SEG Mallet 104 air brakes

SEG Mallet 104

The railway line from **Zell im Wiesental** to **Todtnau** was a private meter gauge railway, 18,74 kilometers long. It was built as a continuation of the standard gauge line which ran from Basel via Lörrach to Zell, also known as the **Obere Wiesentalbahn**. Locally the railway was known as the **Todtnauerli**. Today the two Mallet locomotives 104 (Hanomag number 10437) and 105 as well as the passenger car C4 Nr. 171 are part of the Blonay-Chamby museum railway in Switzerland. The locomotive was run on the Zell - Todtnau line with vacuum brakes. The Blonay-Chamby museum railway fitted the locomotive with air brakes.

Comparable mallet locos ran on various narrow gauge railways. The mallets of the Swiss meter gauge railway Yverdon-St. Croix (YSteC) were very like the SEG Mallet 104. The picture on the right shows the 104 on the YSteC. This picture dates back to the time when Heinz Dappen lived in the French speaking part of Switzerland, in Yverdon.

Source: Wikipedia

Sound implementation

The recordings come from intact sound recordings of a very old, privately video, somewhat corrupted, of one of the last great journeys of the 104. This sound project reflects the strong steam exhaust strokes of the prototype. In partial load operation the chuffs from the downstream low-pressure front pistons can hardly be heard, which is typical of a compound locomotive of this type. When you select function 15 (Zimo Coasting), the locomotive will be in a partial load mode, and the lightweight running noises accompanied by sounds of the piston rods can be heard.

The sound project is optimized for four beats per wheel revolution. A reduction in steam exhaust strokes per revolution is not recommended at all, as this would not be true of the sound and characteristics of this locomotive.

- The sound project is based on Zimo Advanced Standard.
- Using the F15 key, the loco can be switched from full load to partial load (Zimo-Coasting)
- The decoder must have a software version 33.14 or higher.
- The older MX 60 decoders are largely not suitable for this complex sound project, as they do not have enough power to play multiple sounds at the same time. Interruptions in the sound can occur.
- Function key FA 7 and Servo 1+2 switch electrical couplers while an uncoupling sound is played.
- CVs 3, 4, 5, 57, 154 and 158 are important values for the sound project. Changing these values can cause malfunctions in the sound.
- Steam chuff generator: CV 268 Value 0 Zimo if internal / value 1 if a cam chuff generator is connected to In3.
- Users of digital systems that do not use all 28 functions, or who wish to change the functionality of the keys, can use the Zimo input mapping to map any function to any function key.
  Program the desired key number as your value in the CV 400+Fu number and the whole function is mapped to another key. The standard value 0 (function number) is identical with the function key number.
  Take care: It is possible to lay multiple function on one key, and to invert functions!
  http://www.zimo.at/web2010/documents/Zimo%20Eingangsmapping.pdf

Function	Installation	Function output	Sound effect
F0	Light on	FA 0v+0r	Electric generator
F1	Rear lights	FA 1v + 2r	
F2	Can be used as you with	FA 3v + 5r	
F3	One tone whistle		Playable whistle
F4	Multi tone whistle		Whistle
F5	Bell		Playable bell
F6	Smoke generator heater on, load controlled	Fan output /FA4/FA10 – heating FA6	
F7	Cylinder valve		hissing
F8	Sound on / off		
F9	Wheels screeching on curves		Sound of Wheels screeching on curves
F10	Shoveling coal	FA 8 flickers automatically	Shoveling coal
F11	Blower, switches smoke valve on	Fan on	Slight rushing noise
F12	Servo coupler opens and loco moved back and forth	FA7, Servo 1+2 for electric coupler	Uncoupling sound
F13	Coupling		Coupling sound
F14	Pop valve (safety valve)		steam blast as function is on
F15	Full power / coasting		Switches between two steam chuff options
F16	Tunnel fader (muting)		Sound fades in or out
F17	Conductor's whistle		Hand held whistle
F18	Station announcement		"Please board the train"
F19	Filling water into tender		Water splashing
F20	Air pump fast		Building air pressure
F21	Air pump slow		Maintaining pressure
F22	Injector pump fills boiler		Injector
F23			
F24			
F25			

Smoke blowers FA6 heater, fan according to the decoder type on the fan output or FA4 or FA10

Random effect	sound	
Z1	intensive air pump	Every time the locomotive comes to a standstill
Z2	Air pump maintaining pressure	maintaining air pressure
Z3	Shoveling coal	FA8 flickers
Z4	Blower	Fan blows smoke out of stack
Z5	Steam injects water into the boiler	
Z6	Valve noise	
Z7	Not used	
Z8	Safety valve releasing steam	

Input	Sound	Activity
In1	Long whistle	
In2	Bell	
In3		Cam chuff trigger (CV 268 value 1)

Changed CVs

CV# 3 = 20
CV# 4 = 20
CV# 7 = ---
CV# 14 = 67
CV# 29 = ---
CV# 35 = 12
CV# 36 = 48
CV# 37 = 0
CV# 38 = 0
CV# 39 = 0
CV# 41 = 0
CV# 42 = 0
CV# 43 = 0
CV# 44 = 0
CV# 45 = 0
CV# 46 = 4
CV# 57 = 80
CV# 60 = 60
CV# 65 = 3
CV# 112 = 1
CV# 114 = 240
CV# 115 = 66
CV# 116 = 145
CV# 120 = 143
CV# 127 = 2
CV# 128 = 1
CV# 129 = 2
CV# 130 = 1
CV# 132 = 72
CV# 133 = 20
CV# 137 = 153
CV# 138 = 204
CV# 139 = 255
CV# 152 = 63
CV# 154 = 18
CV# 158 = 8
CV# 159 = 48
CV# 160 = 8
CV# 181 = 9
CV# 182 = 9
CV# 260 = 170
CV# 261 = 29
CV# 265 = 1
CV# 266 = 65
CV# 267 = 86
CV# 269 = 10
CV# 275 = 90
CV# 276 = 100
CV# 281 = 3
CV# 283 = 200
CV# 284 = 3
CV# 286 = 90
CV# 287 = 90
CV# 311 = 0
CV# 312 = 7
CV# 313 = 116
CV# 314 = 25
CV# 343 = 5
CV# 345 = 15
CV# 346 = 2
CV# 351 = 204
CV# 352 = 255
CV# 353 = 32
CV# 376 = 181