

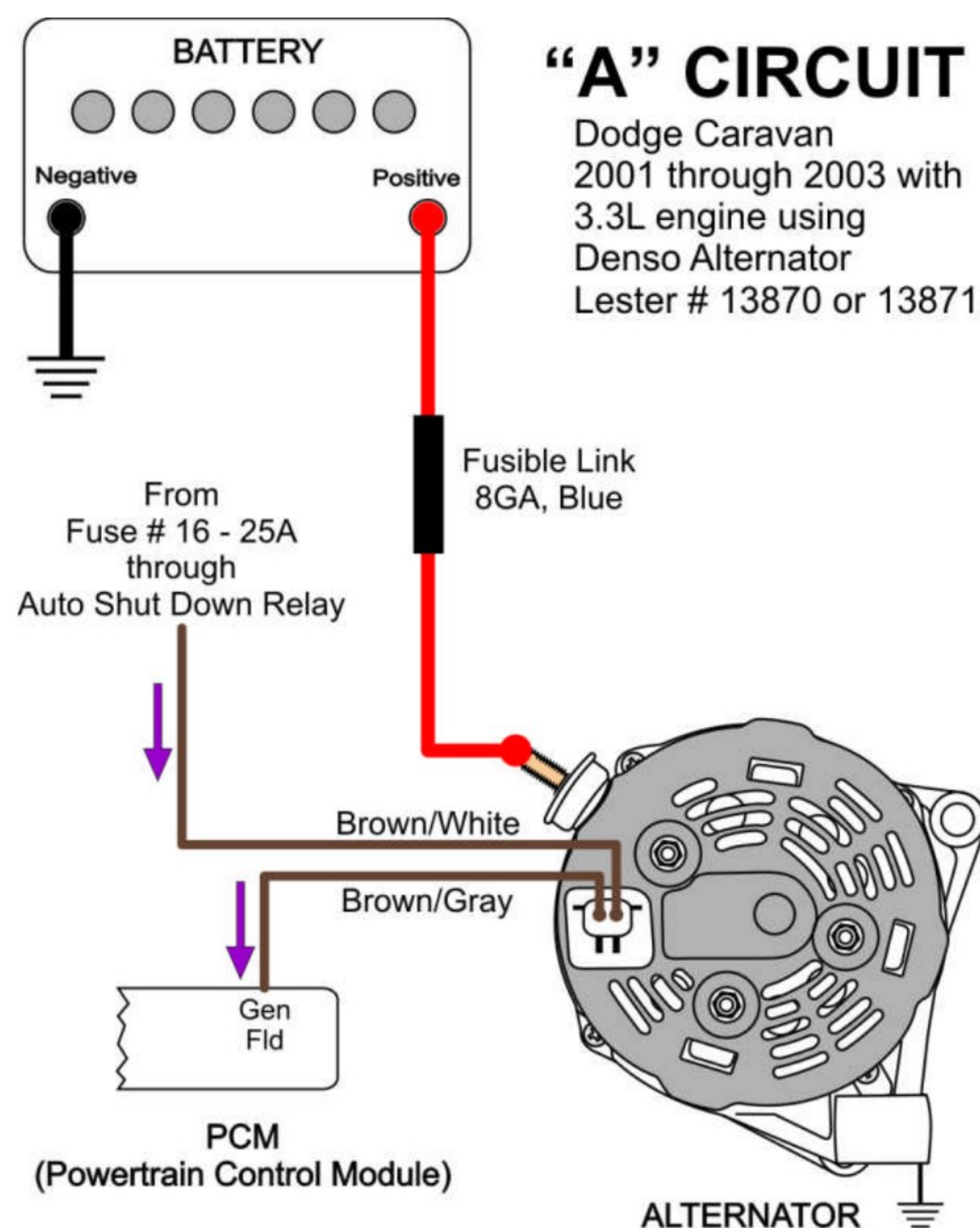


Figure 1- "A" Circuit

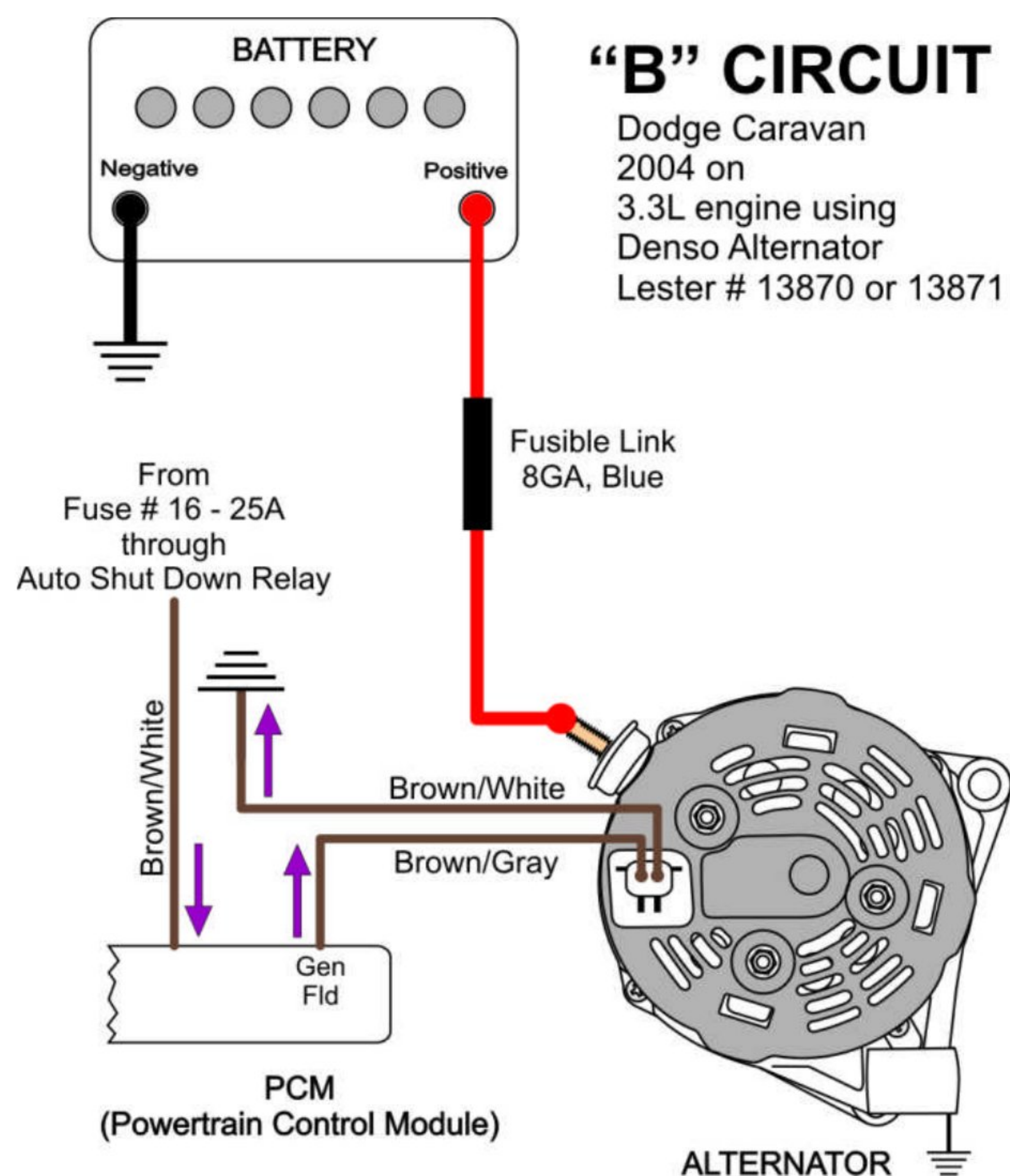


Figure 2 - "B" Circuit

## Chrysler Changes Charging Circuit Design From "A" Circuit to "B" Circuit

With a few exceptions, Chrysler has been using the same basic "A" circuit charging system ever since they introduced electronic voltage regulators in the early seventies.

Even after the voltage regulator was incorporated into the Powertrain Control Module in the early eighties, the rest of the system was mostly unchanged.

Now, after all these years, Chrysler has changed from "A" circuit to "B" circuit charging systems.

This can make diagnosing charging-system problems difficult, since it is hard to see any external changes to the system. For example, the changes to the popular Caravans are all but impossible to spot without using a wiring diagram. The style of alternator is unchanged. Even the colors of the wires are the same.

Figure 1 shows the old-style "A" circuit. The arrows show the direction of current-flow through the alternator rotor. Current flows directly from the auto-shut-down relay, through the rotor, to the PCM.

In Figure 2, you can see that in the "B" circuit system, current-flow has been reversed through the alternator rotor. Current flows from the auto-shut-down relay directly to the PCM. The PCM directs the current to the rotor. When the current exits the rotor, it goes to ground via the brown/white wire.

To correctly diagnose Chrysler charging problems, you have to identify the charging system. Chrysler did not change all vehicles at the same time. For example, a 2003 Caravan with the 2.4L engine is a "B" circuit, while a 2003 Caravan with the 3.3L or 3.8L engine is an "A" circuit. Always refer to a wiring diagram for the specific vehicle on which you are working.