

When converting a vehicle for use with LED Indicator/Turn-signal bulbs, it is often not sufficient simply to replace the regular incandescent bulbs with LED bulbs. In many cases, you will have to either replace the car's flasher module, or trick the flasher module into thinking that there are 'regular' bulbs in your car...

An LED bulb only consumes a *very* small amount of electrical current. The turn signal flasher (if it's a regular "thermal" flasher) was designed for bulbs that consume a lot of power. The power consumed by the bulb runs through the flasher and heats up a bimetal switch. When the bimetal deforms from the heat, it breaks the circuit (causing your lamp to go off), this causes the switch to cool down and go back to it's original shape (it will close the circuit again, the lights come on, the switch heats up, and the cycle begins again).

If the amount of power going through the switch is very little, not enough heat is generated in the flasher to cause the bimetal to bend. The most common symptom is that your turn signal lights simply stay on. If you run a mixture of regular and LED bulbs (say regular in the front, LED in the back), you may not notice it but if your incandescent bulb breaks, you're back to nothing-flashing. Other symptoms are fast flasher, slow flashing or not coming on at all.

There are usually two solutions:

Install Load Resistors: these resistors consume enough power to cause the stock flasher module to kick in. Your flasher basically doesn't know that you're running LED bulbs. This is usually the more expensive solution, creates a lot more work and is undesirable. However, this may be what you have to do if you can't find an LED-compatible flasher.

LED-Compatible Flasher: This will work on most cars (and the older the car, the more likely) and usually means ripping out the stock flasher and putting in an LED-compatible replacement. Sometimes you may have to flip/swap some wires (and you can find harnesses to make that really easy). There are various different types and models of LED compatible flashers.

Getting the right MODEL: Simple enough, the LED-compatible flasher should have the same number of prongs, pin-out and size/shape (square vs round) as your existing flasher. Sometimes, LED compatible flashers have an additional wire coming out of the top of the flasher, that just needs to be attached to the car's ground.

Getting the right TYPE: Some LED flashers will work only with LEDs and will go up in smoke when you put incandescent bulbs (or a mixture of LED and incandescent bulbs) into your lights. There are also solid state flashers, those don't use a relay, have an extremely long life (because they don't have any mechanical parts), are more expensive and usually do *not* make a clicking noise.

Hazard Flasher: Some cars have two flashers, one for hazard lights, another for turn signals. They may or may not be different models, but you will have to replace both.