

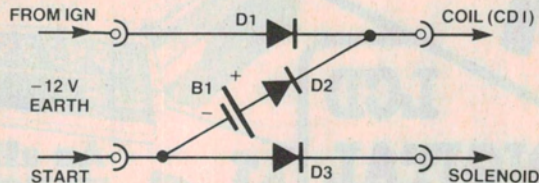
The cold start booster

If you're a skiing enthusiast and you've been caught in sub-zero temperatures with a reluctant ignition then you'll appreciate this little circuit. Originally designed to cure cold starting problems encountered with a CDI kit, it adds an extra six volts to the ignition circuit potential just at the time when the battery voltage is likely to be at its lowest. The circuit uses a diode switching network to provide an alternative starting circuit to the ballast resistance and low resistance coil circuit found in various makes of cars.

It works as follows. The battery voltage, B1, is switched in series with the car battery when the starter solenoid is energised, providing the extra boost. Diode D1, being reverse biased, isolates the boosted voltage from the rest of the car's 12 V circuitry. Diode D3 prevents B1 discharging via the coil (or CDI) and

IDEA OF THE MONTH WINNER

John Blyth, Mordialloc, Vic.



D1, D2, D3 400 V, 5A 1N5625 or sim.
B1 6 V lantern battery type 509 or 609
Reverse all polarities for +ve earth

the starter solenoid. Diode D2 prevents B1 being charged via the starter solenoid.

Fail-safe operation is assured because if B1 fails the ignition circuit is energised the normal way via D1. In my circumstances I had a lantern battery on hand which fitted snugly under the dash and was connected via alligator clips for easy replacement. I used automotive terminals for the connections to the car's electrics, enabling the booster

circuit to be inserted between the ignition switch terminals and the normal leads.

A possible modification for those who wish to use a rechargeable battery would be to add a bleeder resistor in parallel with D2 to trickle-charge B1 while the car was running.

The circuit has been running reliably since last winter with sure-fire starts every time.