1.0 Adjustment of the flashing frequency to 90 flashes per minute

This document is intended as an aid to all those customers whose signal flashing frequency is still too high with ballast resistors.

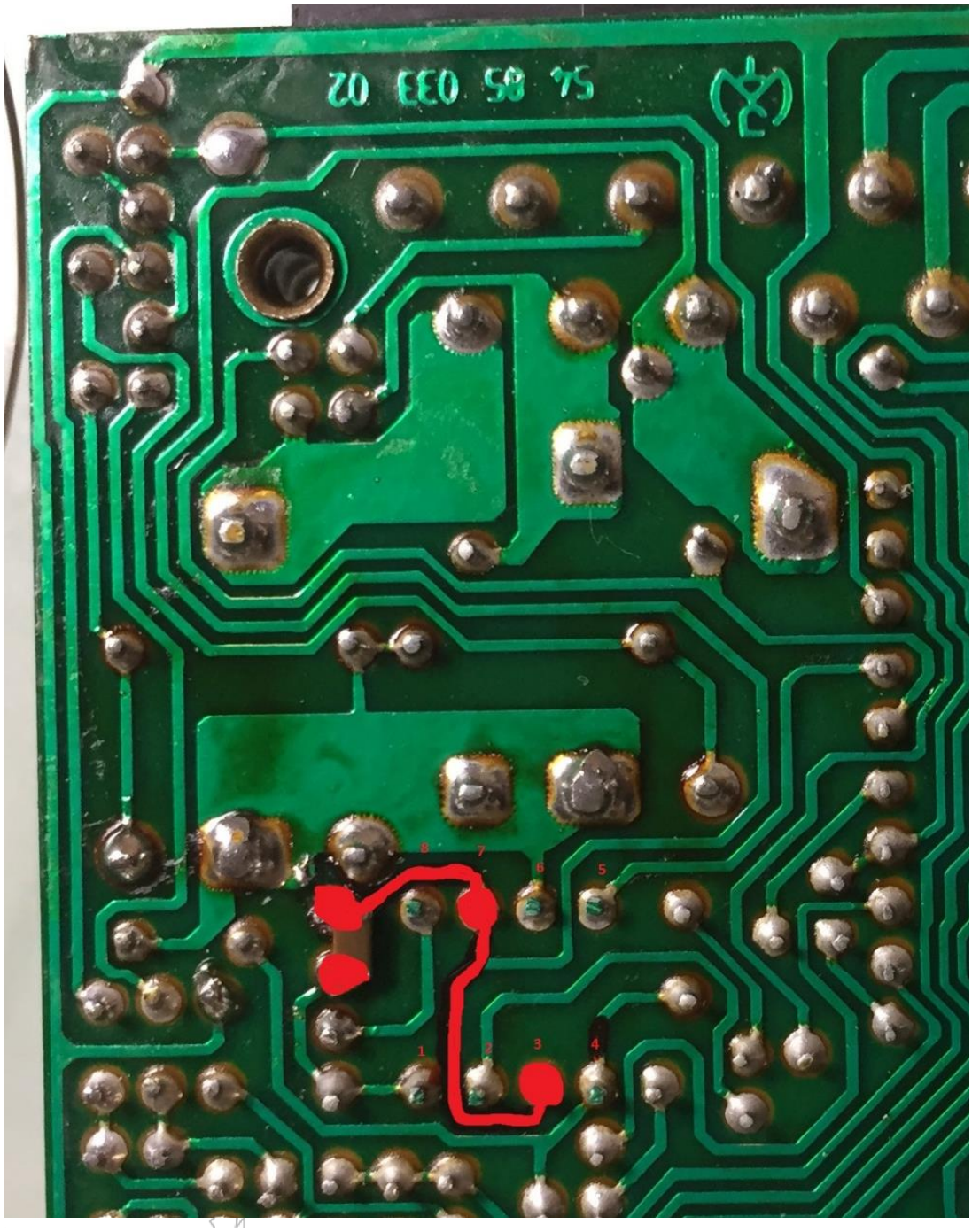
The flashing module from BMW actually knows only two "states".
State 1: the bulbs are all intact, and the flashing module operates the turn signals at 116 flashes per minute.
State 2: one or more of the turn signal bulbs are defective, and the flasher module will hyperflash the bulbs.

Contrary to other turn signal relays, no matter how high the load is with the BMW flasher module, the LED turn signal will flash at 116 flashes per minute. The BEP3.0 has built-in load resistors, which set the flasher module to state 1. However, some rebuilders are too fast, they are to be remedied. You need to modify the flasher module using a 2.2uF capacitor. I recommend a ceramic capacitor, since these type of capacitors are non-polarized and can be soldered in either direction (Electrolytic or tantalum capacitors must be soldered with the correct polarity, otherwise they will explode). I refer to the Reichelt online electronics supply. Here is the link to the required part:

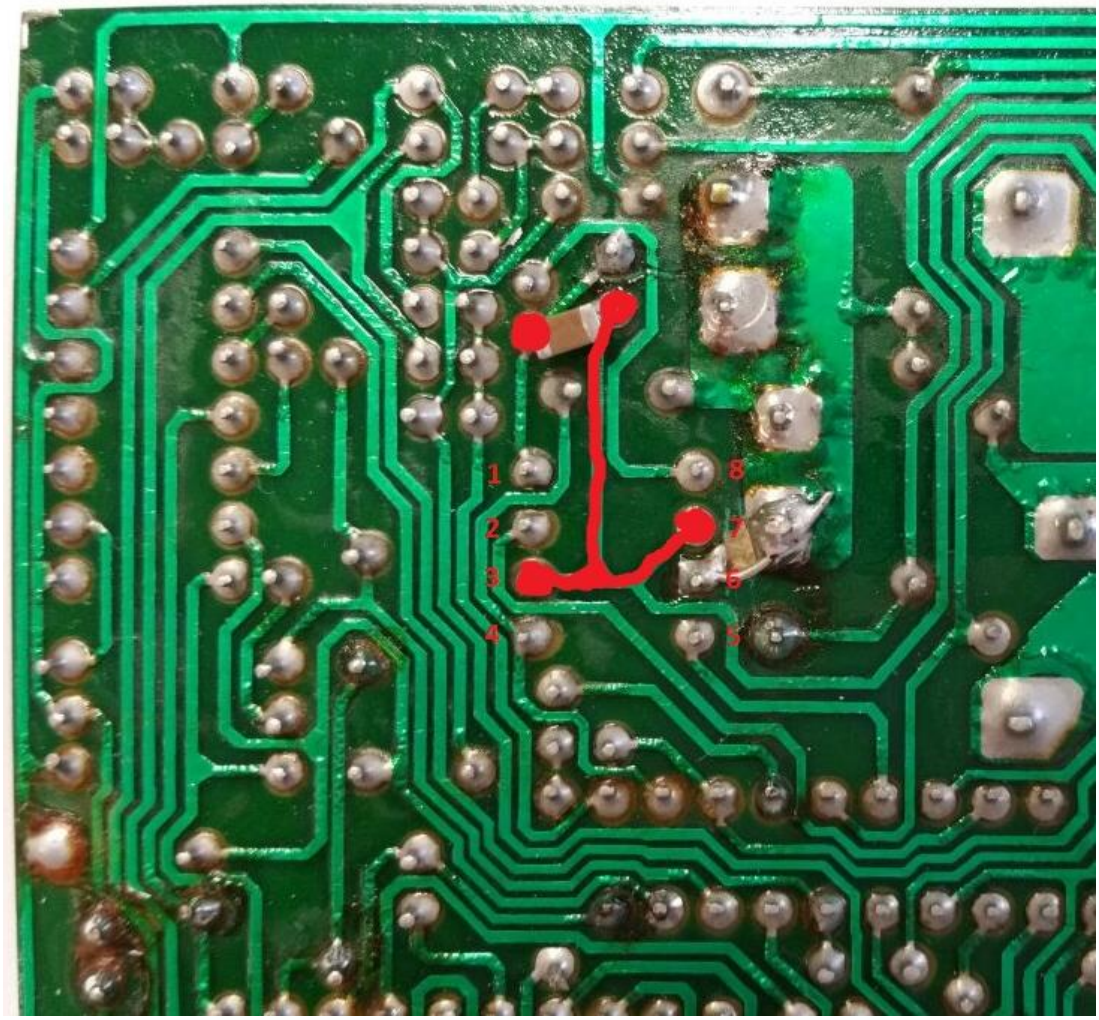
Vielschicht-SMD-G0805/X7R-G0805-2-2-25

This capacitor must be soldered to the flasher relay PCB in parallel with the existing capacitor (depends on IC U243 B on PIN3 and PIN7). The capacitor fits on the bottom of the board supported between the two connecting legs of the existing electrolytic capacitor. You should be aware that there are two different versions of the flasher module from BMW. I have found 3 different layouts so far. Unfortunately I took only 2 photos. But it is always the electrolytic capacitor's PIN3 and PIN7 to "edit, no matter where the now sits on the circuit board. Simply follow the tracks ...

Version 1:



Version 2:



Note on version 2: In the picture above, the customer severed the ground connection to PIN7 of the IC U243 B. This allows the relay to be permanently State 1, independent of the load. I cannot recommend this modification and consequently I have also reversed the modification by soldering in a jumper wire. Through the BEP3.0, your flashing module is in "State 1" anyways and the flasher relay can operate normally.

Editor's Note

The BMW K-bike community recommends modifying the flasher module when changing signal lights from incandescent bulbs to LEDs, by cutting Pin 7 on the U243B IC to disable hyperflash functions.

Maru Labs is recommending changing the flashing frequency of the BMW flasher module by increasing a timing capacitance. This is what is being done. The Telefunken U243B data sheet offers the following schematic:

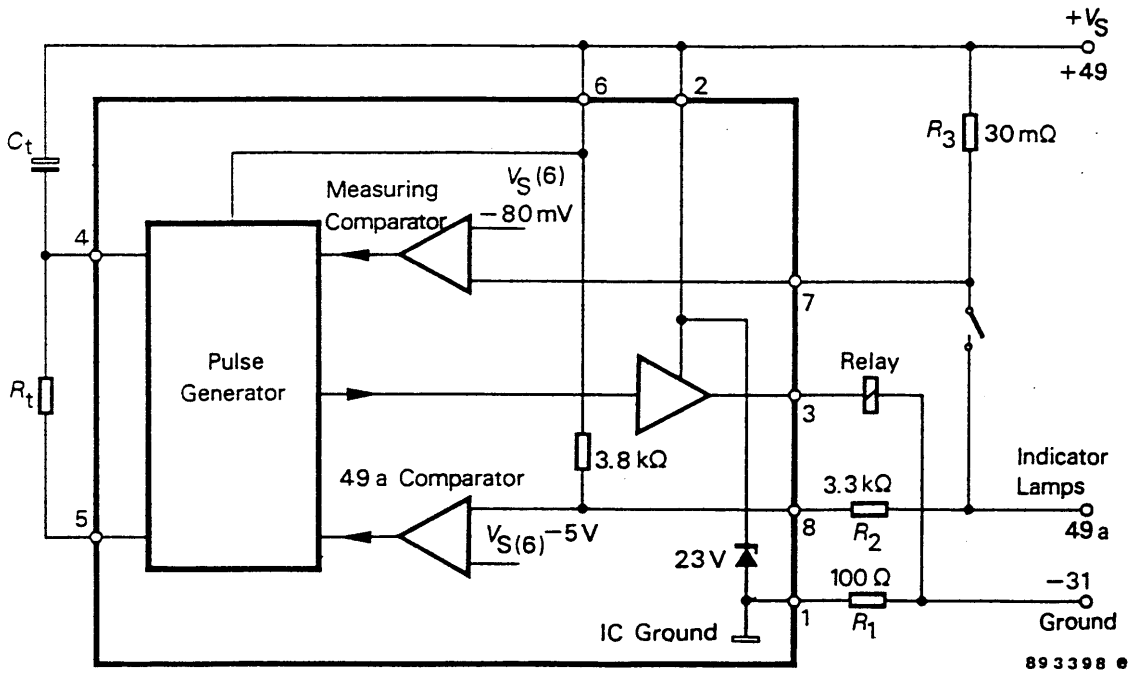


Figure 1. Application circuit as a car flasher
(Resistor R_1, R_2 and R_t: 1/4 Watt
R_1 for protection against continuous reversed polarity: 2 Watt)

As far as I can tell, Maru Labs' modification parallels another capacitor across Ct in the above schematic. This additional capacitance lowers the flash frequency but does not inhibit the "hyperflash" feature of the U243B IC. This means that a failed signal light will still trigger the hyperflash, providing notification to the pilot that the signal light is not operating.