

# GE 44 ton diesels: the history

By Kent Stephens

Some of the newer railfans have been known to ask, "What is the reason for the GE 44-ton unit being 44 tons? Why not just make it 45 tons?" Some railfans have also confused GE 44-ton and 45-ton centercab units, not realizing that the two models represent a completely different engineering concept, and the GE 44-ton model is not another small industrial switcher that just happens to weigh 44 tons.

The origin of the GE 44-ton model was a compromise agreement between the carriers and the unions in 1937 that was known as the "90,000 pound rule." In the late 1930's, a number of railroads started experimenting with replacing steam switchers with diesel switchers, particularly in city terminals where there was concern about excessive smoke. The railroad companies attempted to save labor costs by insisting that a fireman wasn't necessary on a diesel, but the unions contended that firemen were necessary for safety reasons. A compromise agreement was reached that a fireman would not be needed on any diesel locomotive that weighed less than 90,000 pounds (45 tons) on a common carrier railroad, thus permitting the economy of one person operation. Industrial operations as well as the military, didn't have this union restriction, thus they had the option of one person operation of the 45, 50, 65, 80, and 95 ton centercab models.

General Electric, as well as other locomotive manufacturers, developed the 44-ton model for the railroad market and not the industrial market. The statistics tell the story -- Class I railroads rostered only 17 centercab GE's weighing 45, 50, 65, 80, or 95 tons in contrast to owning a total of 239 GE 44-ton units. The 44-ton models, from both GE and other manufacturers, became known as railroad switchers, the other centercab models designed for industrial service are known as industrial switchers. Our museum's two 80-tonners are industrial switchers, not railroad switchers.

The 44-ton railroad switcher was an entirely different engineering design concept from the 45 ton industrial switcher. The 44-tonner was designed for sustained hard pulling power over a railroad line; the industrial switchers weren't designed for sustained pulling power but for short distance switching moves within a plant. The 44-tonners have more horsepower, higher speed, and lower rpm engines, the 45-tonners have less horsepower, lower speed and higher rpm engines. The 44-tonners have four traction motors, one on each axle. The 45-tonners have two traction motors -- one of two axles on each truck has a traction motor -- with power transmitted to the other axle by means of a chain drive or side rod.

The majority of GE 44-tonners were built with two 190 hp Caterpillar Model D17000 V8 diesel engines for a total of 380 hp. The later models had a 200 hp rating.

## Sacramento Northern's 44-tonners

With their light weight, the 44-tonners were ideal for the weight restrictions on electric interurban railroads and small short lines with light rail. It's no wonder that the 44-tonner became what one author called, "...the short line's best friend." GE 44-tonners were widely used on a number of Northern California electric interurban railroads and short lines including Almanor RR, Arcata & Mad River, Petaluma & Santa Rosa, San Francisco & Napa Valley, Sacramento Northern, Central California Traction, Tidewater Southern, Amador Central and Quincy Railroad.

SN had part ownership of three 44-tonners during the war years -- San Francisco & Napa Valley Nos. 30, 40, 50 that had been bought in 1942-43 by the SF&NV. They stayed on the SF&NV for the duration of the war. 44-tonner No. 40 was transferred to the Sacramento Northern in May 1946, becoming the No. 141 on the SN. SN had also placed an order with GE for five more 44-ton units. Sacramento

Continued on next page.

Continuation of Jim Ley's crane article.

worked on threading the cable through the lifting block and the boom until 8 o'clock Saturday night. Everything was ready to rethread the cable on the winch with the socket block set on the end of the cable.

First thing Sunday morning, Dave Anderson, Norm Holmes, Tom Graham and daughter Melissa and I unrolled the cable from the shipping reel, laid the cable out on the shop floor and wound it up on the lifting winch drum. It took all of us to pull, heave and haul on the cable, because we were pulling it up the end steps and through the little house on the boom car, then onto the tip of the boom. This was necessary, as there was not enough space to rotate the crane in the shop. Next the crane and boom car were moved outside alongside the flatcar with the 44 tonner. The outrigger blocks were set in place with the help of our front-end loader, which is a necessary auxiliary machine to operate the WPMW 37 as moving the outrigger beams in and out, as well as setting the blocks, would be very difficult, if not impossible without it, not to mention moving the snow out of the way. At this point, we ran out of daylight and suspended operations for the day. It gets dark too early in the winter! Incidentally, we all agreed that the crane looked great in the dark with all the lights on. Night shot, anyone?

Since we were paying demurrage on the flat car and we had a crew on hand, we agreed to stay over Monday to finish the unloading job. This involved Dave, Tom and I missing a day's work, as well as a day's pay, and Melissa missing a day's school. Monday turned out to be a beautiful, clear and cold day. We all turned to and finished blocking up the crane outriggers. When Norm picked up the new cable, he also bought four 35 ton shackles to be used to secure the cable to the locomotive. In Oklahoma, the crane company welded four one-half inch plates to the frame with a hole to be used for the cable tie downs. Norm, Dave, Tom and Skip Englert rigged the lifting slings centered over the engine cab. I took a slow lift on the engine, and it picked right up off of the car. As soon as the engine was clear of the flatcar, Skip pulled the car out from under the engine with engine 1857. The riggers had very cleverly arranged the rigging so that one end of the engine was slightly higher than the other, so that when it was lowered to the track, one wheelset at a time hit the rail. With some pulling and hauling on taglines, and judicious shoving and pulling with the front-end loader, skillfully being operated by Norm, the engine was on the rail and being pulled away in just over an hour. Melissa recorded the entire operation on videotape. Ken Roller added his talents and advice to the operation, as well. When the 146 was on the rails, we dismantled the blocking under the outrigger beams, shoved the beams back into place with the loader, secured the crane for movement and Norm took us all to lunch.

I want to thank Norm Holmes, Hap Manitt, Skip Englert, Tom Graham, Melissa McGrath, Dave Anderson, Steve Habbeck, Gordon Wollesen and Ken Roller for making this a safe and successful operation. Nothing got broken and no one was injured while working under somewhat hazardous conditions. There were eighteen inches of snow on the ground, it was very cold and everything was very slippery. Nice Job! I also want to thank Sharon McGarr for providing the nice warm house for Dave, Tom, Melissa and I to stay in over the weekend, as well as the Union Pacific Railroad for donating the WPMW 37 to the museum and Norm Holmes, for talking them into it.

Modelers' Note: Athearn has produced, in the past, an HO scale Industrial Brownhoist Big Hook which is very close to what the WPMW 37 looked like when it was steam powered. The conversion to the Diesel powered version shouldn't be too difficult. A few pictures in various stages are available, including some shots in the Western Pacific Video that is available in our gift shop. If anyone does a model of this thing, I'd like to see it.

## Equipment Sales

Last year we purchased two Southern Pacific GP9E's, Nos. 3191 and 3413. These units were purchased for trade or sale, not to be part of our permanent collection. We had a pending deal with Nevada State Railroad Museum to trade one of the units for one of the steam locomotives they acquired from the collection at Heber City, Utah. We were particularly interested in Yosemite Lumber Co. No. 4, a three truck Shay. They wanted an operable diesel locomotive with dynamic brakes to operate on their recently acquired Union Pacific Boulder City, Nevada branch line. After the Heber City equipment was moved to Boulder City, the government agencies that paid the bill decided they wanted to keep all the purchased equipment instead of making any trades. We, therefore, had two locomotives to do something with.

A second trade was proposed to trade a GP9 for a former Union Pacific E9 located in Connecticut. We sent Brian Challenger to look at the E9 and it was determined the E9 was not equal in value for our GP9. It had no traction motors, some wheels were so thin that its movement on connecting railroads may not be acceptable, also the engines and electrical compartments were not complete. It did have a very good body with a lot of restoration work completed.

A representative from the Connecticut Central Railroad was interested in purchasing a good GP9 locomotive for their short line. We subsequently completed a deal selling them SP 3191. This former passenger geep had a steam generator that they did not want, so it was removed before we shipped the unit east.

We had an offer from two locomotive brokers to sell the 3413. We took the best offer and this unit is now located on the Arizona Central Railway.

We have, furthermore, decided to sell the two U. S. Navy Alco MRS-1 units. If this deal is completed, these units will operate on the Northern Nevada Railway. One of the units has been repaired and painted by the buyer and is awaiting completion of the contract. These units were purchased by Norman Holmes from government surplus and donated to FRRS. They do not necessarily fit into our diesel collection and we felt that the space occupied by them and money received for them could be put to better advantage. We still have a Baldwin S-12 and possibly one or both of the GE 80-ton center cab units that we may offer for sale.

## Material Donations

Thanks go to Jerry Todd, who has a small sheet metal shop in Portola, for making exhaust stack caps for all our locomotives. He charged only for materials. George Trimble, a retired traveling auditor, donated a lantern, 5 brass wax sealers and 2 WP lighters. Scott Holyoake donated 20 paint brushes, 2 - 3 pc. sets of aviation snips, a set of wrenches, 6 plyers and 3 boxes of box-end wrenches, all new. Thanks. All will be useful to replace "lost" tools. We somehow have a problem keeping tools. If everyone would return them to the tool room when finished using them we would not lose them or have to take time to find them.

Continuation of Kent Stephens 44-ton history Northern's mini fleet of five GE 44-tonners was delivered in November 1946 as Nos. 142-146. One more 44-tonner came during the late 1950's when former SF&NV #30 was purchased by SN in 1958 and became SN 147. Tidewater Southern, WP's other California short line subsidiary, bought one 44-tonner from GE. TS No. 135 arrived in 1946 at the same time as SN's order.

The 44-tonners worked most of the SN lines except for the steel train opera-

tion to Pittsburg. They were the usual power for nearly a quarter of a century on the Chico local. They could pull about 800 tons on level track.

### Retirement of the 44-tonners

In 1970, SN started retiring the 44-tonners, by then more than two decades old and becoming too light for SN service because newer freight cars were larger and heavier.

The last three SN 44-ton units left the roster on July 14, 1971 when they were sold to Chrome Crankshaft. No.

## Sierra Timberfest I 1994

By Peter Langdon

Once again, our train was one of the biggest exhibits at the Sierra Timberfest which was held in Loyalton on October 8 & 9, 1994. As a result of last year's successful participation by the FRRS, the Committee of Sierra Timberfest invited us to bring a train over to Loyalton for the 1994 celebrations. The biggest difference this year was, that instead of log cars, we used two Center Beam cars loaded with cut lumber. The reason for this was, the only suitable log cars owned by the FRRS are the two Pacific Lumber Co. cars which, owing to their wood construction and archbar trucks cannot be moved over the U.P. Last year we trucked these two cars to Loyalton, but we decided against repeating this method because the risk of damage outweighs any advantages of having them at Loyalton.

Also because of restrictions applied by the U.P. over free moves of equipment, we did not send O&NW #4 and the O&NW 300 caboose again. This year's choice of engine and caboose was UP 849 and WP 484 respectively. Even though the equipment was more modern than we had on display last year, the train was a big hit with the visitors to Timberfest, particularly on the Saturday, when with Steve Habeck at the throttle, we made a short move with the train during the Timberfest parade. I received many complimentary remarks afterwards from people living in Loyalton, on how great 849's five-chime horns sounded. During the rest of the weekend, the train was on static display with both the locomotive and caboose open for public inspection. Also at the same time we sold items from the Museum Gift Shop inside the caboose.

I want to extend thanks to the following members of the FRRS without whose help, we could not have taken part in Timberfest 1994. Steve Habeck, Hank Stiles, Ken Roller, Gordon Wollesen, Mardi Langdon, Errol Spangler, Bob Lindley, Bob York, Al Estabrook, Dave Anderson and Janis Peterson. Their help in preparing the train, staffing the sales table and operating the train was greatly appreciated. If I have forgotten anyone who helped, please accept my apologies.

Finally we extend a big thank you to Union Pacific for taking 849 and 484 to Loyalton and to Sierra Pacific Industries (Loyalton Division) who loaned us the loaded cars.

The Timberfest Committee has decided to change the dates of next year's event from Columbus Day weekend to an earlier date, probably Labor Day weekend. The actual date will be published in the Train Sheet, so if you want to visit a small Sierra logging town, to see logging displays, to tour a sawmill and woodburning co-generation plant as well as many other attractions, and to see museum equipment in a totally different setting, then keep the dates in mind. We look forward to seeing you. We will be having a train at next year's Timberfest, (hopefully a logging train similar to 1993), but because the date is so close to Railfan Day, we have not decided what to use yet. We do not want to send a prime locomotive to Loyalton e.g. 2001, and run the risk of not having it back in time for Railfan Day.

146 was the first to be sold in 1973, going to the NOKL, as their No. 1.

Sources of information: WP DIESEL YEARS, by Joe Strapac; SACRAMENTO NORTHERN (Interurbans Spl. No. 26); "The Sacramento Northern" by Harre W. Demoro, in L&RP, Issue No. 17, Nov.-Dec. 1988; "GE 44-Tonner Study" by Don Dover in EXTRA 2200 SOUTH, Issue No. 51, March-April 1975; "GE 44-Tonners (model roster), by Allen Cope-land and Don Dover, part 1, also in Issue No. 51 of EXTRA 2200 SOUTH.)