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Switched Circuits

In today's modern 4x4 it is often very difficult to find a suitable source of power that is controlled by the ignition switch. The fuse boxes are often full, difficult to get in behind for the purpose of adding extra circuits, and any spare slots in the fuse box are normally void of wiring, although some may have the 12V rail installed.

So getting 12Volts that is switched on and off by the key for activating a relay to drive an accessory circuit or maybe you want to install spotlights and need to find the high beam source to control your spotties without cutting wiring harness wires is somewhat difficult.

In many of the newer vehicles the cigarette/accessory sockets are not always switched off when the key is off, so having things like laptops or GPS units plugged in could put you in a situation where you end up with a flat starting battery, which is not a good way to be when you're are off the beaten track.

So how do we find a suitable circuit which we can piggy back off to power some accessories, or where can we tap into the high beam 12 volt line easily. In order to do this you will need to have a volt meter, or voltage tester, and know the basics of using it. First things first, you need to know the location of your fuse box(es) (which we all should know anyway in case we have any problems when on a trip). In a lot of vehicles there is normally one inside the car under the dash on the driver's side. There is often also a main fuse box in the engine bay. So once we find the fuse box and we remove the cover have a read of the legend which is normally on the inside of the lid or cover, and look for the obvious a slot that says "Spare" or High Beam etc. In the BT50 under the bonnet there are actually two "Spare" slots. Both these are switched on when the ignition is on. They also stay on for about 2 minutes after the ignition is turned off, and come on for about two minutes whenever a door is opened.

Before you start you need to decide if you want the power source inside the vehicle or under the bonnet and check the appropriate fuse box. When you find a spare slot you need to determine if it has 12 volts available in it. Do this using your multimeter (set to DC volts) or voltage tester. Pretty easy really, one lead to the vehicle chassis, and the other to each side of the fuse slot with the fuse removed. The two sides of the fuse slot represent the two sides of the circuit. One side will be the battery side, and the other will be the circuit/device side. The easiest way to check is to remove the fuse and test each side of the fuse slot/holder to see if there is voltage there. You will need to test the circuit first with the key switched off then again with the key switched on. What you are looking for is no voltage with the key off and approximately 12volts on the battery side with the key on. If you don't have any slots marked as "Spare" then you will need to locate the fuse for something that only works when the ignition is on, this may be Radio, AC, Fan etc.

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Having located a suitable fuse slot, you are now faced with the dilemma of cutting and splicing wires, which is not everyone's cup of tea. That's where these great little gadgets come in.

The item in the picture is a piggy back plug for the mini fuse slots. You simply install your original fuse (if there was one) in the bottom slot, and the desired fuse in the top slot, and plug it into the fuse box in place of your original fuse. This puts your original fuse back in circuit, and also provides you a short fly lead that you can attach your required relay to for a key controlled circuit.

We have also sourced a number of them so they are now available locally for $8 each.

For more information, please visit

http://www.airdevilaccessories.com.au/gallery/Electronics/mini-fuse-doubler/259725