

## THE CLASSIC 'Y'

The Newsletter of the M.G. 'Y' Type Register.  
Volume 16. No.118. August 1993.



Y 1934 with its "shooting brake" or "woody" rear end, as described in the editorial to Issue No.94 (August 1989). This shot was taken in its Nicosia, Cyprus resting place in 1982 or 1983 and comes to us via David Mullen.

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## Register Movements

0010. A "NEW DISCOVERY". 1952 YB. YB0558. Engine no. SC2/17443. Body no. 6231/386. Registered "BCC337", this car is black with a dark red interior and belongs to a Mr.E.Ward. It was spotted by your editor on his annual pilgrimage to the Fleetwood Tram Sunday on 18th July. Also at that rally was Y1586 (Register No. 0550), a 1948 YA with engine SC/11353 and registration number "JPT871". This car is finished in a two-tone black and green scheme and has a non-original light grey vinyl-type interior. Finally, making up the "Y" contingent and attracting much attention, as it always does on its annual appearance at this rally, was Howard Jackson's black 1949 YT, "3598MG" (Register No. 0980). This car was originally exported to Ceylon and then came back to this country from Singapore. Its (beige) interior is also a little unoriginal.
0034. A "NEW DISCOVERY" in South Africa by Dave Lawrence is Y1934, engine no. SC/X11720, body no. 1627/1715. This white 1948 YA has a red interior and is owned by J.Coetzer of Pretoria.
0035. A "NEW DISCOVERY". 1952 YB. YB0828. Engine no. SC2/17722. Delivered to Mr.Alan Paddick of [REDACTED] Staffordshire on 29th May. The car has a current M.O.T. and is to be taxed, insured and driven immediately, leaving improvements and restoration for the future.
0036. A "NEW DISCOVERY". 1953 YB. YB1476. Registered "OOD76" and owned by Mrs.S.Lacey of [REDACTED], Essex. This car has a green interior.
- 

## CARS FOR SALE:

"YT. 1950. RHD. driven 2,500 miles since total restoration. Winner of class at 1990 Milwaukee G.O.F. Old English white, biscuit leather interior. Loads of extra parts. \$29,500 for package. Contact: Tom Newbiggin, [REDACTED], IA. Tel: [REDACTED]."

"M.G. YA Saloon, 1951, black, restored body, good mechanics and tyres, M.o.T., taxed, nice to drive, needs new carpets, original log book, £3,500 o.n.o. Tel: [REDACTED] Hants."



## Y TYPE STEERING COLUMN ELECTRICS

Although I rewired my Y type four years ago, every now and then the trafficators refuse to work or a fuse blows, or the horn bleats half-heartedly.

Tracing the fault has nearly always involved taking apart the steering wheel switch unit and/or the steering column slip-ring unit, often unnecessarily, as the fault has usually been found somewhere else. Last time a fault occurred I decided to tackle the problem more methodically, and this article is the result. The workshop manual is not much help — it doesn't mention the trafficators or horn in the "Locate and Remedy" tables of the Electrical Equipment section!

I will first of all outline the tests necessary to locate the fault, and then deal with the slip-ring unit, steering wheel switch unit and steering column wiring separately. The horn will also be treated separately.

Since there are different colour codes for YA and YB wiring looms, I've tried to steer clear of references to colours. Where colours are given, they are those on my own car, which retains the original steering column wires. The only "special" tool necessary is a test lead made from a length of insulated wire with a crocodile clip at each end. Remember that the engine and body is "earth" and inadvertently laying down a test lead with one end clipped to a live terminal will cause a spark.

### Initial Precautions

Jack up both front wheels clear of the ground so that the steering wheel can be turned easily from lock to lock. Disconnect the lead to the live terminal on the plastic cover of the fuel pump, otherwise the float chamber will fill up everytime the ignition is switched on, and all that petrol vapour could catch fire from an electrical spark.

### How to locate a trafficator fault

If the trafficators do not work when the steering wheel switch ring is turned with the ignition switched on, proceed as follows :

**TEST 1** Check the individual units in the door pillars by connecting a test lead from battery live terminal (negative) to the live terminal of each trafficator. Make sure that there is good electrical contact between the trafficator frame and the bodywork of the car (i.e. the 'earth'). Alternatively remove the trafficators from the door pillars and check that they work. If they are O.K. continue as follows :

**TEST 2** Switch on ignition. Connect test lead between terminals 1 and 3 on the slipring unit on the steering column. (No. 1 terminal is the one nearest the steering wheel — see fig. 1. You need not disconnect the wires to the slipring unit).

The right hand trafficator should work. If it does not then there is a break in the wiring between A4 on the control box and the slipring unit, or between the slipring unit and the right hand trafficator. Similarly, connecting the test lead between terminals 2 and 3 should operate the left hand trafficator. If the trafficators work as a result of these tests, then the fault lies in the slipring unit or the steering wheel switch, or in the wiring between them.

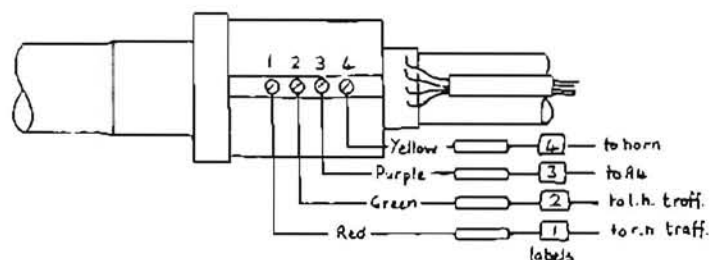


Figure 1 — Slipring unit connections

**TEST 3** If the AUX IGN fuse between terminals A3 and A4 on the regulator (YA) or fuse box (YB) blows when a trafficator is switched on, there is a short to earth between the A4 terminal and the trafficator. A few inches from the slipring unit are four snap connectors. Label these 1, 2, 3 and 4 as shown in fig. 1 using self-adhesive labels. Disconnect the wires either at the snap connectors or slipring unit and repeat test 2 (1 and 3, 2 and 3) but this time connecting the test lead to the wires you have just labelled. If the trafficators work with the ignition switched on and the fuse doesn't now blow, then the short is in the steering column wiring or at the steering wheel switch. If the fuse blows for both 1 and 3 connected and 2 and 3 connected in turn (expensive on fuses, this!), look for an earth short between the regulator and slip ring unit. The short is between the wire labelled 1 and the r.h. trafficator if the fuse only blows when 1 and 3 are connected, or between wire 2 and the l.h. trafficator if the fuse only blows with 2 and 3 connected. When the fault has been found and repaired, reconnect the wires.

**TEST 4** To check if the slipring unit is working.

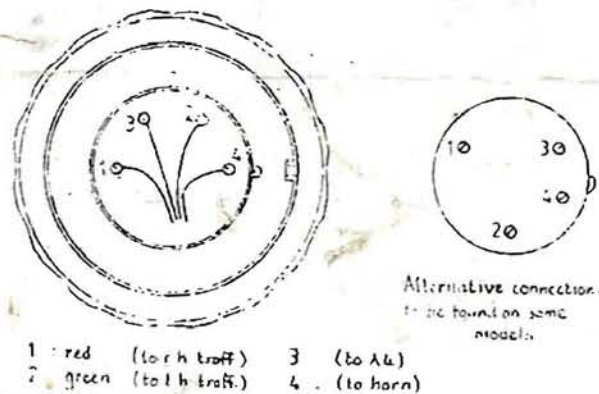


Figure 2 — Underneath of Steering Wheel Switch

### "Y" TYPE STEERING COLUMN ELECTRICS — Part 2 by Harvey Cole

#### The steering column slip-ring unit

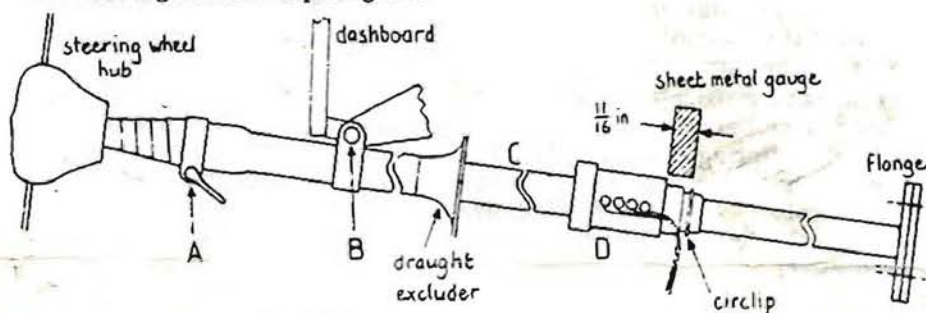


Figure 3: Steering column assembly

Neither the trafficators nor the horn will work correctly if there are poor or misaligned contacts at the slip-ring unit. Since this article is mainly about electrics, I will not go into details about steering column dismantling. If, however, clamps A and B are slackened and the draught excluder undone and outer shaft C is worked up towards the steering wheel, the slip-ring outer plastic casing D should move just far enough to expose all four springy contacts fixed to the plastic inner part of the slip-ring assembly. Check that the contacts still retain their springiness, clean with a rag, smear vaseline (not grease!) over the contact studs and slide the outer shaft down to its original position. It may need to be twisted back and forth to help it move. I find the best way to line up the assembly correctly is to cut a gauge  $11/16$ " wide out of a strip of cardboard or sheet metal (shown shaded on figure 3). The slip-ring unit is correctly lined up when the gauge just fits between the circlip and the end of the outer plastic casing. Bolt up B and check with the gauge again. Tighten A and refit the draught excluder.



## The steering wheel switch

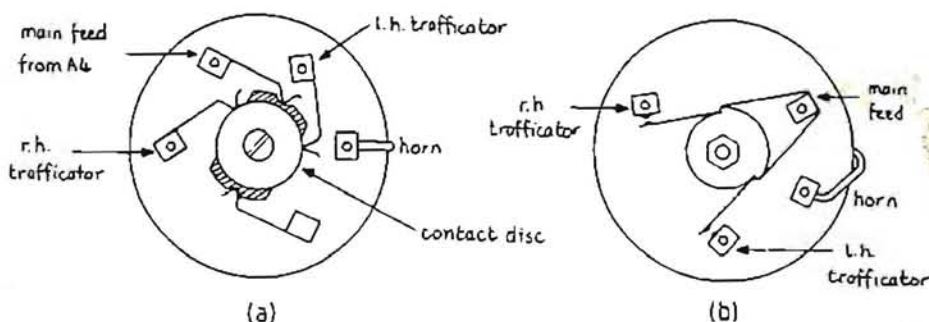


Figure 4 : Trafficator switch contacts

Remove the countersunk screw in the steering wheel hub and lift out the switch unit. Before removing the four wires make a note of their relative positions. With the cover disc removed the contacts should appear as shown in either figure 4a or figure 4b. Check that the contact blades are correctly in position, and that the contact disc turns with the trafficator control ring. The contact disc can be removed by undoing the central screw or nut, and the springy contact blades can be reshaped if necessary using fine-nosed pliers. In the type shown in figure 4a replace the contact disc and make sure the brass contacts press on the copper segments when the control ring is turned. I repaired one contact by cutting a new strip from thin brass and soldering it onto the terminal post. The plastic part of the contact disc should be perfectly circular, if it isn't, build it up with Araldite and carefully file to shape. If there are any faults in the timing mechanism I suggest taking it to a clock repairer!

## The steering column wiring

Over the years the insulation hardens and cracks, and vibrating may cause intermittent shorting between one wire and another, or between a wire and earth. Take a careful look at the sharp bend where the four wires leave the steering column, and fan out onto the switch unit in the steering column hub, and also at the flanged joint at the bottom of the steering column where the wires pass through a cut-out into the column. Wind p.v.c. tape over the wires if necessary. If a fault persists and this wiring is suspected, the whole lot can be replaced without taking the column apart by tying the new wires onto the old and pulling through. (This may be tricky at the flanged joint but loosening the bolts should help). Make sure the wires fit into the cut-out in the upper flange and are not pinched when the flange bolts are tightened.

## 'Y' TYPE STEERING COLUMN ELECTRICS Part 3 by Harvey Cole

### The Horn — how to locate a fault

If horn does not sound when horn button is pressed, proceed as follows :

- 1) Connect one end of a test lead to number 4 terminal on the slip-ring unit (the one nearest the front of the car) and the other end to a good earth, preferably the battery earth terminal. If the horn sounds the fault is in the slip-ring unit or the steering wheel horn switch — go to test 4 below.
- 2) If the horn does not sound check it by disconnecting the wires to it and re-connecting it directly to the battery terminals. The horn should work. If it doesn't, then the horn itself is at fault.
- 3) If the horn works, check the cable from the regulator (or fuse box in the YB) terminal A2 to the slip-ring unit.

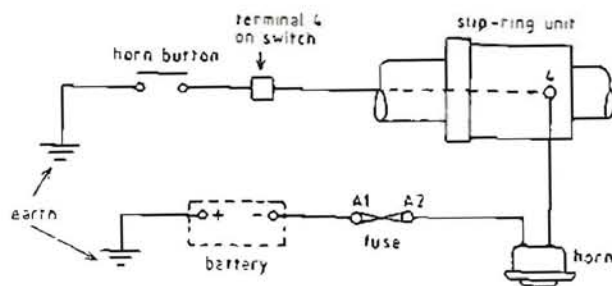


Figure 1 - Horn Circuit

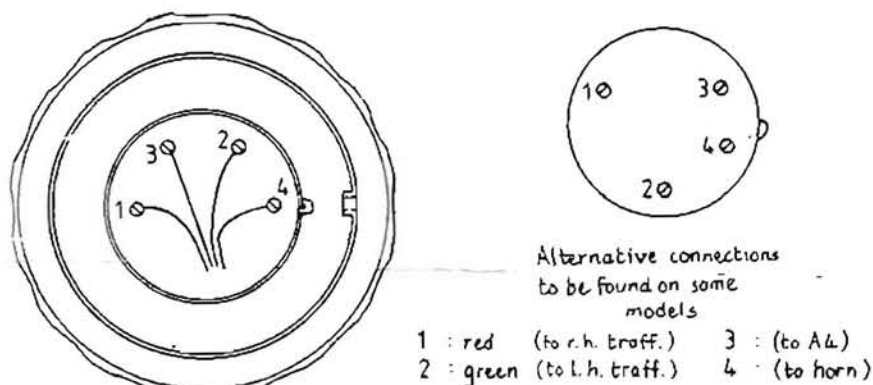


Figure 2 - Underneath of Steering Wheel Switch

- 4) To check the slip-ring unit, remove the screw which holds the steering wheel switch in the steering wheel hub and gently pull out the switch. Don't undo the wires. Connect a test lead from terminal 4 on the switch unit (see figure 2) to earth at the battery. (Terminal 4 is the one with a yellow wire and a second wire running from the terminal post into the bowels of the switch unit). If the horn sounds, the slip-ring unit and horn wiring are O.K., but make sure the test is carried out as the steering is turned from lock to lock. If the horn does not sound, check the alignment of the slip-ring unit (already dealt with).
- 5) Repeat test 4 but this time connect the "earth" end of the test lead to some bare metal inside the steering wheel hub. If the horn sounded in test 4, but doesn't now, there is a bad earth connection between the chassis and the steering mast. This is most likely to be at the braided earth strap at the flange at the bottom of the steering column. Remove the strap and the clip on the steering mast, clean all the contacting metal surfaces with wet-or-dry paper and reconnect.
- 6) If the horn works as a result of tests 4 and 5, the horn button switch is itself at fault and will need to be dismantled. The fault will probably be broken, loose or burned contacts.

Remove the single countersunk screw holding the steering wheel switch unit and gently pull out the switch unit. Switch on the ignition. Refer to figure 2. Connect the test lead between 1 (red) and 3 (purple) and the r.h. trafficator should work. Connect between 2 (green) and 3 (purple) and the l.h. trafficator should work. These tests should be carried out with the steering wheel at different positions between full lock one way and full lock the other. If the trafficators do work, then the slipring unit is working correctly, and the wiring in the steering column is all right. The fault most probably lies in the steering wheel switch unit. If as a result of this test the trafficators do not work then there is a fault between the slipring unit and the steering wheel switch unit, or in the slipring unit itself. Check the slipring unit as outlined in the next section and if that doesn't cure the fault go on to the section on steering column wiring. If the AUX IGN fuse blows there is a short to earth, probably in the steering column wiring.



The Use Of Lumenition PMA 50/60 on Positive Earth Vehicles.

Recent design improvements in the construction of the Power module and Opto switch assembly now permit the use of the Optronic system on vehicles originally built with positive earth wiring configurations, applicable to all unit built after 1/91.

There are however some basic points which need to be borne in mind when installing the amplifier in this type of application.

Referring to figure 1 it can be seen that the chief area of attention is to the module and coil power connections.

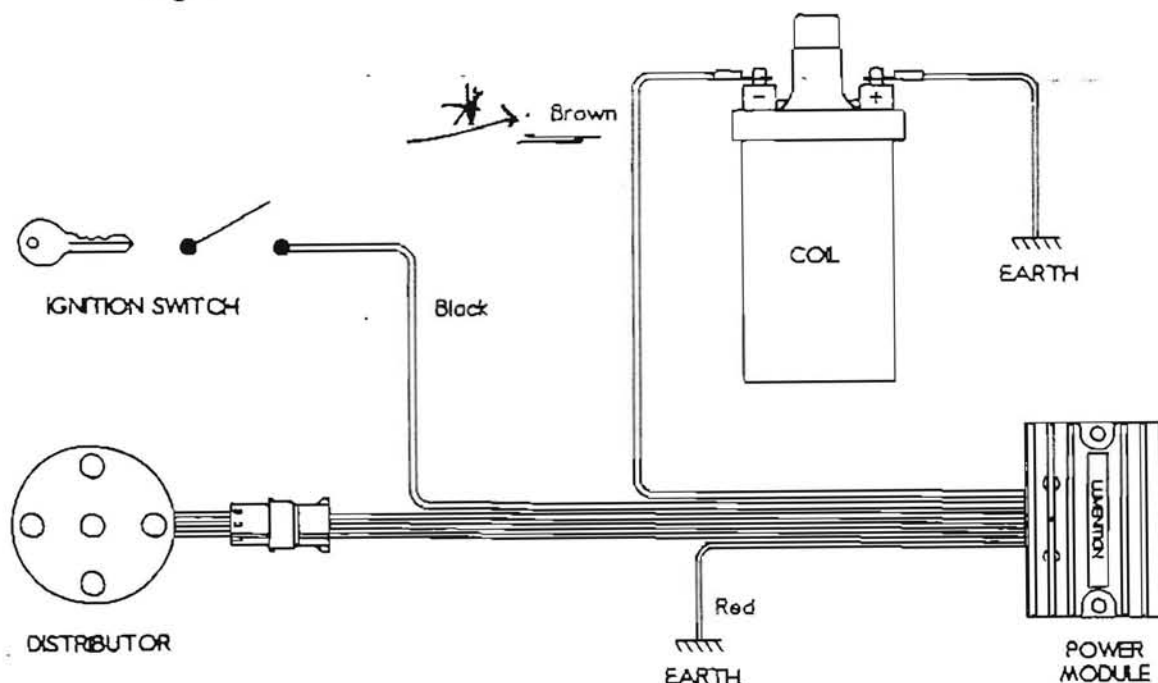
In this case the module ground wire should not be connected under the mounting screw instead it should connect to the ignition switched ground.

The module power line (red wire) can be chassis connected, for example the eyelet terminal can be screwed down with the module mounting screw.

\* NB: the ignition coil -ve terminal is still connected to the brown wire.

POSITIVE EARTH VEHICLES.

Fig. 1



# Optronic Ignition

## MK17-Z Series

Lumenition Optronic Ignition is an electronic ignition conversion principally for cars originally fitted with mechanical distributors using contact breaker points and condenser.

There are only three components, very compact and simple to fit.

First is the Optical Switch, this contains a light emitting diode (LED) which sits on the switch bracket opposite a matching silicon phototransistor which receives or "sees" the infra red beam.

Secondly, the interruptor called a chopper which is fitted over the cam, rotates interrupting the beam of light causing a pulse.

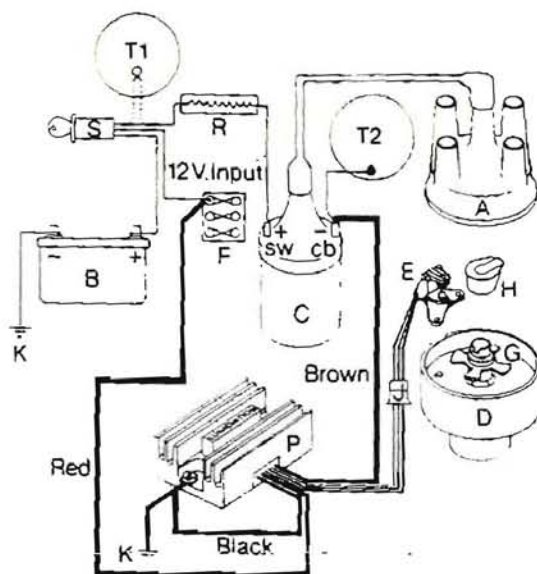
Thirdly a power module receives this pulse via its internal electronic device which switches the ignition coil on and off. The coil produces a high tension spark when switched off and is recharged when switched on.

The installation can be carried out in most cases in less than an hour, a little longer with distributors that have the advance mechanism over the top of the original contact breaker.

The advantage of the Lumenition system is that it contains no wearing parts, requires no adjustment or maintenance during service and once ignition timing is set it will remain permanently in tune.

The engine will run better, more economically through improved efficiency, last longer and start better.

Lumenition Optronic Ignition is suitable for vehicles with or without ballast resistor systems and/or voltage triggered tachometers.



- |                   |                       |
|-------------------|-----------------------|
| A Distributor Cap | J Connector           |
| B Battery         | K Earth               |
| C Coil            | P Power Module        |
| D Distributor     | R Resistor            |
| E Optical Switch  | S Ignition Switch     |
| F Fuse Box        | T1 Impulse Tachometer |
| G Chopper         | T2 Voltage Tachometer |
| H Rotor           |                       |

## Technical Details

### Power Supply

-Ve earth only  
+ 12 volt supply  
withstand 28 volts for 1 min  
withstand - 13.5 volts for 1 hour  
(reversed connection)  
Maximum permissible ignition current 7 amps

### Operating

- 40 to + 125°C optical switch

### Temperature

- 40 to + 85°C power module

### Ignition Timing

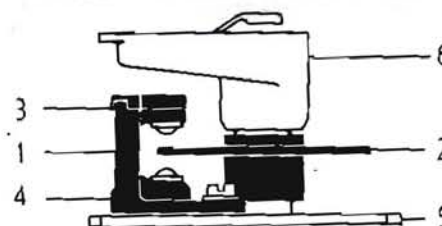
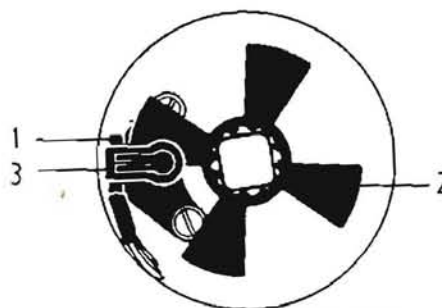
Dwell angle 85° on 3 cylinder  
65° on 4 cylinder  
45° on 6 cylinder  
35° on 8 cylinder  
22° on 12 cylinder

Accuracy  $\pm 1^\circ$  crank at 3000 rpm.

Note: Dwell angle refers to "coil on" (recovery) time and may differ from the recommended dwell with contact breakers.

### Environment:

Humidity to BS2011  
Vibration to BS2011



- 1 Optical Switch
- 2 Chopper
- 3 Photo Transistor
- 4 Light Emitting Diode
- 5 Base Plate
- 6 Rotor