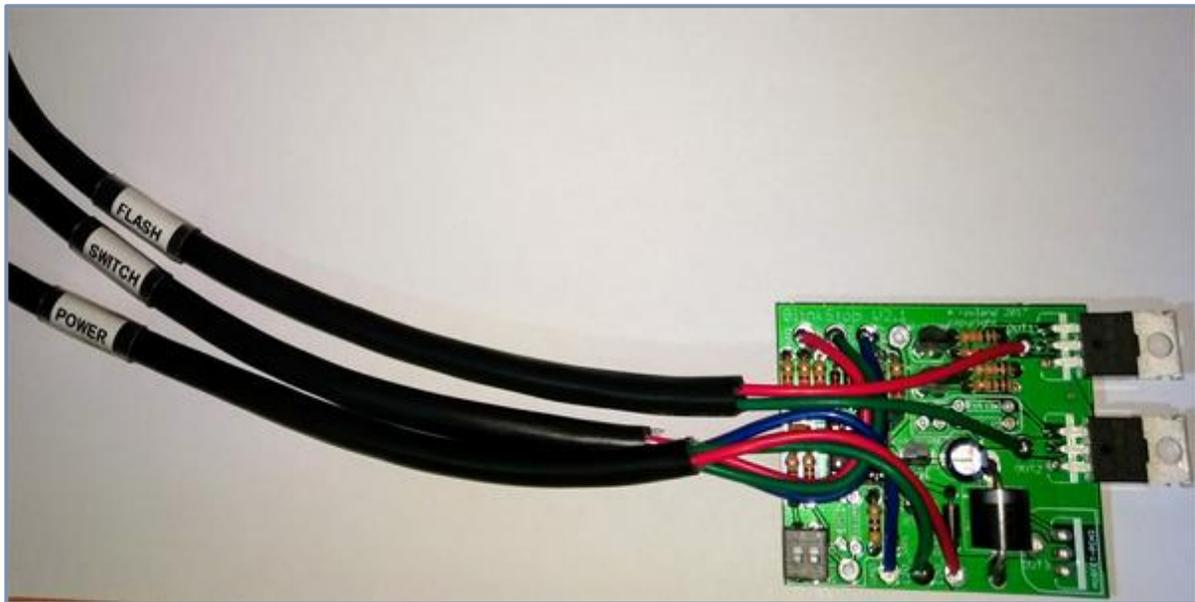
Fit the IC chip to the socket, noting the dot on the left. Ensure that the small dot is aligned to the indent on the socket as below **OR IT WILL BE DAMAGED**.



STEP 6

Solder the wires to the board and label them Power, Flash and Switch, making sure that the wire colours are correct as below. The blue wire can be removed from the Flash wire – it is not used.

POWER	FLASH	SWITCH
Blue – GND		Blue – RTN
Green – 12V_SNS	Green – OUT 2	Green – SW2
Red – 12V_SUPP	Red – OUT 1	Red – SW1



STEP 7

Clean the flux residue from the finished board with flux cleaner or isopropyl (rubbing) alcohol using a stiff brush (an old toothbrush works well).

Inspect the board carefully, checking that there are no solder 'whiskers' or poor joints visible.

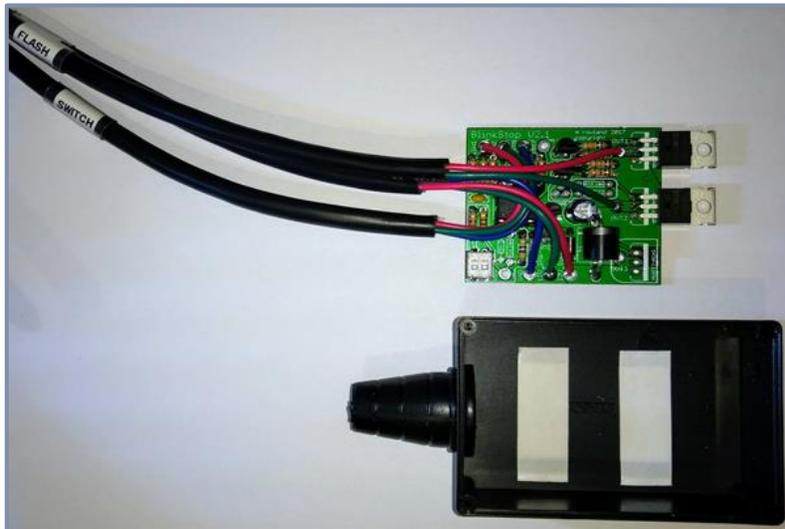
Leave to dry fully.

STEP 8

With a step drill, drill an 18mm hole in the case, centrally at one end.

Fit and cut the grommet at the 10mm marker.

Fit the board assembly to the case above the adhesive pads.



STEP 9

Fit the case lid. Congratulations, you are now ready to move to the 'BlinkSTOP fitting instructions'!



BlinkSTOP.co.uk

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Kit Car Electronics

