Bachmann Tenwheeler, similar to D&RG Class 45.5

Foto Heinz Däppen

The prototype

The Tenwheeler was a widely used locomotive in the US, with a 4-6-0 wheel arrangement. It was used mainly on secondary routes.
On the Denver & Rio Grande Railroad, Tenwheelers were known as Class 45.5. The larger version was called the T12.
The Rio Grande Southern 20 is a surviving steam locomotive of the class 45.5.
One of the prototypes for the Bachmann locomotive, besides the RGS locomotive, is a Tenwheeler of the ET & WNC. In this sense, the Bachmann model corresponds to this class 45.5, although this model does not meet the high standards of the Bachmann Spectrum line. It reflects a common locomotive used universally.

Sound Project Information

The sound project is tuned and optimized to the well-known Bachmann Tenwheeler Big Hauler model, but can also be used in other models.
The sound project is based on the Zimo Advanced Standard.
The decoder requires the software version 36 or higher.
The sound project was developed for all Zimo decoders, except the older MX690 series, which cannot handle complex sounds.

In the sound project is ready for the use of the Zimo blowing smoke generator TR92. This is controlled directly from the decoder and blows the smoke synchronously out of the smokestack with the steam chuffs. To limit the heating voltage, it may be useful to select a decoder from the V series with adjustable puls voltage. After about 15 minutes, the smoke generator will be switched off automatically to prevent burnout. Switching it off and on again activates it again.

FA7 and Servo 1 can operate several electrical decouplers. The electric Kadee decoupler can be easily plugged into the servo 1 connector. The decoupling function moves the locomotive backwards and forwards, and the uncoupling sound can be heard.

CVs 3, 4, 5, 57, 154 and 158 are important values for the sound project. Please change values very carefully!

The sound project does not use the steam chuff generator of the Bachmann model, but this can be turned on by setting CV 268 to a value of 1. The internal steam chuff generator with CV 267 is pre-adjusted to the ratio of 4 steam chuffs to synchronize with the cylinders. In this method, the locomotive motor is used as a chuff generator. An optimization of CV 267 by the user can be useful.

By default, the function number is the same as function key. All the functions can easily be assigned to other keys, using the Zimo function key mapping.

Program the desired key number as your value in the CV 400+Fu number and the whole function is mapped to another key. Please take care, as it is possible to map multiple functions to the same key! Please read the instruction sheet http://sound-design.white-stone.ch/Information.html

Function	Installation	Function output	Sound effect
F0	Light on	FA 0v+0r	Dynamo
F1	Bell		Bell
F2	Whistle l-l-s-l		Highway crossing signal
F3	Whistle long		Playable as long as you push
F4	Whistle short		Short whistle
F5	Cab light	FA 5	
F6	Smoke generator on heater load controlled Also replaceable with Zimo blowing smoker	FA 6 heater, on 15 min timer to prevent burnout	
F7	Cylinder valve		Blow down
F8	Sound on / off		
F9	Wheels screeching on curves		Sound of Wheels screeching on curves
F10	Firebox door closing	FA 8 flickers automatically	door slams shut after a few seconds of fire flickering
F11	Blower	Smoke fan is on	Steam blowing
F12	Servo coupler opens and loco moves back and forth	FA7 and servo1 opens electric coupler	Uncoupling sound
F13	Coupling		Coupling sound
F14	Pop valve (safety valve)		Loud steam blast
F15	Full power / coasting		Switch between 2 sound modes
F16	Tunnel fader (muting)		Sound fades in or out in 2,5 secs
F17	Conductor		„All aboard! “
F18	Injector		Feeding water in the boiler
F19	Westinghouse air pump, fast		Air pump with different speeds
F20	Filling water into tender		Water splashing
F21	Steam release		Loud hissing of steam
F22	Possible marker lights (after market)	FA 3	

Random effect	Sound	
Z1	Dual air pump fast	Every time the locomotive comes to a standstill
Z2	Dual air pump slow	Maintaining air pressure
Z3	Shoveling coal	FA8 flickers
Z4	Blower	Fan blows smoke out of stack
Z5	Injector	Steam injects water into the boiler
Z6	Fire box door	
Z7	Steam	hissing
Z8	Safety valve	Loud popping of valve

input	sound	
1	bell	
2	whistle	
3	Cam chuff trigger	

Changing CVs values used by the reset

CV# 3 = 25
CV# 4 = 22
CV# 13 = 180
CV# 14 = 67
CV# 17 = ---
CV# 35 = 0
CV# 36 = 0
CV# 37 = 0
CV# 38 = 0
CV# 41 = 0
CV# 42 = 0
CV# 43 = 0
CV# 44 = 0
CV# 45 = 0
CV# 46 = 4
CV# 57 = 140
CV# 60 = 255
CV# 65 = 6
CV# 112 = 1
CV# 114 = 255
CV# 115 = 65
CV# 116 = 177
CV# 124 = 0
CV# 133 = 16
CV# 137 = 153
CV# 138 = 204
CV# 139 = 255
CV# 152 = 63
CV# 154 = 18
CV# 158 = 8
CV# 159 = 48
CV# 160 = 4
CV# 163 = 255
CV# 167 = 255
CV# 181 = 12
CV# 182 = 12
CV# 250 = 224
CV# 253 = 234
CV# 260 = 0
CV# 265 = 1
CV# 267 = 108
CV# 268 = 1
CV# 275 = 181
CV# 276 = 181
CV# 281 = 5
CV# 282 = 40
CV# 284 = 5
CV# 285 = 40
CV# 286 = 100
CV# 287 = 85
CV# 311 = 0
CV# 312 = 7
CV# 313 = 116
CV# 314 = 25
CV# 345 = 15
CV# 346 = 2
CV# 351 = 28
CV# 353 = 62
CV# 354 = 38
CV# 376 = 181
CV# 394 = 32
CV# 430 = 22
CV# 432 = 4
CV# 434 = 4