## Locomotive Service Bulletin HO Rivet Counter Tier 4 GEVO Sound and Lighting 7-05-17

Let's talk DC/DCC, lighting, and sound as it pertains to ScaleTrains.com Rivet Counter Locomotives.

ScaleTrains.com Rivet Counter models are available with DCC and sound installed, or DCC and sound ready. DCC and sound installed means just that; the model is equipped from the factory with speakers installed, and with an ESU LokSound 4.0 sound decoder. Each locomotive will be programmed with the correct sound set and lighting functions per roadname and/or roadnumber. These models will operate in DC (analog) as well, but will have limited sound and lighting functionality in DC operation. You will only have directional headlights, lit number boards and non flashing front ditch lights.

A model that is labeled as "DCC and sound ready" is a model that does NOT have a DCC decoder or speakers installed, and has a blind plug (also known as a jumper board) installed on its electronics mother board that allows DC operation. Much like running the DCC and sound version on DC, these models will have limited lighting functionality in DC operation. All of the accessory lighting hardware and LEDs will be installed as appropriate per roadname and/or roadnumber (such as ditch lights, etc.), but in DC operation, there is no way to control them. In DC operation, the only lighting that will function out of the box will be the directional headlights and front non flashing ditch lights. These models can be converted to a DCC, or DCC and sound model, by installing a DCC decoder, or a DCC sound decoder and speaker, respectively. There is space in the chassis of these models for a speaker(s) of the customer's choice, such as "sugar cube" type speakers.

While the DCC-ready models do have all the same hardware installed in them for the lighting functions as the sound-equipped versions do, unless the customer chooses to install an ESU decoder ... such as a LokSound V4.0 sound decoder, or a LokPilot non–sound 21-pin decoder ... there will be no way to access any lighting functions beyond the basic headlights and front ditch lights as mentioned above. The reason for this is that there are just too many outputs to accommodate all the lighting and/or sound functions on most standard decoders; there are 10 separate outputs that are required to accommodate all the variations on the Tier 4 GEVO, for example. Even some ESU decoders do not have this many outputs, so additional hardware was included on the motherboard installed in the model to accommodate for them. This technology is proprietary to ESU, and therefore, other decoders do not have the ability to communicate with this hardware.

We hope that this information is helpful giving a better understanding of our products and the possibilities.