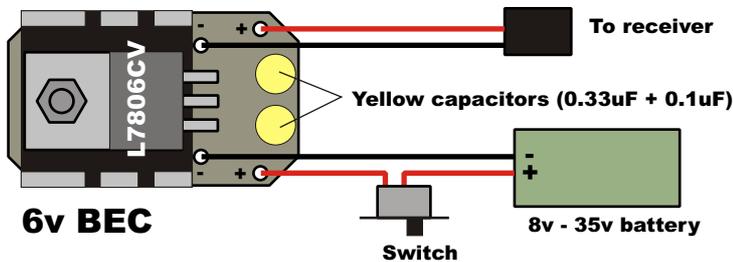
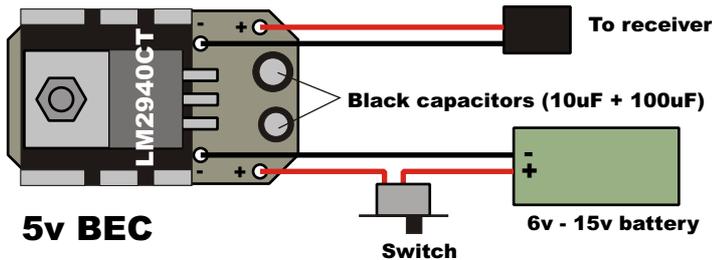


P19 Battery Eliminator Circuit (1 Amp)

These BEC units are a stable source of power at either 5v or 6v to drive the receiver and servos of a model by using the main motor drive battery. The peak current is 1A, which should be sufficient for a receiver and up to four servos or electronic speed controllers. **NO OTHER LOADS (E.G. RADAR DRIVE MOTORS OR LIGHTS) SHOULD BE CONNECTED TO THE OUTPUT SIDE OF THE BEC.** They will likely

exceed the maximum current capacity of the regulator IC and damage or destroy it. A switch will be required to operate the unit as shown, because current would otherwise be drawn by the receiver even if the model were not in use. You can either use the original switch from your radio unit's own wiring harness, or purchase a suitable slide switch or toggle switch from ACTION.

NB - The aluminium heat-sink is electrically live (Ground) so it should not be allowed to come into contact with any other wiring.

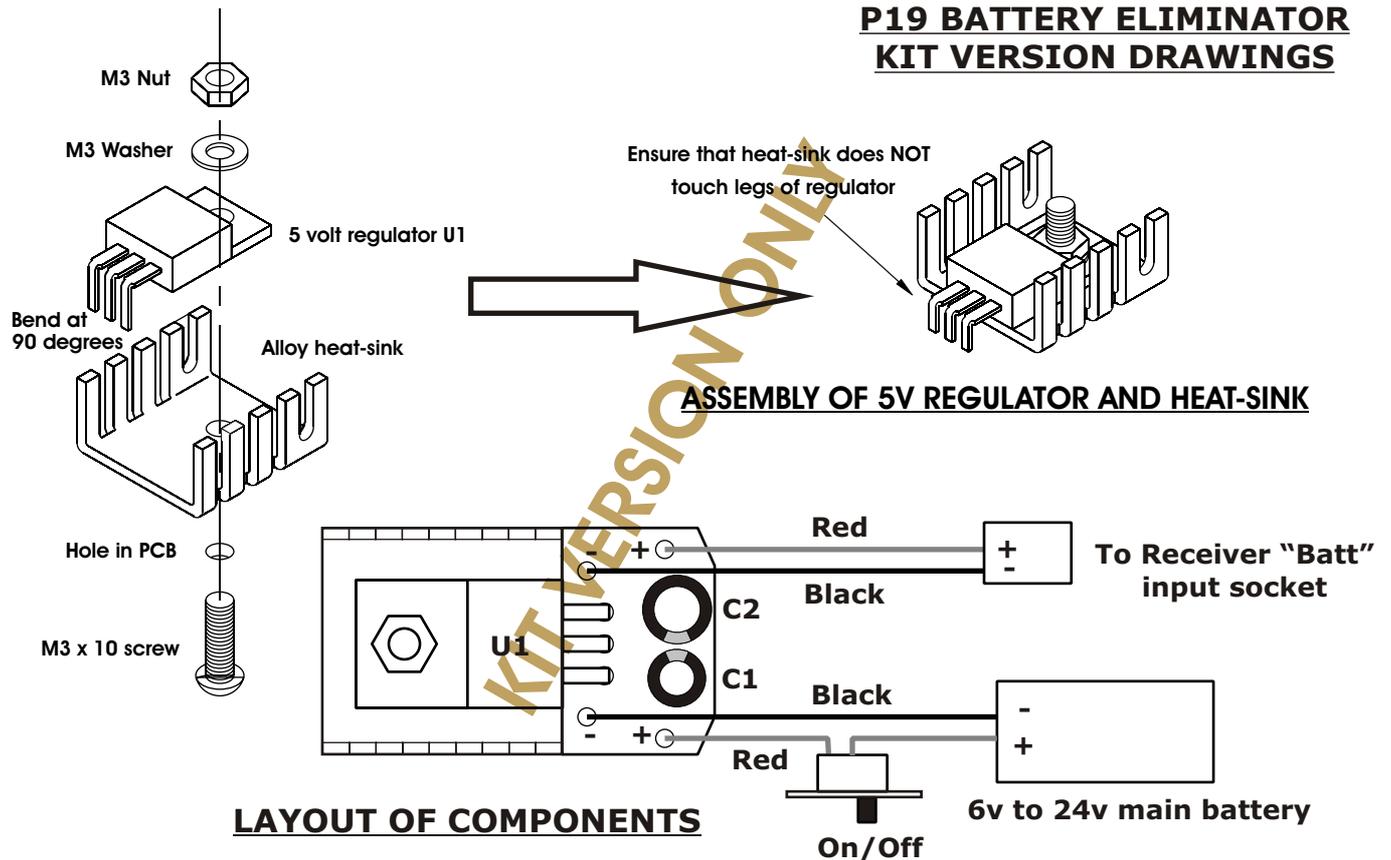


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P19 BATTERY ELIMINATOR KIT VERSION DRAWINGS



P19 (5v) Kit Instructions

REQUIREMENTS

This Device requires a drive battery voltage of 6 Volts to 15 Volts . It will produce a 5 Volt fully-stabilised supply for loads up to 1 Amp (PEAK). This current will supply the receiver and servos for your R/C system. NO OTHER UNITS, SUCH AS RADAR DRIVES OR LIGHTS, SHOULD BE CONNECTED TO THE 5V OUTPUT SIDE OF THE BEC. They will probably overload its current capacity.

PCB

The Board for this Project is fully prepared and requires no additional work.

TOOLS

For construction you will require, a soldering iron and flux cored solder, a screwdriver and a small pair of wire cutters.

PARTS

Only three electronic parts in this kit: a 5v regulator IC and two small electrolytic capacitors.

CONSTRUCTION

Fit IC1 first, bending the leads as per the drawing. Note that metal heat-sink part of the device lies flat against the aluminium heat-sink which, in turn, lies flat against the PCB. Fit the screw through the hole in the PCB (solder side), the heat-sink and the hole in IC1. Next fit the nut with the plain washer to the protruding screw and tighten the screw until firm; make sure that the heat-sink is "square" with the PCB and that the legs of the regulator don't touch it. Carefully solder the three legs of the IC, cutting off the surplus leg length. DON'T SOLDER THE REGULATOR IN PLACE UNTIL YOU'VE SCREWED IT DOWN CORRECTLY TO THE PCB.

Now fit the two capacitors, C1 & C2, which are electrolytic and must be fitted the correct way around i.e. with the pale bands marked with negative (-) signs facing each other, to the centre of the PCB as shown. C1 is the smaller of the two and is marked 10uF, while the larger C2 is 100uF. Make sure they are both soldered right down onto the board.

A 3-wire lead is supplied for the connection the receiver, although you may wish to remove the white wire as it has no electrical function on P19. Solder the Red and Black wires as shown, taking care to observe correct polarity.

The other two wires for the battery input should be connected as shown. The positive wire must be switched in some way, otherwise your receiver will be permanently on. ACTION can supply a suitable slide or toggle switch, or you might use the one originally supplied with your radio gear.

Check the rear of the PCB to ensure that there are no solder bridges and the PCB is correctly soldered.

Clean off the PCB with a spirit cleaner and brush (an old toothbrush is ideal) to remove all the solder flux.

TEST

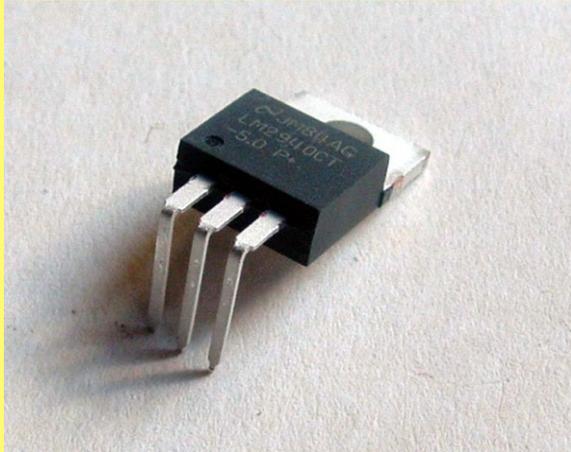
Simply connect the INPUT to your Battery and the OUTPUT to your receiver. Note that the heat-sink is electrically "live" (through the negative rail) so you must install the P19 clear of any other wiring to avoid electrical short-circuits. Also bear in mind that it can get rather warm in operation, especially when using the higher input voltages this is quite in order!

PARTS LIST

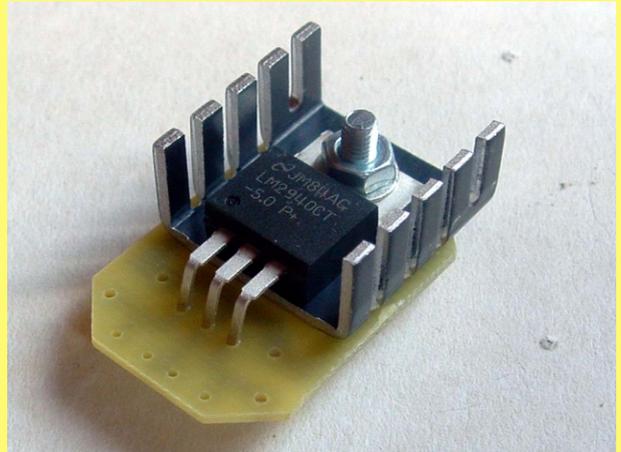
IC1	LM2940CT
C1	10uF x 35v ELECTROLYTIC CAPACITOR
C2	100uF x 16v ELECTROLYTIC CAPACITOR
Heat-Sink	Finned aluminium type with M3 x 10 screw, nut and washer
PCB	BEC PCB P19B
LEAD	HiTec/JR generic type supplied; also plain Red and Black wires for battery input.

P19 BATTERY ELIMINATOR

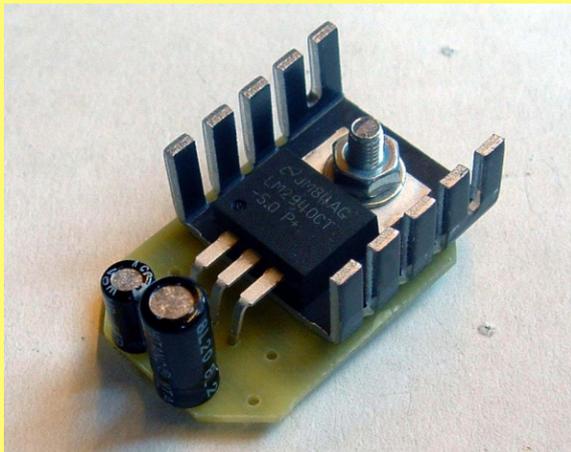
PHOTOGRAPHIC BUILD SEQUENCE FOR KIT VERSION ONLY



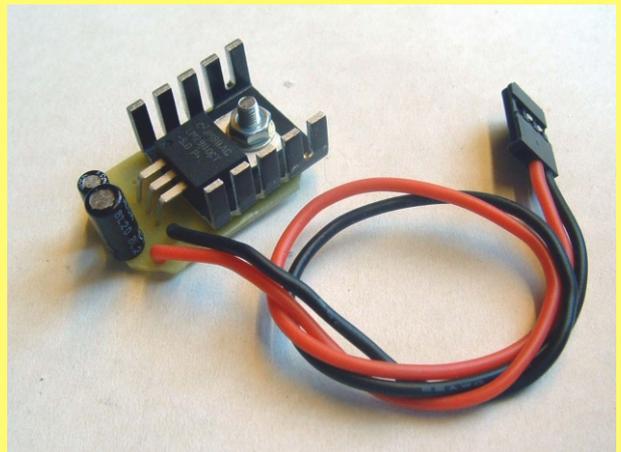
Picture 1 - Bending the regulator I/C legs



Picture 2 - Fitting the I/C & heat-sink



Picture 3 - Fitting the smoothing capacitors



Picture 4 - Fitting the 5v output lead



Picture 6- Finished unit with input lead fitted.