

LED (Light Emitting Diode) Upgrade for Corvair Turn-Stop-Running Lights

Replacing incandescent lamps with LED lamps is considered desirable for the following reasons:

- Lower power consumption
- Brighter
- Faster off/on transition

There can be undesirable consequences using LED lamps as follows:

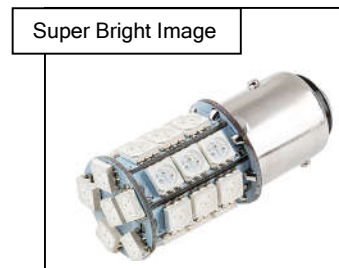
- LED lamp construction may create a light pattern that is not compatible with the reflector and lens resulting in poor illumination.
- An inferior LED design results in voltage sensitivity and/or short life span.
- Some turn signal flashers will not work properly with a LED lamp.

Based on reviews and testing Super Bright 360 degree LED's and Novita Flashers will be discussed.

- Front lamp - 1157-A27-T (amber light for a clear lens) 1157-NW27-T (white light for amber colored lens).
- Rear lamp - 1157-R27-T (red light).
- Dash cluster turn indicator - BA9S-GHP5 (green light)

Power consumption:

- Incandescent 1157 lamp
 - 0.59 Amps for running lamp filament.
 - 2.11 Amps for the turn/stop filament.
 - 2.70 Amps total with both filaments illuminated.
- Super Bright red 1157-R27-T lamp has a maximum power consumption of 0.13 Amps, considerably less power.



Determining how much brighter LED's are and how well they evenly illuminate the lens is subjective. A visual test was performed on a 1966 Corvair by installing a red LED 1157-R27-T in the tail lamp housing on one side and kept the 1157 clear incandescent lamp in the other side. The reflectors were cleaned and painted high temp white and the plastic red lenses were cleaned.

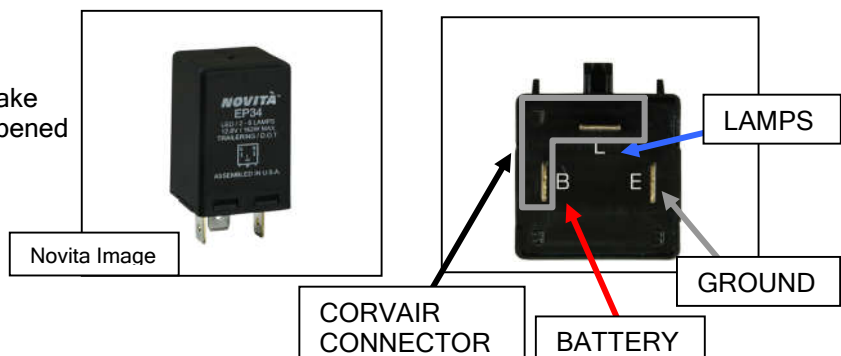
Conclusions for rear stop lamps illumination:

- In bright daylight the LED side was a brighter red, the incandescent side was a lighter red and in direct sunlight it was more difficult to determine if the lamp was illuminated.
- In the dark the incandescent bulb was slightly brighter.
- Viewing from the side of the 66-69 lens was well illuminated (important for lane change signaling). The 360 degree Super Bright LED performed as well as the incandescent lamp.

One undesirable feature of LED lamps is finding a compatible turn signal flasher that turns the lamps on and off properly:

- The original thermal flasher is **not** compatible with LED lamps.
- **Combination LED and Incandescent bulbs.** - A LED bulb combined with at least one incandescent lamp on each side (front or back) presents enough of a power load to properly operate a modern capacitive/inductive relay flasher. The Novita EL12 is direct plug-in replacement flasher.
- **LED lamps in front and rear with incandescent bulbs in the dash indicators.** - Several brands/types were reviewed and rejected because of negative reviews (various reasons given). The Novita EP34 works reliably, but has a slightly faster on/off rate. See following:
 - The standard LM Corvair flasher plug will fit on terminals "L" and "B".
 - **NOTE:** Verify battery voltage (key on) is at the connector that fits on "B" (battery).
 - Requires the addition of a ground wire to terminal "E".

WARNING: On-line reviews revealed a vendor selling counterfeit Novita EP34 flashers that did NOT work properly. Make sure the flasher comes in a proper unopened Novita package! Available at auto parts stores. (Effective date Dec., 2017)



- **LED lamps in the front, rear, and dash turn indicators.** - With no incandescent bulbs in the circuit a problem occurs while the running lamp circuit is on (parking or headlamps on) while indicating a turn. The Novita EP34 will not properly dim the LED's while flashing (only when running lamps are on). The problem can be corrected as follows:
 - Connect a 1.1K ohm 1/2 Watt resistor between the LED lamp power wire and a ground on both the left and right side turn lamp circuits. This resistor will consume little power, less than 0.02 Amps and 1/4 Watt (a 1/2 Watt rated metal film style resistor is recommended because it's more physically robust).
 - **NOTE:** The Corvair turn signal circuit requires the 1.1K ohm 1/2 Watt resistor load to be installed between the turn signal switch (steering column) and front or rear lamps. If the load is installed between the flasher and turn signal switch the flasher will operate whenever power is present (ignition key "ON").
 - The engine compartment provides reasonable access to the rear tail lamps. The resistor can be connected to the lamp brake/turn wire and the other side of the resistor can be wired to ground. If a ground wire is added to the rear sockets. The resistor can be installed between the lamp brake/turn wire and the ground wire.
 - Refer to the following illustrations.

