

Union Pacific 844 4-8-4 FEF “Northern”



The Prototype

The category FEF locomotives of the Union Pacific Railroad (UP), also known as class 800, are steam locomotives with the wheel arrangement 2'D2 '(Northern). In the total of 45 locomotives, there are three series of delivery or subclasses FEF 1 FEF 2 and FEF-3, where the FEF-2 and -3 differ in driving axels and cylinder diameter to the FEF-1.

The last locomotive of this series, no. 844, was the last steam locomotive built for UP. It was never taken out of service and is kept operational by the UP today.

In the late 1930s, the pulling loads on train operations were so large that the 2'D1 locomotives Class 7000 reached its limits. After the failure of such a locomotive, which happened to be pulling a train containing the official car of the US President, ALCO was commissioned to build a stronger engine, which could pull 20 coaches with 90 mph (145 km/h) on the flat.

The first 20 locomotives were delivered 1937. They got the numbers 800-819 and the name FEF, which stood for "four-eight-four" (the wheel arrangement 4-8-4 in the Whyte notation). They had a driving wheels of 77 inches (1956 mm). The first driving axel was displaced laterally, so that despite a solid wheelbase of 6.7 m the locomotive could still handle the same radius curves . Despite the size of the locomotives only two cylinders were used, as was almost always common in the United States.

The locomotives proved to be excellent, and 1939 ALCO delivered a further 15 locomotives with the numbers 820-834, which was designated FEF-2 class. Their driving wheels where enlarged to 80 inches (2032 mm) and they had a larger cylinder diameter, so that the pulling power remained about the same. The six-axle Tender was replaced by a seven-"Centipede" -Tender in which the rear wheel sets five were fixed in the frame.

The ten locomotives delivered in 1944 (Nos. 835-844), which were referred to as FEF-3. They differed practically only in the materials used, compared to the FEF-2.

After the Second World War all FEF were converted to oil firing. Because the passenger trains were increasingly driven by diesel locomotives, the locomotives were last used in freight service. Between 1957 and 1962 they were retired, only the most recent of them, the FEF 3 no. 844, was kept in operation for special trains. Between 1962 and 1989 she was number 8444, because 844 was provided in the numbering plan for a class of diesel locomotives.

No. 844 was not scrapped and is the only steam locomotive a Class I railroad locomotive today. She is used regularly for tours across the United States, and is rated for speeds up to 79 mph (127 km / h).

Source: 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 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 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. Changing these can cause sound malfunctions.

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 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
F10	Not used		
F11	Blower	Smoke fan is on	Steam blowing
F12	Servo coupler opens and loco moves back and	FA7 and servo1 opens electric	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		Air pump
F20	Filling water into tender		Water splashing
F21	Steam purge		Loud steam blow

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	Injector	Steam injects water into the boiler
Z4		
Z5	Firebox door	Doors slams
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# 29 = ---	CV# 137 = 153
CV# 35 = 0	CV# 138 = 204
CV# 36 = 12	CV# 139 = 255
CV# 37 = 0	CV# 154 = 18
CV# 38 = 0	CV# 158 = 72
CV# 41 = 0	CV# 159 = 48
CV# 42 = 0	CV# 160 = 8
CV# 43 = 0	CV# 163 = 255
CV# 44 = 0	CV# 167 = 255
CV# 45 = 0	CV# 181 = 12
CV# 46 = 4	CV# 311 = 0
CV# 57 = 100	CV# 312 = 7
CV# 58 = 32	CV# 313 = 116
CV# 59 = 255	CV# 314 = 25
CV# 60 = 60	CV# 351 = 204
CV# 114 = 127	CV# 352 = 255
CV# 115 = 66	CV# 353 = 32
CV# 116 = 145	CV# 376 = 91
CV# 124 = 3	CV# 377 = 128
CV# 132 = 72	CV# 394 = 32
CV# 133 = 20	