

Installing a horn relay on a Series V

by [Dan Levitin](#)

THE PROBLEM: On my Series V I have been having trouble getting my horns to sound. A quick check (by running a fat 10 guage wire from the battery to the horns) showed that the horns were OK, so I assumed that the wiring from the horn ring to the horns was the problem. The wiring tested OK on my ohm meter so I began to think: As the wiring in our SOLs gets old it conducts electricity less efficiently than it originally did. Add to this the fact that the original horn wiring is only 18-20 guage (and the Clear Hooters can draw 2 - 3 amps). The way the circuit is designed, the horns are always getting "hot" 12V (through the fuse box) and by depressing the horn ring you are adding "ground," thus completing the circuit and letting the horns sound. As the wiring becomes less efficient at conducting electricity, you may begin to notice (as I did) sparks coming from behind the steering wheel when you depress the horn ring.

THE SOLUTION: Conceptually, you would want to run new 12 or 14 guage wiring from the horn ring to the horns, but in practice it is not a good idea to have a device drawing so many amps on a "direct circuit." A relay is essentially an electronic switch that itself draws a small number amount of current (amps) in order to operate a switch that completes the high current (high amps) circuit. Many cars use relays to operate high current peripherals such as horns and halogen lights.

PARTS: I used an extra Lucas alternator relay from a Series V which I happened to have. In fact you can use the horn or alternator relay from any car, it is just a matter of knowing what the terminals represent. The Lucas alternator relay has four terminals marked C1, C2, W1, and W2. W1 and W2 activate the relay, and C1 and C2 allow current to pass only when the relay has been engaged.

THE WIRING: IN BRIEF: Hook up W1 to a source of "hot" 12V voltage (+). Hook up W2 to your old horn switch, the purple and brown wire. Thus, when you press on the horn, you will be closing the circuit by adding "ground" to the relay at the W2 terminal. This will cause the relay to close, providing throughput on C1 and C2. Hook up a "hot" 12V wire to the horns and then run a wire from the horns' negative terminal to C1 on the relay, and from C2 on the relay to a good solid ground source, like a bolt through the chassis. Now when the relay closes, you'll be passing the ground from the chassis through the relay on to the horns. You could also hook the horns up so that they always get ground and the relay passes the hot; I don't think it makes any difference (but I could be wrong. Comments anyone?)

IN MORE DETAIL: I took all the wires off the old clear hooters and taped them up. I ran brand new, fresh 12 guage red wires from one terminal of each clear hooter up to the left side of the engine compartment, near the original LUCAS fuse box. I added an "in-line" 5 amp fuse to each of these wires along their run. I brought these two red wires together in a 3 -way "junction" connector, and ran a short stretch of 12-guage red wire from that junction to an open terminal on the original fuse box. Next, I ran two black 12-gauge wires, one from each of the open terminals on the clear hooters, brought them into a 3-way junction connector, brought a short stretch of black 12-guage wire out of that junction into the C2 terminal of the relay. This made a big difference.

CAUTIONS: If you don't use a spare alternator relay, be sure the relay you buy can handle the current of the horns/lamps (~10 amps worst case) and be sure you fuse the wires you are adding to the car.

FOG LAMPS/DRIVING LAMPS: Could be hooked up in an analagous way using a relay.