Enhanced Overdrive Controls

By Mike Hado

It's always bothers me when I forget to turn off my overdrive. When starting out again from a standstill after having been in overdrive, everything is OK until I shift into second gear. After a moment of acceleration in second, the overdrive kicks in again almost immediately (it's especially noticeable in second because of the high torque in that gear) and only then do I realize that I forgot to shut it off. No big deal you say? Well, maybe, but I still wanted to do something about it.

With just a couple of DPDT relays (Radio Shack P/N 275-218), an enclosure, and a 5-position terminal strip, I came up with the wiring arrangement you see here. The relay enclosure is tucked up under the facia just behind the overdrive switch. Most of the circuit stays the same since the major change is in the wiring to the transmission isolator switches.

The diagram explains the sequence in detail so I won't go into that here. Basically, once overdrive is engaged and then taken out of second, third or fourth gear (without turning off the facia switch), it is "locked out" and will not re-engage when put back into second, third, or fourth gear until the facia switch is turned off and then back on.

Besides compensating for my forgetfulness, I've found that it makes it easy and fun to use all seven speeds smoothly when accelerating through the gears. For example, 1st, 2nd, and 2nd O.D. are done normally. From here on the difference is apparent. When shifting from 2nd O.D. to 3rd, the O.D. automatically drops out when passing through neutral (and stays locked out) even though the facia switch is still on. While accelerating in straight 3rd gear, the facia switch can then be turned off, thus "resetting" the circuit. When you're ready for 3rd O.D., just flip on the switch. When shifting from 3rd O.D. to 4th, the O.D. again drops out (and stays locked out) while passing through neutral. While accelerating in straight 4th, the facia switch can then be turned off again to reset the circuit, ready to be turned on again when you're ready for 4th O.D. The advantage is that, no matter how fast you shift, the O.D. will always drop out between gears, thus giving you the next higher ratio without having to manually turn off the facia switch.

I also added a miniature light (Radio Shack P/N 272-334) in the front face of my speedometer just below the "60" so I can tell at a glance when O.D. is really engaged (not just when the facia switch is on). It monitors power to the solenoid and is wired as shown in the diagram.

The wire colors and component position as shown here are as fitted to the early TR's through TR3B but the concept can be applied to any Triumph with electro-hydraulic overdrive. The main difference with the TR4 and later models is that with those cars the facia switch is on the ground side of the overdrive relay "R1" rather than the hot side as shown here. The facia switch must be relocated to the hot side for the sequence to work. Other Triumphs such as Spitfires, GT6's, etc., can also be modified as long as the components are positioned as shown.

Finally, **be sure to double-check your work**. The transmission isolator switches should **never** be bypassed for any reason. The last thing you want is to have the overdrive engage while moving in reverse gear as it will immediately destroy the unit.

SEQUENCE OF OPERATION

WITH IGNITION SWITCH ON, FACIA SWITCH OFF, AND TRANSMISSION IN 2ND, 3RD, OR 4TH GEAR, "R2" ENERGIZES AND COMPLETES THE GROUND SIDE CIRCUIT OF "R1" COIL. "R1" AND "R3" REMAIN DE-ENERGIZED.

IF THE FACIA O.D. SWITCH IS THEN CLOSED, "R1" IS ENERGIZED, AND THE OVERDRIVE SOLENOID IS ACTIVATED.

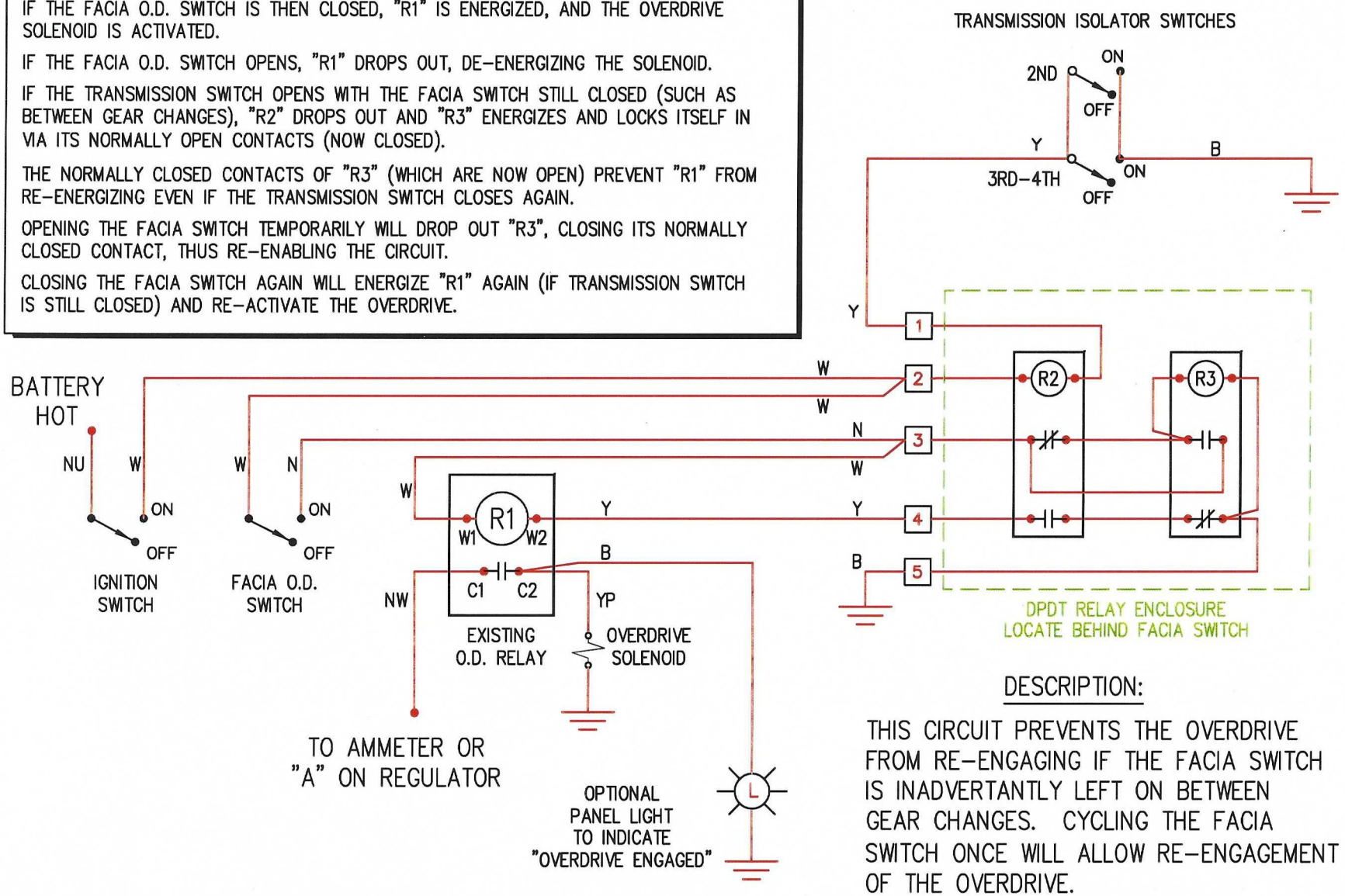
IF THE FACIA O.D. SWITCH OPENS, "R1" DROPS OUT, DE-ENERGIZING THE SOLENOID.

IF THE TRANSMISSION SWITCH OPENS WITH THE FACIA SWITCH STILL CLOSED (SUCH AS BETWEEN GEAR CHANGES), "R2" DROPS OUT AND "R3" ENERGIZES AND LOCKS ITSELF IN VIA ITS NORMALLY OPEN CONTACTS (NOW CLOSED).

THE NORMALLY CLOSED CONTACTS OF "R3" (WHICH ARE NOW OPEN) PREVENT "R1" FROM RE-ENERGIZING EVEN IF THE TRANSMISSION SWITCH CLOSES AGAIN.

OPENING THE FACIA SWITCH TEMPORARILY WILL DROP OUT "R3", CLOSING ITS NORMALLY CLOSED CONTACT, THUS RE-ENABLING THE CIRCUIT.

CLOSING THE FACIA SWITCH AGAIN WILL ENERGIZE "R1" AGAIN (IF TRANSMISSION SWITCH IS STILL CLOSED) AND RE-ACTIVATE THE OVERDRIVE.



DESCRIPTION:

THIS CIRCUIT PREVENTS THE OVERDRIVE FROM RE-ENGAGING IF THE FACIA SWITCH IS INADVERTANTLY LEFT ON BETWEEN GEAR CHANGES. CYCLING THE FACIA SWITCH ONCE WILL ALLOW RE-ENGAGEMENT OF THE OVERDRIVE.

REVISION HISTORY

ORIGINAL DWG 5/23/97

MODIFIED WIRE ROUTING AND COLORS 10/26/09

TEXAS TRIUMPH REGISTER
P.O. BOX 40847
HOUSTON, TEXAS 77240-0847

OVERDRIVE LOCKOUT RELAYS

ALL TRIUMPHS WITH ELECTRO-HYDRAULIC OVERDRIVE AND POSITIVE GROUND

ENGINEER	DRAFTER	CHECKED_BY	INITIAL_RELEASE	LAST_EDIT_DATE
M. HADO	M. HADO	J. GIVEN		10/26/09

TRIUMPHS-R-US

JOB_NUMBER 001

DRAWING NUMBER