

1. DCC Compatible: Micro Engineering turnouts are compatible with Digital Command Control (DCC) power systems. The turnouts are manufactured so the stock rails and their adjacent closure rails and switch rails have the same polarity. This assures that if a metal wheel contacts the stock rail and its adjacent switch rail at the same time, it will not short and shut down the DCC control system. Another feature of DCC compatible turnouts is an electrically isolated frog which is necessary to avoid shorts where rails with opposite polarity join the frog. Built in **plastic insulators** between the frog base and the base of each of the four rails joining it, prevent the rails from sliding against the frog and creating a short. The turnouts can also be used with conventional DC Block Control power systems without alteration.

2. Power Feeds: The wiring hookup to the turnout is identical for DCC or conventional DC Block Control power systems.

1. Stock rails: Power of opposite polarity needs to be supplied to the stock rails through a power wire soldered to each stock rail or through metal rail joiners from connecting tracks.
2. Frog rails: Power of opposite polarity needs to be supplied to the frog rails through a power wire soldered to each frog rail or through jumper wires from the correct stock rail or through metal rail joiners from connecting tracks.
3. Frog (optional): The metal frog can be powered or left un-powered. (See Frog Power Routing, below.)
4. Closure rails: Power is already supplied to the two closure rails via built-in wire jumpers from their adjacent stock rails.
5. Switch rails (points): Power is already supplied to the two switch rails via the built in hinge rail joiners.

3. Frog Power Routing: Because the frog is not powered, it is possible some short wheel based locomotives such as 0-4-0's could stutter or stop when crossing the frog at slow speeds. To avoid this, the metal frog in Micro Engineering turnouts offers the option of powering the frog through Power Routing (which cannot be done with plastic frog turnouts). Power Routing provides power to the frog and changes its polarity each time the turnout is thrown. To do this, a wire is soldered to the frog and power is supplied to the frog from the electrical contacts of a switch machine or a separate toggle switch.

4. Wire Attachments: If power wires are needed it may be easier to solder them to the appropriate rails and/or frog before mounting the turnout. On the underside of the turnout, a small, round metal pad that is part of the frog extends through the plastic for soldering a wire to the frog. (This pad may be covered with a thin layer of plastic flash which is easily scraped off.)

Caution: when soldering wires to the turnout, use a small, hot soldering iron and apply the heat quickly to avoid melting the plastic spikes and ties.

