INSTALLING SOUNDTRAXX INTO A EMD G12 PREMA

Soundtraxx recommend using a 21P decoder : https://soundtraxx.com/products/tsunami2-digital-sound-decoders/tsu-21PNEM8/ and redesigning the motherboard to accept this as an option, which contains the speaker connections as well.

Then, you can get a PCB with the 21P connector that is pre-regulated for LEDs. The 8-pin plug would be fine, but then you would need to look at either custom PCBs to integrate the 8-pin on the decoder, or you then have a decoder with 8-pin plug on the end of a harness that then also takes up space.

The base 21P motherboard then offers the model to have all the 'loose' wires tucked away for easy placement of the bodyshell, and then you have easy ability to even allow the customer to add more lights if they choose (By having unused solder pads on the PCB.

You can find ready-made ones like the Decoder Buddy Mini (https://nicknixtrainz.com/description/) that may fit your space..

With the NMRA 8-Pin plug, which decoder would you have been looking at? The TSU-1100 or the TSU-2200? Using the 21P also reduces the decoder cost per unit in that you don't have to pay for the harness, shrink and such, and is a cleaner install.

Of course we do have the 567 V12 sound file that should be the correct one for this model. You can hear it here: EMD 567 12-Cyl no Transition