

## Shay 2 cyl small

Woodburner, Coalburner or Oilburner



### Prototype information

The **Shay locomotive** was the most widely used geared steam locomotive. The locomotives were built to the patents of Ephraim Shay, who has been credited with the popularization of the concept of a *geared steam locomotive*. Although the design of Ephraim Shay's early locomotives differed from later ones, there is a clear line of development that joins all Shays. In about 1877 he developed the idea of having an engine sit on a flat car with a boiler, gears, and trucks that could pivot. The first Shay only had two cylinders and the front truck was mounted normally while the rear truck was fixed to the frame and could not swivel, much as normal drivers on a locomotive. He mounted the 3-foot (0.91 m) diameter by 5-foot (1.5 m) tall boiler centered on the car with the water tank over the front trucks and the Crippen's engine mounted crossways over the rear trucks. Lima Locomotive Works of Lima, Ohio built Ephraim Shay's prototype engine in 1880.

Wikipedia

### Sound project information

The sound operates both the thundering highball and the light coasting on flat areas. Use the F15 function key to switch between modes.

The project is available in coal or wood burning versions with different sounds.

The sound project is based on Zimo Advanced Standard.

The decoder must have a software version 33.14 or higher.

The sound project is designed for the new Zimo MX 697 sound decoder that fits the NMRA G-scale plug and play connector. All another Zimo sound decoders works well too, except the old MX 690 series, which cannot handle complex sounds with coasting.

FA 7 and servo1 can operate several electric couplers. The Kadee electric coupler can simply plug in on servo connector 1

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

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	
F1	Bell		Bell
F2	Whistle l-l-s-l		Highway crossing signal
F3	Whistle l		Playable as long as the key is pressed
F4	Whistle s		Short
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 Fan output for cam operated blower	
F7	Cylinder valve		Blow down
F8	Sound on / off		Boiling or oilburner
F9	Wheels screeching on curves		Sound of Wheels screeching on curves
F10	Firebox or Shoveling coal	FA 8 flickers automatically	Shoveling coal or firebox door
F11	Blower	Smoke fan is on	Steam blowing
F12	Servo coupler opens and loco moved 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 sec
F17	Conductor		„All aboard!“
F18	Injector		Feeding water in the boiler
F19			
F20	Filling water into tender		Water splashing

Random effect	sound	
Z1		
Z2		
Z3	Shoveling coal	FA8 flickers
Z4	Blower	Fan blows smoke out of stack
Z5	Injector	Steam injects water into the boiler
Z6		
Z7	Safety valve	Loud popping of valve
Z8	Door	

input	sound	
1	bell	
2	whistle	
3	Cam chuff trigger	If desired

### **Changing CVs values used by the reset**

CV# 3 = 19  
CV# 4 = 19  
CV# 5 = 252  
CV# 13 = 176  
CV# 14 = 67  
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 = 77  
CV# 60 = 255  
CV# 112 = 1  
CV# 115 = 55  
CV# 116 = 55  
CV# 132 = 72  
CV# 133 = 20  
CV# 137 = 153  
CV# 138 = 206  
CV# 139 = 255  
CV# 154 = 18  
CV# 158 = 8  
CV# 159 = 48  
CV# 160 = 8  
CV# 181 = 12  
CV# 182 = 12  
CV# 266 = 65  
CV# 267 = 72  
CV# 286 = 64  
CV# 312 = 7  
CV# 313 = 116  
CV# 314 = 25  
CV# 345 = 15  
CV# 346 = 2  
CV# 351 = 23  
CV# 353 = 48  
CV# 354 = 1  
CV# 376 = 255