Lesson #3: Understanding 2nd IGNITION wires
for Remote Starter Installations

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Only needed for remote starter installations, testing and verifying a wire for a 2nd ignition source can be identical to the procedure used for verifying a 1st (or true) ignition wire. Most 2nd ignition wires power-up and test the same as a 1st ignition wire: power is applied to the wire only with the ignition ON and during starting of the vehicle, and found in the same harness as the 1st ignition wire (i.e. the ignition harness). Sometimes though, you may be testing for a 2nd ignition wire and find that the wire may show power ONLY with the ignition ON, and not during crank or starting (you find that the power drops out until the ignition snaps back). When this is found, one more determining test is necessary to verify if the wire is in fact a second ignition wire; Turn the ignition to the accessory position. If NO power is present, you found a 2nd ignition wire. If power remains on the wire when the ignition is put in the accessory position, this is not a 2nd ignition wire but possibly a power accessory wire (more about accessory wires later) and not to be connected to, or used as a 2nd ignition wire.

2nd ignition wires are found on a lot of vehicles built after 1998 (consult a VSWG for indicants) and are a required connection when installing a remote starter system. Without 2nd ignition wire connections from a remote starter system, a vehicle may start, but stall out within a few seconds or the vehicle may start and actually stay running, but not shift properly when driven.
Or the vehicle may not start at all; you may notice that when the remote starter system is activated, the dash cluster lights may come on, but doesn't crank and the "check engine" light may turn on. Other affects of the wrong or a needed 2nd ignition wire is: without the proper power being supplied to circuits that monitor engine, electrical and/or Air-Bag/SRS (Safety Restraint System) status, during starting and idle of the vehicle, could cause the affected system to become inoperable and/or cause "check-engine", "service-engine-soon" or "Air-Bag/SRS" service lights to activate.

These are the most common, or possible indications of a needed or wrong 2nd ignition wire connection. Always obtain a wiring guide for your specific vehicle to help you in determining if a 2nd ignition connection applies to your vehicle. That, with using the above testing procedure, you should be able to verify the wire indicated in your guide.

TECHNICAL NOTE: A lot of older (or very cheap) remote starter systems do not have a dedicated 2nd ignition output wire. In this situation, an external 12 Volt SPDT (Single Pole, Double Throw) relay must be wired to provide the needed output. Never connect 2 ignition wires in a vehicle together! The manufacturer separates these 2 ignition circuits for serious reasons which could cause problems with your vehicle that will not be covered under your vehicles' warranty if connected together and also possible un-repairable damage to your remote starting system due to current overload. See Tech Tip #10 for How to wire a 2nd Ignition Relay output.