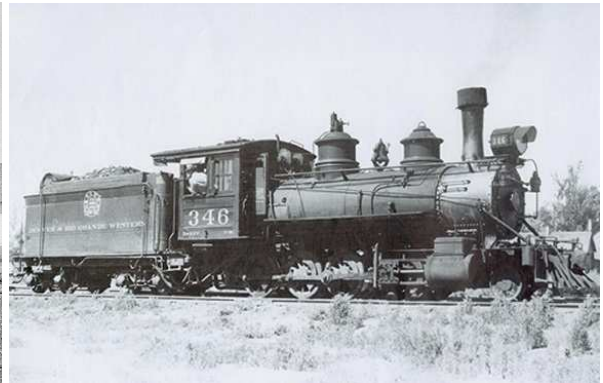


Denver & Rio Grande Western C-19



Prototype information

Built by Baldwin Locomotive Works in 1881 as class 70 later C-19

Originally D&RG Class 70 #406

Leased to C&S NG 1935-1937

Wrecked on Kenosha Pass on 25 Jul 1936

Rebuilt and returned to D&RGW Apr 1937

Sold Montezuma Lumber 19-May-1947

Purchased by RW Richardson Sep-1950

Preserved today at Colorado RR Museum

Source: Wikipedia

Sound project information

All sound recordings are taken from the prototype 346.

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

The sound project is based on Zimo Advanced Standard.

The decoder must have SW 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 work 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 to servo connector 1

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

The sound project is available in 4 different settings

- Bachmann spectrum using the onboard chuff cam, with museum multi chime whistle
- Bachmann spectrum using the onboard chuff cam, with heritage single chime whistle
- Accucraft Modell detecting the motor as chuff cam, with museum multi chime whistle
- Accucraft Modell detecting the motor as chuff cam, with heritage single chime whistle

The function number is by default the same as function key. With the Zimo function key mapping, the complete function are easy changeable to another key.

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, you can map multiple functions to one only key!

Function	Installation	Function output	Sound effect
F0	Light on	FA 0v+0r	Alternator
F1	Bell		Bell
F2	Whistle l-l-s-l		Highway crossing signal
F3	Whistle		Playable as long as you press the button
F4	Short whistle		Short whistle
F5	Cab light	FA 5	
F6	Smoke generator on heater, load controlled Also replaceable with Zimo blowing smoker	FA 6 heater 15 min timer against burnout Ventilator output for cam operated blower	
F7	Cylinder valve		Blow down
F8	Sound on / off		
F9	Rail squeal		Sound of wheels squealing on sharp curves
F10	Shoveling coal	FA 8 flickers automatically	Shoveling coal, firebox door
F11	Blower	Smoke ventilator is on	Steam blowing
F12	Coupler opening – loco moves back and forth	FA7 and servo 1 opens electrically	Uncoupling sound
F13	Coupling		Coupling sound
F14	Pop valve (safety valve)		Loud steam blast
F15	Full power / coasting		Switches between 2 sound modes
F16	Tunnel fader (muting)		Fade in or out in 2,5 sec
F17	Conductor		"All aboard!"
F18	Injector		Feeding water in the boiler
F19	Dual Westinghouse air pump fast		2 air pumps with different speed
F20	Filling the tender with water		Water running
F21	Steam blast		Loud steam blast
F22	Marker lights	FA 3	

Random effect	Noise	Function
Z1	Dual air pump fast	Every time the loco stops
Z2	Dual air pump slow	Maintaining air pressure
Z3	Shoveling coal	FA8 flickering
Z4	Blower	Ventilator blows smoke out of stack
Z5	Injector	Steam injects water into the boiler
Z6	Firebox door	
Z7	Steam noise	
Z8	Safety valve	Loud popping noise

Input	Sound	
1	bell	
2	whistle	
3	Cam chuff trigger	

Changing CVs values used by the reset

CV# 3 = 22	CV# 287 = 85
CV# 4 = 32	CV# 311 = 0
CV# 13 = 180	CV# 312 = 7
CV# 14 = 67	CV# 313 = 116
CV# 35 = 0	CV# 314 = 25
CV# 36 = 0	CV# 345 = 15
CV# 37 = 0	CV# 346 = 2
CV# 38 = 0	CV# 351 = 28
CV# 41 = 0	CV# 352 = 255
CV# 42 = 0	CV# 353 = 62
CV# 43 = 0	CV# 354 = 38
CV# 44 = 0	CV# 376 = 181
CV# 45 = 0	CV# 430 = 22
CV# 46 = 4	CV# 432 = 3
CV# 57 = 140	CV# 434 = 3
CV# 60 = 104	
CV# 65 = 6	
CV# 112 = 1	
CV# 114 = 255	
CV# 115 = 55	
CV# 116 = 155	
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 = 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 = 0	
CV# 269 = 0	
CV# 275 = 181	
CV# 276 = 181	
CV# 281 = 5	
CV# 282 = 40	
CV# 283 = 255	
CV# 284 = 5	
CV# 285 = 40	
CV# 286 = 40	