

## **1<sup>st</sup> Release GG1 Rev Level/Throttle Control (Late 2019)**

By default, this model is programmed to operate like our diesel engines do – but it can be programmed to operate with the motion in sync with the sounds, and also have some different soundfiles play at rev level 7 to break up the “droning” sound of the traction motors by setting **CV221=64**. This means the model will not move until the traction motors begin to rev up. From a stopped condition or while sitting at idle, there will be a slight delay between the time you move the throttle and the time the model moves. This is normal. For Paragon3 Series electric locomotive models, there are 3 methods that you can use to control the rev levels (the sounds of the engine notching or revving up and down):

- 1) Manual Control.
- 2) Throttle Based Control.
- 3) Load Based Control.

By default, our Paragon3 electric engines are set up for throttle based control with the option of going into manual control via F5/F6.

### **1) Manual Control**

Using Function Keys F5 and F6 will force the sound to rev up or down regardless of speed, movement, throttle setting, or load. Once you enter Manual Control of the revs the model will stay in that state until it is brought to a complete stop, and then throttled up again. F5 and F6 must be pressed after a transition between two rev levels has been completed in order to notch up or down. In other words, you cannot press F5 quickly 6 times and have the loco automatically notch up 6 times. Each press needs to happen after the previous notch up or down has completed. Please note if you are at idle and press F6 - and then throttle up, you will not hear the engine rev up because you are in Manual Control. The model will move immediately (no delay even with CV221=64) and will not rev up until you either press F5 (forcing it to notch up) or come to a stop and then throttle up again (when you come to a stop you are essentially exiting Manual Control).

### **2) Throttle Based Control**

Each throttle movement will increase the rev level, so if you scroll your throttle wheel five steps up - the engine will rev up one notch and hang there. If you scroll your throttle wheel one step up - again, the engine will rev up one notch and hang there. Each throttle movement notches the rev level up or down, not to be confused with each speedstep increase or decrease.

### **3) Load Based Control**

This is disabled by default, but can be enabled by setting CV246=134. More information on Load Based Control and controlling rev levels can be found online here:

<https://www.broadway-limited.com/support/manuals/Revs%20Explained.pdf>