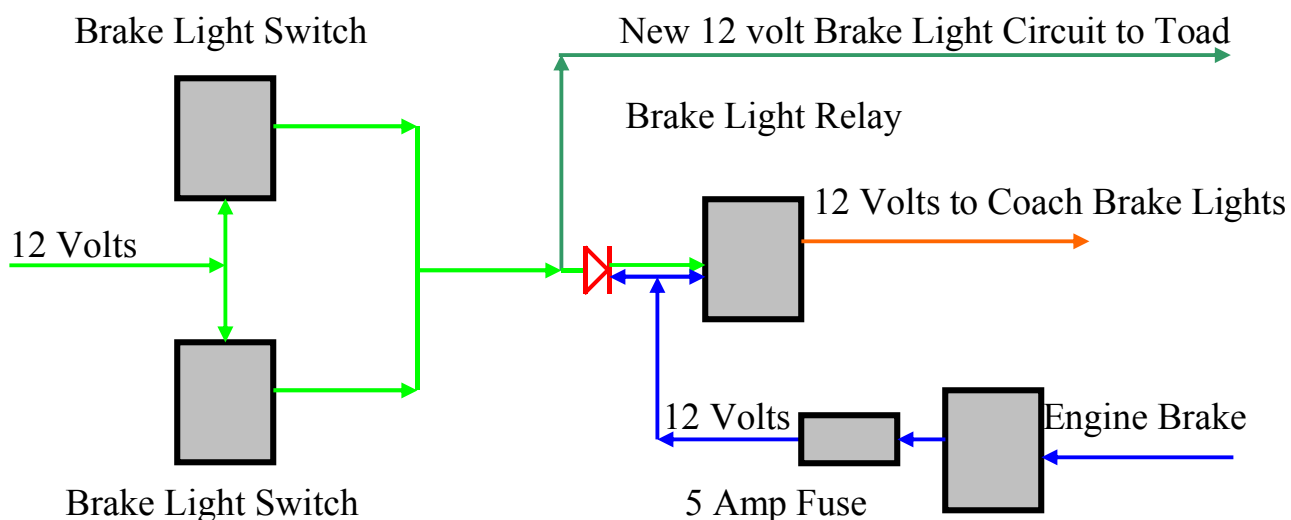


# Spartan Bypass Supplemental Braking Circuit - 1

This modified circuit is in response to a request on how to install an isolated brake light circuit for activating the toad supplemental braking circuit on a **Spartan chassis coach**. Spartan uses the electrical output of the dual pneumatic brake light switches to operate the coil on the brake light relay. Spartan also uses the output of the engine brake circuit to power the same brake light relay coil. The output of the brake light relay is used to power the brake lights on the rear of the coach. This is a dual input single output circuit. Either one (or both) input(s) will produce the same output.

Some toad supplemental braking systems REQUIRE voltage from the coach to activate the toad supplemental braking system. Most systems use the output from the coach brake lights to power this supplemental braking system. That is OK, if you NEVER use a Spartan coach's engine or exhaust braking circuit. Because when you do use the circuit, the toad supplemental braking system is activated CONTINUOUSLY while the engine or exhaust brake system is operational. In most cases the result is damaged toad brakes and a possible brake fire.

Below is a simple electrical circuit to bypass the above problem.



We have 12 volts from the pneumatic brake light switches to a **DIODE** then to the brake light relay. We also have a second 12 volts from the engine brake to the brake light relay. By cutting the light green wire installing a **DIODE** and a new dark green wire we are able to prevent the 12 volts supplied by the engine/exhaust brake circuit from back feeding voltage to the new dark green wire. The dark green wire will supply 12 volts to the toad supplemental braking circuit **ONLY** when the coach pneumatic brake light switch is activated. The **ONLY** time the coach brake light switches are activated is when your foot is depressing the coach brake pedal. The **DIODE MUST HAVE ENOUGH CURRENT CARRYING CAPACITY** to handle the current load of the brake light relay.