Wagon r electrical wiring diagram pdf

It starts as a smell. The unmistakable smell of burning insulation. Shortly afterwards, a string of smoke curls out from under the dashboard. Then comes the equally unmistakable doll of a fuse blowing. That's when your radio cuts out. Or maybe it's the windscreen wipers that stop or the engine itself. No doubt about it, you're short-circuited. WHAT NEXT? It may well be that the source of the short is clear, such as those wiring dangling under the dashboard. On the other hand, you may need to solve some serious problems to find the source of the problem. Short circuit occurs when an energetic conductor hits the frame or body of the car or another wire. Shorts on the ground usually have a low enough resistance to draw enough current to blow the fuse. If the short is going to another circuit, you see things like the dome light coming up when you send the turn signals. You will discover a harness or multiprong connector meltdown, caused by the heat released from a short or high resistance connection. Moreover, not all wiring problems are shorts: Open and intermittent connections can also make your life difficult. BASIC DON'TS Never use fixed wire. Fixed wire is for stationary household use; the vibration in your car or truck will eventually break. Use automotive-grade stranded wire, not pieces salvaged from an old extension cord. You need to find some automotive-grade wire of the same meter as the wiring that replaces you. Try to follow the color codes on factory wiring harness if possible, because in two or five years you will very well tear back into your repair and there is nothing more daunting than dissolving a bundle of half a dozen or more wires that are all the same color. At least use tags that identify the circuit and the original thread color. Never use wire notes. They too are meant for stationary wiring and will unscrew themselves - usually late at night on a bad stretch of road far from cell phone coverage. Never use electrical tape to make a splice on automotive wiring. The extremes of heat and moisture degrade the glue, and the tape will relax. (1) Strip the wires from about 1/2 in. insulation. Slide PVC shrink tube over one wire. Turn the two parts of bare wire around each other. (2) Heat the joint with a soldering iron or pencil from below. Apply solder on top to melted solder era in the joint. Allow to cool undisturbed to prevent a cold solder joint. (3) Heat the shrink tube to shrink it around the wire. (4) Use more shrink tube to bundle multiple connections. SOLDERING ON The most safe and durable way to split two wires together is to solder them. Period. Use nothing but 60-40 rosin-core solder intended for electrical wiring. You also need some PVC shrink tube. If you put an old hand on soldering, practice for a dozen or so joints before you try to do it under the dashboard with hot solder dripping on your cheek. (1) New spade-lug connector should be pushed over over thread just far enough to cover bare thread. Don't shrink over insulation. (2) Crimping tool is then used to crush connector on the exposed wire. This pro-grade crimper has an overcenter mechanism that is not under- or overcrimp. (3) The final product is mechanically and electrically sound. Don't you have a heat gun and your wife's hair is off limits? I did it with a lighter. Make sure you don't leave a stain of conductive carbon over the hose and try not to set fire to your dashboard or engine compartment. MAKE CONNECTIONS Most of the cable harness on your car or truck ends up in the standard spade-lug connector. You pick up a shrinking tool almost anywhere in a kit with a selection of spade-lug, round and bullet-style connectors for less than $10. Match the connector to the wire size, but most automotive wiring uses 12- or 14-go. wire and usually the corresponding connector has a blue insulator. Larger wires will use a connector with a yellow insulator and can be identified by the larger width of the spade lug. Just use your common sense. If you have some strands trim the wire to make it fit in the connector ferrule, a light should go into your head saying something is wrong. Strip the wire, insert it into the barrel of the connector and shrink. Make sure to handle the crimper bottoms out when you squeeze, which should ensure that the crease is solid. If you like this kind of thing more than occasionally, you want to spring for the pro-grade tool that we show in the photo on page 120. It has a compound leverage over-center mechanism that ensures a proper squeeze. It costs about $50. (1) Place the end tool in the connector block that is far enough to depress the lock bar. Move the tool slightly in a circle while gently pulling the wire (2) to remove the connector pin from the block. Having three hands helps. (3) Crimp tool has a small anvil to shrink wire directly to the metal connector pin. Once this is achieved, use the larger anvil to shrink the tension relief over the isolated part of the wire. (4, 5) Final shrinkage leaves connector pin ready to reinstall in plastic block. Push it back into the block until the tongs chair with one click. Splicing and shrinking wires is easy. But what about that multiconductor connector that melted, or the Weatherpak connector under the hood that carries data from some fuel-injection sensor? Unlike the wiring that rotates the headlights, these connections carry millivolt-level information at low current. Any resistance will make your motor management computer unhappy. These connectors are closed to a point. Unfavorable use of pressure rings can drive water along the seals, resulting in corrosion. You must press tab to disconnect this connection style. If the plastic block is damaged, but the pins are fine, you replace the block. If the block is fine, but the connectors are compromised or the wires are torn loose from the connector pins, you only replace the the To remove the pins from the block, you need to press a small lock bar. There are cheap tools available to do this. Square pins use a small, flat probe, while round pins use a hollow, round one. Insert the probe and move it around a bit and the pin should easily pull out of the block. This maneuver can pull three hands on the wire, wobble the probe and hold the block at the same time. Don't pull too hard if the pin doesn't pull quite easily, wobble the probe again. No special tools? You use a small screwdriver or even a paperclip-but you run the risk of damaging the pliers. Shrinking on a new pin is done with a special tool, and it's not cheap. We paid almost a hundred dollars for the above, including a fairly complete set of replacement pins. (No, the $2.95 set of wire crimpers you have at Wal-Mart won't do.) There are two folds to make, one on the stranded wire itself and one second over the insulation. This fold is picky to perform even with the right tools. I recommend practicing on a piece of scrap metal. Remember to install the rubber seal on Weatherpak connectors before you shrink. (1) We carry some of these Posi-Lock electric connectors around for quick repairs and temporary trailer connections. Strip the wire, stick it through the collar and twist. posi-lock.com This content is created and maintained by a third party and imported to this page to help users provide their email addresses. You can find more information about these and similar contents at piano.io The typical home electrical cable has a bare ground wire and two isolated wires inside. Electrical wiring in the home may seem mysterious, but don't be afraid: this handy guide helps you understand how wiring works and how to work with wire. Electrical wire is a catchall term that refers to conductors that route electricity from an energy source to lighting, appliances, and other electrical appliances. Wires and cables of different sizes bring electricity to a home and lead it to all lights, switches, receptacles and electrical appliances. In general, large cables provide electricity to the house and smaller cables and wires split it. Non-metal cable is routed between wall studs; switches and receptacles to electrical boxes. Almost all household wire is copper, although aluminum is used occasionally. A rubber, plastic, or paper-like coating, called insulation, serves as a barrier to the electrical charge (and heat) where it belongs-in the wire (this insulation is stripped from the ends of the wires where connections are made). Bald (non-insulated) conductors are used for grounding. How Electrical Wiring WorksWire an extended term often used to refer to all types of cable and wire. Technically, an individual thread is called a single conductor; several single conductors twisted together or combined in a sheath to create a cable. Just as highways can handle more cars than small streets, streets, conductors can handle more electricity than small ones. The diameter of a metal conductor is indicated by an AWG (American Wire Gauge) number; The smaller the number, the larger the thread. Most household lighting and receptacle circuits are wired with AWG 14 or AWG 12 conductors. In addition to the standard electric wire, a house has several other types of wire needed for the phone, cable TV, stereo speakers, and so on. Most of these wires do not carry dangerous electrical current because they operate at a very low voltage or carry only sound or image signals, not electric current. In this section of HomeTips you will learn more about the types of electrical wiring and the types of wires & cables. Electrical wire repair & CareElectrical circuits can cause a number of problems, and due to the potential fire hazard faulty wiring it is important to diagnose and repair a problem immediately. In Electrical Wiring Repairs, we take you through a list of the most common problems and refer you to other items that will help you limit the possibilities. One of the most common problems occurs with electrical cords and plugs, which can deteriorate after years of use. We'll show you how to replace them. DIY Electrical Wiring ProjectsThis part of electrical wiring is dedicated to the many home wiring projects that you do yourself. First we take you through some basic techniques, such as How to Cut & Strip Wires and How to Cut & Rip Electrical Cable. Then we take you through common projects like How to Extend an Electrical Circuit and How to Mount a New Electrical Box. As with all do-it-yourself tasks related to electricity, make sure the power to the circuit of the main panel is turned off before you attempt any repairs or installations. Home Electrical Wiring is last updated: 5 April 2020 by Don Vandervort, HomeTips © 1997 to 2020 2020