



Contents

3 Introducing *Great Toy Train Locomotives*

6 Locomotive Lineup

PREWAR

- 8 Locomotives of the Prewar Era, 1900-42
- 10 Carlisle & Finch No. 4 0-4-0 Steam Engine
- 11 Lionel No. 100 Electric Locomotive
- 12 Howard No. 10 4-4-0 Steam Engine
- 13 Voltamp No. 2100 4-6-0 Steam Engine
- 14 Dorfman No. 3930 Electric Locomotive
- 15 Ives No. 1134R 4-4-0 Steam Engine
- 16 American Flyer No. 4637 Electric Locomotive
- 17 Lionel No. 400E 4-4-4 Steam Engine
- 18 Marx No. M-10000 Power Car
- 19 Lionel No. 700E 4-6-4 Steam Engine

POSTWAR

- 20 Locomotives of the Postwar Era, 1945-69
- 22 Lionel No. 726 2-8-4 Steam Engine
- 24 American Flyer No. 332 4-8-4 Steam Engine
- 26 Lionel No. 2332 GG1 Electric Locomotive
- 28 Lionel No. 2333 F3 Diesel Locomotive
- 30 Marx No. 333 4-6-2 Steam Engine
- 32 Unique Art No. 2000 F7 Diesel Locomotive
- 34 Lionel No. 773 4-6-4 Steam Engine
- 36 Lionel No. 681 6-8-6 Steam Engine
- 38 American Model Toys F7 Diesel Locomotive
- 40 Thomas Industries 4-4-0 Steam Engine
- 42 Lionel No. 2321 Train Master Diesel
- 44 American Flyer No. 343 0-8-0 Steam Engine
- 46 Marx No. 4000 Diesel Locomotive
- 48 American Flyer No. 481 PA Diesel Locomotive
- 50 Lionel No. 2359 GP9 Diesel Locomotive



Contents

MODERN

- 52 Locomotives of the Modern Era, 1970-95**
- 54 Lionel No. 8359 GP7 Diesel Locomotive**
- 55 Lionel No. 1776 U36B Diesel Locomotive**
- 56 Lionel No. 8585 SD40 Diesel Locomotive**
- 57 K-Line Electric Trains S2 Diesel Locomotive**
- 58 Lionel No. 18005 4-6-4 Steam Engine**
- 59 Lionel No. 18206 Dash-8 40B Diesel**
- 60 Lionel No. 18009 4-8-2 Steam Engine**
- 61 MTH No. 20-2643-1 Dash-8 40C Diesel**
- 62 Williams No. SN205 Sharknose Diesel**
- 63 Weaver No. 7530 GP38-2 Diesel Locomotive**

DIGITAL

- 64 Locomotives of the Digital Era, 1996-2023**
- 66 American Models USRA 4-6-2 Steam Engine**
- 68 Williams No. GG-100 Scale GG1 Electric**

- 70 MTH No. 20-2200-1 Baldwin Centipede Diesel**
- 72 Atlas O No. 62022 AEM-7 Electric Locomotive**
- 74 Lionel No. 28029 4-8-8-4 Steam Engine**
- 76 S-Helper Service No. 00451 SW1 Diesel**
- 78 Lionel No. 14536 F3 Diesel Locomotive**
- 80 Atlas O No. 6853-1 Dash 8-40BW**
- 82 American Models No. U-2501 U25B Diesel**
- 84 Lionel No. 31960 2-8-4 Steam Engine**
- 86 K-Line No. 3499-0028 Shay Steam Engine**
- 88 MTH No. 20-21264-1 SD70ACe Diesel**
- 90 Lionel No. 11229 4-8-4 Steam Engine**
- 92 Lionel No. 2031630 4-8-4 Steam Engine**
- 94 Lionel No. 2234080 Genesis Electric**

PEOPLE'S CHOICE

- 96 Lionel No. 2023 FA Diesel Locomotive**
- 98 Lionel No. 1862 4-4-0 Steam Engine**



LIONEL NO. 400E 4-4-4 STEAM ENGINE AND TENDER

The firm's biggest and most gorgeous steamer in prewar days

By the final years of the 1920s, the four manufacturers of toy trains in the U.S. were paying close attention to what each was creating to win sales, particularly after the market declined at the start of the Great Depression in 1929. Competition encouraged each of them, Lionel most of all, to develop larger, more powerful, and more beautiful steam and electric locomotives. Several classics were built, with the No. 400E 4-4-4 steam engine and tender earning praise as among the greatest of Lionel's prewar items.

To understand where the 400E fits in the sequence of Standard Gauge motive power, we need to consider how, after cataloging various 0-4-0 and 4-4-0 engines between 1906 and 1923, Lionel put everything on hold for a few years. It seemed executives had concluded the age of steam was over and they would focus only on electric-profile units, such as the Nos. 318, 402, and 408.

Shaking decision makers to their senses was the arrival of the attractive and detailed Ives No. 1134R steam engine and tender in 1927. Lionel's key people realized they had to respond to this challenge, which they did

two years later with the No. 390E. That 2-4-2 model featured a steel boiler, die-cast metal frame, cast-iron pilot, Bild-A-LoCo motor, and pendulum-type electronic reverse unit. In 1930 came the No. 384E, a 2-4-0, which was priced below the 390E.

Now Lionel awaited the design of a longer and more detailed model for the upper echelon of outfits and separate-sale items. The answer was the 400E, which made its debut in 1931 and remained in the line through 1939, which was the final year Lionel cataloged a full complement of Standard Gauge trains.

The 4-4-4 steamer measured almost 31½ inches in length. Fabricated out of sheet steel with a die-cast metal frame, it boasted a host of copper and brass details when it first appeared as either a black or a blue model in 1931. It featured red and white number boards plus red wheels. Inside the boiler was a Bild-A-LoCo motor having a two-position pendulum reverse unit.

The early versions of the 400E came with a matching tender equipped with brass plates with black lettering and brass journals. From 1934 onward, Lionel combined the steam engine with a No. 400T oil tender.

The latter came with the novel chugger sound mechanism, beginning in 1934. A whistle became the rule after Lionel fine-tuned that terrific sound effect in 1935.

Lionel made improvements to the 400E during its years in the line. For example,

MORE THAN 31 INCHES LONG, THE NO. 400E DOMINATED THE STANDARD GAUGE LINEUP FROM 1931 THROUGH THE END OF THE DECADE.

later variations could have a body colored a dark or medium shade of gray known as gunmetal. Or they might be done in different shades of blue to fit with the two-tone blue passenger cars put in different *Blue Comet* sets. Still other versions of the locomotive boasted a "crackle" black finish.

The trim might be nickel instead of brass, and the number boards could be black and white. Sometimes the frame had a cream stripe painted on it. Really, the possibilities seemed endless. Little wonder, then, that dedicated prewar collectors chase after about a dozen variations of the 400E. Operators of Standard Gauge trains are satisfied to run any of the modern reproductions from Lionel and Mike's Train House. 🚂



THE NO. 400E STEAM ENGINE and its matching oil tender made its debut in the cataloged line in 1931. Some examples came painted in two tones of blue so they would fit well pulling the *Blue Comet* passenger train.

MARX NO. M-10000 STREAMLINED POWER CAR

The motorized lead unit pulled a train of matching cars



THE POWER CAR developed by Louis Marx & Co. to lead its O gauge version of the Union Pacific M-10000 streamlined passenger train came with a strong motor and a powerful headlight. The firm also released the train with a windup motor. Only the latter version came with a ringing bell, much to the dismay of owners of the electric train.

There was no question that there had to be an O gauge streamliner among the top locomotives of the prewar era. Models from American Flyer and Lionel stood out for capturing the beauty and excitement of the new streamlined passenger trains making headlines in the middle and late 1930s.

Rather than go with the obvious choices of Flyer's *Zephyr* sets or Lionel's classic *Flying Yankee*, we've heralded the first of the many stunning replicas produced by a newcomer in the domestic market, a firm still lauded as among the most innovative and successful in the history of the American toy industry: Louis Marx & Co. It joined the field with an eye-catching model of the Union Pacific's M-10000 streamliner. Both the UP prototype and the Marx miniature made their debut in the key year of 1934.

Marx, which had been manufacturing toys since the 1910s, expanded into trains with the acquisition of the mechanical models produced by Girard Model Works in 1928. It picked up the electric engine in Girard's Joy Line in 1930 and gained control of all the company's assets four years later.

Of far more significance to Americans in 1934 was the race between the Chicago, Burlington & Quincy RR and the Union Pacific to introduce the first streamliner

powered by an internal combustion engine running on diesel fuel. For all intents and purposes, the UP was crowned champion thanks to its M-10000. It was a fully articulated train, meaning, as Eric Beheim explained in the September 2019 issue of *Classic Toy Trains*, "Its cars were semi-permanently attached to each other with their ends coupled together over a shared four-wheel truck that allowed the cars to swivel, or 'articulate,' when negotiating a curve."

Engineers under the guidance of Marx set out to create an O gauge version of the revolutionary M-10000 in time for the holiday season of 1934. They designed models to be manufactured using thin-gauge sheet steel lithographed in a light shade of olive green with tan sides and red graphics.

Beheim applauded the designers at Marx for simplifying the look of the power car's turret cab and eliminating the vestibules between the coaches. They also made certain the company had a windup version of the train to go with its electric one.

Turning the spotlight on the initial Marx electric power car reveals it came with the simple motor developed for

Joy Line locomotives, so it had a one-piece pickup and lacked any sort of reverse unit. Improvements were made over the next few years, and later Marx motors had three-piece pickups and hand reverse levers. While the first power cars ran on steel-formed drive wheels, later on used die-cast metal spoked wheels. Finally, the electric power car pleased owners with its illumination, although it lacked the ringing bell feature on its mechanical twin.

Knowledgeable collectors of Marx trains state that between 1934 and '37, the firm offered the M-10000 in six color schemes. First, as noted, was olive with tan sides. A second version featured a lighter shade of olive with yellow sides.

Beginning in 1936, Marx broadened its

color palette to bring out a trio of wonders. On one, the power car and its coaches were done in a darker olive with yellow sides. A second dazzled with its red top and silver sides. Graphics went from red to black for it. Lastly was a train with a green top and cream sides. Its Union Pacific lettering and stripes, as well as its Marx logo, were all done in red. 🚂

LOUIS MARX & CO. MADE ITS M-10000 AVAILABLE IN SIX COLOR SCHEMES, ALL OF THEM LOOKING FUN AND EXCITING.

LOCOMOTIVES OF THE POSTWAR ERA

1945-69

The quarter-century after World War II saw toy train businesses develop some of the finest O and S gauge models of steam, diesel, and electric-profile locomotives.

Classics in performance and decoration hit the market from the factories belonging to the A.C. Gilbert Co., Lionel, Louis Marx & Co., American Model Toys, and a few other firms.

The first decade following the return of peace in 1945 should be lauded as the golden age, to borrow a term popularized by experts on comic books. During that time, great progress was made in respect to the motors installed on locomotives, the methods by which engines were painted and lettered, and

the “special effects” added to them: smoke mechanisms to sound units and knuckle couplers to flashing lights.

The silver age lasted only a few years, say 1956 to 1960, but that’s when firms introduced replicas of steam engines from the late 19th century and up-to-date electrics and diesels. Technological innovations were few and far between, but the top companies were capitalizing on what their engineers had come up with to keep improving.

Consider the years from 1961 to 1969 the bronze age within the postwar period. Small companies left the pool; the large ones were content to tread water. Lionel, Marx, and Gilbert broadened the list of railroads on their locomotive roster and even revived some of the finest engines made earlier in postwar days. They didn’t, however, add to the types of steam or diesel locomotives. Nor did any of them upgrade the motors, decoration, or special effects of what they put out. They just tried to stay alive!

Key advancements

Where everything began after the war was with the revival of some of the best steam engines from the late 1930s and early ’40s. Lionel returned some models and transformed a top 2-6-4 model into a 2-8-4 Berkshire. Gilbert, determined to switch from O gauge to S, modified the Atlantic, Pacific, Hudson, and Northern that had formed the foundation of its roster through 1942 so it could challenge Lionel. Marx, meanwhile, looked to its models of streamlined diesels and popular steamers to generate more sales.

Innovation came in 1946. Lionel and Gilbert announced each had devised a mechanism that could produce whiffs of smoke. Lionel was perfecting a knuckle coupler for its tenders and railcars; Flyer trains relied on the toy-like link coupler for several more years. Lionel was leading the way with a worm-driven motor for its largest steam engines, an innovation it christened “Atomic.”



LIONEL DOMINATED the postwar toy train market with magnificent diesels, a classic electric, and some big and powerful O gauge steam engines. One of the grandest was the No. 746 Norfolk & Western 4-8-4 Northern.

AMONG THE ICONIC toy locomotives making its debut during the postwar era was the Lionel O gauge model of an EMD F3. Among the most desirable is the No. 2245 *Texas Special*.



Then arrived locomotives that helped Lionel dominate the market. A replica of a 6-8-6 steam turbine built by the Pennsylvania was new in 1946. That railroad inspired another newcomer in 1947: the No. 2332 GG1 electric. In 1948 Lionel collaborated with the Electro-Motive Division of General Motors and two railroads to finalize an O gauge version of the F3 diesel. The No. 2333 New York Central and Santa Fe cab units brought glory to Lionel.

For 1949, Lionel thrilled O gauge modelers with a replica of the Electro-Motive NW2 diesel switcher. Knowledgeable fans were aware that an NW2 for O gauge operators had already been made by General Models Corp., but they appreciated the new feature called Magne-Traction that enabled the Nos. 622 and 6220 Santa Fe NW2s to pull more cars, run faster, and climb steeper grades. A year later, Lionel equipped virtually all of its engines with Magne-Traction, including its initial models based on full-sized ones made by American Locomotive Co.

Alco helped Gilbert leave its mark in the golden age. In 1950, designers decided the Flyer line would benefit from a cab unit replicating the long and sleek PA. The same year Marx entered



LEADING THE WAY for S gauge enthusiasts was Gilbert's model of an Alco PA unit; it stood at the top of the American Flyer roster. Stars included models decorated for the Missouri Pacific.

the diesel fray with an O gauge model of an Electro-Motive FT unit. Five years later in 1955, Marx added a Fairbanks-Morse diesel. Finally, American Model Toys tested the market with an Electro-Motive F7 diesel.

Staying the course

Summarizing what happened later in the 1950s means describing how Lionel and American Flyer introduced more of their popular cab units with almost no changes except new railroad names and paint schemes. Both firms were counting on their first models of GP7 general-purpose diesels to win over customers eager to expand their rosters with O and S gauge versions of a modern locomotive seen everywhere.

The silver age of postwar engines was also filled with slick electric-profile models from General Electric, a massive steamer from Lionel, and 19th-century wood-burners from the two biggest companies as well as Marx, all to capture the public's interest in the Old West. The variety had never been wider.

All three companies were slowing down their efforts to broaden the market to reflect the ongoing development of novel diesels and electrics for railroads in the U.S. Instead, they concentrated on taking their stalwarts – F units, Alco FA and PA diesels, and Geeps – and making them seem better without refurbishing them. Times were difficult – it was smarter to move gradually.

That approach characterized the field for the 1960s. Marx cut back on its offerings, and the steamers and diesels from Flyer lost their luster. Short engines whose decoration and performance left much to be desired filled the S gauge line in its final years. Customers lamented what had been lost when Gilbert abandoned Northerns and PAs.

O gaugers felt the same about what Lionel put on the market in the postwar bronze age. The GP7s and GP9s looked terrific and pulled sizable trains. But the Berkshire and Santa Fe F3 were reaching the end. Perhaps the highlights of the 1960s were the return of the Nos. 773 Hudson and 2360 Pennsylvania RR GG1, each of them still projecting a regal aura. 🚂

LIONEL NO. 8359 CHESSIE SYSTEM GP7 ROAD DIESEL

Shiny O gauge model marks special anniversary



Which locomotive should open the section on the modern era? As the 1970s dawned, toy train enthusiasts knew there was only one source for O gauge trains. It was Model Products Corp., the division of General Mills striving to capitalize on the legacy of Lionel. So which of the first MPC engines should earn the nod here?

The cataloged lines released by General Mills in the first years it was manufacturing and selling Lionel trains featured a small yet impressive group of steam and diesel models that hearkened back to postwar days. There were small Hudsons and Scout 2-4-2 engines, along with NW2 switchers, FA cab units, and GP9 hood units. What set them apart was their boasting paint schemes and railroad names unlike what had been used in the 1950s and '60s. Otherwise, they were familiar to experienced three-railers.

But designers and marketing executives at MPC refused to be bound to tradition. A few newcomers were making their way out of the Lionel factory in Mount Clemens, Mich. The No. 8142 Chesapeake & Ohio steamer from 1971, to name one, used a new 4-4-2 wheel arrangement and came with a novel feature called Mighty Sound of Steam.

Striking gold in 1973

Decision makers at Fundimensions, the part of General Mills that began overseeing the Lionel line in 1973, expressed greater confidence in the line and their ability to meet the expectations of O gauge operators. They expanded the group of outfits cataloged and broadened the range of steam and diesel units available. New types of engines and additional railroads were being represented. It was an exciting time for the hobby.

A superb variety of diesels hit the market in 1973. Updates of the prized Baltimore & Ohio F3 A-A combination delighted fans. So did the neat assortment of Geeps, which went from reissues of the tried-and-true GP7 to the newly designed GP20 wearing Long Island Rail Road and Santa Fe colors.

Yet the road diesels were all decorated in drab schemes done mainly in dark hues. The exception – and it was a dazzling one – was the No. 8359 Chessie System GP7. The traditional hood unit was decked out in a “metallic gold” with black “B&O” and “GM50” lettering and the cool cat herald.

The catalog explained why the unit came painted such an unprototypical shade: The 8359 Geep replicated an actual Baltimore & Ohio road diesel decorated to celebrate the golden anniversary of General Motors making locomotives. Railroad aficionados were impressed to find a Lionel engine marking a significant event in American history.

Basic yet dependable

The 8359 fit well with what Fundimensions was offering at the time. As Terry Thompson noted in the November 2002 issue of *Classic Toy Trains*, the GP7 was “a pretty Spartan locomotive.” A plastic body shell with handrail stanchions was fastened to a

black sheet-metal frame.

A basic motor with a three-position reverse unit relied on one integral motor-truck drive and rubber traction tires. Other elements included functioning headlights and knuckle couplers, illuminated number plates, and die-cast metal trucks.

Maybe not the strongest unit, the 8359 reflected clever thinking at General Mills. 🚂

**THE NO. 8359
CHESSIE SYSTEM
GP7 WAS DOWN-
PLAYED IN THE
CATALOG FOR
1973 AND NOT
CHOSEN TO PULL
A NEW SET.**

LIONEL NO. 1776 GENERAL ELECTRIC U36B ROAD DIESEL

A salute to the bicentennial hood unit and its colorful kin

The leaders at Fundimensions settled on a strong strategy as 1974 opened and the 75th anniversary of Lionel's founding appeared on the horizon.

A sizable contingent of updated steam and diesel engines, generally with new road names, served as the foundation of the roster. Joining them were a few models of locomotives not previously offered.

An example of the latter tactic, although one often overlooked by O gauge enthusiasts, was the GP20 road diesel introduced in 1973. Overshadowing that Electro-Motive Division steed was the replica of a General Electric road diesel capturing interest for Fundimensions just one year later. Designers finalized for three-rail operators an impressive version of the U36B road diesel.

Even though the model was aimed at the low and middle points of the market, it did reflect the development of new tooling. As important, the road diesel captured the look of a contemporary unit making headlines.

Time to celebrate

The catalog released by Fundimensions for 1974 first informed readers about the new U36B with the No. 8470, a Chessie System engine serving as the motive power for the No. 1460 Grand National seven-car freight outfit. Text mentioned the diesel came with "transformer-controlled forward, neutral and reverse," along with an operating headlight and die-cast metal trucks.

A few pages later, consumers learned about the No. 1776 U36B, which came decorated in the beautiful paint scheme created by the Seaboard Coast Line to mark the bicentennial of the United States, to be formally observed in 1976. The new model would lead the Spirit of '76 Commemorative Series consisting of a boxcar for each of the original 13 states and a matching caboose.

The Lionel U36B, although not a scale replica, relied on selective compression to capture the look and details of the specially decorated SCL road diesel. It nicely presented the short nose of the GE prototype.

BETWEEN 1974 AND '87, LIONEL DECORATED ITS U36B FOR MORE THAN A DOZEN RAILROADS, INCLUDING THE FRISCO, GREAT NORTHERN, MONON, AND SANTA FE.

Specifically, the stamped-steel handrails and add-on horn looked slick. The plastic body had excellent cast-in door, latch, and louver detail with an exhaust stack and modest radiator wings at the rear.

A final point: the popularity of the U36B encouraged Fundimensions to bring it out in a host of road names. Operators could own several from around the country. 🚂



LOCOMOTIVES OF THE DIGITAL ERA

1996-



THE K-LINE ELECTRIC TRAINS ROSTER showcased many excellent O and later S gauge locomotives and accessories before MDK Inc., manufacturer of the brand, declared bankruptcy in 2005. Lionel produced K-Line trains between 2006 and 2010.

Significant advances in toy train technology – specially, the introduction of command control – explain the decision to consider the years of production since 1995 to constitute a new era known as “digital.” The ways O and S gauge operators could control the speed and other features on their locomotives, along with a host of new sound and lighting effects, represented the most important changes in a century.

Many enthusiasts doubted the modern era ended in the middle 1990s. But in the minds of the late Neil Besouloff and colleagues Kent Johnson, and Bob Keller at *Classic Toy Trains*, the changes were monumental and guaranteed the hobby would never be the same. To the contrary, the development of TrainMaster Command Control (TMCC) at Lionel in 1994 and then Digital Command System (DCS) at MTH in 2002 ushered in a thrilling new era.

Command control

As noted in *Command Control for Toy Trains* (Kalmbach, 2009), electric toy trains had been controlled via the flow of electricity to the track they ran on since the late 1890s. Then in a bold breakthrough, engineers at Lionel Trains Inc., working with rock musician Neil Young, developed TMCC. Trains could now be operated by controlling the locomotive at the head.

The voltage on the track had a constant setting, and each engine depended on its receiver to “hear” its own address. As a result, an operator could increase or decrease the speed and activate the couplers, lights, sounds, and other features on each individual locomotive without affecting any other engines placed on the track.

Both TMCC and DCS are multiple-component command-control systems designed for AC-powered O gauge trains. They use wireless handheld controllers that send signals to a base station. From there, signals



THE DIGITAL ERA brought to O and S gauge modelers great-looking and wonderfully performing replicas of contemporary motive power, including this outstanding General Electric Dash 8-40BW road diesel from Atlas O.

-2023

are sent to the track and end up at the locomotives. Operators can, therefore, run several trains independently at one time. No wonder O gaugers were thrilled!

Changing players

The introduction in 1994 of TMCC and RailSounds II (a digital system of authentic sound effects for O gauge engines) were the last of the important achievements credited to LTI. In 1995, Richard Kughn sold the firm to a group of investors, who revamped the business as Lionel LLC. Leadership changed in the first decades of the 21st century, and Lionel moved nearly all of its manufacturing to Asia and its headquarters to North Carolina.

Other changes took place during the early part of the century. MDK Inc., which had produced K-Line Electric Trains, declared bankruptcy. Also leaving were Weaver Models and S-Helper Service. Williams Reproductions was acquired by Bachmann Industries.

The retirement in 2020 of Mike Wolf, founder of MTH Electric Trains, dramatically altered the firm. It sold some tooling to Atlas O and Scale Trains.com, but continued to make and sell certain Premier Line and RailKing models.

Almost a decade before, a newcomer entered the O gauge market with a splash. Menards, a chain of home-improvement centers, started manufacturing O gauge locomotives, rolling stock, track, and accessories with lower prices than rivals.

More advances

Once the digital revolution took hold, advances never stopped. Lionel upgraded its command control as Legacy in 2008. Several years later, it introduced LionChief control via a special handheld controller. LionChief Plus arrived not long after.

The hobby has since seen the rise of Bluetooth app-controlled railroading, enabling you to run trains with a smartphone or tablet. More changes to follow! 🚂



TECHNOLOGY HAS DEFINED the digital era of toy train production. What began with command control in the middle 1990s has since broadened to include special handheld units and even apps for smartphones that capitalize on Bluetooth.