Sunbeam Alpine – Series V
Four-Way Flasher

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Background

My Sunbeam Alpine Series V has the original wiring harness, which does not have a four-way flasher circuit. I wanted to add a four-way flasher circuit for the primary reason to have flashers when the car breaks down. My requirements were:

1. No modifications visible on the dash or in the engine bay.
2. No cutting or splicing any existing wires. The circuit can be removed if desired and there will be no evidence it ever existed.
3. Ability to have flashers when the ignition is off or on.
4. All outside marker lights flashing, as well as the turn signal panel light (on the dash).

I already had replaced all exterior marker lights with LED bulbs (for increased brightness) and replaced the original thermal flasher with an electronic flasher that works with LEDs.

Approach

Use a simple on/off toggle switch to control the four-way flasher.

Tap in to a connector that is always hot to allow the four-way flasher to work with the ignition off or on.

Add a fuse for the new flasher circuit.

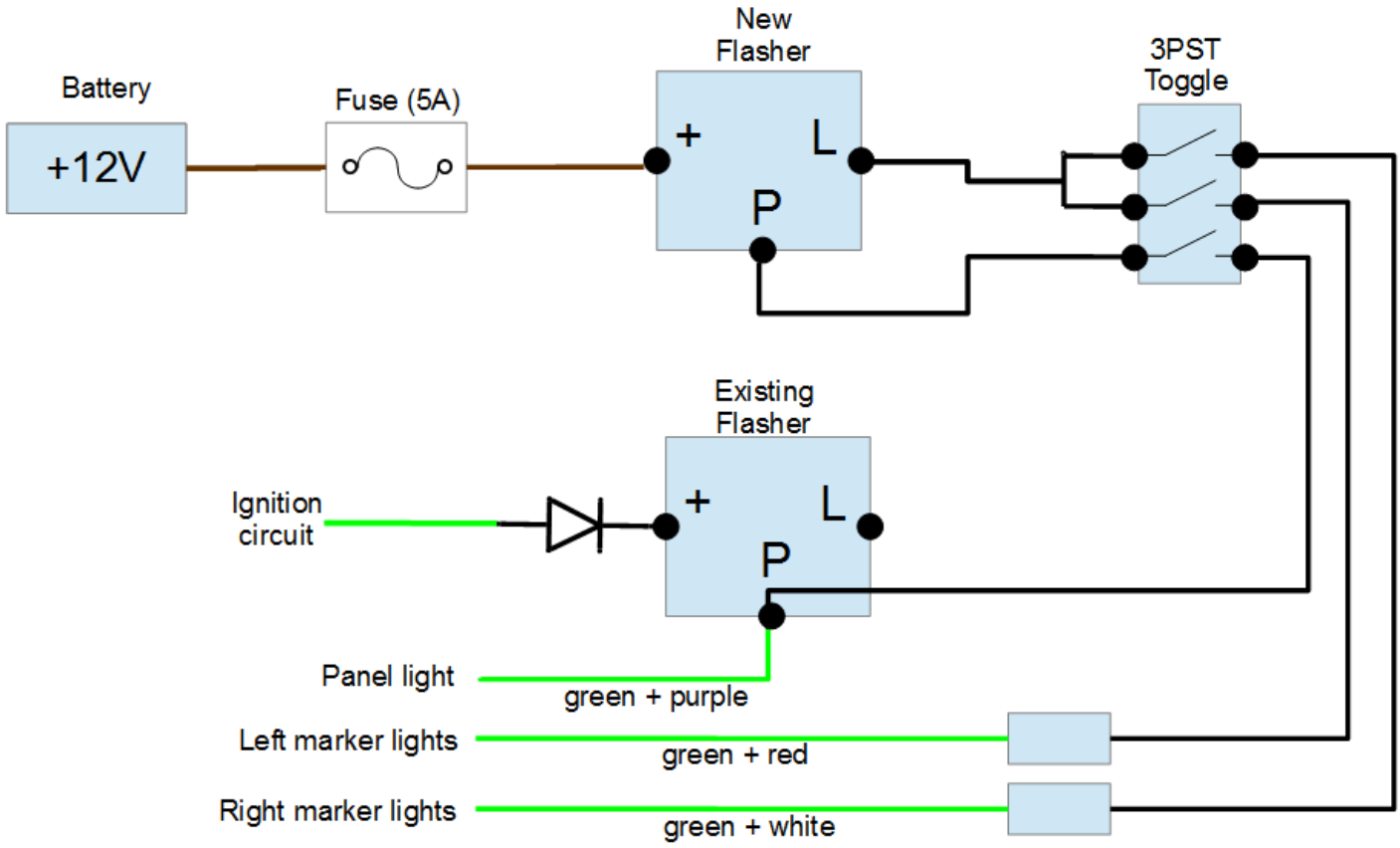
Add a new LED flasher unit to drive the four-way flasher circuit.

Figure out how to tap into the left and right marker lights wires and the turn signal panel light on the dash.

Hide everything behind the dash.

Details

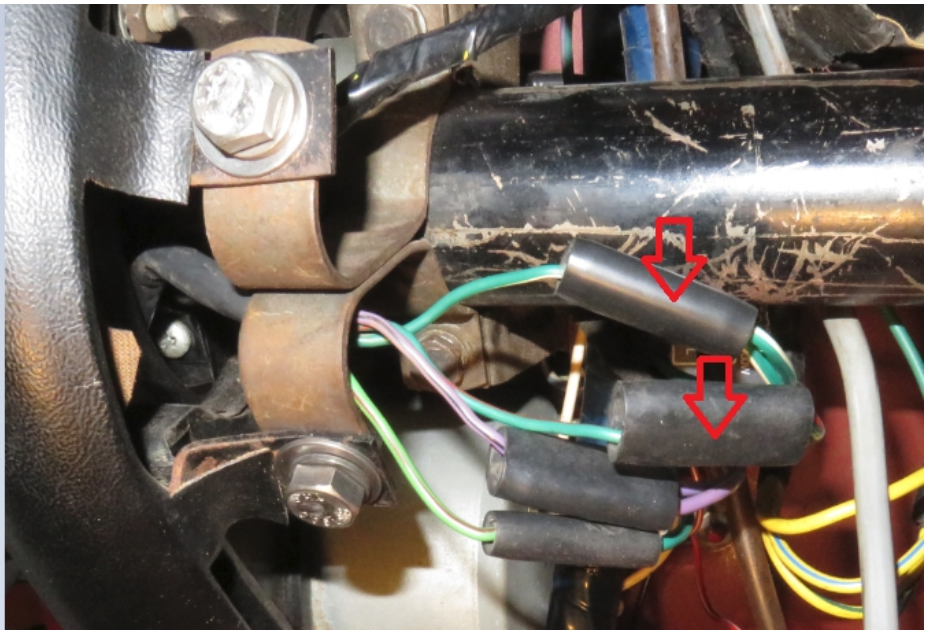
I first designed the circuit I wanted to install.



When the toggle switch is Off, the existing flasher + marker circuit works normally, which is only when the ignition is on and the turn signal lever is engaged.

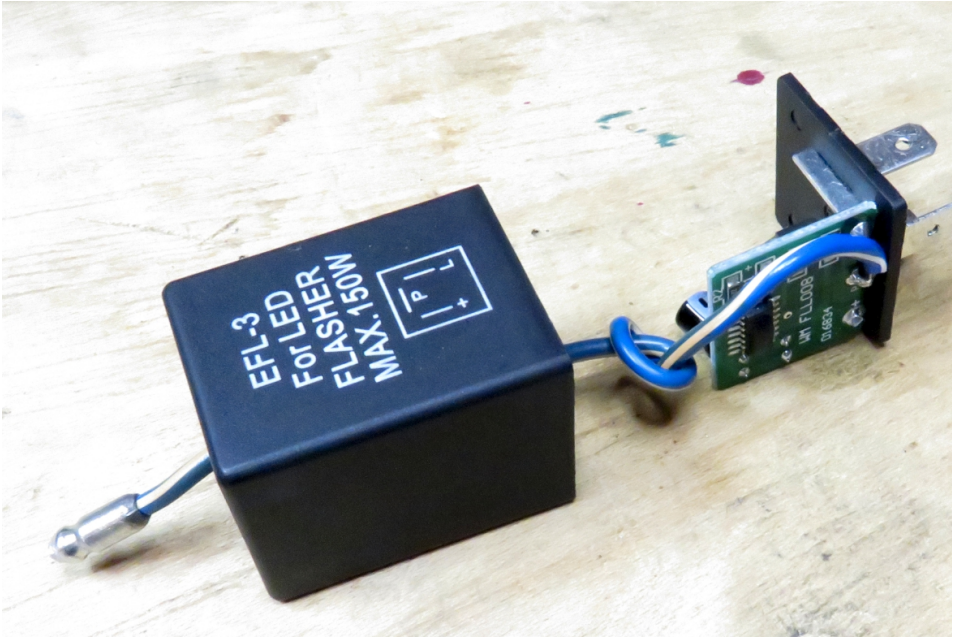
When the toggle switch is On, the new flasher cycles its “L” & “P” connections on & off, which in turns flashes the marker lights and the turn signal panel light.

The left and right marker lights' wires have connectors accessible near the steering column. The right markers (green+white color wire) already had a double connector, with a spare connection available. The left markers (green+red color wire) had a single connector, so I swapped out the single connector for a double connector from an old spare wiring harness.



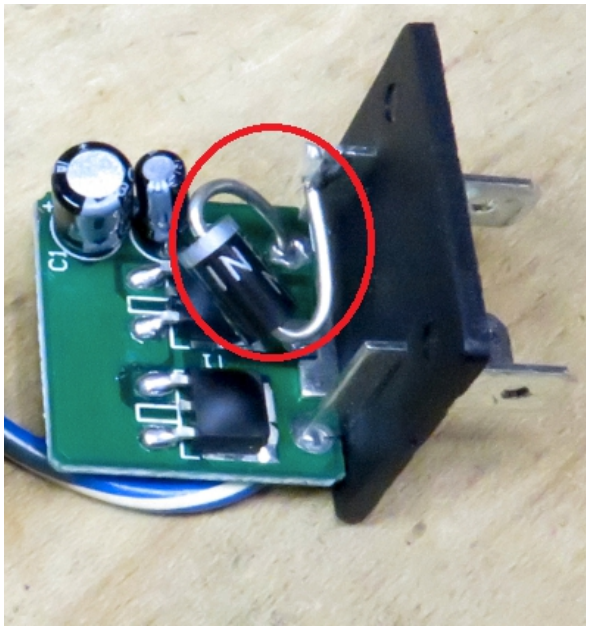
Marker wire double connectors near steering column

The turn signal panel light is tougher to access. There is a single wire that goes from the flasher socket to the panel light. There is no connector to tap into. I decided the easiest way to connect to the panel light, without modifying the existing wiring, was to make the connection inside the LED flasher unit. The cover pops off the flasher unit easily to provide access. I drilled a hole in the flasher cover, fed a short wire through the hole, and soldered the wire onto the Panel connection. The overhand knot in the wire can avoid strain on the solder connection if the wire is tugged.



Turn signal panel light connection

The electronic LED flashers allow current to flow in either direction. I.e. Current present at the “L” or “P” connection will flow to the “+” connection, which is the Ignition circuit. I added a 1N5401 diode (3 amp, 0.7V drop) on the "+" connection of the original LED flasher to prevent the 4-way flasher circuit from powering the Ignition circuit through the original LED flasher. I added the diode inside the LED flasher. I cut out part of the connection from the “+” spade to the circuit board and then soldered the diode inline.



Diode added to LED flasher unit

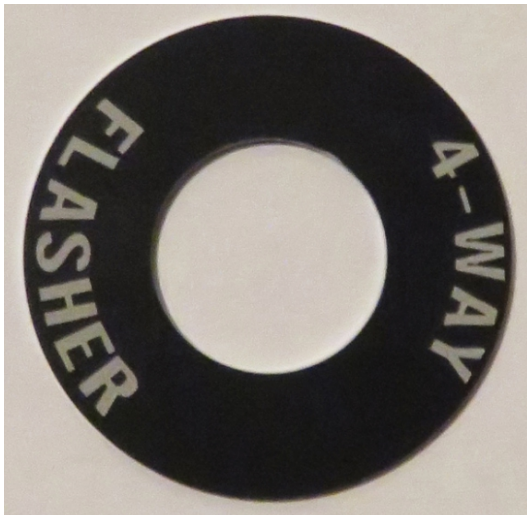
Note that adding the diode drops the voltage provided to the marker bulbs for regular turn signals by 0.7V. This will slightly reduce the light provided by the marker bulbs. The reduction is not noticeable when using bright LED marker bulbs. However, if you have original incandescent marker bulbs, they already are pretty dim. The last thing you want to do is make them any dimmer. You really need to upgrade to LED bulbs to use this circuit. (You can buy the LEDs from Joe Parlanti at Veloce Solutions - http://www.velocesolutionsllc.com/)

The 3PST On-Off toggle switch is an NKK model S-31 (25 Amp).

Grabbed a flasher socket from an old spare wiring harness.

I purchased an EFL-3 ({+, P, L} type) 150 Watt electronic flasher from Joe Parlanti (Veloce Solutions).

I had a custom toggle switch label made up by Amanda on Ebay. (https://www.ebay.com/itm/Custom-Round-Black-Metal-Label-boat-car-toggle-switch-single-or-double-text/262786430340)



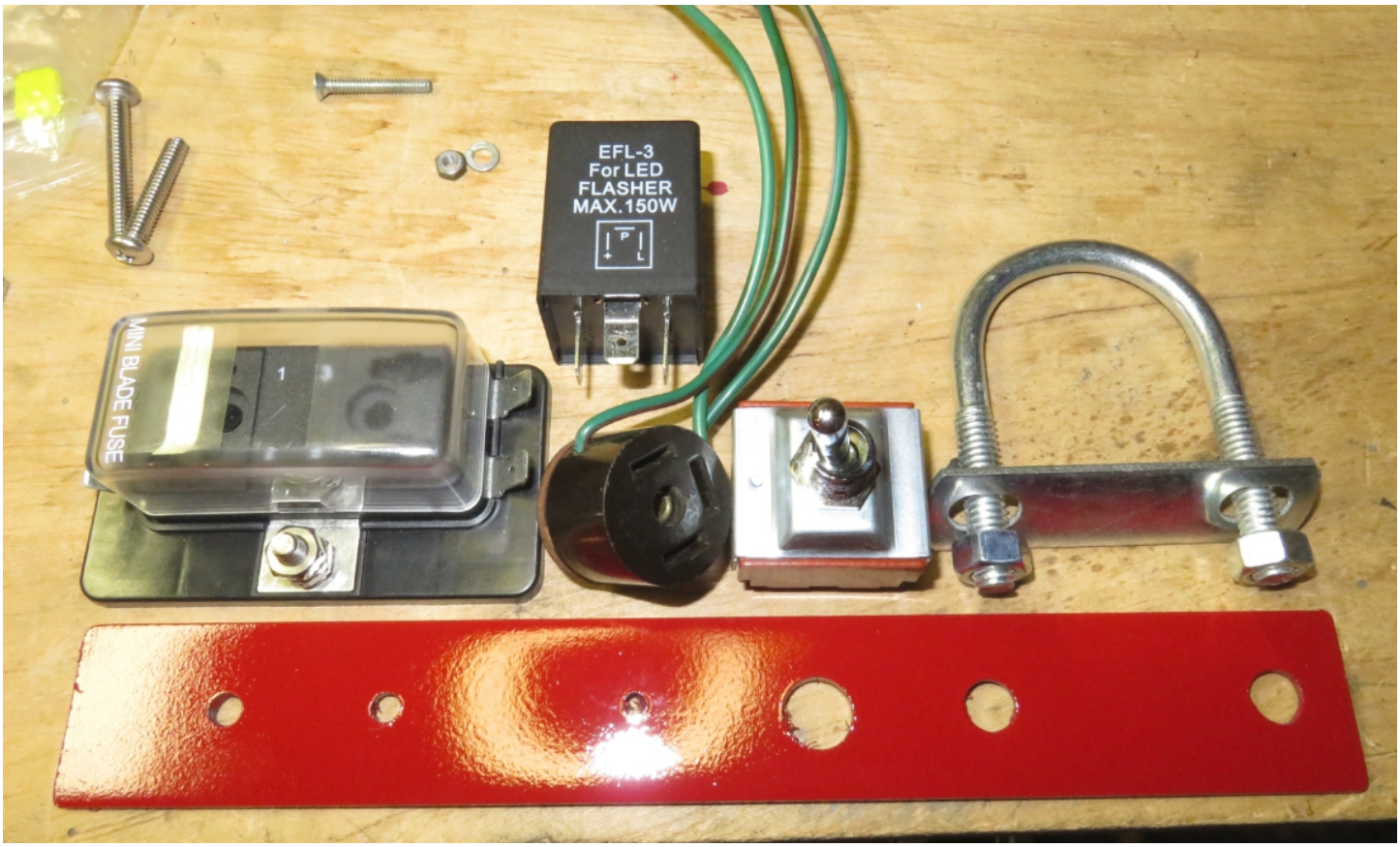
Custom toggle switch label

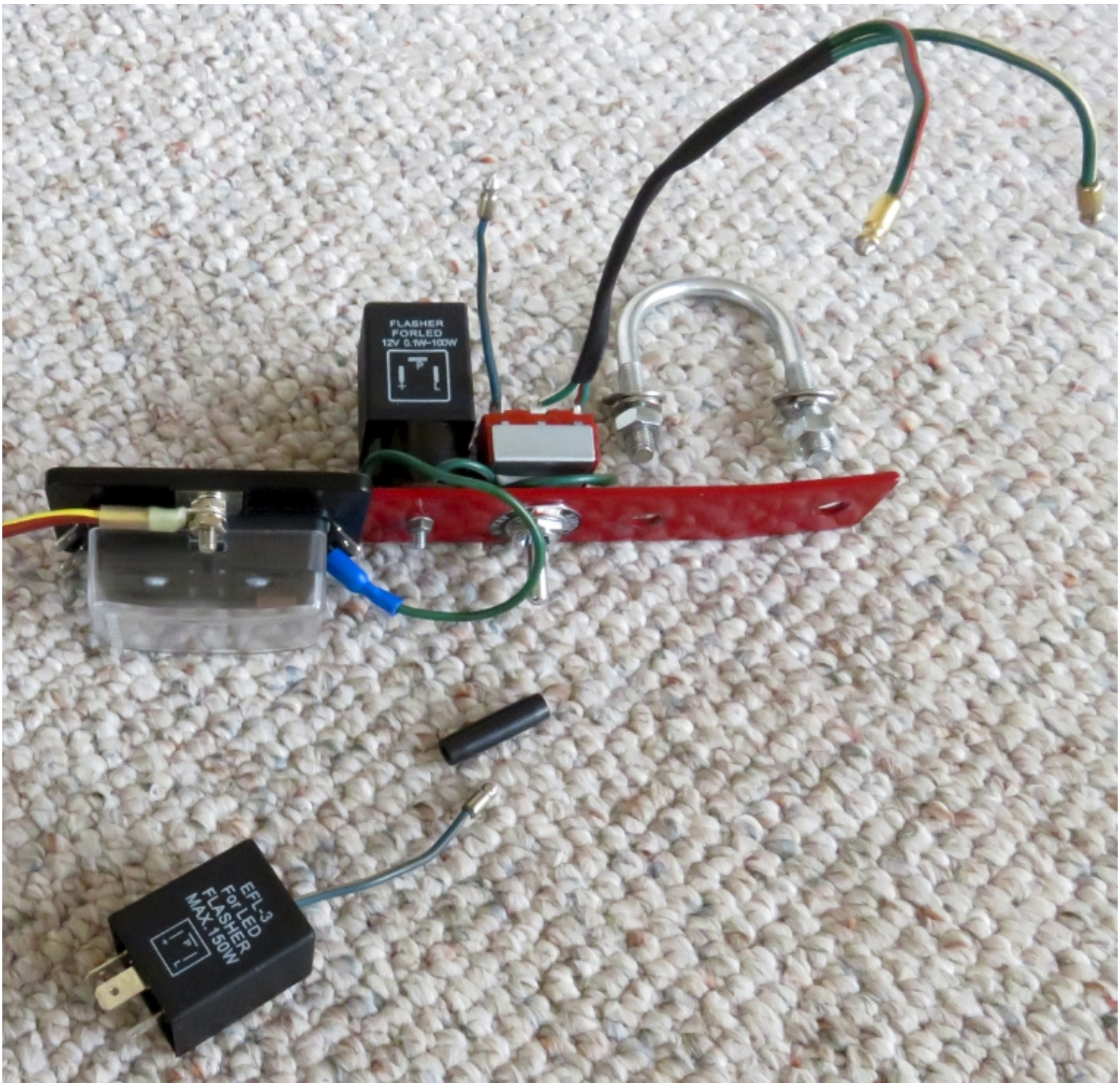
I fused the new circuit using a GXG-1987 Mini 4 Way Blade Fuse Box Holder. It provides 4 fused circuits with a 100 amp max total rating. I would never get to anywhere near 100 amps for additional circuits, but the fuse

holder will allow for additional circuits in the future hidden under the dash, such as a USB charger or a 12V power port.

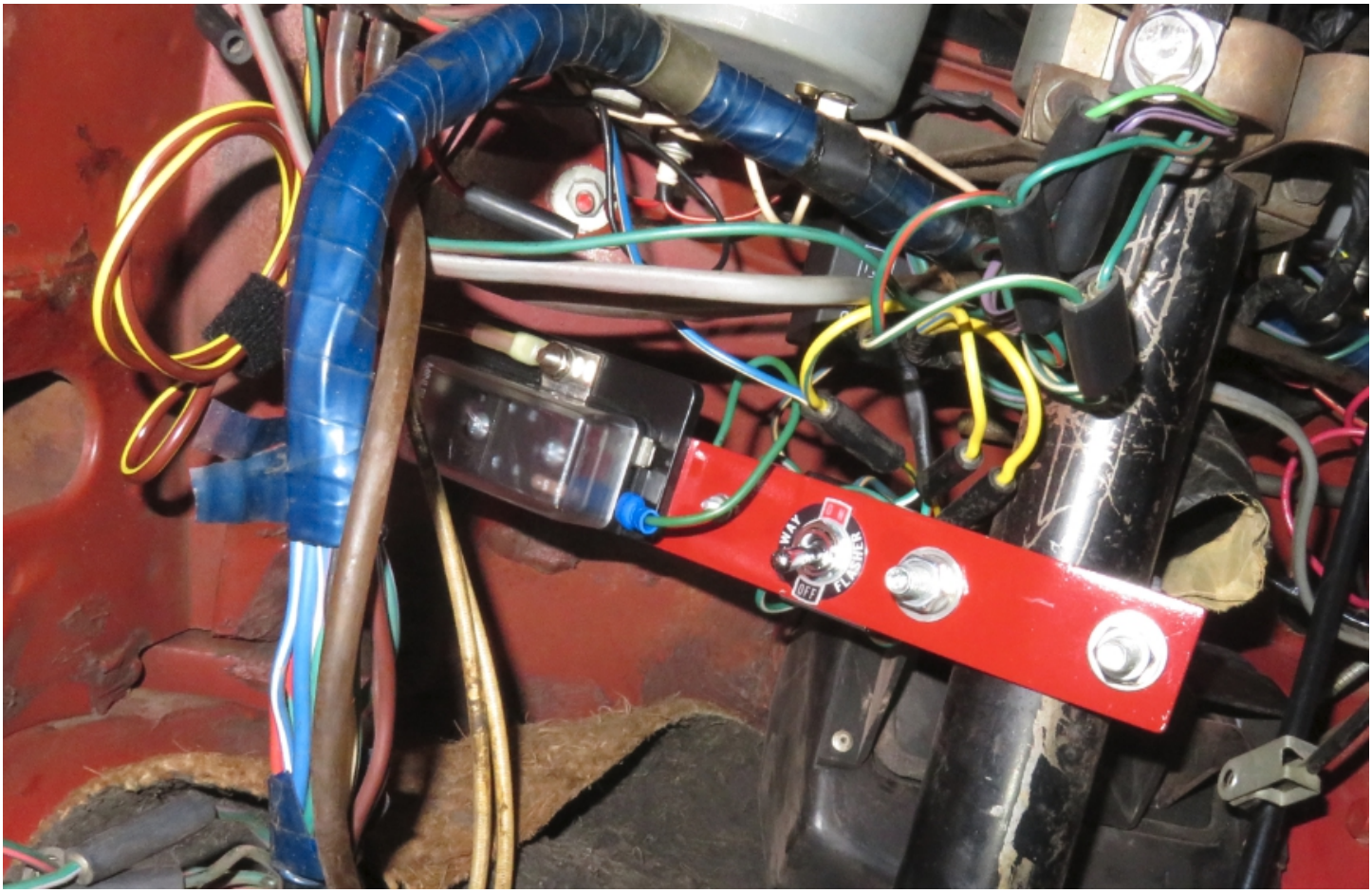
I decided to mount the components to the steering column. I fabricated a simple metal bracket from 12 gauge galvanized steel. Dimensions are 1-1/4" wide x 9" long x 0.108" thick.

I used a U-bolt to attach the bracket to the steering column.





Components ready to be installed



Installed

I used a 5 amp fuse for the new circuit. (I could have used a 2.5 amp fuse.) Joe Parlanti provided these current values for his LEDs:

- The front LEDs draw 215 mA each – 430 mA total
- The rears draw 312 mA each – 624 mA total
- If all 4 are on at once they draw 1.054 Amps

The electronic flasher current draw will be minimal.

My Series V has an ammeter gauge. I powered the new fuse holder from a spare connector on the ammeter gauge.