

Appendix F

Modification of the Original /5 Starter Lockout Circuit⁴

This appendix will be of special interest to /5 owners who are constantly plagued with the "click-click-click" syndrome whenever the temperature drops or the bike sits for a period of time without

The first step in the project is to disconnect the ground (negative) cable from the battery.

Those who don't feel they can do the modification themselves can remove the unit from the bike (taking note of which terminal connects to each wire). Open the unit by carefully uncrimping the cover and take the unit, and these instructions, to your friendly neighborhood TV repair shop. The charge should be minimal.

After the unit has been modified, put it back into the cover and crimp it over again. Make sure you put it back in the cover the same way it came out!

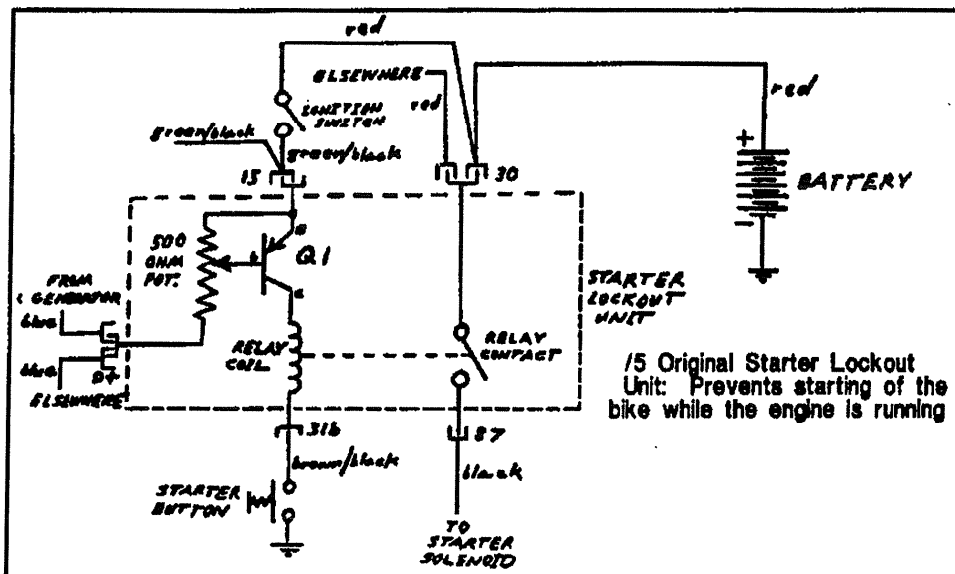


Figure F-1: Schematic for Original Circuit

being used. The symptom is typical of a weak battery. However, the battery is not the cause of the "electric cricket". The villain, in this case, is the Starter Lockout Unit mounted under the fuel tank on the forward left side of the top tube. When the temperature drops, or when the battery is not in a near-full condition, the transistor in the SLU does not "turn on" all the way.

The following simple modification (alteration of the circuit which controls the transistor) will eliminate the "electric cricket" and still maintain the repeat-starter prevention feature. This unit is used on the /5 only.

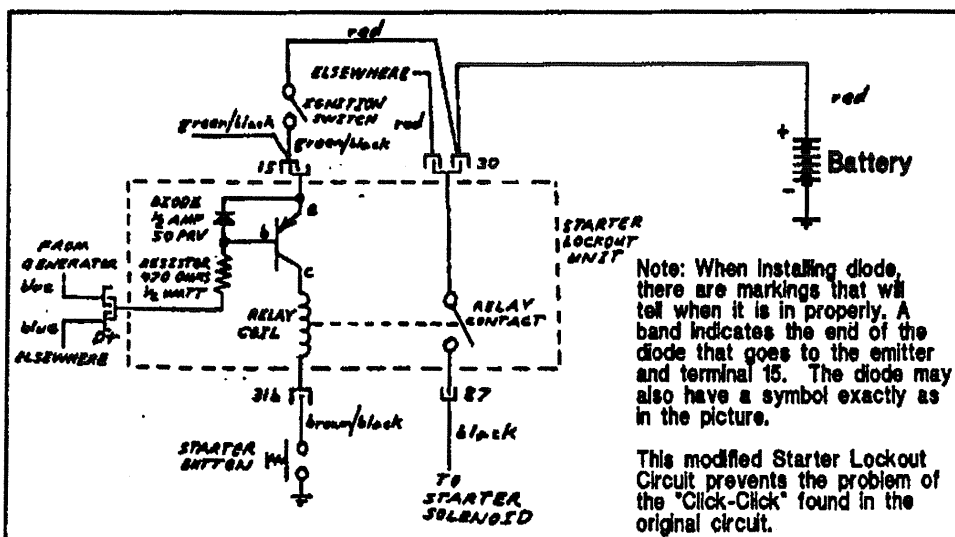


Figure F-2: Schematic for Modified Circuit

⁴ Taken from: Modification of the /5 Original starter Lockout Unit to Eliminate the "Electric Cricket" by "Oak" Okleshen, March 1977, BMW News.

Procedure for Modification

1. Obtain two parts, as follows, from a radio repair shop or electronics supply house: one 470-ohm 1/2-watt carbon fixed resistor; and one silicon diode with 1/2-amp and 50 peak reverse voltage ratings. A diode with larger current and peak reverse voltage ratings will work also. Get one with solderable pigtail leads.
2. Disconnect the ground (negative) cable from the battery, and tape it out of the way. Remove the fuel tank from the motorcycle, exposing the unit on the left front of the frame. Remove the unit from the frame, and, making notes of the wire connections to it, disconnect the wires.
3. Carefully uncrimp the shell from the unit, noting which way it comes off, as it will be re-used.
4. (Refer to Figures F-3 and F-4) Remove the small variable resistor with the slider, by unsoldering it from the circuit board.
5. Mount the fixed resistor you purchased in step 1 between the hole in the board at the D+ terminal from which the variable resistor was removed, and the hole from which the center arm terminal of the variable resistor was removed.

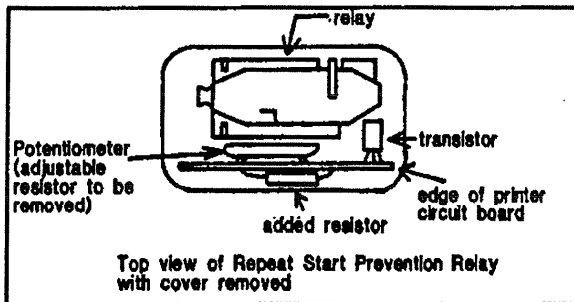


Figure F-3: Top View of Repeat-Start Prevention Relay with Cover Removed

6. Mount the new diode with its banded end in the remaining hole from which the variable resistor was removed, and the other end in the same hole from which the center arm terminal of the variable resistor was removed (with one end of the new fixed resistor!). Now there will be: one hole, at D+, with one end of the fixed resistor; one hole, from which the center terminal of the variable resistor had been removed, with one

end of the fixed resistor AND one end of the diode; and one hole, connected to terminal 15, with the banded end of the diode.

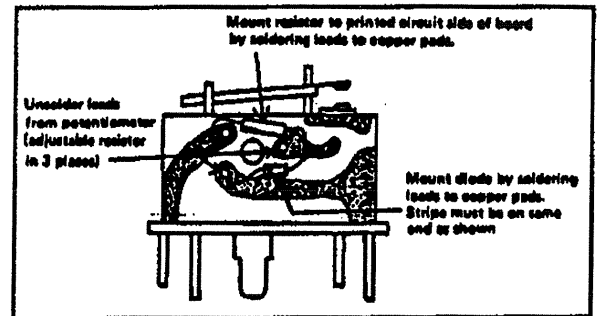


Figure F-4: Front View of Repeat-Start Prevention Relay with Cover Removed

7. Make sure the diode is **CONNECTED PROPERLY AS SHOWN**, and solder the connections.
8. Refit the metal cover to the unit, being sure it goes on the same way, and then reinstall the unit into the bike. Check all connections, and then refit the fuel tank. Finish by reconnecting the battery negative cable.