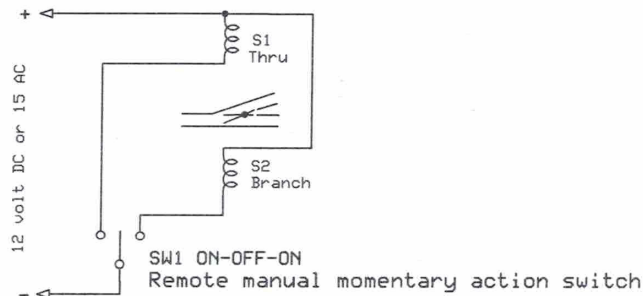


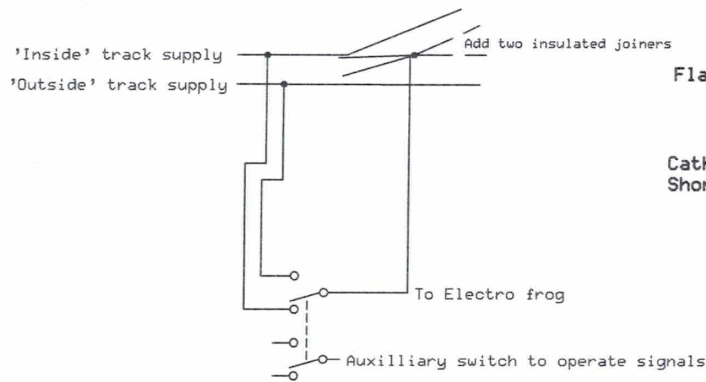
Basic Turnout & Signal Wiring

Original PECO/Hornby solenoid Snap Turnout

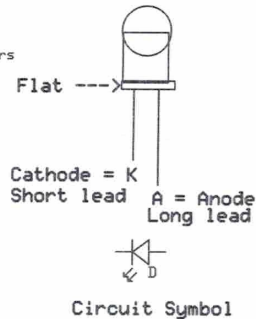


No inbuilt option for signals
More recent designs may include a signal or frog contacts

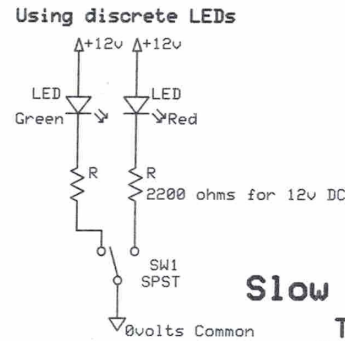
Electrofrog Wiring Turnout set for 'Thru'



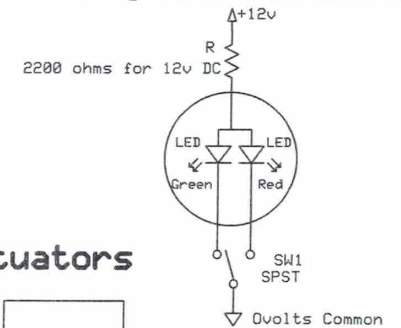
Standard LED Common sizes 1.8, 3 & 5 mm dia



Manual Switch or SMA operated LEDs

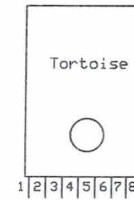
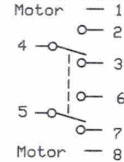


Using 3-lead common anode LED



Slow Motion Actuators

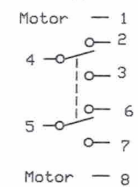
Tortoise



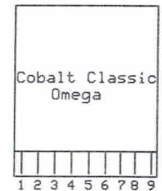
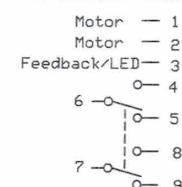
Actuator contacts shown in thru state

Cobalt

Original



Classic (Omega)



Original Cobalt circa 2010 will run from NCE Switch-It and Switch-8 modules
Cobalt Classic OMEGA are not suitable for NCE due to excessive stall current,
nor are COBALT Analogue or Digital versions suitable for NCE. You may
control any SMA via toggle switches.

LED are polarity sensitive, need resistor, avoid excessive solder heat
Vary resistor from 1200 to 3300 ohms at 12 volts DC for light output
or to match brilliance between coloured LEDs of different intensities
12 volt miniature or 'grain-of-wheat' globes may be used in above
configurations by omitting the resistor.

Hills Model Rail Society

Basic Turnout & Signal Wiring

Bruce E Roberts

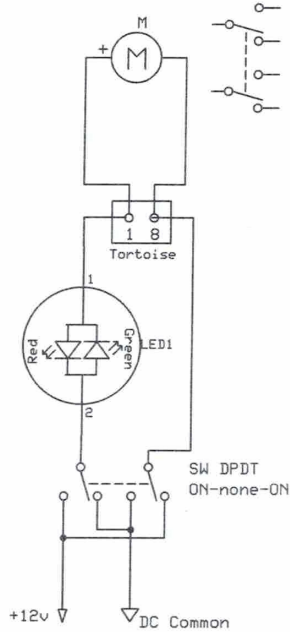
Rev 1.4

20/2/2016

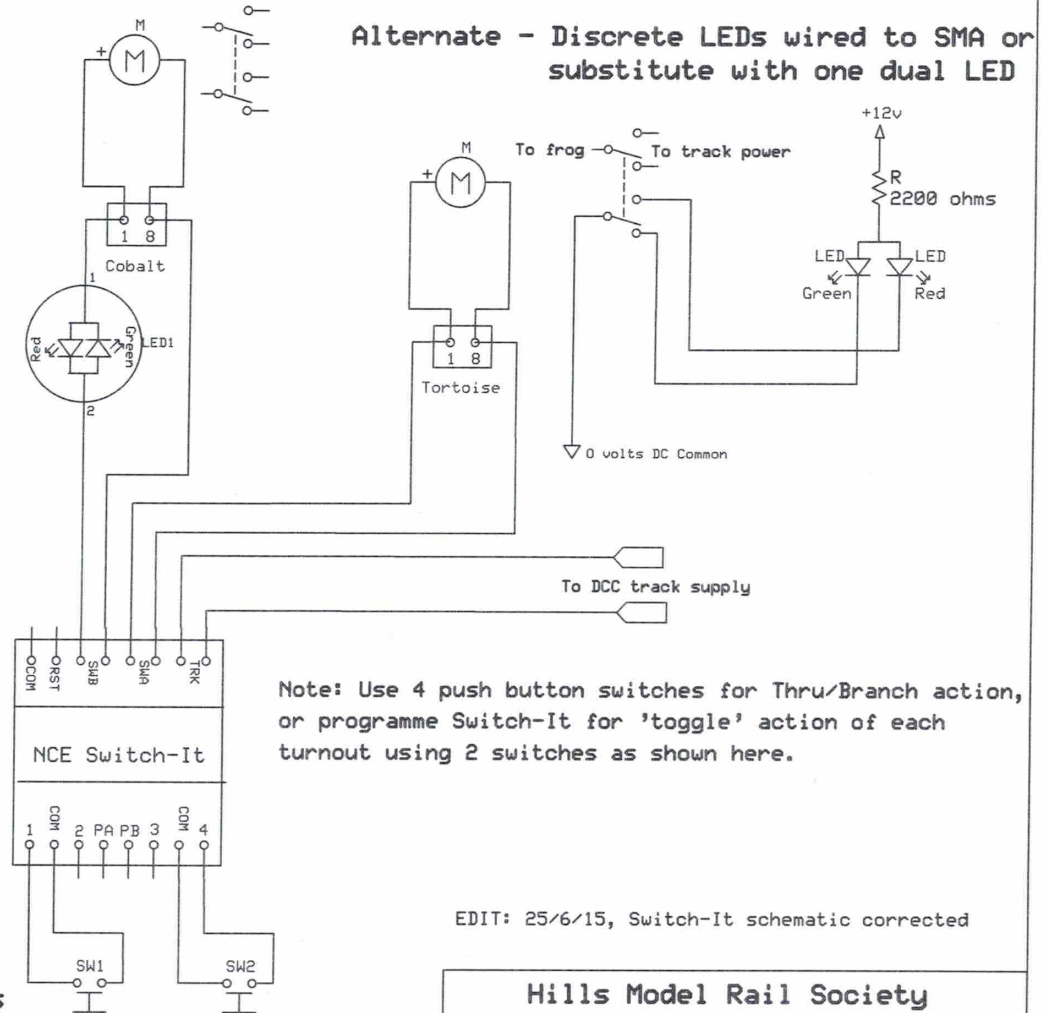
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NCE Switch-It Operation of SMA & LED

Manual operation of SMA with Bi-Colour LED



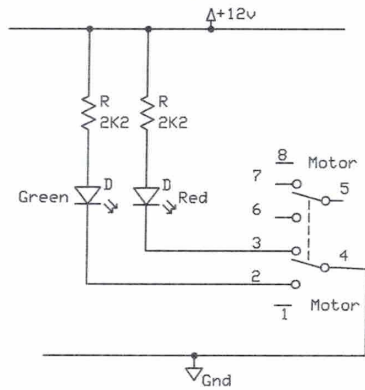
Note: No resistor required in first two modes as SMA motor limits the LED current
Do not use 'grain-of-wheat' globes in series with tortoise motors



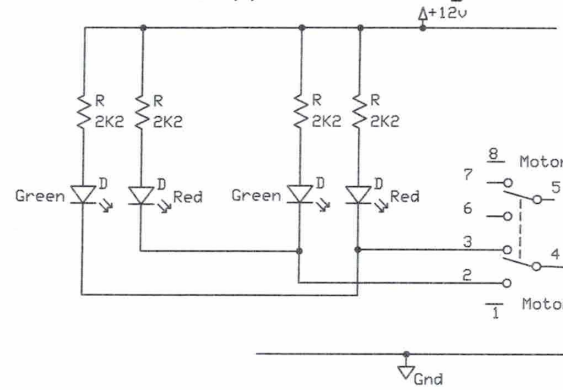
EDIT: 25/6/15, Switch-It schematic corrected

Hills Model Rail Society		
Basic Turnout & Signal Wiring		
Bruce E Roberts	Rev 1.2 22/01/2016	Page 2 of 3

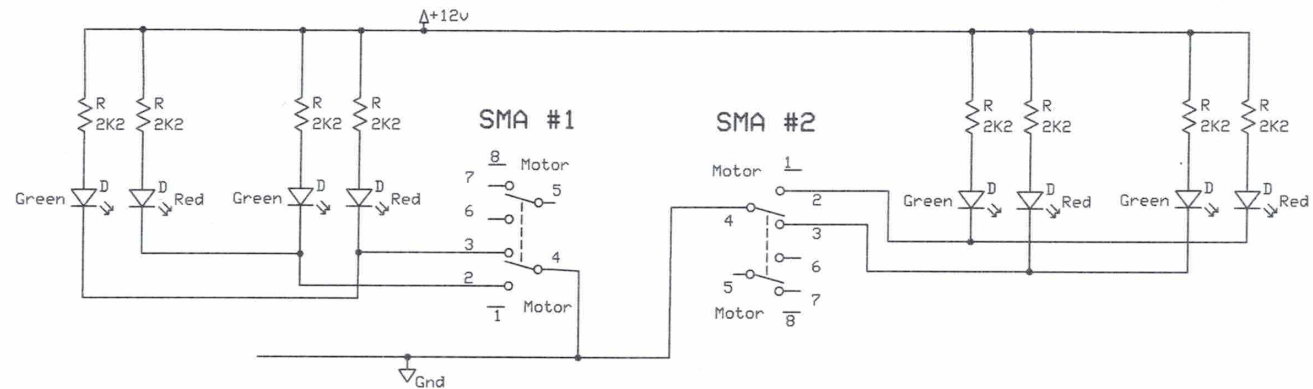
Single LED Signal



Dual Opposed LED Signal



Double Slip LED Signals



If using turnouts with 'hot frog', SMA terminals 5, 6 & 7 must be used to power each frog.

The LED wiring to the SMA may need to be swapped dependant on which way the turnout is positioned or the switch wiring to terminals 1 & 8.

Do not use the DCC track supply to power the above signals but track is wired via terminals 5, 6, & 7 to power the frogs.