

# Vintage LEDs

## Installation Instructions for 1969 Sequential Taillights

### Before Start

I highly recommend that you install a new lens gasket and thoroughly clean your existing lens.

### Please install in this order and test the lighting system after each step!

1. Install turn signal flasher module
2. Install hazards flasher module
3. Lay the LED tail assembly in the trunk
4. Remove the bulb socket from the light bucket
5. Plug LED tail assembly to bulb socket and test brake and turn functions
6. Install park/turn LED assemblies one at a time and test

### Turn and Hazards Flasher Relay

Install the new flashers first and verify that they are hooked up correctly. This flasher will work with the existing 1157 bulbs. If the turn signals or hazards do not work correctly or the flasher module chatters, then try reversing the polarity on the wires. The X symbol on the flasher designates the hot side; the L symbol designates the Lamp or output side.

Note: The BF12L-CH that currently ships is not polarity sensitive and will work wired in any direction.

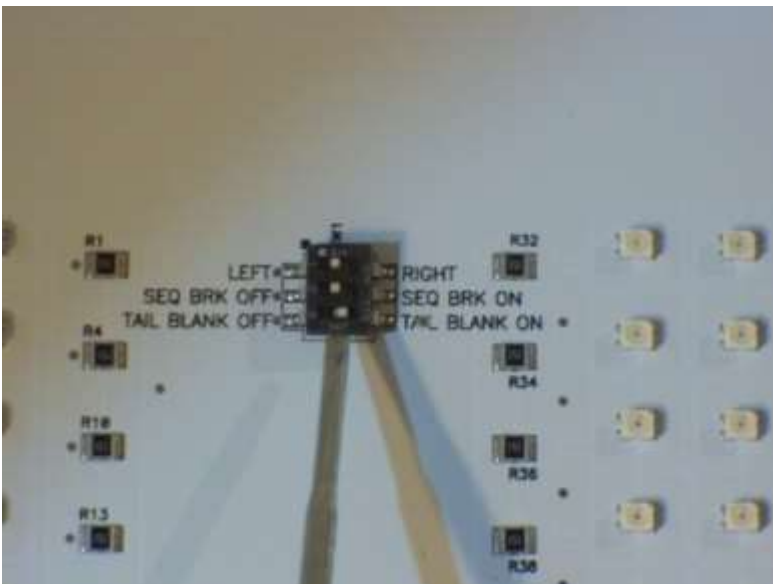
Locate and Replace the flasher modules. The turn and hazards flashers are generally located left and right of the radio, under the dash. Since the LEDs draw less current than the 1157 bulb, (0.8A vs. 2.3A) the stock thermal turn flasher will not work. You will need to replace this with an electronic or LED flasher unit.

**Note: The black wire on the LED flasher will need to be connected to chassis ground.**

### Board Setup

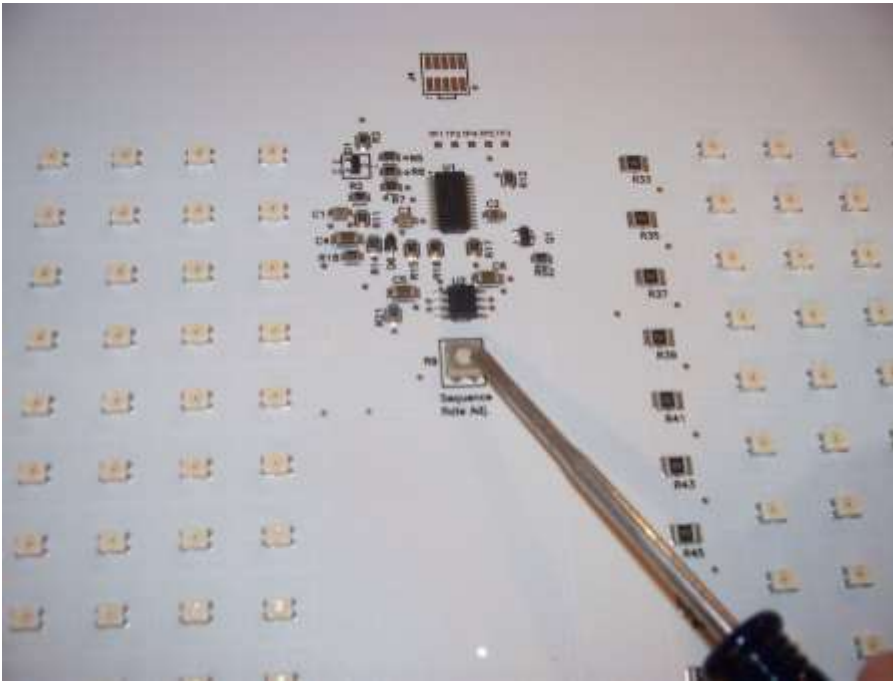
Remove the bulb and plug in 1157 pig tail from the LED board to the bulb socket.

SW1: Set the right light to RIGHT and the left light to LEFT.



Turn on the turn signal and adjust the sweep rate on each board by turning the potentiometers R16.

Adjust R16 Counter clockwise (CCW) for slower, clockwise (CW) for faster.



1. Check the sweep rate with the turn signals.
2. Confirm sweep rate with head lights on engine off. Low voltage condition.
3. Confirm sweep rate with head lights off and engine running. High voltage condition.

If you do not want sequencing lights at all, simply turn the pot fully clockwise and all three segments will come on together.

#### **Decide if you want sequence brake or solid brake lights.**

SEQ BRK ON = Sequential Brake

SEQ BRK OFF = Non Sequential Brake

#### **Theory of operation for Solid Brake/Sequence Off**

The micro controller (uP) is used to keep time of the voltage pulses from the blinker module.

With Sequence Off mode, the first turn signal will light up all three segments. With each successive pulse from the flasher module, the LED board will produce a sequence pattern.

The uP keeps track of the off time between pulses. If the off time of the turn pulse is less than approx. 1 to 1.5sec, then the uP will read this as turn signal input. If the time between pulses is greater than 1.5sec, then the uP reads this as a Brake conditions and all three lights will come on at once. The flashers tested were between .3 and .6 sec. The slowest times were at 10v. However, at 12V, most are around .4 sec.

Now when you hit the brakes, all three will come on. However, if you rapidly pump the brakes, the lights will sequence.

Hazard lights will be sequential.

#### **Taillight Blanking**

Blank On = Taillight blanking

Blank Off = No Taillight blanking

With the switch in the Blank On position and the tail lights of the vehicle on, the tail lights will turn off at the beginning of the sequential sweep. This adds a higher contrast between brake and tail lights.

## Light Assembly

1

Pull the 1157 pigtail through the hole and place the board in the bucket.



2

Install the lens gasket.

**It is recommended that you install a new tail light lens gasket at this time.**



3

Install the Lens.



4

Install the bezel and the 4 Philips screw



5

Install the body gasket



Confirm operation and make sure you have right and left designated light on their respective sides.

Now enjoy your sequential taillights.

Here is a link to a You Tube video that covers the function and assembly of the light.

[https://www.youtube.com/watch?v=PD\\_SJsNWsC0&t=173s](https://www.youtube.com/watch?v=PD_SJsNWsC0&t=173s)

**Note:**

**Never disconnect the battery cable while the engine is running. This can cause a voltage spike in excess of 40V. This could damage the electronics in this light along with other electronics in your vehicle.**