

## TROUBLE SHOOTING TRIUMPH OVERDRIVE WIRING

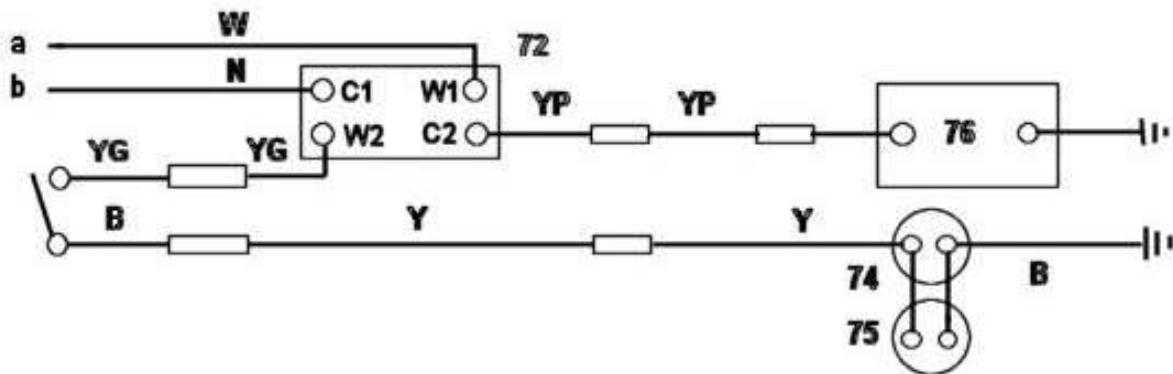
Nicola,

I am assuming you are using a relay for your overdrive circuit. If so, check your wiring as follows:

On the relay, you should have:

- one brown wire on the C1 terminal,
- one white wire on the W1 terminal,
- one yellow/green wire on the W2 terminal,
- and one yellow/purple wire on the C2 terminal.

(Note: the C1 and C2 terminals are interchangeable, as are the W1 and W2, so you could have the brown wire on the C2, with the y/p wire on the C1. Likewise, the y/g wire could be on W1, with the white wire on W2. The relay will work just fine either way)



Key To Overdrive Wiring		Wire Colour	
a	from fuse box (white)	W	white
b	from fuse box (brown)	B	black
72	Overdrive relay	N	brown
73	Overdrive column switch	Y	yellow
74	Overdrive gearbox switch - 2nd gear <b>ON</b>	YG	yellow-green
75	Overdrive gearbox switch - 3rd/4th gear <b>ON</b>	YP	Yellow-purple
76	Overdrive solenoid		

If you have wired it correctly, you will get "fire" at the yellow wire to the inhibit switches, as you stated. I put "fire" in parenthesis because it's not really "fire" as we normally think of it. It's 12 volts, but the yellow wire is intended to be grounded, so the relay coil is between the battery and the yellow wire. The yellow wire does not provide "power" to any load. To verify this, you can use a 12 volt light bulb to test it. To do this, connect one side of the bulb to the yellow wire and the other side to ground. If the bulb lights, you have a wiring error.

Before you do that test, though, check the wiring at your relay to verify that it is wired as above, and then test your wiring as follows below.

- A) With the key on, verify that you have 12 volts on the white wire. If not, look for a break or a bad connection in the white wire from the ignition key to the relay.
- B) Verify that you have 12 volts on the brown wire with the key on OR off. If not, look for a problem in the brown wire circuit - broken wire or bad connection.
- C) Put your meter on the yellow/purple wire, and run a jumper from the relay terminal with the yellow/green wire to ground. With the key on, and this terminal grounded, you should get 12 volts at the yellow/purple wire. If you pass tests a) and b), but fail c), then your relay is bad or the connections to it are bad - ie, corroded terminals or such.
- D) If you pass tests a), b), and c), but still get no power to your solenoid (with the ground jumper still in place), then you have a break or bad connection in the yellow/purple wire to the solenoid from the relay.

E) If you passed all of the above tests, but the solenoid still doesn't get power when you are actually operating it, then your inhibit switches are either bad or have a faulty ground, or there is a fault in the wiring from the relay to the manual switch to the inhibit switches. At this point, you will need to do the light bulb test mentioned above, just to be on the safe side. After you have verified that the bulb does not light (or VERY dimly at best, if it is a low wattage bulb), connect the yellow wire (at the OD unit) to ground and try the circuit again.

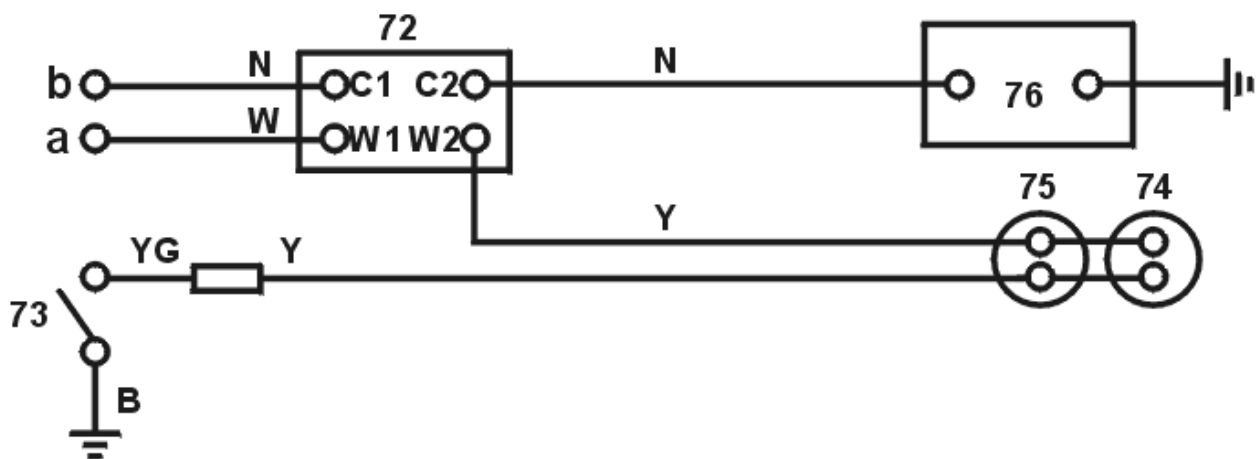
**BE WARNED** - This last test defeats the function of the inhibit switch, so you will need to be SURE that you don't operate the OD unit in a gear that it's not intended to be operated in, most specifically, NOT in reverse. If the solenoid now works, your inhibit switches are the problem. If not, then the switch wiring is the problem - either a broken wire or one or more bad connections in the yellow/green wires, the yellow wire, or the short black wire to the manual switch. At this point, I would suspect the inhibit switches, as you have voltage on the yellow wire. When you have finished these tests, you will have found the problem, I think! I hope I haven't left anything out, but if I did, let me know and I'll correct it.

I have never heard of any problems with the OD switch shorting out. That doesn't mean it never happens, but it hasn't been enough of a problem to make it well known. If the OD switch should short to ground, then the OD would work in all gears, including reverse - which is a definite NO-NO.

However, if it is a problem, I would rather fix the problem than do a "jury-rig" to work around it. The engineers at Lucas (or Triumph) knew what they were doing when they designed the wiring for these cars, in spite of all the "Lucas" jokes.

Rather than rewiring, I would do something to make sure the OD switch can't short to ground.

If you really want to rewire, I would suggest you wire it as shown in the attached diagram.



Another interesting fact is that Triumph used a left hand switch for left hand drive cars where you shift with the right hand, and a right hand switch for RHD cars where you shift with the left hand. I'm not making this up. When installing overdrive, use a right hand switch in a LHD car because it's ergonomically correct and the left hand switch blocks the wiper switches in TR4A and TR6 when overdrive is not engaged.

Regards,

Dan Master