

Y-TYPE NEWSLETTER

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Before



Y-TYPE PICK-UP

MERVYN DAVIES

The first time I saw M.G. YB saloon Reg. no. UMG 594 it was standing derelict in a field with two YAs. Enquiries were made and I was told that they had recently been removed from a nearby building which was now needed for other purposes. On contacting the owner I was told that they were not for sale. However, I later learned that a friend of mine had purchased them for restoration. A few weeks later I visited him and persuaded him to sell me the YB, which was now only fit for scrap, as I wanted the engine and gearbox as spares for my YT. Having got the car home, I spent several weeks stripping it down with the intention of salvaging all the useable parts and scrapping the rest.

Then one day, in a fit of madness, I decided to cut off the rear of the body and convert the car to a pick-up.

Because of the backward slope of the roof could not be cut in line with the centre door pillars and I had to make the cut about half way along the rear doors. Having cut the roof in this position, a rear bulkhead was fabricated and boxed in. This was skinned in mild steel, leaving a suitable aperture to accommodate a rear window. The sunshine

roof and runners were non-existent so a mild steel panel was cut to size and welded into the roof.

The usual extensive repairs were needed to the sills and running boards. To fill the space between the centre door pillars and the new rear bulkhead, I decided to cut the rear doors to suit and after re-skinning the bottom of all four doors they were fitted and the rear ones welded in place. About 30" of the rear chassis had to be repaired on both sides. At this point I decided that the chassis ought to be extended, otherwise the pick-up body would look too short and out of proportion with the front end. This was completed and the support rails for the timber body were fabricated and welded in place. The cab and front end were prepared and sprayed in Damask Red cellulose. The flatbed was made entirely from an imported hardwood called Kapur which, when sanded down and finished with several coats of varnish, looked very good.

The two front seats were re-covered and a new set of interior panels was made from plywood and covered to match the tan seats. The engine turned out to be in a bad way and as I really wanted it as a spare for the YT, I decided to fit a Marina 1.3 engine and gearbox that I had in the garage.

This necessitated making new engine and gearbox mountings, shortening the propshaft and using a Marina type universal joint at the front end. It was not until the engine and gearbox were installed that I realised that the Marina clutch was operated hydraulically. This meant fitting a clutch master cylinder inside the chassis alongside the existing brake master cylinder.

Because the clutch slave cylinder was higher than the master cylinder, I had to seal the top of the master cylinder and fit a tube into it leading up to a reservoir fitted on the bulkhead, under the bonnet. This modification works successfully and the final result is that the pick-up drives very well.

Its first outing of any distance was to the Abingdon gathering on 9th July, where it attracted a lot of attention and comments.



After



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MEMORY CORNER

How long is your memory? Peter Hudson, of Haslemere, poses this question prompted by the small print you see at the bottom of most car advertisements these days. A typical example is 'Price excludes Delivery Charge, Road Tax and Number Plates', which usually adds £4 to £500 to the final price that you pay.

The *Financial Times* ran a Christmas Competition some years ago, in which one of the questions was:

"When could you last buy half a pint of beer, a packet of cigarettes, a box of matches and a meat pie and still have change left out of sixpence?"

The answer was March 1940, when some pubs still had Mild at 2d. a glass, 5 Woodbine were 2d., matches were 1/2d. and a meat pie of sorts could be had for a penny.

Peter's question is a little more up to date: "When could you last pay the Delivery charge on a new M.G., meet the cost of Number Plates, buy two gallons of petrol and a year's Road Tax and still have change out of £10?"

Puzzled? The correct answer will be printed in the January 1996 Y-Type notes.

In our last newsletter I asked if anyone had any information on the use of relays in electrical circuits. I am grateful to *Practical Classics* for allowing us to reproduce an old article which does just that.

RELAYS

THE WHY, WHERE AND WHEN

JOSS JOSELYN

If you think that all electricity is black magic and the variety used in motor cars is more devilish than most, here is your chance to let in a little daylight. Electricians don't have to be complicated and here we're going to take a practical look at relays and explain both them and their use in simple terms.

A relay is a switch, one that is electrically operated. If you have a relay in the circuit and you close the normal dash-mounted switch, current then flows through the circuit and closes the relay switch – in other words, operates the relay.

Why have a switch to operate another switch? Basically you use a relay when you've added extra components into a circuit or when the switch is used to operate accessories requiring a heavy current. If no relay is used, a larger switch – one with heavy contacts – would be needed to avoid the contacts burning out rapidly. It would also mean a long run of heavy cable if voltage drop, impairing efficient operation of the accessory concerned, is to be avoided. The alternative to all this is to use a normal dashboard switch, normal wiring between relay and accessory. If the relay is mounted close to the accessory concerned, it obviously saves a lot of bother.

When do you use a relay? Whenever accessories requiring a heavy current are fitted.

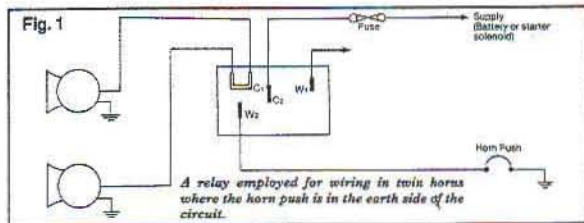


Fig. 1 A relay employed for wiring in twin horns where the horn push is in the earth side of the circuit.

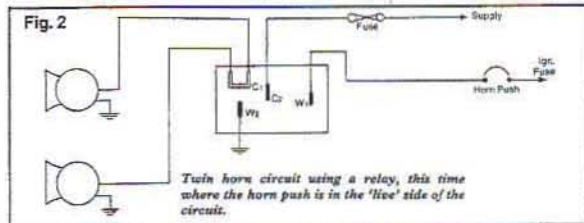


Fig. 2 Twin horn circuit using a relay, this time where the horn push is in the 'live' side of the circuit.

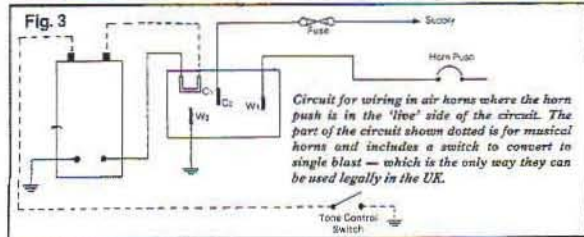


Fig. 3 Circuit for wiring in air horns where the horn push is in the 'live' side of the circuit. The part of the circuit shown dotted is for musical horns and includes a switch to convert to single blast – which is the only way they can be used legally in the UK.

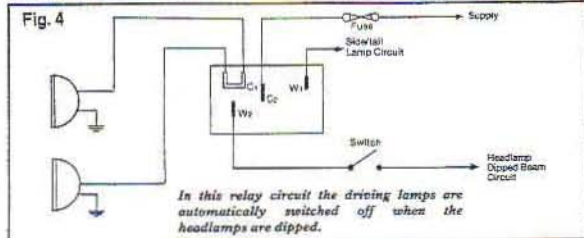


Fig. 4 In this relay circuit the driving lamps are automatically switched off when the headlamps are dipped.

Typical examples are a pair of windtone or air horns, a pair of powerful driving lights, heated rear screen or a burglar alarm.

How do you fit a relay? The actual physical work involved is minimal; the majority of what's involved is a matter of wiring. The relay you buy will come together with an integral mounting bracket and fixing is usually accomplished with a pair of large-headed self-tapping screws.

Wiring is a bit more complicated. Some circuits to illustrate what's required for the most commonly used accessories are shown in Figs. 1 to 7. Two relays are employed – the Lucas 33213 which is a four-terminal unit and the Lucas 33188 which is a three-terminal job. In some cases they are interchangeable but this will become clear on studying all the circuits.

It is, of course, possible to use relays of other makes and you can identify which terminals are which from the following table of equivalents.

Lucas	Bosch	Marelli	Others
C ₁	30/87	B	B B
C ₂	87	H	H H
W ₁	85	PUL	P S
W ₂	86	Unmarked or short lead	

Figs. 1 and 2 show different ways of using relays in the horn circuit. The reason why you

might want to do this is if you are changing an original single high-frequency horn for a pair of more powerful windtones or air horns. Whether you use the first or second circuit will depend on the car manufacturer's original circuitry – whether the horn push is in the earth side or the live side of the circuit. You may be able to identify this from the wiring in the car or from the circuit in the handbook.

When wiring up driving lamps, you have a couple of legal requirements to satisfy. First, they must not be capable of being lit without the side and tail lamps and, second, they must either go out or be dipped at the same time as the main headlamps. Circuit No. 4 is the one to use and here in fact they go out when the headlamps are dipped.

Rear fog lamps are now compulsory on new cars and if they are fitted to older ones, they are subject to the same regulations. Without going into too much detail, these too must only be lit in conjunction with side and tail lights and they must also have a tell-tale

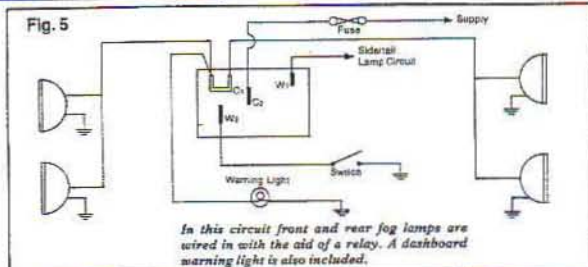


Fig. 5 In this circuit front and rear fog lamps are wired in with the aid of a relay. A dashboard warning light is also included.

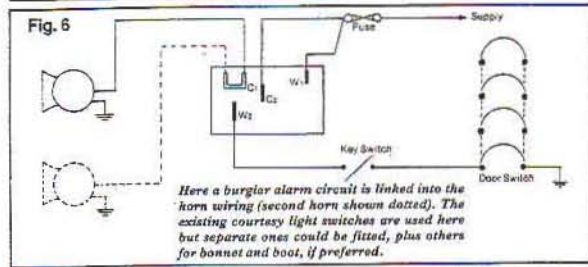


Fig. 6 Here a burglar alarm circuit is linked into the horn wiring (second horn shown dotted). The existing courtesy light switches are used here but separate ones could be fitted, plus others for bonnet and boot, if preferred.

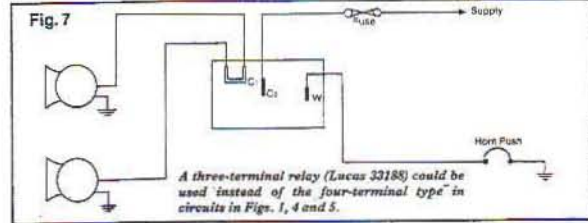
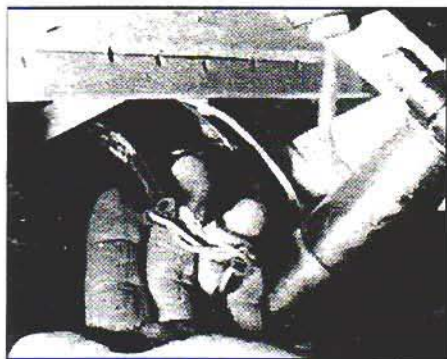


Fig. 7 A three-terminal relay (Lucas 33188) could be used instead of the four-terminal type in circuits in Figs. 1, 4 and 5.

warning light in the cab. The circuit shown in Fig. 5 copes with these points.

There are many possibilities with burglar alarm circuits but the ones shown in Fig. 6 illustrates the basic principle. In this, when the car is left with the key switch closed, the action of opening a door completes the circuit and sounds the horn(s) which are also connected into the relay. The circuit can be arranged either using the existing door courtesy switches or fitting separate ones.



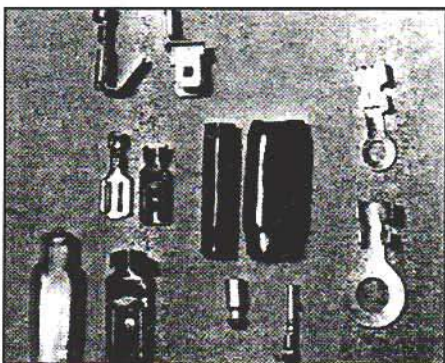
Undoubtedly the simplest way to joint two wires or to join a wire into an existing circuit is to use sleeves and snap connectors.

Fig. 7 illustrates how a three-terminal relay can be substituted for the four-terminal type shown in Figs. 1, 4 and 5.

Wiring Hints

Always use the correct type and size of cable. Buy it from an auto-electrician or car accessory shop and specify 14/30. That is 14 strands of 0.30mm dia. wire. This will cope with the majority of normal work. To carry current to horns or a pair of spotlights, use a heavier cable – 28/30 (28 strands of 0.30mm wire).

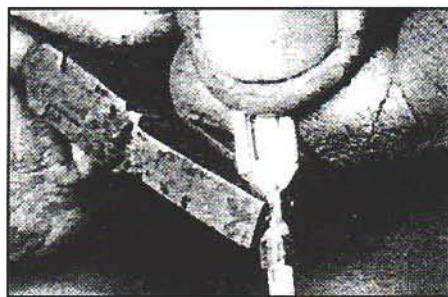
Do not leave lengths of cable draped



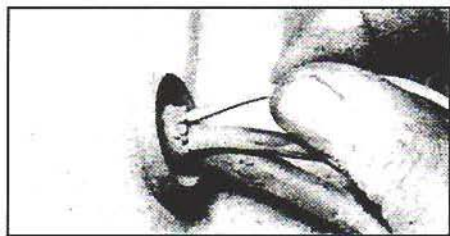
There are many types of terminal that can be used, however. This is a selection of those most commonly favoured.

unsupported. If they are run along the lines of existing wiring, this will be a lot easier and the existing harness supports can be used. If the wiring has to pass through a bulkhead, poke it through existing rubber grommets if possible. If a new hole has to be drilled, always fit a new rubber grommet, otherwise the cable insulation will chafe through and cause a short.

Use proper terminal connections – spade type for joining to the accessories and bullet terminal and snap connector for joining into an existing circuit or for joining wires together. Ensure they are soldered and not just clamped in place and use a good hefty soldering iron – a 100-watt electrical type or a gas iron.



The method of fixing a spade terminal is to thread on the insulated cover first, then to crimp the metal clamp on to the cable insulation, followed by the one on to the wire itself, which is also soldered.



The best way of passing a cable through a metal bulkhead is via an existing hole and rubber grommet. If new holes have to be drilled, ensure they are grommetted to avoid chafing the insulation and causing a short circuit.