

Carolina Conductor



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Monthly Newsletter of the Carolina Railroad Heritage Association, Inc.

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**Preserving the Past.
Active in the Present.
Planning for the Future.**

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Meeting Site:
Woodmen of the World Bldg.
721 East Poinsett Street
Greer, SC 29651-6404
Third Friday of the Month at 7:00 pm

**Hub City Railroad Museum and
SOU Caboose #X3115:**
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298 Magnolia Street
Spartanburg, SC 29301-2330
Wednesday 10-2 and Saturday 10-2

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Articles can be submitted anytime.

Fairbanks-Morse & Co.



Shortly after it won its first US Navy contract, the Fairbanks-Morse & Company produced a 300 h.p. engine that

saw limited use in railcar applications on the B&O, Milwaukee Road, and a few other lines. Two of the engines were placed in an experimental center-cab switcher locomotive being developed for the Reading Railroad #35, built in 1939 by the St. Louis Car Company (SLCC), and was scrapped in 1953.



The St. Louis Car Company/Fairbanks-Morse 600-horsepower center-cab switcher #35 was truly a unique locomotive on the Reading, had two 300-horsepower in-line engines for power.

In 1939 the SLCC placed F-M 800 hp 8x10 engines in six streamlined railcars, known as the F-M OP800 (OP standing for Opposed Piston). In 1944 F-M began production of its own 1,000 hp yard switcher, the H-10-44. Milwaukee Road #760, the first Fairbanks-Morse locomotive constructed in their own plant, is now preserved in operating condition at the Illinois Railway Museum. Fairbanks-Morse and



F-M H-10-44 MILW #760 at Illinois Rwy Museum.

Company, like other locomotive producers, was subject to wartime restrictions regarding the number and type of railroad related



F-M H-16-44 VGN #25 locomotive.

products it could manufacture. After World War II, North American railways began phasing out their aging steam locomotives and sought to replace them with diesel locomotives. Fairbanks-Morse and its competitors sought to capitalize on this. The Virginian Railway was an early advocate of Fairbanks-Morse power, buying this company's products rather than those of other manufacturers such as EMD or Baldwin.

In December 1945, Fairbanks-Morse and Company produced its first streamlined cab-equipped dual service diesel locomotive as direct competition to such models as the ALCO PA and EMD E-unit. Assembly of the 2,000 hp unit, which was mounted on an A1A-A1A wheelset, was subcontracted

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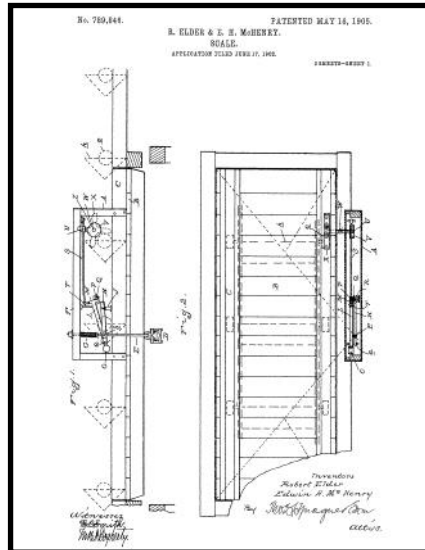
Arrivals

The Fairbanks-Morse & Company History

Fairbanks-Morse and Company began in 1823 when inventor Thaddeus Fairbanks opened an ironworks in St. Johnsbury, Vermont, to manufacture two of his patented inventions: a cast iron plow and a heating stove. In 1829 he started a hemp dressing business for which he built the machinery. Though unsuccessful in fabricating for fiber factories, another invention by Thaddeus, the platform scale, formed the basis for a great enterprise. That device was patented in June 1832, and a generation later, the E. & T. Fairbanks & Company was selling thousands of scales, first in the United States, later in Europe, South America and even Imperial China. Scales were integral to business as marine and railway shippers charged by weight. Fairbanks scales won 63 medals over the years in international competition. It became the leading manufacturer in the US, and the best-known company the world over until Henry Ford and the Ford Corporation assumed this title in the 1920s.

In Wisconsin, a former missionary named Leonard Wheeler designed a durable windmill for pumping water, the Eclipse windmill. Wheeler set up shop in Beloit just after the Civil War. Soon half a million windmills dotted the landscape throughout the West and as far away as Australia. At about the same time, a Fairbanks & Company employee, Charles Hosmer Morse, opened a Fairbanks office in Chicago, from which he expanded the company's territory of operation and widened its product line. As part of this expansion, Morse brought Wheeler and his Eclipse Windmill pumps into business with the Fairbanks company. Morse later became a partner in the Fairbanks Company and by the end of the nineteenth century, it was known as Fairbanks-Morse & Company and was headquartered in Chicago.

The Fairbanks-Morse Company began producing oil and naphtha engines in the 1890s with the purchase of the Charter line of engines (the first commercially available gas engine). Fairbanks-Morse gas engine became a



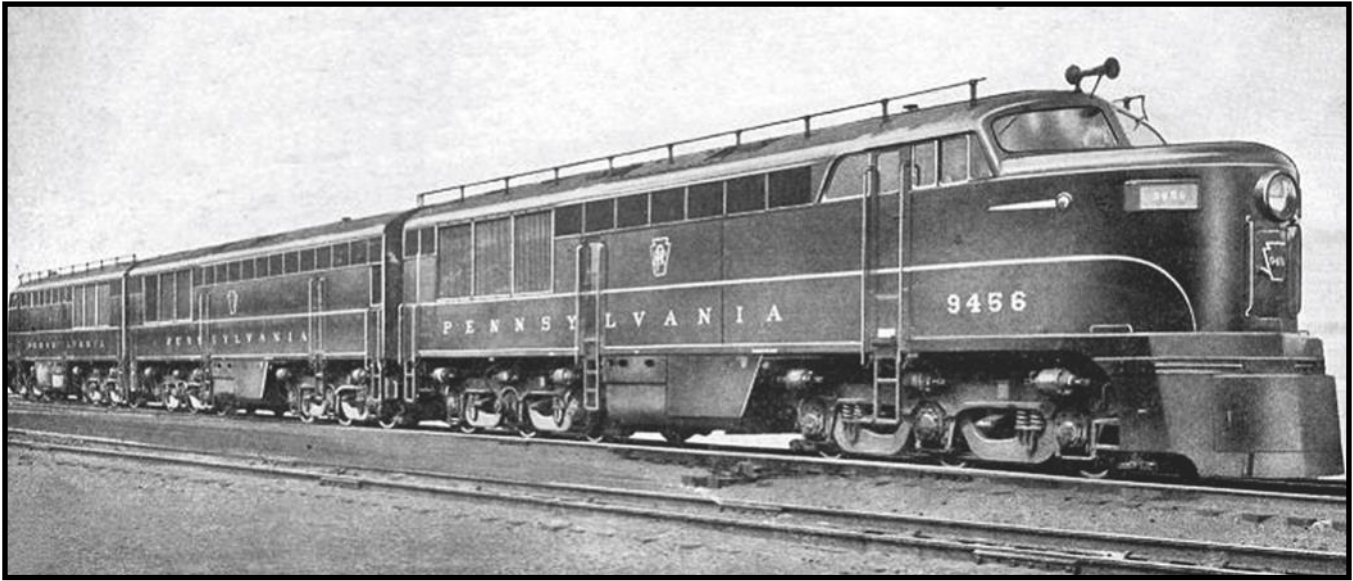
success with farmers. Irrigation, electricity generation, and oilfield work also benefited from these engines. Small lighting plants built by the company were also popular. Fairbanks-Morse powerplants evolved by burning kerosene in 1893, coal gas in 1905, then to semi-diesel engines in 1913 and to full diesel engines in 1924. In 1914 the company began production of the Model Z single-cylinder engine in one, three, and six horsepower sizes. The Z was soon made in sizes up to 20 horsepower. Over half million units were produced in the following 30 years. The model Z found favor

with farmers, and the Model N was popular in stationary industrial applications. The Company also had brief forays into building automobiles, tractors, corn shellers, hammermills, cranes, televisions, radios and refrigerators, but output was small in these fields.

After the expiration of Rudolf Diesel's American license in 1912, Fairbanks-Morse entered the large engine business. The company's larger Model Y semi-diesel became a standard workhorse, and sugar, rice, timber, and mine mills used the engine. The model Y was available in sizes from one through six cylinders, or 10 to 200 horsepower. The Y-VA engine was the first high-compression, cold-start, full diesel developed by Fairbanks-Morse without the acquisition of any foreign patent. This machine was developed in Beloit and introduced in 1924. The company expanded its line to the marine CO engine (Many 100 H.P. CO marine engines were used in the Philippine Islands to power ferry boats) as well as the mill model E, a modernized Y diesel. During World War I, a large order of 60 30-horsepower CO marine engines were installed in British decoy fishing ships to lure German submarines within range of their 6" naval guns. From this, Fairbanks-Morse became a major engine manufacturer and developed plants for railway and marine applications. The development of the diesel locomotive, tug, and ship in the 1930s fostered the expansion of the company.

Departures

Continued from Page 1 - F-M



F-M "Erie-built" locomotives on the PRR.

to General Electric because of a lack of space at Fairbanks-Morse and Company's Wisconsin plant. GE built the locomotives at its Erie, Pennsylvania facility, thereby giving rise to the name "Erie-built". Fairbanks-Morse and Company retained the services of industrial designer Raymond Loewy to create a visually impressive carbody for the Erie-built. The line was only moderately successful. A total of 82 cab and 28 cabless booster units was sold through 1949, when production ended. The Erie-built's successor was manufactured in Beloit and designed from the ground up. The result was



Milwaukee Road was a F-M fan, possibly because they ran in the area of the manufacturer's plant and one set of the Erie-built locomotives is seen here.

the Consolidated line, or "C-liner" (one of the company's best-known products), which debuted in January 1950.

Orders for C-liners were initially received from the New York Central, followed by the Long Island Rail Road, the Pennsylvania Railroad, the Milwaukee Road and the New Haven. F-M design

locomotives were also produced under license in Canada by the Canadian Locomotive Company (CLC). Orders to the CLC were also forthcoming in Canada from the Canadian Pacific and Canadian National railways. Accounts of mechanical unreliability and poor technical support began to emerge. It became apparent that the 2,400 h.p. Westinghouse generators were prone to failure, and the F-M prime movers suffered from short piston life and proved difficult to maintain. Moreover, railroads were quickly moving away from the cab unit type, and standardizing on road-switcher designs, as offered by the competition in the form of the EMD GP7 or the ALCO RS-3.

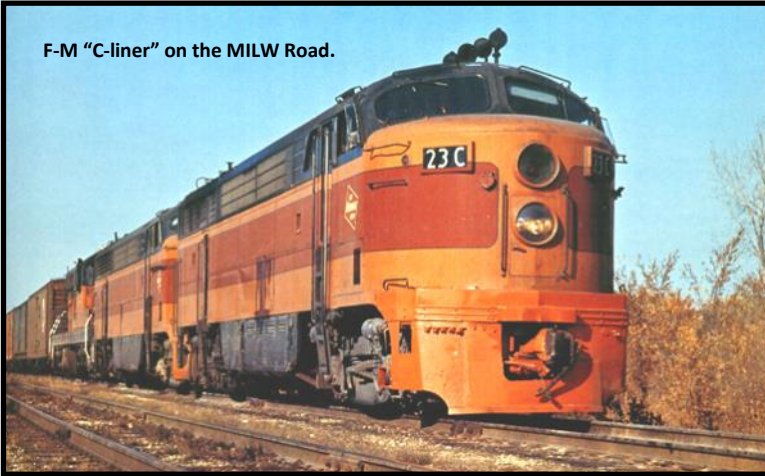
By 1952, orders had dried up in the United States and the production run was only 99 units, although they were more popular in Canada, particularly with the CP, and orders continued there until 1955. Several variants were only produced by the Canadian Locomotive Company, and Canadian roads received 66 units. Westinghouse had announced in 1953 that it was leaving the locomotive equipment market, partly due to the F-M generator problems. This made continuing production of the C-liners impractical without a redesign, and

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Manifest

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Union Pacific #1326 an F-M H-20-44 model.



F-M "C-liner" on the Canadian Pacific.



F-M model H-16-66 "Baby Trainmaster" on C&NW.

since marketplace acceptance was marginal, production was ended.

Fairbanks-Morse continued to produce their road-switcher designs, including the Train Master series, but these met limited success in the marketplace. Financial problems resulting from an inter-family feud among the owners weakened the company, and this, combined with stiff competition from EMD products such as the F units, a declining market as the replacement of steam locomotives was at an end, and an expensive excursion into the development of a high-speed passenger train, led F-M to exit the railway locomotive market. Fairbanks sold its last locomotive in the US in 1958, and shipped its final unit to Mexico in 1963. The CLC was renamed "Fairbanks-Morse Canada" in 1965, and closed in 1969 after a strike.



Fairbanks-Morse demonstrator #1502 a H-15-44 model road switcher.

Rare Mileage

Fairbanks-Morse OP800 Opposed Piston Engine

The Fairbanks-Morse OP800 was a lightweight, streamlined railcar built by the St. Louis Car Company in 1939. Fairbanks-Morse supplied the 800 hp, five-cylinder 8 in x 10 in opposed piston engine prime mover. The units were configured in a highly-unusual 2-A1A wheel arrangement (*later converted to 3-A1A*) mounted atop a pair of road trucks, and equipped with a front swing coupler pilot. The aft section was divided into two separate compartments: one was used to transport baggage and the other served as a small railway post office, or RPO (the forward door, located just behind the radiator louvers, was equipped with a mail hook).

Six units, accompanied by matching trailing car sets, were manufactured exclusively for the Southern Railway (SOU). Two were later sold to the Georgia and Florida Railroad and Georgia Northern Railway as maintenance cars. The remaining four OP800s were scrapped in 1955; selected parts were retained for maintenance use on other SOU F-M motive power. At least four of these cars had individual names applied to them, including "Vulcan", "Cracker", "Joe Wheeler", and "Goldenrod".

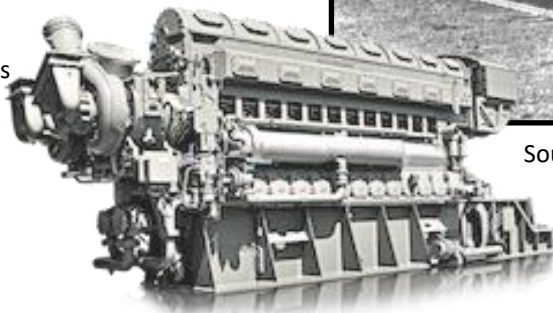


Georgia Northern OP800 powered railcar.



Southern Rwy #40 an opposed piston F-M powered railcar.

Fairbanks
Morse
opposed
piston
engine.



Marker Lights



Fairbanks-Morse P-12-42 *Speed Merchant*

12

The P-12-42, also known as the *Speed Merchant*, was a streamlined, 1,200 hp locomotive built between

1957 and 1958 by Fairbanks-Morse, specifically to operate on each end of the Talgo train produced by American Car and Foundry. This model represented F-M's attempted entry into the light-weight locomotive market, but only four of the low-slung units were produced: the first pair was purchased by the New York, New Haven and Hartford Railroad, while the second



pair went to the Boston and Maine Railroad for their *Speed Merchant* train. The P-12-42's eight-cylinder opposed piston engine was rated at 1,600 horsepower after 1950, but train lighting and other ancillary loads ("hotel" power) used about 25% of output,

12-42 was one of the first locomotives to have its prime mover configured to run at a constant speed, with traction generator output regulated solely by excitation.

The New Haven locomotives were dual-powered, and came equipped with third-rail pickups to allow them to operate in New York's Grand Central Terminal (the first dual-power locomotives light enough to operate on the Park Avenue viaduct).

F-M expected to sell many more units to the New Haven, and to spin the technological advance off into a line of passenger units, including a proposal that used a Train Master-style carbody, but with financial troubles preventing F-M from extending financing to customers, the (cash-strapped) NH ultimately opted to purchase a fleet of sixty EMD FL9s instead, as GM financing was available for the purchase.



leaving 1,200 horsepower for traction. The 100-ton units measured 60 ft 0 in long by 10 ft 6 in wide by 12 ft 0 in high, and were configured in a B-2 wheel arrangement mounted atop a pair of two-axle AAR road trucks, geared for 117 mph with only the first two axles powered. The P-

Wanted—Articles for the Carolina Conductor

Submit an article of 200 words or more with some photos and captions and see them in print. Every one of us has some unique railroad experience that would make interesting reading for our membership. Your editor always needs more contributions of local railway history and news.



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