

# Elementary Electronics: Ideas Worth Trying

## Low Cost Reversing Light For Cars

I was confronted with the need to fit backing lights to my car. As the car was new, I did not wish to mar the appearance by fitting additional lights, so I fitted the following additions to the flasher circuit, to make the flasher lights double as reversing lights.

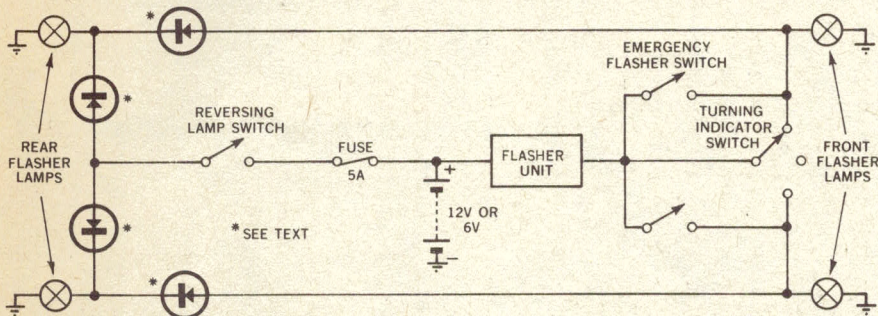
I bought a reversing switch and fitted it to the place provided on the gearbox. Most cars — even fairly old ones — have provision for the switch on the gearbox. The reason for this is that in the past, only the luxury versions had reversing lights, but the gearbox housing used was the same as in the standard models. This is especially true of Continental cars.

As can be seen from the circuit diagram,

lights are on. This may be a legal requirement in some states.

The diodes should have a PIV at least equal to the maximum voltage likely to be generated in the car's electrical system, and a current rating equal to the surge (cold) current of the lamps. The largest flasher lamps appear to be 18W types; 1.5A at 12V or 3A at 6V. Assuming a cold resistance of about one eighth of the hot resistance — which appears to be typical — the surge current in a 6V system could be about 25A.

On the basis of these figures, the most logical choice is the type of diode used in vehicle alternator systems. These are



*The addition of four diodes, a reversing light switch, and a fuse, added to a conventional flasher circuit, enables the flasher lights to double as reversing lights.*

the rear orange turning indicator lamps can be used as reversing lights merely by bypassing the flasher mechanism, and isolating the front and rear circuits by means of silicon diodes. This method does not alter the outward appearance of the vehicle, but the increased night safety plus the low cost — the price of four diodes plus the switch — should make this idea popular with owners of both old and new model cars.

Some readers may have cars with no provision for a gearbox switch. If this is the case, a switch could be mounted on the dashboard to perform the same function. If this is used, there should be some sort of warning lamp to indicate that the reversing

usually rated at 25A continuous, with a surge rating well in excess of this, and a PIV of around 200. A typical type is the BYX21L / 200. This type of diode also represents about the best value for money available, considering the ratings and the safety margin which they represent.

Also, with ratings of this order it may be permissible to omit the two diodes isolating the front flasher lights, particularly in 12V systems. This would mean that the front lights would be energised as well as the rear ones, but there does not seem to be any serious objection to this.

(Idea submitted by: Mr L. Junor, Bronaldi St, Heathmont, Victoria 3135.)