

Optical chuff switch for TMCC/RailSounds Locomotives

Here's the placement and circuit for an optical chuff switch to replace the Lionel Cherry switch or the replacement using magnets and reed switches. This installation doesn't have some of the problems you encounter with magnets, specifically the problem of clearance of the drivers to the frame on many locomotives. The optical sensor is the OPTEK Technology OPB607A Reflective Surface Sensor. A couple of resistors and a capacitor round out the parts list. Note that this design uses 5VDC, as that's what I had available from my Super-Chuffer. All resistors are 1/4W, and the capacitor only needs to be 10V rating or better.

The optimum spacing from the wheel is approximately 1/8", and shims should be used to minimize the wheel slop if it is excessive to prevent the spacing from being too far from the optimum. I use Aluminum reflective tape on the driver to provide the reflective surface to trigger the chuffs.

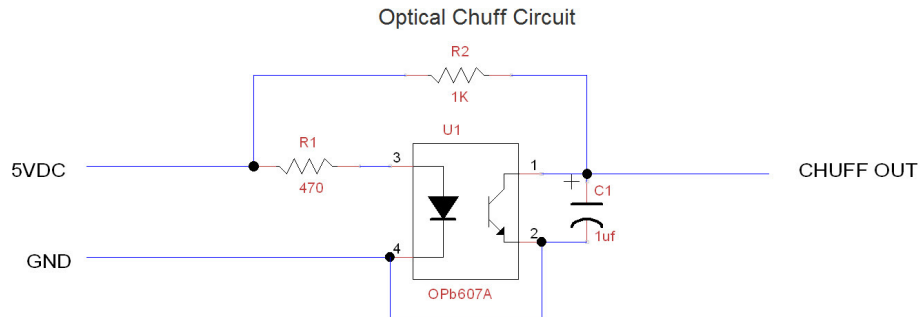


Figure 1 Optical Chuff Switch Circuit Diagram

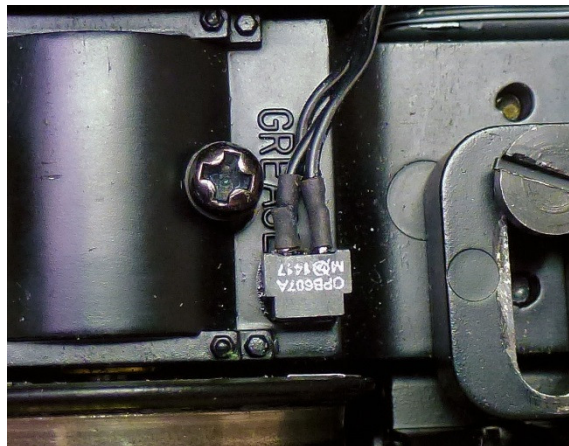


Figure 2 Chuff Switch Positioning



Figure 3 Reflective Tape Positioning on Driver