Norfolk & Western J-Class

Prototype information

N&W Railway's **J class** steam locomotives were a class of 4-8-4 locomotives built by the Norfolk and Western Railway's East End Shops in Roanoke, Virginia between 1941 and 1950. The last batch, 611–613, were built in 1950, all streamlined. The Js were built and designed completely by N&W employees, something that was uncommon on American railroads.

Calculated tractive effort was 80,000 pounds – the most powerful 4-8-4 without a booster. The 70 inch drivers were small for a locomotive that was to pull trains at over 100 mph. To overcome this, the wheelbase was made extremely rigid, lightweight rods were used, and the counterbalancing was precise. As delivered, the Js had duplex (two) connecting rods between the primary (second) and third drivers, but in the 1950s Norfolk and Western's engineers elected they could do without these. 611 and at least one other Class J were rebuilt with a single connecting rod. The negative effect of the J's highly engineered powertrain was that it made the locomotives sensitive to substandard track. Its counterbalancing and precision mechanics were so modern that it was joked that the J's top speed is only limited by the nerves of the engineer. Judging by their performance in hauling a 15-car 1050-ton train at speeds in excess of 110 mph over Pennsylvania Railroad's "racetrack", the Fort Wayne Division, while on loan, it is hard to dispute that claim.

Wikipedia

Sound project information

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

The Decoder must have SW Version 33.14 or higher.

The sound project is based on Zimo Advanced Standard.

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 also work well, 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 be plugged 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	Headlights on	FA 0v+0r	dynamo
F1	Bell		Bell
F2	Whistle l-l-s-l		App Highway crossing
F3	Whistle long		Playable as long as you push
F4	Whistle short		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		
F9	Wheels screeching on curves		Sound of Wheels screeching on curves
F10	not used		
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 sec
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	Blower	Smoke fan is on	Steam blowing

Random effect	**Sound**	
Z1	Air pump fast	Every time the locomotive comes to a standstill
Z2	Blower	Fan blows smoke out of stack
Z3	Injector	Steam injects water into the boiler
Z4		
Z5	Some ash door noise	
Z6		
Z7	Safety valve	Loud popping of valve
Z8		

input	**sound**	
1	bell	
2	whistle	
3	Cam chuff trigger	

Changing CVs values used by the reset

CV# 1 = 3
CV# 3 = 25
CV# 4 = 20
CV# 17 = 0
CV# 18 = 0
CV# 29 = 14
CV# 35 = 0
CV# 36 = 12
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 = 120
CV# 60 = 60
CV# 114 = 127
CV# 115 = 66
CV# 116 = 145
CV# 132 = 72
CV# 133 = 20
CV# 137 = 153
CV# 138 = 204
CV# 139 = 255
CV# 154 = 2
CV# 158 = 8
CV# 159 = 48
CV# 160 = 8
CV# 163 = 255
CV# 167 = 255
CV# 181 = 12
CV# 269 = 10
CV# 272 = 100
CV# 273 = 7
CV# 274 = 70
CV# 275 = 181
CV# 276 = 181
CV# 281 = 5
CV# 284 = 5
CV# 286 = 91
CV# 312 = 7
CV# 313 = 116
CV# 314 = 25
CV# 345 = 15
CV# 346 = 2
CV# 351 = 204
CV# 352 = 255
CV# 353 = 32
CV# 376 = 181