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LGB's Freelanced Southern Pacific SD40



Review by David Otte/photos by the author

The appearance of this latest **LGB** review subject will undoubtedly cause the diesel locomotive aficionados among us to do a double-take. While the manufacturer touts the model as representing a “heavy American SD40” in its advertisements, one will easily recognize elements of both an Alco-built diesel and those of an Electro-Motive Division (EMD) design. There is no intention on the part of LGB to mislead the modeling community, however. One only needs to look at the history of the German company, its fan base, and this G-gauge locomotive’s tooling to grasp the premise behind this new release, which has been further enhanced for the large scaler’s operating pleasure with Digital Command Control (DCC) and Sound.

A Tale of Two Prototypes

As mentioned in my Christmas Trolley Set review in the [December 2016](#) issue of *Model Railroad News*, LGB presented the first 1:22.5 scale train and its associated G-gauge track back in the late 1960s. That release set the stage for the popular large scale train revolution of the ensuing decades, which we continue to enjoy today – whether it be on indoor layouts or out in the garden. Although the company initially produced models based on meter gauge European prototypes, by the mid-1980s, the popularity of LGB here in the U.S. became so great that not only did the manufacturer have to expand its factory to compensate, but it also began exploring North American-based locomotives and rolling stock for potential modeling subjects. In 1984, LGB released its famous narrow gauge 2-6-0 Mogul steam locomotive based on those used by Colorado & Southern’s three-foot gauge railroad. LGB’s associated freight and passenger cars followed suit and, in 1990, the company offered a G-gauge narrow gauge six-axle diesel engine as erected by Alco for operation on the White Pass & Yukon Railway (WP&Y) – the latter of which brings us to the story of this new model.



The LGB diesel comes with a number of neat features that only adds to the play value of this new release, including opening cab doors complete with working handles and a simple interior with a painted crew figure. All lighting is fully functional.

It was the WP&Y diesel in particular that inspired a number of U.S.-based hobbyists, whose interests lay more in the standard gauge realm, to begin kitbashing these G-scale three-foot gauge locomotives into something more suitable for operation on the main line. Keep in mind that the large scale movement was still in its infancy at this time, and the availability of North American-based prototypes was quite limited. Nonetheless, kitbashed “standard gauge” six-axle diesels began showing up at the various large scale meets, which, in turn, encouraged LGB to produce a kitbashed diesel based on some of these modelers’ creations.

The end result, as emulated by this 2017 offering, was first unveiled in 1991 and referred to by LGB simply as the “standard gauge” diesel locomotive. Generally, the new model retained the low-nose hood, cab, frame, and running gear of the Alco model. However, it featured a newly tooled long hood that reflected the distinctive traits of an EMD SD40 with its three rooftop radiator fans, typical dynamic brake blister, recognizable inertial filter hatch and air intakes, and the associated engine compartment and other access doors. The subsequent addition to the LGB catalog of U.S.-type steel constructed boxcar, hopper, and caboose renderings furthered the standard gauge illusion.

Before delving into the particulars of LGB’s new G-gauge locomotive offering, let’s take a quick look at both prototypes from which this kitbashed diesel has been concocted — starting with the narrow gauge ingredient.



Cotton Belt 5154 is rolling through Flatonia, Texas, in November 1971. — *Jim Zwernemann photo, Kevin EuDaly collection*

Alco's DL535E

The White Pass & Yukon Railway dates back to the Klondike Gold Rush of 1898. Its 107-mile-long, three-foot gauge route stretched from Skagway, Alaska, to White Pass, Canada — the capital of the Yukon Territory. It was noted not only for its service to the mining region, but also for the part it played in World War II aiding the Allies in their efforts against Japan, in the building of the Alaska Highway, and its early involvement in intermodal container shipping. Furthermore, it is unique among narrow gauge lines in North America, having been the only railroad to fully dieselize by the mid-1950s.

When WP&Y experienced a second mining boom in the region in the late 1960s, railroad management sought out new diesel locomotives to handle the additional traffic. Alco answered the call with a design based on its DL535 export locomotive. Riding atop re-gauged examples of its Tri-Mount three-axle trucks, the 246,500-pound locomotive was powered by the builder's six-cylinder model 251D four-cycle, 1,200-hp prime mover and equipped with six GE 764b12 traction motors, which together delivered a 35,600-pound starting tractive effort. Stretching only 53 feet in length, the DL535E, as Alco designated the locomotive, was exactly what WP&Y required, and the railroad placed an order for seven units in early 1969.

Although construction began at the company's Schenectady, N.Y., plant, Alco exited the locomotive business before completing the order, so the balance of the assembly had to be carried out by Alco's Canadian arm, Montreal Locomotive Works (MLW). Finally delivered in May 1969 as numbers 101–107, an additional three units were ordered and delivered by MLW in December 1971, numbered 108–110. A

wide-cab variant (DL535W) was also ordered in 1982, but a worldwide downturn in mining operations caused WP&Y to shut down freight operations in the fall of that same year; the four new locomotives were built but never delivered.

Some six years later, however, a new commodity for the WP&Y to haul — tourists — came into play as cruise ships frequented Alaska’s famed Inside Passage, and WP&Y’s scenic route became an instant attraction. Management quickly began to re-purchase the units, having sold off some of its locomotives during the closure. As a going tourist concern yet today, the railroad still rosters eight of the original DL535Es (three units were damaged in fires or derailments and scrapped over the years) along with a single sample of their wide cab cousin, which had remained unsold and in storage in Montreal since the 1982 closure.



The model’s six-axle trucks and “Gator”-like appearance may make you think of an RSD-15; while the shorter size and smaller fuel tank are suggestive of the RS-32. SP 4002 is an Alco RS-32 at Millbrae, Calif., in July 1970. Gordon Lloyd, Jr. photo

EMD’s SD40

Supplying some standard gauge flavoring to this otherwise three-foot-between-the-rails diesel locomotive is EMD’s SD40. Its story dates back to June 1965, when, having had pretty much tasked its 567 prime mover of 1939 origin to its limits, EMD unveiled its new 645-series engine along with the higher-capacity AR10 alternator and D77 traction motor. The new components were debuted in the 40-series of locomotives starting in late 1965. Referred to as the “1966 Line,” these offerings included the GP40, GP38, SD40, SD45, SD38, and, later, the SD39, and GP39.

Standing in the forefront of this well-received series was the turbocharged 3,000-hp SD40. EMD delivered the first production model to Chicago & North Western in January 1966, and the last five SD40s rolled off the assembly line in July 1972, filling an order for Detroit Edison. In this time period, a total of 1,285 units were built for 30 different U.S., Canadian, and Mexican railroads ranging in sales of a single SD40 to Atlanta & St. Andrews Bay to the fleet of 241 serving on Canadian National.

Measuring 65-feet, 8-inches long over the coupler pulling faces, the 385,500-pound husky six-motor road engine registered a starting tractive effort of 92,000 pounds and had an initial price tag of about \$250,000. A passenger version, the SDP40, with a modified carbody and onboard steam generator was also available; however, with the country's ever-declining passenger business, only six were sold here in the U.S. One additional version was custom built for Illinois Central, who requested higher-capacity fuel tanks. The 18 Illinois Central examples, referred to as the SD40A, were built on the longer SDP45 frames; however, no other railroads showed interest in this unique model.

Nonetheless, the SD40 was easy to maintain and reliable — a number of which are still in service today. The SD40 had secured its spot in locomotive history as one of the most popular six-axle workhorses ever. The SD40's similar-appearing successor, the SD40-2 introduced in 1972, eclipsed this industry ranking with more units built than the SD40.



A little bit of EMD and a whole lot of Alco, the LGB's classic "kitbashed" diesel was recently re-issued under the guise of a Southern Pacific SD40. Featuring two Bühler ball bearing-equipped motors and a factory-installed mfx/DCC sound decoder, this G-gauge locomotive is ready for some heavy hauling on the garden pike.

LGB's Kitbashed Diesel

Although the only thing the DL535E and SD40 had in common was riding on six-axle trucks, out of this mix of prototypes, LGB presents its new Southern Pacific (SP) diesel model. This G-gauge locomotive, stretching about 22 inches in length from front plow to the rear pilot end plate, is equally at home with a range of established large scale modeling ratios: 1:22.5 through 1:29. Being developed by the manufacturer in the spirit of a kitbash without regard to a specific scale, it would not be appropriate to really judge this model on the basis of road-specific details or production phases, as most of our reviews entail. So, let's dispense with the usual formalities and just have some fun with this LGB classic!

Typical of LGB products, the diesel is made almost entirely of a high-quality ABS plastic that will hold up to the rigors of outdoor operation. Molded-in details, which remain as crisp as the day the injection-molded dies were made, are accented with a plethora of add-on detail parts, primarily those fashioned after the DL535E prototype. Heavy gauge wire handrail and resilient plastic stanchions outline the walkways and end platforms, the latter of which are noteworthy in and of themselves for their nice raised tread pattern. A separate front plow has been added along with air hoses on front and rear pilots. There is a sand filler cap placed atop the nose and wire handholds situated on both hoods. Clear glazing fills the window openings, complete with a simulated black gasket surrounding each or metal framework as appropriate. Hand-applied windshield wipers, a three-chime air horn, and a rooftop gyalalite (a common addition to most SP diesels of the period, but not usually placed in this location) round out the exterior cab details. Re-railing frogs realistically hang from the side sills with the fuel tank/air reservoir casting attached below the frame and the usual mechanical bell located just behind the engineer's side front pilot step.



Looking rather sharp in Southern Pacific's "bloody nose" scheme, LGB's latest release represents one of 89 SD40s owned by SP. EMD delivered SP 8442 in March 1966 under builder number 31523.

Speaking of the engineer, LGB hasn't forgotten about the cab interior either, with two chairs, a painted crew figure seated inside, and a simulated dashboard exhibiting separate throttle handle all present. For the best view of this attribute, the manufacturer has outfitted its model with opening cab doors that even include working handles, affording young hobbyists especially some extra play value. I particularly liked the side frames with their cast-in details, such as the raised "ALCO" lettering on the roller bearing journal caps and the add-on brake cylinders with their rods and levers. Last but not least, extended end platform drop steps have been included too, along with Phillips head screws for the modeler to apply to the pilots once the model is removed from its packaging.



From this view, one can see the G-gauge model's distinctive EMD SD40-style hood with its characteristic three top-mounted radiator cooling fans. Note also the separately applied detail parts.

As I alluded to earlier, LGB chose a Southern Pacific SD40, number 8442 in particular, to be the inspiration for this latest offering of its “standard gauge” kitbashed diesel. SP 8442 was one of 79 SD40s (8400–8478) delivered to the road in 1966 with an additional 10 units (8479–8488) arriving in 1968 — all equipped with large snowplows much like the LGB model. By 1980, SP placed the surviving SD40s (86 units) into a rebuilding program at its Sacramento (California) Shops. All the shopped units emerged by the end of the following year designated as SD40Rs (essentially upgraded to Dash 2 electronics standards and equal to the newer SD40–2 models) and carried road numbers 7300–7385. Our 8442 would be included in this program and be outshopped anew in June 1980 as SP 7304. The unit would also survive the SP-Union Pacific merger in 1996, only to be retired in November 2000 without ever receiving a UP number or paint.

This LGB sample does these SP SD40s justice in its well-executed paint and graphics application from the perfectly smooth Dark Lark Gray finish observed on the carbody and underframe to the highly recognizable Scarlet Red “bloody nose.” The laser-sharp lettering is pad printed in white paint (prototypes were actually delivered with their lettering applied in Lettering Gray color up until 1978) with the handrail at the steps correctly highlighted in white as well.

Manufactured in Hungary, the LGB diesel boasts not only a quality build, but maintains the company's reputation for excellent operation characteristics as well. For example, both trucks are powered with a ball bearing-equipped Bühler motor, and, of course, are sealed assemblies to make them safe for running in the garden. The outer axles of each truck are powered only, though, with the center axle allowed to “float” thus ensuring maneuverability around the advertised minimum 600-millimeter (23.5-inch) radius curves as found in most G-gauge starter sets. A single traction tire is also employed on one wheel of the trailing axle of the lead truck, which, along with the locomotive's nine-pound weight, ensures exceptional

tractive effort — an incredible two pounds by my measure!

Like previous LGB models I've operated, this SP-painted unit equipped with a DCC decoder proved to be a sweet ride. The unit had a low speed registering less than one scale mile per hour while traveling on a test layout arranged with slightly larger 775-millimeter (30.5-inch) radius curves and a high-end speed comparing closely to a typical mainline freight locomotive's 60 mph maximum (all data assuming 1:29 scale). The lighting package is nothing to sneeze at either with very bright directionally controlled headlights, illuminated number boards and Alco signature class lights above the windshield, and the cool blinking red gyalite atop the cab.

The sound decoder differs from my previous experience with LGB command control models in that it appears to be a design influenced by parent company Märklin. It's fully DCC compatible but can also work with the mfx protocol software found within the Märklin Digital System. I didn't get to play around with the latter control system, but I did put the model through its paces with a DCC system and have no bones to pick with this decoder. There are plenty of the usual Configuration Variables (CVs) to adjust, of which the more common ones are listed in the included multi-lingual operations manual, and both function mapping and long addressing are possible.



For those operating LGB's "SD40" on a DC analog powered layout, a couple of manual controls are available hidden underneath the unit's inertial air filter hatch (shown removed here). An operations mode switch allows the locomotive to be parked on an energized siding without power while a volume control adjusts the audio level of the prime mover sounds emanating from a speaker down in the fuel tank. Placing a LGB Sound Activation Magnet (black object shown next to the removed hatch) between the rails on an analog layout will also allow the horn or bell to be automatically activated for a brief duration.

Regardless of how you operate this model (DCC, mfx, or analog direct current), you are going to love the sounds emanating from the large speaker situated down in the fuel tank casting. There are a total of 15 function keys to manipulate here, including independent control of the lighting features, with a great list of sound effects: prime mover (startup and shutdown sounds too), long and short horn, bell, squealing brakes, horn sequence for grade crossing, compressor, cab radio, and sanding. All are excellent digital

audio recordings in and of themselves; I especially liked the grade crossing sound scenario activated by the F4 key, as well as the ability to turn on/off the red flashing gyalite on the cab roof with F12.

As for analog operation, I'm happy to report that the sound is active as well under old-fashioned DC power control. While this method lacks the freedoms of DCC control regarding the individual sound effects and the lighting features other than the headlights, this new decoder does maintain LGB's practice of providing a method of manual activation of signal sounds. This is accomplished through the use of LGB's Sound Activation Magnet — two of which are included with the model. These devices simply snap onto the ties of any standard track section and, when the locomotive passes over one, either the horn or bell sounds (depending on whether you position the magnet end of the device next to the left or the right rail side) for a brief duration. This setup is quite effective on non-command control layouts such as garden pikes.



Behind these nicely detailed Tri-Mount style three-axle sideframes (note the raised “ALCO” on the journal covers), is a sealed power truck in which a Bühler motor powers the outer axles; the center axle is allowed to float, enabling the truck to negotiate the tightest G-gauge curves. All three axles provide for electrical pickup. The addition of sprung slider shoes also assists with electrical pickup.

Furthermore, LGB has included its standard “mode of operation” switch for analog operating too, with the four-position switch housed beneath the lift-off inertial air filter box on top of the roof. This allows one to park their locomotive on an energized siding, for example, and switch the motor, sound, and lights off but still allow other trains operating on the same track to be powered. A master volume control knob is also located in this hidden compartment. Overall, this is a locomotive packaged with a well-thought-out method of operation that both DCC and analog operators can enjoy!

A Classic LGB Locomotive

Despite its kitbashed history, the LGB “Standard Gauge” diesel locomotive remains a classic among longtime LGB fans while its compact size, operating qualities, and new DCC/sound decoder upgrade also keep it quite relevant for today’s large scale modeler. Furthermore, this unit is the perfect addition to the budding G-gauge enthusiast’s motive power roster as well, where it will be entirely at home on those small, but expanding, pikes designed around the traditional G-gauge starter set.

**LGB G-gauge
SD40 diesel locomotive
Southern Pacific
#L25555, MSRP: \$1049.99**

[LGB distributed by Märklin, Inc.](#)

**P.O. Box 510559
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800-825-0888**



This review appeared in the [April 2017](#) issue of Model Railroad News

This article was posted on: March 20, 2017

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