

Dual Battery Systems

Motoring enthusiasts have been using and charging auxiliary batteries in their 4WDs and caravans with varying degrees of success for nearly a century. With modern demands such as fridges, winches, phones and DVD players, a modern solution is required, rather than the special dashboard DIY rigged switch.

As demands on batteries have increased, so too has the need for a switch designed specifically for use in multi-battery applications. The need for a solenoid priority system to protect the start battery from being excessively discharged by auxiliary loads, while still allowing the auxiliary battery to supply non-essential loads, is all-important.

When looking for a dual battery system, do not look for the cheapest and smallest battery. Be sure to buy one big enough to handle the job required, remembering that batteries do not like to be discharged and run flat.

When assessing dual battery systems, look for:

- Space and capacity for dual batteries in your vehicle.
- What accessories you are running.
- What your alternator condition and output is.
- Your 4WD needs – weekender, long distance tourer, hard-core.
- Quality copper cable and terminals.
- Switches that run cooler.
- Solenoids that use less power.
- Fault indicating codes on LEDs.
- Can you jump start with the system?
- Protected battery terminals to minimise shorting or voltage loss.
- Select a unit's amperage catering for your needs.
- Surge protection.
- Warranty and technical backup.



For most 4WD set-ups the best option is to use a voltage sensitive relay activated solenoid. Australian made Redarc is of one such unit. With over 30 years experience in the field both in Australia and overseas, they do an exceptional job.

The Redarc Smart Start® SBI is a microprocessor controlled Smart Battery Isolator. Put simply, once the start battery is charged by the alternator, the Smart Start® SBI will connect an auxiliary battery to the charge circuit.

Similarly, if the start battery voltage drops too low, the Smart Start® SBI will disconnect any auxiliary batteries or loads to conserve charge in the start battery.

Once in use the Redarc will check that both your batteries are being charged up to 13.2 volts. Once you turn the motor off and start using your accessories the Redarc will isolate your starting battery at 12.7 volts. This delivers the peace of mind you are looking for when you are out and about camping.

Nissan FLASHBACK 1969

Fairlady 240Z

The first-generation Fairlady Z, launched in November 1969 (announced in October) was available in the high-power 432 model equipped with the same 6-cylinder in line DOHC 24-valve S20 engine (160PS) as the Skyline GT-R (PGC10). The name '432' refers to 4 valves, 3 carburetors and 2 camshafts. Magnesium wheels were fitted as standard.

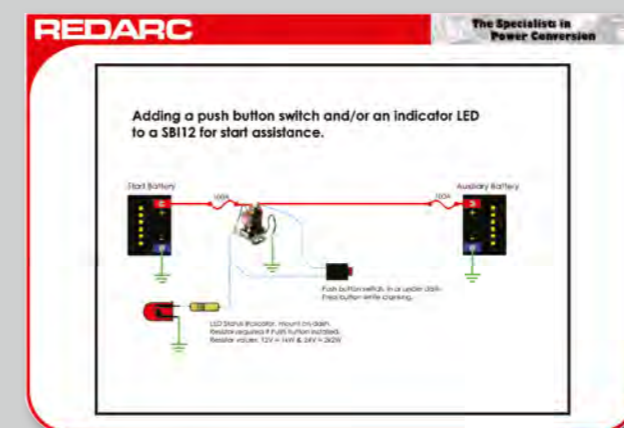


ESSENTIAL TIPS

TIP 1

Why fit fuses to both batteries using a battery isolator?

Any wire connected to a battery must be protected from electrical shorts. A short-to-ground will draw current only limited by wiring resistance and battery capacity. This can melt the wire and may result in a fire. The simplest protection is a fuse. A fuse on only one battery will protect that battery, but not the wire, because the other battery can still melt the wire.



TIP 2

How to avoid voltage drop?

Your biggest unforeseen problem is voltage drop when charging from your alternator. Your 4WD will need to have the highest possible voltage in the auxiliary battery. This will allow it to charge as quickly as possible, and as fully as possible. This can be achieved by using at least 15mm copper cables. It may be more expensive, but when you are stranded in remote bush, you need a battery system that you can count on.

Remember, the larger the current draw and the greater the distance to your batteries, the greater the cable thickness needs to be.

Some common sense is needed when installing a second battery. Ensure it is strapped down in an approved battery carrier/tray. Always mount it in a well-ventilated area, such as engine bay or on your chassis. Do not install your second battery in your van, under a seat or near other equipment like inverters.

Always ensure all wiring is protected by tubing. There's nothing worse than a cable rubbing on a sharp corner and shorting out your 4WD.

ADDITIONAL SPECIALTIES

- The Smart Start® SBI is **Microprocessor Controlled** to ensure the best charge for your auxiliary battery – set and forget.
- It is Australian designed and manufactured and supported by a **'No Fuss' Two Year Warranty**.
- The Smart Start® SBI is the only Dual Battery Isolator available in Australia to feature **'Power Saving Technology'**. This means the unit runs significantly cooler and uses just 0.15A when engaged.
- **LED Status Indication**. The Redarc Smart Start® SBI features LED fault indication.

▪ Smart Start® SBI Over-Ride.

The Smart Start® SBI features an over-ride wire allowing starting from both batteries in the event that the start battery alone cannot start the vehicle.

- The Smart Start® SBI can be used in conjunction with dissimilar battery types for example Gel, AGM, Calcium and/or Standard Lead Acid type batteries.

- Free Redarc technical advice and support throughout Australia.

*Nissan would like to thank Redarc for contributing to this article
www.redarc.com.au*

