

These units were
not built at



La Grange

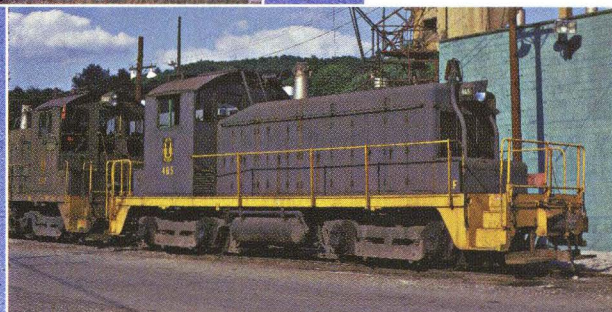
With the diesel market mushrooming, EMD in 1948 was forced to add plant capacity, and did so at its ancestral home.

Plant 3 turned out 3,600 units in six years.

BY ERIC HIRSIMAKI



EMD's Plant 3 in Cleveland initially concentrated on switchers. Indiana Harbor Belt (left) had 110 total NW2's, SW7's, and SW9's. Union Railroad of Pittsburgh (below) owned 22 of the 661 total SW1's built during 1939-1953.



ABOVE, KEN DOUGLAS, J. DAVID INGLES COLLECTION; OTHER THREE PHOTOS, J. DAVID INGLES

Plant 3 built about half of EMD's 2,600 GP7's, including Rock Island 1287 (at St. Paul) and the first 20 (2 of which, below, leave Dearborn, Mich.) of 79 that dieselized the C&O's Northern District.



If you were asked to name the leading diesel-electric locomotive manufacturing facilities in the U.S. between 1926, when diesel switchers first gained a foothold, and 1955, when the wave of dieselization crested, the list would probably look like this: 1) Electro-Motive Division of General Motors at La Grange, Ill.; 2) American Locomotive Co. at Schenectady, N.Y.; 3) Baldwin Locomotive Works at Eddystone, Pa.; and 4) Fairbanks-Morse & Co. at Beloit, Wis.

Such a list omits one facility: EMD's Plant 3 in Cleveland, Ohio, which turned out 3,613 units, well behind Alco's 9,300 but ahead of Baldwin's 2,850. (La Grange, EMD's Plant 1, turned out 14,750 units, and FM 1,350.) Put another way, Plant 3 was the third most prolific producer during the boom years of dieselization.

How did EMD Plant 3 outproduce Baldwin, which had more than a century of locomotive experience? Let's take a look at one of America's more obscure locomotive-building operations.

Although it's most often associated with La Grange, Electro-Motive had its roots in Cleveland, where the firm was formed in 1922 by H. L. Hamilton, to design and market self-propelled motorcars for branchline passenger operations. To power its motorcars, Hamilton's company bought gasoline engines from another Cleveland firm, the Winton Engine Co., ["Winton," pages 38-48, *STREAMLINER PIONEERS* 2005].

In 1930, General Motors Corp. purchased both Winton and its largest customer, Electro-Motive. GM made the acquisitions because of its interest in diesel engines, for which it saw great potential in various markets, including locomotives.

By 1935, Winton had developed the 201A diesel and EMC was using it in passenger and switching locomotives. The Electro-Motive Co. became Electro-

Motive Corp. and moved from Cleveland to Chicago, where in the suburb of McCook (with a La Grange address) it constructed a 200,000-square-foot locomotive plant. GM's emphasis was on standard designs using carbodies built at La Grange, Winton diesel engines from Cleveland, and electrical equipment purchased from General Electric and Westinghouse. Various GM subsidiaries provided other components.

In 1939, EMC developed the new 567 engine, which supplanted the 201A. This marked the end of its relationship with the old Winton plant, which had become known as the Cleveland Diesel Engine Division. While the latter continued to produce its own diesel engines for various other markets, the 567 was produced only at La Grange, although "Cleveland Diesel" modified and marketed 567 engines for marine and industrial use.

CLEVELAND DIESEL AND THE NAVY

World War II began in Europe in late 1939, and by 1941 the U.S. government was laying the groundwork to increase the production of critical war materiel, including diesel engines. Thus, on November 7, 1941, Cleveland Diesel began discussions concerning construction of a massive new facility in the suburb of Brooklyn on Cleveland's southwest side. A month later the Pearl Harbor attack occurred, with the resultant full mobilization of America's industrial base.

Included in this was a contract, awarded on February 16, 1942, for a new 343,000-square-foot shop to be owned by the U.S. Navy and operated by Cleveland Diesel. Construction started almost immediately. By October, the plant was essentially complete, and the production of new diesel engines began on November 6, 1942, only 364 days after the initial discussions were held.

The new facility was expanded during the war so that at war's end, Cleveland Diesel was operating three facilities totaling 690,000 square feet of floor space. Employment had increased by almost 1,000 percent, and Cleveland Diesel had completed 13,765 engines rated at over 5.3 million total horsepower. More than 5,500 naval vessels used Cleveland Diesel engines. In fact, a large diesel school was established at the plant to train naval personnel, up to 1,200 at a time, on how to operate and maintain the engines. Wooden barracks and attendant facilities were built for the sailors, and eventually the area came to be known as Navy Park.

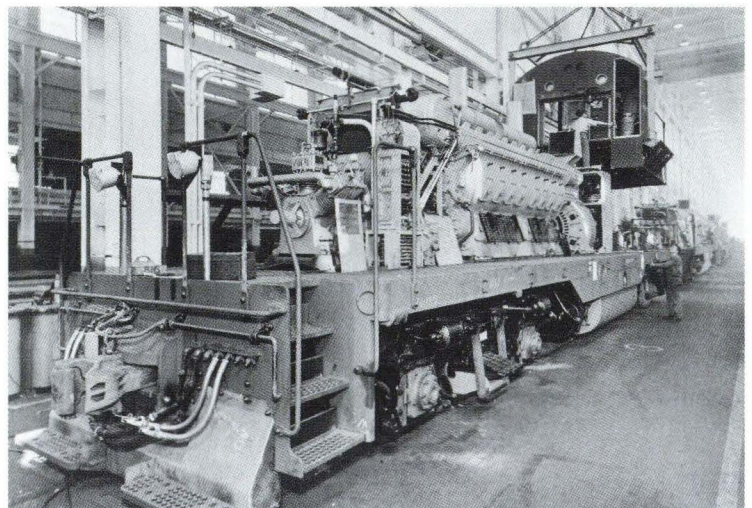
EMC was also active during the war. It had become the Electro-Motive Division of GM ("EMD") effective January 1, 1941, and greatly expanded its operation during the war. Production capacity increased from about 290 locomotives a year in 1940 to 900 a year in 1946, and the La Grange plant's floor space grew from 665,965 square feet to 2,560,126. Employment increased by over 250 percent during the war as EMD became hard-pressed to meet demands for its products, primarily diesel engines for military programs. EMD did build some diesel-electric locomotives during the war, mainly FT freight units, but most of La Grange's production was allocated by government decree to national defense requirements. Engines totaling over 2.3 million diesel horsepower were produced at La Grange during 1941-45.

It was obvious by the end of the war that a tremendous demand for new diesel-electric locomotives existed, so production

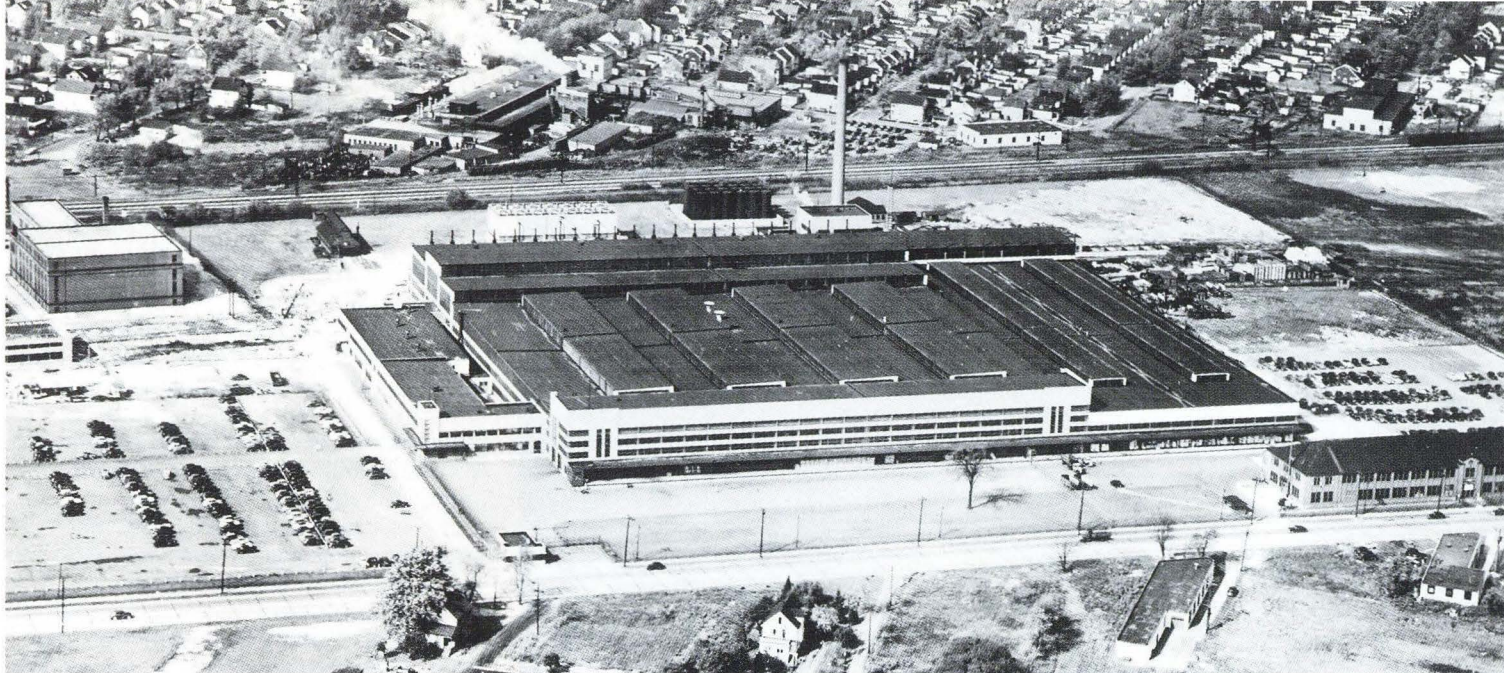
The 343-mile Charleston & Western Carolina, an Atlantic Coast Line subsidiary (as you'd guess from its purple-and-silver colors), had 21 GP7's, all Cleveland-built. No. 201 was on the Plant 3 floor in October 1950, and a year later, sister 202 was at Greenville, S.C.



AL CHIONE COLLECTION



CLEVELAND PUBLIC LIBRARY



TWO PHOTOS, EMD: CLASSIC TRAINS COLLECTION

Several SW1's (above), distinctive with their "front and back porches," are on the assembly floor of Plant 3 in Cleveland in 1949 as EMD's second U.S. locomotive-production facility gets rolling.

The plant (top, also in 1949), located in suburban Brooklyn, Ohio, was built in 1941 by the U.S. Navy but operated by GM's Cleveland Diesel Engine Division to build prime movers for naval vessels.



R. R. WALLIN; J. DAVID INGLES COLLECTION

Frisco relied on cab units from EMD and Alco plus 128 GP7's, most if not all built at Cleveland, two of which rolled into Lindenwood Yard in west suburban St. Louis, Mo., in 1958.

of switching, passenger, and freight units resumed at a feverish pace at La Grange. Units were being sold as fast as they could be shipped, which meant EMD lost some orders to its competitors solely on the basis of faster delivery. The railroads cared little about the mechanical advantages of one builder over another—they wanted those money-saving units right now! To boost capacity, EMD leased a plant on Chicago's far south side from the Pullman Company to fabricate noses and other components for E and F units (and later, Geeps), freeing floor space at La

Grange for other needs. This became known as EMD Plant 2, but it was Cleveland Diesel that would make the difference during that crucial postwar period.

The end of the war found Cleveland Diesel in a precarious position. Most of its military orders were cancelled, and a glut of war-surplus diesel engines was available. The new plant's manufacturing capacity wasn't needed, so the facility was returned to the government for disposition; the War Assets Administration declared it surplus.

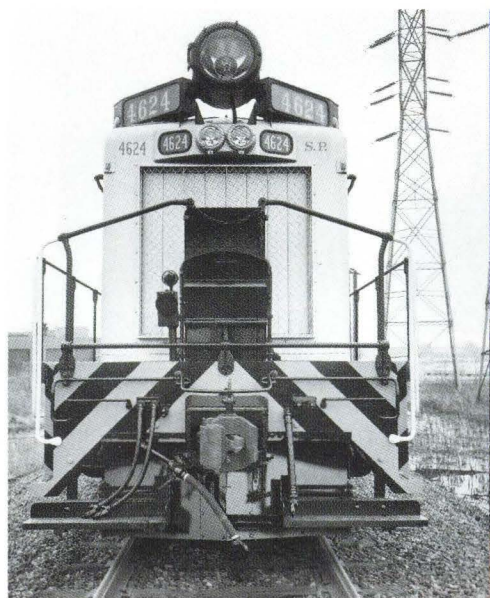
General Motors Vice President R. K.

Evans inspected the facility in late 1946 and advised Cyrus Osborn, EMD's General Manager, that the facility would be suitable for locomotive manufacture. In fact, he noted that in some respects it was laid out better than La Grange because it facilitated an assembly-line operation rather than the side-by-side method used at La Grange. The rapid expansion at La Grange during the war hadn't allowed for the most efficient use of floor space. More capacity could and would be added there, but a major investment would be required to substantially increase La Grange's annual output.

The decision to acquire additional manufacturing space wasn't one EMD was happy about having to make. It realized it needed extra capacity to meet the soaring demand for locomotives, but it also knew that by 1955 or so the market would shrink to a level that La Grange alone could handle. On the other hand, delayed deliveries meant many customers would turn to Alco, Baldwin, or Fairbanks-Morse for their locomotives. It was taking EMD more than a year to deliver locomotives already on order, and the situation would worsen. EMD thus had a choice: lose a substantial share of the market or add manufacturing capacity that, in a decade, would be surplus. Buying the Cleveland plant was the most cost-effective solution to the problem.

LOCALS, SWITCHERS, AND NOISE

A June 1948, *Railway Age* item stated that EMD had acquired the 44½-acre Cleveland manufacturing plant but initially planned to use only 287,000 of the



EMD; CLASSIC TRAINS COLLECTION



K. C. CRIST; J. DAVID INGLES COLLECTION

Cleveland bookends: Southern Pacific SW900 4624 and sister 4625, with SP's characteristic headlight cluster, were Plant 3's last units,

in April 1954. Cleveland's first unit, in December 1948, was Rock Island NW2 765, pictured working in Fort Worth, Texas, in 1965.

facility's 460,000 square feet of floor space for locomotive production. The main erecting bay measured 765 feet by 500 feet. About 400 employees were on hand to start retooling the plant when the doors opened in July, but their ranks grew fast as locomotive production began.

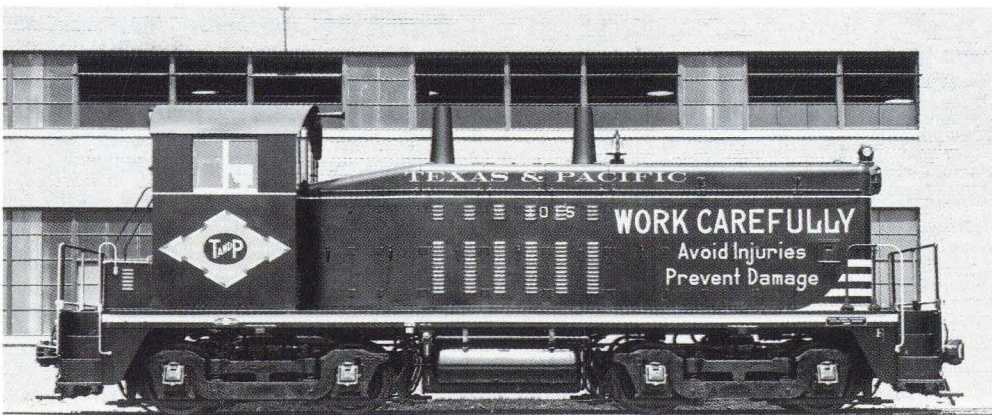
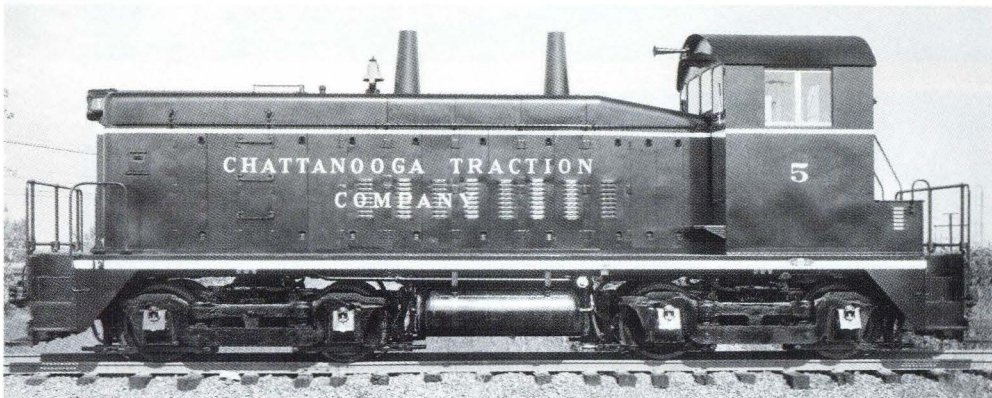
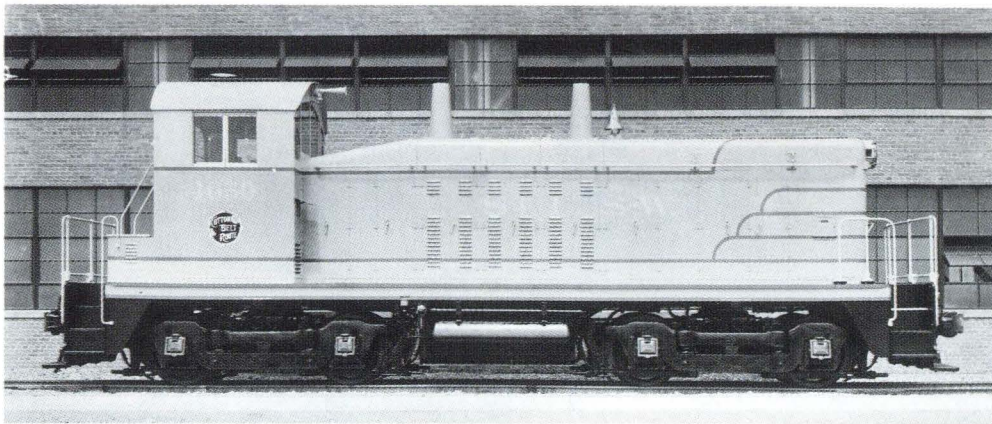
Andrew Finnigan, one of Electro-Motive's original employees, was the first plant manager, and many key people were transferred from La Grange, while others at La Grange were available to resolve engineering or manufacturing questions as needed. As the number of Cleveland employees grew, most foreman positions were filled by promoting local employees. One ironic note was that EMC originally had planned to locate its main plant in Cleveland, near the former Winton plant, but chose La Grange instead; now it was occupying one of the former Winton division's plants.

The Cleveland facility was designated Plant 3. It would assemble only switchers because they required little more than mounting the engine and other equipment on a frame. The E and F road units produced at La Grange used a truss carbody and streamlined nose that was far more complicated to fabricate and assemble. The Cleveland shop was retooled to produce locomotives, although ironically, no diesel engines were built there. Most of the major components, such as the 567 engines produced in La Grange, were shipped to Cleveland from other EMD plants. After December 1948, almost all new EMD switchers were built in Cleveland, the primary exceptions being prototypes of new models and experimental designs such as a diesel-hydraulic unit.

Many former employees recall with a smile one aspect about the conversion of the facility into a locomotive plant. When Cleveland Diesel produced engines, they were test-run in part of the main building. To reduce noise levels, a concrete-block wall separated this area from the rest of the shop. During the conversion, the block wall was removed. Many are the stories of working with a sledge to knock down the wall. However, while this opened up the shop's floor space, it soon became apparent the plant was cooler than before—the diesel engines under test had produced not only noise, but heat.

One disappointing feature of the new shop was that the overhead cranes lacked the capacity and vertical clearance to lift a completed locomotive, with or without its trucks. This meant the assembly line had to be kept moving.

The shop was equipped with the expected heavy industrial tools. Plates up to 4 inches in thickness, used for locomotive frames, could be cut using automated burning torches. Hydraulic shears could

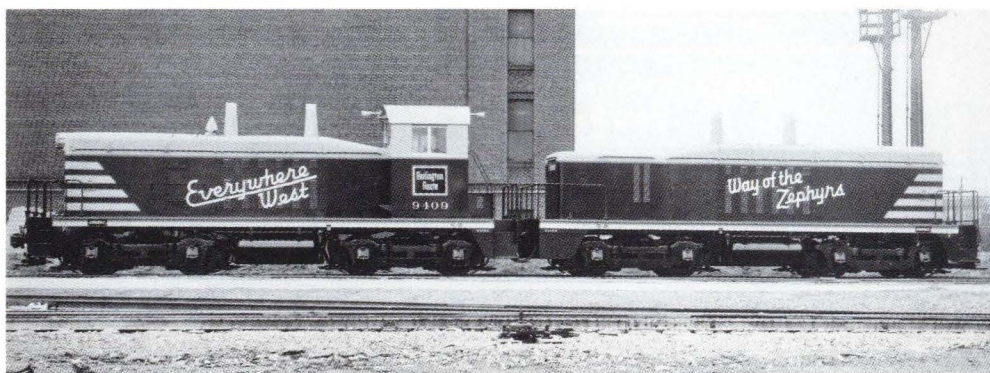


FOUR PHOTOS, EMD: ERIC HIRSIMAKI COLLECTION

Switcher gallery (from top): Cotton Belt 1050, first of its four 1949 NW2's, wears the same gray-and-yellow livery SSW's FT's did. Chattanooga Traction, a Southern subsidiary, had this 1950 SW9 and 1941 SW1 No. 4. SP 4622, a 1954 SW8, had dynamic brakes (grids in front of cab). T&P 1015 was the first of five May '49 NW2's, last of 20 total on the road.



RAIL PHOTO SERVICE: GENE HUDDLESTON



EMD: ERIC HIRSIMAKI COLLECTION

Multiplicaton: Only 2 three-unit “herds”—an NW2 control unit “cow” and two cabless NW2 “calves”—were built, both for Chesapeake & Ohio. One of them (top) rounded up cars in a C&O yard during a 1948 coal strike. Burlington bought 14 TR2 cow-calf sets (one from La Grange in 1947, the rest in ’49), but in 1954 had EMD put cabs on the boosters and split up the pairs, although as individual NW2’s they kept their “booster” numbers, 9400B-9413B.

bend half-inch plates, while huge hydraulic presses could form steel plate into the many shapes needed to construct a locomotive. Other tools accomplished a variety of tasks. Several of the traveling overhead cranes moved and positioned parts during the assembly process.

Perhaps the most interesting equipment in the plant was the large positioners that could hold and tilt underframe components so they could be welded at the correct angle. Many parts such as trucks and cabs were assembled upside-down, then turned over and added to the locomotive. With all of La Grange’s experience to draw from, the EMD engineers were able to design an efficient locomotive assembly operation.

Plant 3 shipped its first locomotive, Rock Island NW2 765, in December 1948. It and four sisters delivered that month comprised Plant 3’s total 1948 production, a far cry from the 1,317 units that left La Grange that year. Locomotive models produced in Cleveland would include the venerable 600 h.p. SW1, the 1,000 h.p. NW2, and the 2,000 h.p. TR2 (a pair of back-to-

back NW2’s, one minus the cab and controls, popularly called a cow-and-calf). By February 2, 1949, the plant had shipped 31 units and had 600 employees working two 8-hour shifts, five days a week. It was producing one switcher a day, although plans were being made to double that.

During 1949, the facility’s first full year of production, Plant 3 outshopped 491 switchers, about one-quarter of EMD’s total output through the years. Included: 91 SW1’s, 321 NW2’s, 17 SW7’s, 28 twin-unit TR2’s, and 2 triple-unit TR3’s. The TR3’s were unique—known as a “herd,” they consisted of one NW2 and two cabless units. Only two herds were built, both for Chesapeake & Ohio.

The replacement of the NW2 with the 1,200 h.p. SW7 in EMD’s catalog occurred in October, part of EMD’s introduction of the “7” line headlined by the GP7, but the NW2 and SW7 were produced concurrently until the end of the year. The first SW7, Indiana Harbor Belt 8835, was built at La Grange, but the SW7’s for IHB and parent New York Central that followed all came from Cleveland.

RIDING THE GEEP TO SECOND PLACE

The most significant change for Plant 3 was the inclusion in its production schedules of the GP7 road-switcher; the first “Geep” model. The first GP7 demonstrator, EMD No. 100 (“1100” in some re-touched publicity photos) was built in La Grange in 1949 as the successor to the earlier BL2, which numbered fewer than 60 units. The Geep was meant to correct various problems inherent in the BL2 design and would compete with other builders’ road-switcher models, although EMD originally envisioned only a small market for the GP7.

EMD planned to produce the GP7 in Cleveland only, since it was similar to the switchers in layout and assembly, but much to EMD’s surprise, the design became so popular so fast that by fall 1950, EMD was also assembling Geeps at La Grange to keep up with the orders. La Grange built the second demonstrator GP7, No. 200, and Cleveland’s first GP7 was the third demonstrator, No. 300, which left the shop in January 1950 for a demonstration tour that included Illinois Central and other southern railroads. Concurrently, Plant 3 completed the first production GP7’s, a six-unit order by the Nashville, Chattanooga & St. Louis.

The new GP7 was offered with two different air-brake systems and two choices of trucks. For branchline and secondary service, the GP7 was offered with 6BL air-brake equipment that couldn’t be operated in multiple. It was available on either switcher trucks or the standard Blomberg trucks used on road locomotives. For mainline service, the GP7R, as it was briefly called, was offered with 24RL air-brake equipment that allowed it to be operated in multiple. It could also have either switcher trucks or the Blombergs.

The NC&StL units were equipped with



LOUISVILLE & NASHVILLE: C. NORMAN BEASLEY

24RL air brakes and the switcher truck, while the second order, 10 GP7L's (a differentiation soon dropped) for the Frisco, had the standard Blomberg truck and 6BL brake equipment. Only one other order was produced with the switcher trucks, 30 GP7's for the Army in 1952, but use of the 6BL air-brake system was common. Seven GP7's were built in January 1950, but by year's end the shop was shipping more than 40 a month. Production increased throughout the year as EMD struggled to meet the surge in orders.

Cleveland's locomotive production grew at a rapid rate, reaching two switchers and two GP7's a day by October 1950. Employment kept pace, and by fall 1950, 2,100 people were employed in the facility and the floor space being used had grown to 527,735 square feet. The 936 units

produced in 1950, 558 switchers and 378 GP7's, made Plant 3 the second-largest locomotive manufacturing facility in America, behind Plant 1. Between 1948 and 1953, orders were so high that even Alco lost business owing to its inability to make prompt deliveries. The decision to acquire Plant 3 was proving worthwhile and profitable for EMD.

Production totals for 1950 reveal that 436 SW7's were constructed at Cleveland, along with 18 similar units constituting 9 TR4 sets, the catalog successor to the TR2. In addition to the GP7, two other new models went into production in 1950. In September, the 800 h.p. SW8 was added to the catalog, with 23 units produced. In November, a single SW9 left the shop for the Chattanooga Traction Co., a Southern subsidiary. Two prototype

Plant 3's first production GP7's were six in maroon and gold for the Nashville, Chattanooga & St. Louis, equipped with switcher trucks. A year after the '57 L&N merger, two pushed a freight up Cumberland Mountain.

SW8's built at La Grange were among the handful of non-Cleveland switchers built during this period. The SW9 was an upgrade to the SW7, retaining the 1,200 h.p. rating. Several customers received SW7's and SW9's in the same order, the primary difference being the diesel engine—the SW7 used a 567A and the SW9 a 567B.

Plant 3's totals for 1951 were slightly higher, 945 units, marking an all-time peak in production. The output consisted of 523 switchers and 422 GP7's, which was rapidly becoming the industry choice for a road-switcher. The Cleveland

EMD's northern satellite plant



JAMES A. BROWN

London-built: An FP9-F7B duo hustles Canadian Pacific train 1, the *Canadian*, westward near Blackburn, Ont., on August 2, 1962.

Cleveland wasn't EMD's only satellite locomotive assembly plant. Indeed, even as Plant 3 geared up for production in 1948, EMD was looking due north for its next major expansion.

Dieselization was gaining momentum in Canada. Alco's long-time Canadian affiliate, Montreal Locomotive Works, began constructing Alco-design diesels at its Montreal, Quebec, plant in 1948. That same year, Baldwin and Whitcomb began marketing their diesel wares in Canada through an alliance with the Canadian Locomotive Co. of Kingston, Ontario. (Few Baldwin and Whitcomb diesels were sold in Canada, and CLC's more lucrative deal to market and build Fairbanks-Morse-design diesels at its Kingston works took effect in 1950.) The Canadian market was too rich to ignore; EMD wanted in.

EMD first tapped the Canadian market in 1946-47 with the sale of a few NW2's to Canadian National and Toronto, Hamilton & Buffalo, followed by a half-dozen F3's to CN in 1948. EMD, with its U.S. plants producing to capacity and import duties complicating Canadian sales, went shopping for a suitable location to build a locomotive plant north of the border. The lads from La Grange found just what they were looking for on the east side of London, Ont., in a plot of farmland nestled between two main lines: Canadian Pacific's Toronto-Windsor route and CN's secondary Toronto-London line.

Officially known as General Motors Diesel Ltd. ("GMD"), EMD's London plant formally opened on August 11, 1950, and outshopped its first locomotives, TH&B GP7's 71-72, in two weeks.

London's order books were quickly filled. In its first year, the

plant had turned out more than 130 units, from SW8's and 9's to GP7's, F7's, and FP7's. Canadian railways large and small—from giants CN and CP to regionals Algoma Central and Ontario Northland to short lines TH&B and Essex Terminal—lined up for London-built locomotives. Interestingly, one of GMD's largest first-year orders came from the Wabash, which took 4 SW8's, 1 GP7, and 20 F7A's to dieselize its Windsor-Buffalo operations. Chesapeake & Ohio, Great Northern, and New York Central also dieselized their Canadian operations with GMD units.

While London offered locomotives from the entire EMD catalog—as well as GMD-only models such as B-B and A1A-A1A-trucked GMD1 road-switchers—several EMD models are absent from its production lists, notably E units and first-generation SD types. CP's three E8's, delivered from La Grange in 1949 for Montreal-Boston pool service with Boston & Maine, were the only E's on a Canadian railway, and London didn't build an SD until its first SD40's in 1966.

Nevertheless, London in the 1950's had all the business it could handle. Export locomotives for overseas customers were added in 1953, and by '54, GMD's locomotive production had surpassed 500. In 1957, GMD marked completion of its 1,000th unit, a CN SW1200.

By fall 1960, London had built more than 1,800 locomotives and helped deliver the *coup de grace* to Canadian steam when it outshopped its last steam-killing order, 25 SW1200's for CP. Still small enough to fit in the parking lot at La Grange, the compact London facility had even greater victories ahead.—Greg McDonnell

operation was playing a more significant role in dieselizing America's railroads than envisioned. Instead of filling yards with switchers, Plant 3 was also playing a crucial role in maintaining EMD's dominance in road locomotives with the GP7. Plant 3's 945 units of 1951 accounted for almost 40 percent of EMD's total production of 2,375 units for the year. Production of the SW7 ended in January, with 35 units shipped, and the new SW9 took over as Cleveland produced 304 throughout 1951, as well as 85 of the new SW8.

An interesting aspect of Plant 3's 1951 production was that almost 20 percent of its output, 185 units, went to a single customer, Atlantic Coast Line, which

accepted 64 SW9's and 121 GP7's. The 5,600-mile ACL, in fact, was one of two mid-size systems to go a long way toward total dieselization with Cleveland units. ACL and subsidiary Charleston & Western Carolina received 175 GP7's from May 1950 through December 1951, and totally dieselized in 1955. Another big customer was the 4,900-mile St. Louis-San Francisco ("Frisco"), which from February '50 through December '51 got 106 GP7's and 5 SW7's from Plant 3, and dieselized on February 29, 1952. Neither the Coast Line nor the Frisco bought any new GP9's.

In 1952 Cleveland production dipped to 724 locomotives, owing to a recession and a softening in demand for diesels, but for

the first time, GP7's dominated the shipments, with 381 going out versus 343 switchers. The 30 Army GP7's, some of which wound up on the Alaska Railroad, were among the units shipped, as were four SW8's for Lehigh Valley equipped with dynamic brakes, rare on switchers.

THE EXPECTED, INEVITABLE DECLINE

Cleveland's fortunes began a downward spiral in 1953. Many railroads were mostly dieselized, and low traffic levels allowed them to postpone buying more units. Total diesel orders fell from more than 4,000 units in 1950 to 1,800 in 1953. Even though EMD's market share was



STEVE PATTERSON

still growing, its anticipated glut in production capacity was starting to come true. Production at Plant 3 fell to 482 units, 335 switchers and 147 GP7's.

The dramatic decline in Cleveland GP7 production was the result of most orders being assigned to La Grange, which had room in its production schedules. This led to large layoffs at Plant 3, including 422 employees on May 29. Another big group was gone before August. Production began to wind down, and it was apparent the Cleveland plant's days were numbered. By year's end, its production had been cut 60 percent.

EMD tried to find other uses for the facility, and one attempt involved building piggyback flatcars. A 71-foot-long prototype with a depressed, well-like bed was built, designed to haul full-sized truck trailers in spots with low, 15-foot clearances. If the plan succeeded, the shop could make eight cars a day on two shifts.

Alas, little came of the project, as EMD was a heavy industrial concern that could not compete in what was essentially a welding-shop market because its labor costs were too high. Efforts were also made to have Plant 3 produce components for La Grange that formerly came from outside suppliers. Fuel and water tanks, brake and cooling hatches, and other metal fabrications were being made in Cleveland, but this wasn't enough to keep the doors open.

At the start of 1954, EMD revamped its catalog again and introduced the SW600, SW900, and SW1200, numbered by horsepower, to replace earlier switcher models. Plant 3's production of this line would be brief, though, as things changed quickly. The market for new units plummeted to fewer than 1,000 per year from all builders. Since this was less than La Grange's capacity alone, there was little need for the Cleveland plant. As a result, it built

Cleveland oddity: The only GP7 on the entire SP system was No. 304 of subsidiary Cotton Belt, built as a passenger unit but working a local freight at Camden, Ark., June 16, 1962.

only 31 switchers from January through April before it ceased locomotive production. The final units to leave Plant 3's gates were two SW900's for Southern Pacific, Nos. 4624 and 4625, which headed west in April. The plant was officially closed on October 1, 1954.

The facility was subsequently occupied by GM's Euclid Road Machinery Division, which later became Terex. Cleveland Diesel was merged into EMD in 1962 and closed down, severing the builder's final ties to its namesake city. Terex eventually moved out, and the plant became a warehouse complex. What was briefly the second-largest diesel-electric locomotive production facility in America has virtually passed from memory. **1**

DIESEL VICTORY

FROM THE PUBLISHERS OF TRAINS MAGAZINE • DISPLAY UNTIL FEBRUARY 20, 2006

How the diesel changed railroading

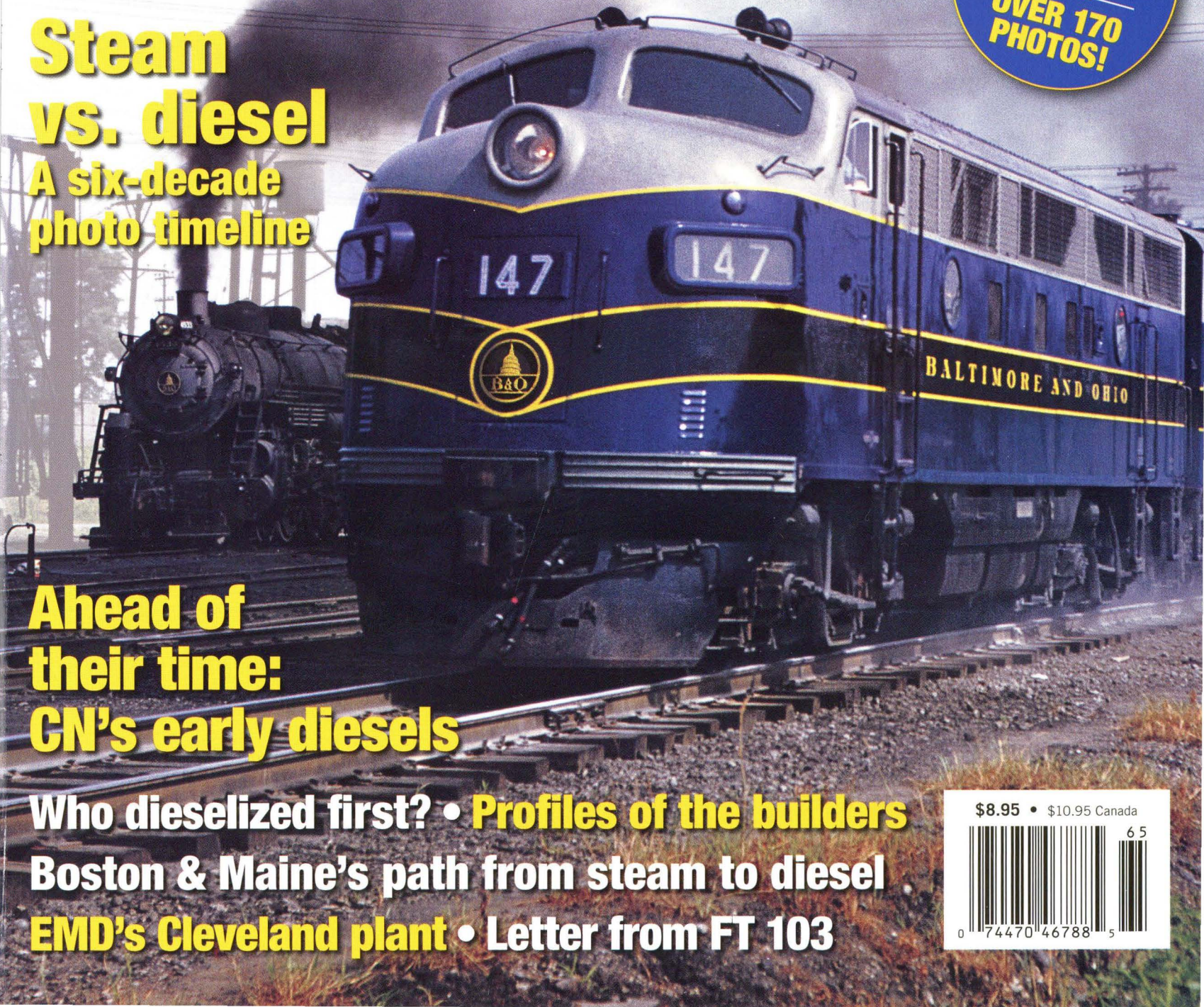
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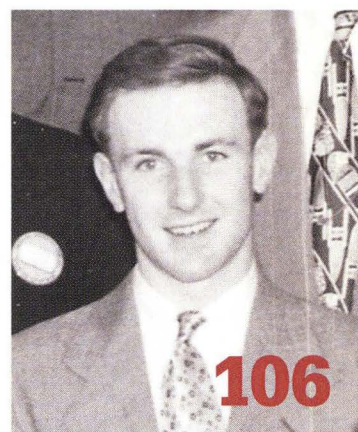
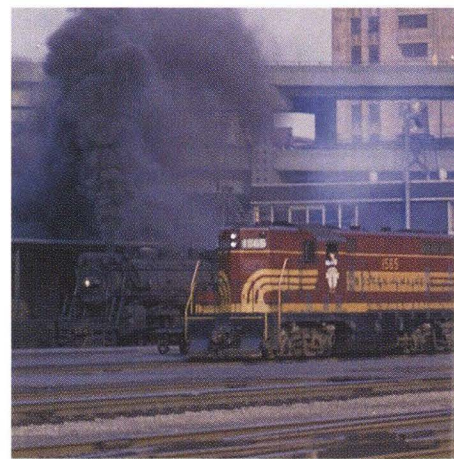
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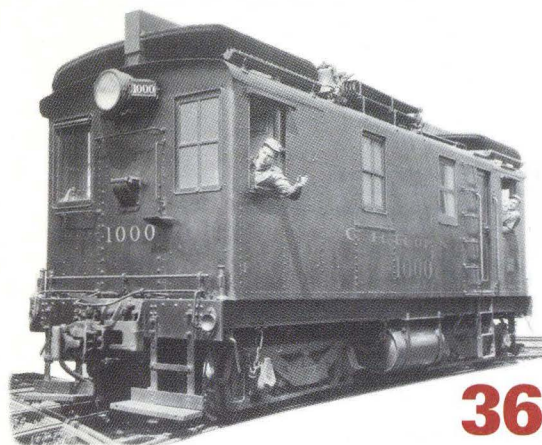
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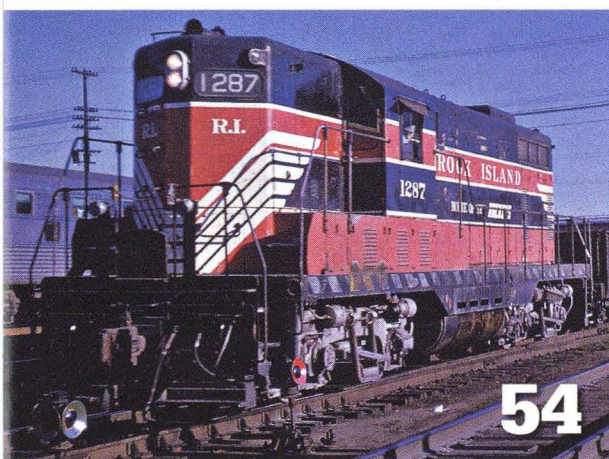
ON THE COVER: The diesel's ultimate victory over steam is symbolized by Baltimore & Ohio F3A 147 leading a freight past the engine-service area at North Vernon, Ind., as a 2-8-2, its career almost over, awaits its next duty in July 1956 in a photo by Walter G. Minnich Jr.



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A unique power plant was at the heart of a family of innovative diesels

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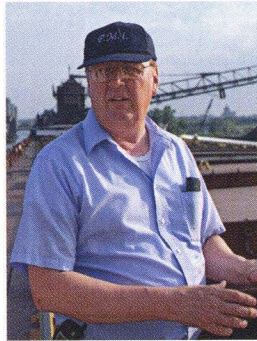
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Despite important early work, GE kept a low profile in the transition era

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