WHEELTAPPERS DCC SOUNDS

Chuff Synchronisation

We have set the chuff synchronisation to match a new manufacturer's model which has been run in as per the makers instructions.
Not every model is exactly the same so if you are fitting the decoder to a different model or you find that there is a need for fine tuning you can adjust the Chuff Rate to your personal liking.

Different manufactures motors, gearboxes and wheel diameter plus the condition of the model can have an effect on older locomotives, we would therefore suggest adjusting the Load Control/Back EMF first.
Attention to these two items (Chuff Rate and Load Control/Back EMF) together with running the locomotive in will lead to hours of enjoyment with our unique sound projects.

We recommend that the locomotive has been run in prior to fitting this sound decoder.

Load Control/Back EMF

In the unlikely event that your motor is not running smoothly or juddering at low speed or lurches forward when stopping it may need setting up to match the load control of the decoder.
The back EMF has been set to the default setting but can not match every situation of new and worn drive motors.

To set up the load control or back EMF you need to do the following.
Make sure ALL functions are off and speed is zero.
You will need a straight piece of track with plenty of room front and rear of the locomotive.
Set CV54 =0 on your programming track or POM.
Place the locomotive on the running track so there is plenty of room front and rear, approx. 8ft.(you can use a rolling road if you do not have the space but you may not get the load on the motor that is required)
Press F1 and your locomotive will shoot off at high speed then stop.

This resetting of the motor may require you to reset the chuff rate but in most cases will stay the same.

Chuff rate.

CV57 and CV58 along with CV249 set the chuff rate.
It is best to set your max speed (CV5) before you start, along with acceleration (CV3) and deceleration (CV4 see note) to your requirement.
These have been pre set to match the driving characteristics of this locomotive.
NOTE CV4 has been set at a high rate around 210 so that the brake function (F5 and F6) work correctly and is not advisable to alter this setting.

Set your speed steps to 1/28.
At speed step 1/28 adjust CV57 to required chuffs per one revolution of the driving wheel.
4 chuffs for a 2/4 cylinder and 6 chuffs for a 3 cylinder locomotive.
At speed step 4/28 adjust CV58 in the same way.(the higher the CV setting the less chuffs per revolution)
CV249 is to set the chuffs at a high chuff rate and is set to sound as you want it to, there are no fixed settings but 50-70 is a good guide.