



The Train Sheet

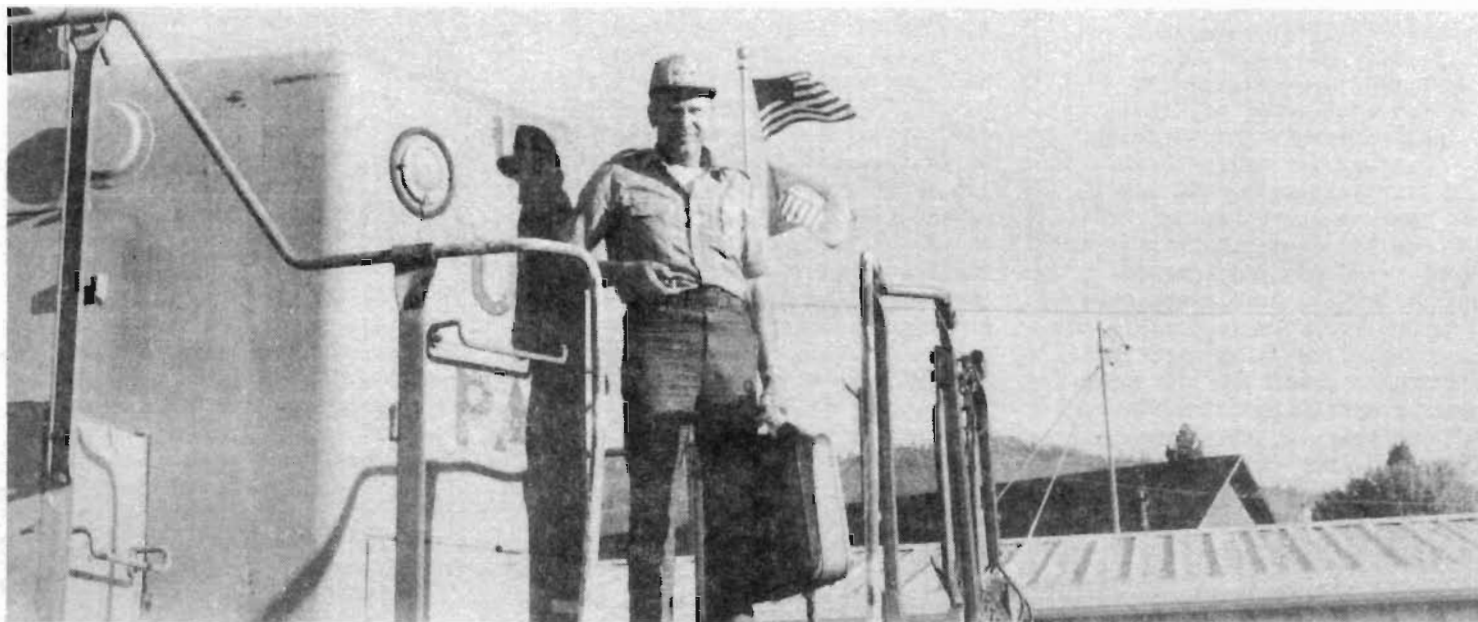
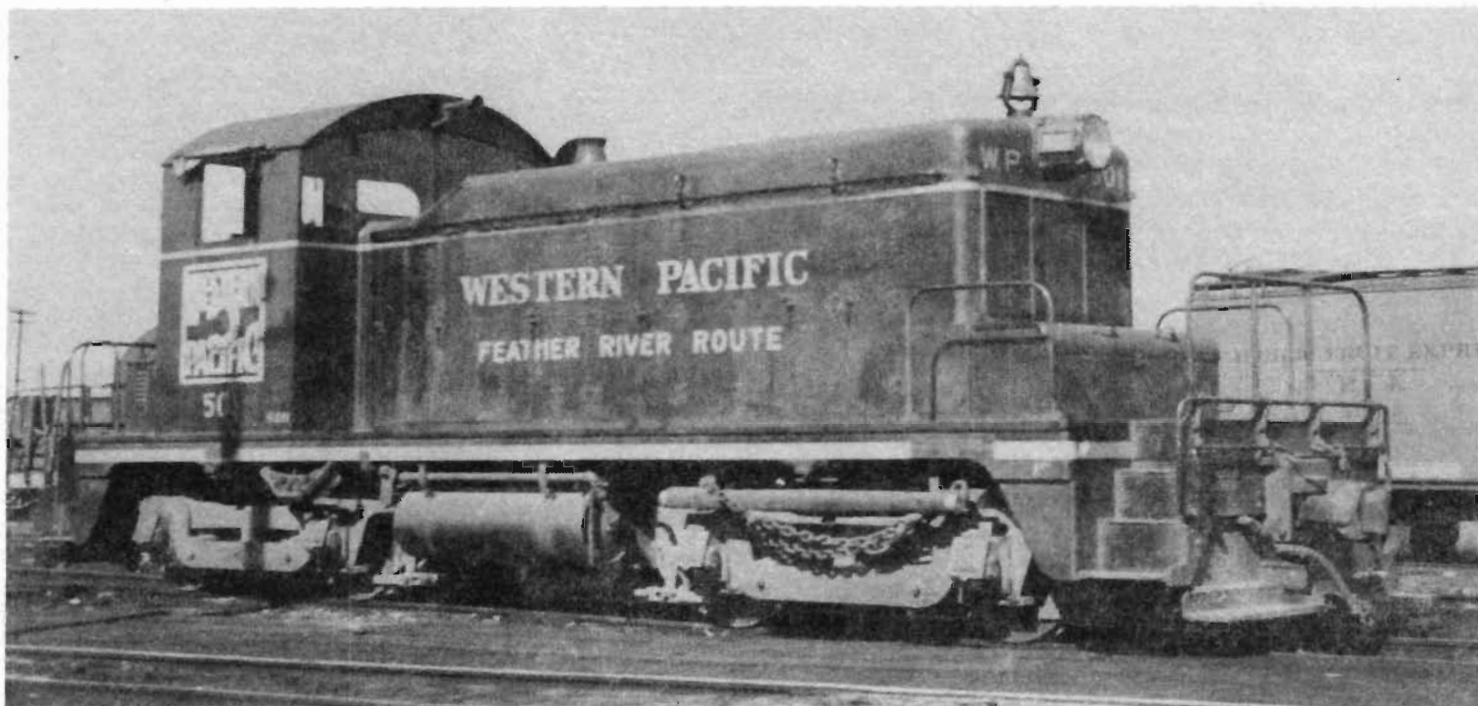
Preserving "The Feather River Route"

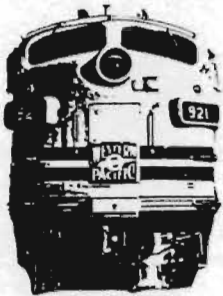
SEPTEMBER OCTOBER

ISSUE No. 27

\$1.50

WESTERN PACIFIC'S 1st DIESEL DONATED, SW-1, #501, and NORM HOLMES RETIRES





Feather River Rail Society

Preserving "The Feather River Route"

The FRRS, a tax exempt public benefit California Corporation, is the HISTORICAL SOCIETY for the WESTERN PACIFIC RAILROAD and operates the PORTOLA RAILROAD MUSEUM in Portola, Calif.

Formed in February, 1983 with the purpose of preserving railroad history in general and Western Pacific Railroad history in particular. With 22 locomotives, 7 cabooses and over 45 different types of equipment at the Portola Museum the FRRS is a outstanding society. Steam service is provided by the Feather River Short Line Railroad.

The WP LIVES in Portola.....

Single membership dues are \$15.00 per calendar year, and Life memberships are \$300.00

Our Mailing address is.....

FRRS POST OFFICE BOX 8 PORTOLA CALIF 96122

Our information phone number is.....

916-832-4131 or call 916-832-4737

"THE TRAIN SHEET" is edited by John J Ryczkowski and assisted by Mary S Ryczkowski.

Articles/Info please write, The TRAIN SHEET

Post Office Box 1663, Sparks, Nevada 89432

The Feather River Rail Society is not supported by, nor affiliated in any way, with the Western Pacific Railroad.....

FRRS tax ID number is 68-0002774



member



Tourist Railway Association Inc.

Board of Directors

President.....Norman Holmes

Secretary.....Wayne Monger

Treasurer.....John Marvin

John Ryczkowski

Dave McClain

John Walker

Jim Ley

THE TRAIN SHEET

Volume No. 5 No. 5 Issue No. 27

1000 issues printed

NEXT WORK WEEKEND

Nov. 21-22nd

NEXT SOCIAL MEETING

Dec. 12th

SEE YOU IN PORTOLA

FROM THE PRESIDENT'S DESK

With the broad spectrum of occupations among our membership, perhaps some of us can help repay Union Pacific for its generosity towards our museum by influencing your employers to ship freight via UP. Without UP's assistance we would not be where we are today.

We have received news from Friends of the Northwest Rail Museum. The Portland (Oregon) Union Station has been bought and will be the focus point of a museum facility. SP Daylight 4449 and SP&S 4-8-4 No. 700 plus other equipment will be on display at Portland's first Rail Fair, November 6-8, 1987.



DIESEL DOINGS

During August and September a number of projects helped make our diesel locomotive collection look and run better. Brian's diesel class worked on WP 707, steam cleaning the unit and removing "tons" of sand accumulation in the car body. Jim Ley and Hank Stiles replaced all the missing copper lines to get the air system and sanders working properly. Worn brake shoes were replaced, and Ken Roller confronted the car body with steel wool, cleanser, water, and elbow grease. The exterior and interior now looks much better. It is a good running unit.

UP 849 developed a wheel slip problem which confounded our "experts". The problem was located by a visiting member, Howard Wise, and repaired by Jim Ley. It was a simple repair,

805-A LOAN

Dorothy Baldi, Kyle Brehm, Donald Koors, Jeffrey Baus, Tom Lerza and Tom Mounovan have made donations to the 805-A fund. They have helped lower the balance to a current \$6858.60....Our loan for the purchase of this unit is still quite large. Donations from our membership will help to retire this loan. Also your donations are Tax Deductibleit's near the end of this tax year.....

DONATIONS

The following have made cash donations to our museum: Robert Dobbins, Russell Fike, Richard Padgham, Brent Schuster, and Vernon Simas.

Contributions to our Donation Box has been pretty good this summer.

Materials and artifacts donated include a set of original drawings of paint schemes for WP F7, GP7, and GP35 units given by Robert Topham. From Robert Young's collection, three large WP steam era photos. Richard Morgan of New Zealand gave us a NZ Rys rule book and a number of timetables.

FEATHER RIVER RAILROAD DAYS

August 22-23, was a grand success this year, with nearly double the attendance of last year. In anticipation of the usual Saturday crowd, it was decided to operate two trains this year; two cabooses and a vista-flat each. This would allow one to load while the other was going around the loop. Three engine crews with three engines were needed along with two train crews. Steve Habeck, Rod McClure, Phil Schmierer, Dave Waters, and Vic Neves did all the necessary switching on Friday, Hap hosed down the shop building floor so that everything would be ready for Saturday. Steve Milward put white lines down for control in the parking lot using the talc powder from the balloontrack--now you know what that is good for!

Saturday morning Dave McClain started the locomotives and the trains were ready as soon as the parade was over at 11:30 am. Vic Neves set up a control center and assumed the position of dispatcher. Portable radios were used and a set of outside speakers let the public know what was going on. Rod McClure was the trainmaster and assisted wherever needed. Because of the number of visitors and the complex train movements, Kent Stephens and John Walker kept control over the pedestrian crossing. Pam Hodson and Mary Ryczkowski were in the ticket booth. Over \$2,000 worth of tickets was sold. A record.

At one time eight locomotives were in operation; FRSL 8, KCC 2, WP 608, UP 849, WP 921D, WP 2001, ARR 1506, and ARR 1517. The operation of FRSL 8 was a special treat for us and our visitors. Jim Boynton and a crew of volunteers have worked many hours over the past three years to bring this old girl back to serviceable condition. We hope it will see much use in the future.

Train and engine crews over the two days were; Dave Anderson, Bruce Cooper, Mark French, Steve Habeck, Larry Hanlon, Norm Holmes, Fred James, Dave McClain, Rod McClure, Rick Merle, Steve

Milward, Vic Neves George Oels, John Ryczkowski, Phil Schmierer, Ken Thompson, Dave Waters, Gordon Wollesen and boys.

Besides train operations our gift shop did a great volume of business, Vickie Krois and Julie Anderson were busy all day Saturday and Sunday. Barbara Holmes Holmes, assisted by Charlene Marvin and Sue Cooper sold sodas, ice tea and snacks while Emery Godard cooked over 300 hamburgers and over 150 hot dogs on our own grill. The \$600 gas grill was completely paid for with food sales profits. Nick and Dorothy Baldi and Robin Shannon helped Emery with his sales.

The UP business car was open to the public, exiting through the diner. Shannon Smith kept watch over it. The open platform of coal flat WPMW 8545 provided a stage where several musical groups performed in the diesel shop both days. UP's quartette was particularly popular. Norm Holmes assisted by Ed Del Prete and Carl Swenson did a quick rebuild of the deck of the flat so it could be used for the stage.

Ken Roller set up an attractive display of his paintings and sold one of his recent works. Many hours of preparation and clean-up were completed prior to the event, now that it is over we can relax a little until next year. However the public has come to expect great things from us--we have to do better next year.

LABOR DAY WEEKEND

Northern California's catastrophic forest fires, while not directly affecting Portola, nevertheless kept a lot of visitors away from the mountains and our Labor Day weekend train rides. Smoke was thick, sometimes visibility was down to less than one mile. Trains were operated hourly around the balloon track for all three days, although sometimes the crew outnumbered the passengers. Feather River Short Line's steam engine was fired up on Saturday and operated around the balloon several times to the delight of all present. Helping out on the holiday were; Dave and Julie Anderson, Bruce Cooper, Mark French, Emery Godard, Ray Graham, Norm & Barb Holmes, Monte Isham, Jim Ley, Hap Manit, Andy McCarron, Rod McClure, Steve Milward, Wayne Monger, Vic Neves, Matt Parker, John Ryczkowski, Kent Stephens, Hank Stiles, Gordon and Dianne Wollesen.

SEPT. 26-27th OPERATIONS

Again our visitor turnout was not all that great despite good weather. Hourly trips were conducted around the loop both days and the FRSL steamer operated on Saturday. A first at our museum was the steam engine pulling the Santa Fe caboose around the balloon for photos, followed by operation with the SN caboose. The No. 8 still needs some work, but she runs fine. Sunday after the last run, several hours were spent switching the yard to place equipment in winter locations. However, past experience shows that something will need to be moved again later. Crews for the weekend were; Brian Challender, Bruce and Sue Cooper, Mark French, Steve Habeck, Jim Ley, Hap Manit, Dave McClain, Steve Milward, Matt Parker, Hal and Rita Shields, Ken Thompson, and Gordon and Dianne Wollesen.

Gordon and Dianne Wollesen have moved their family from Foresthill to Portola after Gordon retired from the California Division of Forestry. We welcome them to Portola and certainly appreciate all the help they have given to our museum.



FRRS T-SHIRTS

I would like to thank everyone that ordered the silver FRRS logo T-Shirts, over 60 were ordered and this sold-out my stock so there was and is going to be a little delay in shipping, especially XXL. This is due to the current unavailability of the high quality "Hanes" T-Shirts, but I'll soon have a full stock to fill orders.

I have received several letters from satisfied members after ordering their shirts.....

With this issue, the "Pink" FRRS T-Shirts are now available. They have the same FRRS logo with a red feather but are on a pink Hanes T-Shirt and are in the smaller sizes for the children and ladies of the Society in mind.

For your convenience I have put an order blank on the back side of the mailing label.....

Please order your pink or silver FRRS member T-Shirts and remember that your purchase is supporting your Society.....



"HAPPY RETIREMENT NORMAN" reads the banner on UP 3369, Norm & Barb (4th & 3rd from right) with all the well wishers that were on hand for his last run.....

NORM HOLMES RETIRES

With the arrival of the NPOAZ (mail, pigs, autos) in Portola Sept. 28, 1987, Union Pacific Engineer and Feather River Rail Society President Norman Holmes brought his railroad employment to a close. Having reached age 60, and with the incentive of an early retirement separation allowance, Norm figured forty-two years with the railroad was enough.

Norm loved trains and particularly the Western Pacific from as early as he could remember. At age 17 he went to work as a steam watchman in San Jose. As soon as he turned 18 (August 15, 1945) he started on his student fireman trips "covering the road" from Oakland to Portola. His first pay

trip as a fireman was on a steam switcher in Stockton, doubling through from an afternoon shift to a midnight job--16 hours. A brief stint in the Army in 1946 cut into his career and when he returned to civilian life he was cut off from his firing job. In 1950 and '51 Norm worked in Portola and Stockton, but it wasn't until 1953 that year 'round employment was available. Norm worked switchers and locals in the Bay Area, made 90 round trips as a fireman on the Zephyr and was promoted to engineer in 1959.

In 1970 Norm decided to return to Portola with his family. They bought 15 acres of pine forest

land, built a home in 1971, and have been there ever since. Norm's last assignment was in the freight pool between Portola and Winnemucca--211 miles. Will he miss the railroad? Sure, but he won't miss the midnight calls and the allnight slow trains. Norm shouldn't have any trouble keeping busy--"honey do's" and the Portola Railroad Museum should take care of his free time.

Norm and his wife Barbara plan to celebrate their 40th wedding anniversary next year with a month long trip to New Zealand and Australia.

NOTICE: When sending in a check that includes amounts for both a gift shop order and a membership renewal, please make two checks--we have to keep these accounts separate. A donation and dues can be in the same check, though.

FLIMSIES!

THE NEWSLETTER of WESTERN RAILROADING.....
This "Sprint train" of hot RR news can be had for \$10 for 10 issues.....
Flim Baden
 P.O. Box 3165-FX
 Costa Mesa, CA 92628



The Railway Educational Bureau

NEW TRAINING

The FRRS has made Railroad Technical Training materials available to members through independent study classes given by the Railway Education Bureau. The REB trains railroad personnel and has a very in-depth range of courses. Upon course completion a certificate of achievement or a diploma is issued. The cost is \$9.00 per class. An example of the classes....

MECHANICAL DEPARTMENT

- BLUEPRINTS, DRAWING, DRAFTING
- BRAKES
- CAR DEPARTMENT
- ELECTRICAL-GENERAL
- ELECTRICAL-LOCOMOTIVE.....
- GENERAL.....
- LOCOMOTIVE ENGINEER (OPERATING)....
- MACHINIST
- METALWORK.....
- WELDING.....

MAINTENANCE OF WAY

- TRACK FOREMAN'S TRAINING PROGRAM.....
- TRACK SAFETY STANDARDS (COMPREHENSIVE).....
- WALL CHARTS.....

If you're interested and would like to become involved please write to John Ryczkowski and he'll give you more information..... S.A.S.E.



Western Pacific's first diesel sitting on the garden tracks at Stockton nosed up to the 921!

WP's FIRST DIESEL DONATED

by Norm Holmes

On Sept 30th 1987, Corn Products Company formally presented former WP SW-1 #501 to the Feather River Rail Society. Society President Norm Holmes received the reverser as the key to ownership at a brief ceremony at the Stockton plant from General Manager Richard M. Vandervoort. Other society members on hand were: Dave and Julie Anderson, Barbara Holmes, Jim Ley, Rod McClure, Phil Schmierer and Hank Stiles. A few days later the unit

was moved to Union Pacific's Stockton shops for work prior to its movement to Portola.

Western Pacific's first diesel-electric switcher arrived Elko Sept 26, 1939, in the form of General Motors Electro-Motive demonstrator No. 906. After working three shifts in the yard in Elko, 906 was sent to San Francisco, back to Stockton and Portola for additional evaluation. WP officials were impressed with its performance and purchased the demo and two additional units for service in San Francisco and Oakland. The

diesel's around-the clock availability and lack of steam and smoke inside the warehouses associated with the steam switchers were factors in the company's decision. The 100 ton, 600 HP locomotive could out perform the 0-6-0 steam switchers they replaced and were able to do it at a lower fuel cost.

The trio spent their early years in the Bay Area, but by 1945 they had been replaced by Alco S-1's and transferred to South Sacramento yard. (Your author worked on one of the units as a fireman in Sept, 1945.) In 1965, WP transferred 501 and 502 to the Sacramento Northern where they become 401 and 402,

| | | |
|--|--|---|
| <p>NOS. 501-503 No. OF LOCOS. 3 BUILT-ELECTRO-MOTIVE CORP 1939 SPEC. No. E.M.C. MODEL SW-1 POWER PLANT 1- 600 H.P. DIESEL ELECTRIC ELECTRO-MOTIVE CORP DIESEL ENGINE MODEL 6-567 6- 81" x 10" CYLS. V TYPE, 2 CYCLE 4-MOTORS; ELECTRO-MOTIVE CORP TYPE D7A VOLTAGE 300-600 CONTROL EQUIPT. ELECTRO-MOTIVE CORP. VOLTAGE 64-76. GEAR RATIO 62:15</p> | <h2 style="text-align: center;">DIESEL SWITCHING 8-WHEEL</h2> <p style="text-align: center;">AFE 191-39</p> | <p style="text-align: right;">ROAD CLASS 501 SYMBOL S-50 FUEL-DIESEL OIL</p> |
| <p>AIR COMPRESSOR 1- GARDNER-DENVER W.X.E. BRAKE EQUIPT. WESTINGHOUSE A.B. Co. 14 E.L.</p> | <p>TRACTION POWER 50000 LBS. MAX. PERMISSIBLE SPEED 45 M.P.H. MAX. TRACK CURVE 100 FT. RADIUS. AXLE LOAD 50000 LBS.</p> | <p>* WEIGHTS IN WORKING ORDER ON DRIVERS (OVER 200000 LBS. BY LOCO. TOTAL) ACTUAL SCALE WEIGHTS PRESENT OFFICIAL SCALE WEIGHTS ON DRIVERS AND TOTAL ACTUAL SCALE WEIGHTS WITH DRIVERS 1 1900 155200 6-22-41 2 1900 155200 6-22-41</p> |
| <p style="text-align: right;">TOTAL DRY LIGHT WEIGHT APPROX. 115,000 LBS.</p> <p style="text-align: right;">* NOTE - INCLUDES FULL LOAD FUEL, SAND, OIL, WATER, ALL EQUIPT. AND 2 MEN IN CAB.</p> | | |

and saw service in Sac. and Yuba City. In 1971, WP 503 was sold for scrap and cut up in Associated Metals yard in Sacramento. In 1980, 401 was being stripped for parts to keep 402 running. When Corn Products Co. needed a switcher for their corn sugar processing plant south of Stockton, WP repaired and sold the 401 to that company. It was painted light green and numbered CPC No. 1. SN 402 was by then painted Perlman Green and Orange and saw little service until Oct. 1983 when it was donated to the California State Railroad Museum in Sacramento, California.

Corn Products used the SW-1 to switch grain cars until early this year when they purchased a Santa Fe CF-7 from Mountain Diesel Transportation. The No. 1 was now surplus and we were interested in acquiring it for our museum. Through the efforts of John Ryczkowski, Hank Stiles, Phil Schmierer and Norm Holmes, Corn Products management decided our museum was the most suitable home for this historic locomotive. As soon as possible we plan to repaint the unit back to its basic black with silver trim and lettering as it was when first used in 1939.....WP LIVES.....

MILWAUKEE U25B #5057 by Norman Holmes

In 1959, General Electric, wishing to find a niche in the domestic locomotive market, embarked on a research and development program which led to the introduction of the U25B diesel-electric road loco-

otive. Through aggressive marketing and sales promotion GE managed to penetrate the market and overtake Alco as the nation's number two locomotive manufacturer. When production of the U25B ceased in 1966 a total of 476 units had been produced.

The Milwaukee Road purchased 12 units in 1965. Our 5057 (originally No. 388 serial No. 35640 6-65) is actually a U28B in a U25B car body according to an article in August, 1987 "Railroad Model Craftsman", and is the only remaining MILW U25B.

Several years ago the Western Nebraska Technical School purchased 5057 to be used as a training tool in a government contract to train military personnel in locomotive maintenance. When the training contract was completed, the locomotive was no longer needed. In the search for General Motors F units, Dale Sanders contacted the school (they had a MILW F7A) and in the course of the inquiry found out about the U25B. Dale asked if they would donate the unit to our museum, The answer was yes, so now we have one of the few remaining GE U25B's in existence.

GE's U25B, along with GM's GP 30 and Alco's Century series locomotives marked the start of the second generation in diesel locomotive development. Western Pacific, a long time customer of General Motors purchased their first GE road power in 1967 in the form of U30B's. but that's another story.

Union Pacific, again, graciously agreed to transport the unit from Sidney, Nebraska, arriving Portola August 12th. Preliminary inspection revealed with some TLC and some parts replacement including a brake beam, we can make the unit operable. Although one traction motor pinion shaft is cut, it will operate on the three remaining good motors.

Another piece of diesel locomotive history is now preserved at the Portola Railroad Museum.

MEMBERSHIP

We would like to welcome the following Life Members to our organization:

R Phillips, Hank Stiles, Michael Tanner, Mary Brunberg, Galen Anderson and Dale Sanders.....
We now have 29 Life Members!

Forty-Four new members joined our organization during August and September, and we would like to welcome them all.....

from the Membership Officer's desk..
Joe Way

The membership duties have recently been consolidated with the maintenance of the mailing list and label production, and I now have charge of these related chores. I am expanding my computer data base to keep track of membership information in addition to the basic names and addresses I maintained for mailing labels, and it's quite possible that in the process of adding information I might inadvert-

Milwaukee Road U25B #5057 at Portola, the 5057 worked in Washington State at the end of it's service life and was in the last train out of Tacoma.



ently change or delete existing information. Any such changes would show up on the mailing label affixed to this issue of the TS, and I would appreciate it very much if you would check carefully for discrepancies in your name or address. If you find any, please let us know.

I also maintain names and addresses for the Museum Gift Shop Catalog mailing list. That list has grown to nearly 1400. The Rail Society list, for which I must maintain almost twice as much information per entry, is over 800. My small (64K) computer system is running at very nearly its limit with both of these lists, and I foresee that in the near future I will run out of room.

I wonder, accordingly, if there might be someone among the members, who might have upgraded his or her computer system and therefore has surplus equipment which might be suitable to our needs? My preference would be for IBM-XT compatible hardware, with or without software, but I'd be happy to talk to anyone about anything they might have available. I would be glad to pay a reasonable price or perhaps someone might like to make a donation to the society.

Either way, any response to our problem will be appreciated. You can contact me directly on this matter, at 3494 Chandler Road, Quincy, CA 95971-9628. My phone number is 916-283-4034.

Thank you

TRUE TALES OF THE RAILS

Once upon a time, on a stormy night in the Feather River Canyon, the Portola to Oroville local was in the siding at Belden waiting for an eastbound freight. Belden is well known for its windy conditions and this night was no exception. The wind coming off the lake formed by the power day was so strong that rain was going up instead of down. It so happened that there was a MW flat car ahead of the caboose with some loosely loaded sheets of plywood aboard. The conductor and rear brakeman thought it would be interesting to see what would happen if one of these plywood sheets were raised into the wind. The wind picked up the sheet, carried it up the canyon wall and over the top. When the local finally left Belden all the plywood

was gone from the flat and someone on top of the mountain still is wondering where all that plywood came from.....

THE LITTLE GIANT

By Norm Holmes

A two year search for a truck crane through the state surplus property reutilization program ended in June when we were informed a 20 ton Little Giant crane was available. It was located at McClellan AFB's surplus yard (near Sacramento) so the location was convenient. An inspection was made, it looked good

CONTINUED

HAP MANIT MADE LIFE MEMBER

In appreciation of all of Hap's vitality, labors and devotion to the FRRS. The Board voted to award Hap a Life Membership. Born in Loyaltan, Calif in 1916 and a Portola resident since 1929, Hap worked for the Western Pacific from 1937 to 1976 retiring from service as clerk. A WWII veteran with 5½ years service in the Army, he was runner-up for legionnaire of the year for the State of California in the American Legion.

Hap Manit (on left) doing what he likes to do best, showing visitors around the museum. Today he is showing Mr & Mrs S.F. Burmeister, retired WP asst Chief Engineer, around.



and the state was informed we'd take it. The state wanted \$2,500 as a handling charge, which was reasonable for what we were getting. In order to save money we wanted to drive it to Portola. Subsequent inspection and a call to Beale AFB, where it was used, indicated the drive transfer case was bad, however. It had been run dry so the gears and bearings were destroyed. Jim Ley and Myself drove to McClellan and removed the gear box for repair. A search for a used unit was in vain, so repair was the only answer. This is an expensive item—\$2,100 later we had a good transfer case. Getting insurance to move it on the highway was the next problem. Insurance would cost from \$1,800 to \$2,200! Since we would be using the crane mainly on museum property it was decided to have the crane hauled to Portola on a low bed trailer.

On August 31, Hank Stiles accompanied Jim Ley in his truck with gear box and tools, Dean Hill went with Myself in my 2 ton 1955 Ford flat bed and Rod McClure, Dave Anderson and John Walker met the rest of us at McClellan. The idea was to install the transfer case in the crane and drive it onto the low bed trailer. However, McClellan would not allow us to work on the unit on base. Meanwhile, Norm and Dean drove on to Stockton to pick up three 85lb switch points needed for our on-going track projects. As the UP is phasing out 85lb rail in Stockton, the points were surplus and available for our use. Soon after Norm and Dean got back to McClellan, the paper work was completed, the low bed trailer arrived and loading commenced. The crane's truck motor was started to provide brakes and with a pull from the low bed tractor and a push from the base fork lift, the machine was loaded on the trailer. The crane came with two booms (both off the crane), there were disassembled into two 16 foot sections and the four pieces loaded on my truck. The nearly 200 mile trip was made without incident and everything was off-loaded at the museum the next day.

A new "toy" always gets attention, so within a few days Jim Ley and Rod McClure had the boom reinstalled, the cable rigged and the Little Giant was ready for service. It is completely operational.....



MILEPOSTS

OCTOBER, 1957

How We're Doing

Gross operating revenues for the month of August, 1957, as compared with the same month a year ago, showed an increase of \$661,375, or 14.45 per cent.

California Zephyr load averaged 103.1 per cent of capacity in August, 1957, as compared with average load of 100.7 per cent during the same month in 1956. (More than 100 per cent of occupancy is possible since some passengers leave the train en route between Oakland and Salt Lake City and their space is reoccupied.)

Concrete lining of Tunnel 38 about 40 per cent completed; mining begins on Tunnel 40. Contractor laying rail on new five-mile Marblehead spur.

Pennsylvania will discontinue all transcontinental Pullman through-car service October 27. Effective October 24 from San Francisco and October 27 from New York, the New York Central only will handle through-car service for the *California Zephyr* on alternate days as in the past.

ALASKA 1507

Some of our members and visitors have wondered about the work on this F7-B unit. This F, along with the other Alaska F's belong to Mountain Diesel Transportation and are on lease to our Rail Society for display and operation. The 1507 is in need of a complete overhaul so MDT had contracted with our Dave McClain to do the work at our museum. Doug Jensen along with MDT owners are assisting in the overhaul. The work will be of interest to museum visitors as it progresses and in no way takes away from work on FRRS owned equipment.

A special thanks is due Cal Carlson of Portola Cal-Gas for helping hook up the new hamburger grill and providing a tank of propane.

What do British truck drivers do when they take a vacation? We don't know about all of them, but we know what one did... Peter Langdon came to Portola and spent two weeks working on museum equipment. Peter painted most of the boiler jacket on No. 8 and kept busy on various other little jobs. He had an enjoyable time.



**Western Pacific
Railroad Company**
"THE FEATHER RIVER ROUTE"



OCTOBER, 1957

Sacramento Northern recently purchased three EMD diesel-electric locomotives from the defunct New York, Ontario & Western Railroad, at a cost averaging about \$45,000 each.

Two of the engines, renumbered SN-301 and SN-302, are in service between South Sacramento and Nicholas. The third, renumbered WP 801-D, has been leased to WP.

To bring the locomotives up to SN and WP standards, an additional \$2,-287 was spent on each for repainting and work at WP shops in Sacramento. Improvements include "dead man controls," windshield washers, awnings, rear-view mirrors, water coolers, first-aid kits, brake pipe flow indicators and jump seats for brakemen. Also, additional grab irons and hand holds, dimming switches, coat hooks, fire extinguishers, ash trays, sun visor extensions, and low-level marker brackets. Fusee and torpedo holders, toilet seat



NEW POWER FOR S.N.

No Loss in Scenery When New Line Opens

WESTERN PACIFIC *Mileposts*

SEPTEMBER 1957

Work already under way in relocation of railroad

covers, spark arresters, and radios were also installed. Front and rear couplers and sanding arrangements were modified.

SN now has six 44-ton, two 70-ton, and three 120-ton diesel-electrics, and three 62-ton electric locomotives.

THE relocation of Western Pacific's main line prior to the construction of the proposed Oroville Dam will not deprive *California Zephyr* passengers of the type of natural and rugged scenery that can now be seen. Although about four miles shorter in length than the present line, all indications are that the new portion of the railroad between Oroville and Intake will be just as spectacular as the present lower portion of the Feather River Canyon.

These pictures, taken at random from points along the center line of the already staked out line, are examples of views to be seen from the vista domes. Because of preparatory work now being done by the Department of Highways for the relocation of U. S. Highway 40-A between Oroville and Jarbo Gap, county and construction roads made access to these viewpoints possible without too much difficulty.

Access work has been completed for driving the 4,412-foot Tunnel 4 and the 8,830-foot Tunnel 5. Both tunnels will be driven each way from Dark Canyon. As the tunnels are being dug, it is necessary to create a means of access across the canyon from one portal of a tunnel to the other. A temporary 16-foot culvert will encase the stream of water flowing through the canyon, and will be in use for at least two years.

The canyon between the two tunnels will ultimately be spanned by a concrete arch bridge, the culvert will be removed, and the stream will flow normally below the span.

It is expected that tunnel driving will begin this month. Three shifts will work around the clock on the project, being done by Peter Kiewit Sons' Co.

FRRS's new crane is being put to good use lifting the roof panels from F7-B, 1507, where in the US is a B-unit being reblt?



Vital railroad developments are being created by California's mammoth \$2.5 billion Central California Water Project, of which the Oroville Dam project is a segment. The Western Pacific line change, required by the Oroville Dam project, involves the latest techniques in high-level bridge and tunnel designs, soils and foundation developments, track laying, and other construction. The Oroville Dam, now under construction northeast of Sacramento, will divert waters of the fabulous Feather River to Southern California. The earthen-fill dam, measuring 3600 ft wide at its base, will rest on, and cover, a massive concrete core anchoring the dam to the river bottom.

Though railroaders are used to major engineering projects, few face projects the magnitude of Western Pacific's Oroville line change. Even so, this \$40 million project, representing the cost of relocating the railroad, is but a small segment of the over-all Oroville project. It has involved the relocation of Western Pacific's main line between Oroville (MP 205.47) and Intake, California (MP 232.43), replacing the road's original main line which will be inundated by the reservoir behind the dam. The dam is scheduled for completion on November 15, 1967. The relocation cost will be borne by the State of California.

Oroville Dam itself will consist of 77 million cubic yards (154 million tons) of earth or 1.4 million railroad carloads of cobble and impervious clay materials. Its 750-ft height will make it the highest earth-filled dam ever constructed. It will create an immense lake storing up to 3.65 million acre feet of water, will con-

trol the Feather River flood waters, and will provide water for irrigation and industrial use in many parts of the state, especially along the San Joaquin Valley and as far south as San Diego, California. Its waters will generate vast amounts of hydro-electric power.

To construct the dam, the contractors built their own railroad. The earthmoving chore, it is said, based on the weight of material and the distance moved, will be three-and-a-half times that of famed Gatun Dam in Panama. Three operating trains utilizing four sets of cars, 42 cars in each set, operate 21 hours per day, five days each week on the Oro Dam Constructors' railroad.

By the construction of the earthmoving railroad and by the use of special excavators, Oro Dam Constructors are said to be doing the job at \$10 million under the state's estimated cost. And, the contractors are ahead of schedule. Onan Construction Company, Inc. of Tennessee is the sponsor for the joint venture group along with seven other prominent contracting concerns which form the Oro Dam Constructors. The dam contract for \$121.0 million makes it the largest non-defense construction contract ever awarded competitively in the United States.

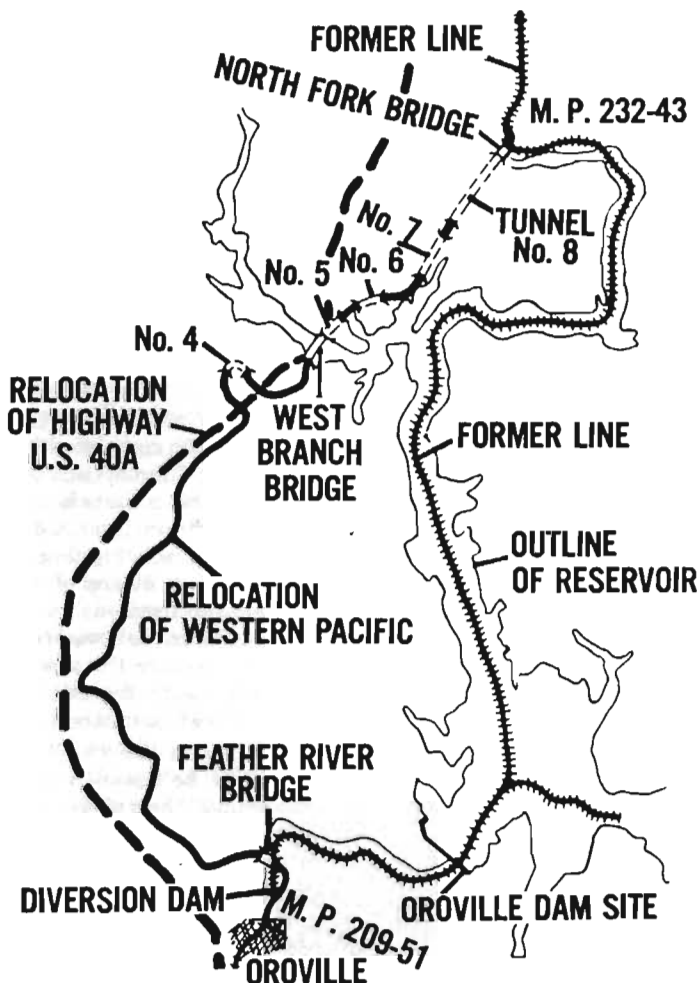
The work involving the Western Pacific was quite extensive. Some 27 miles of old line were replaced by 23 miles of new main track, four miles less than the old. Four major bridges were built—one being a notable 943-foot concrete arch structure; another a single arch 66-foot; a 1079-ft deck plate girder structure on single circular piers; and a joint highway through truss railroad

WP Makes a Mountain Line Change

by Edward T. Myers

MODERN RAILROADS, NOVEMBER 1964

MAP OF NEW AND OLD LINES



bridge 1879 ft in length. Five concrete-lined tunnels and considerable earthmoving were required to hold the railroad's maximum gradient at one percent compensated.

On October 22, 1962, Western Pacific started operating trains over its new line. Final work on the new alignment was essentially completed January 29, 1963. Immediately thereafter, Western Pacific's old alignment was parted at the dam site at which time dam construction officially got underway.

Oroville Railroad — A Heavy-Duty Line

This heavy-duty railroad was built by the contractor and extends for some twelve miles from the most remote borrow area to the dam. Segments of this haul line are double track. Gauntlet track is used in between the double track segments for purely economic reasons. Thus, the three crossings of the Feather River are by gauntlet. The only tunnel was formerly on the old Western Pacific line. Gauntlet operation was utilized only to avoid the expense of daylighting or of by-passing this tunnel with a second track. Also, in making the upper crossing of the Feather River near Thermalito, a single-track crossing was made. This bridge had originally been planned for double track, but the cost of the bridge, problems of curvature, and other engineering considerations caused the contractor to stay with single track.

Track on the contractor's railroad is 136-lb CF&I section rail, welded in 78-ft lengths for ease of construction. Operating speeds are relatively easy, with a maximum of 30 mph applicable for loaded trains and 40 mph for empty return moves. Loads, however, are relatively heavy, each car carrying 110-ton payloads. Each train consists of 40 loaded cars pulled by two General Electric U25C's, 2500-hp diesels with two empty cars on the rear. The two rear cars are essential for efficient operation of the hydraulic pusher, a part of the automatic car dumper near the dam site. Cars, as well as locomotives, are new. All this sounds rather amazing for a railroad which is temporary and will be removed once its job has been performed; here rail haul proved to be the only practical mode for moving materials with high efficiency.



GE U25C Built for the Oro Dam Constructors, we missed getting one for Portola.....

The 42-car trains depart from the loading point at one of the three borrow pit automatic loading stations on an average of every 20 to 30 minutes, five days per week, 21 hours every day. The additional two days, Saturday and Sunday, are used for maintenance of railroad motive power and cars. Each train handles 4400 tons of cobble or selected clay.

The contractor's railroad uses about three miles of the old Western Pacific line. This haul railroad was built to standard gage and AREA standards. Because property owners in the Thermalito area would not provide, at a most liberal offer, right-of-way to properly locate this railroad, Constructors' engineers found themselves forced to locate the major portion of the haul line in most disadvantageous locations. As a result, the railroad was placed along the low bank of the Feather River. This increased the number of river crossings. For example, three new bridges across the Feather River were required, with the possibility of a fourth. Furthermore, protection against overflow at times of high water was a must in dealing with the Feather River.

The railroad maintains three loading areas; one, for impervious clay and two for selected cobble fill. Loading is automatic, with ten cars being loaded simultaneously in three minutes from overhead hoppers. The entire 40 cars are loaded in 12 minutes. The road locomotives pull their own train through the loader.

As of October 6, 1964, an approximate 62 million cu yd of material has yet to be moved. Although at this time, only 19 percent of the fill material had been moved, the contractor was and still is running considerably ahead of schedule. This good fortune results from an abundance of "know-how" by the project manager in his utilization of ultra-modern earthmoving techniques, which extend from the most unique excavation methods to the contractor's selection of a railroad as a material haul medium coupled with special dumping methods. Over \$20 million was spent on modern earthmoving equipment before full-scale dam building operations got fully underway.

Modern Excavating Equipment Fills Trains

At the head of the railroad is an ultra-modern layout of excavation equipment, all operated by the contractor. A large 30-ft diameter Wellman-Lauchhammer bucket wheel is the prime excavator for the select cobble fill. It is supplemented by two 12-yd

draglines, both being major excavating components. The big wheel has a working radius of 61 ft and a cutting height of 32 ft, and loads onto a belt conveyor which carries the fill material back to the loading hoppers above the railroad track. Despite its large size, the excavator rig has tremendous maneuverability. When a move is necessary, dozers shove the track on which the conveyor operates into a new position. A TV camera keeps the operator informed on the two-unit mobile conveyor's operation. Since the wheel excavator cannot quite keep up with the capacity of the trains for moving the fill, a dragline operation of two 12-yd draglines with 55-cu yd haulers supplements the big wheel. A second belt conveyor is located uphill from the dump.

The impervious clay fill is excavated by means of either a dragline or 55-yd Caterpillar scrapers pushed by D-8-H dozers. The clay is loaded into the train haul cars from overhead cylindrical tanks. Internal and external vibrators are necessary to help dislodge the impervious clay material, especially when any moisture is encountered.

Each of the 40 loaded railroad cars carries 110 tons or about 55 cu yd of fill material. This cobble material is loaded from under a high overhead storage pile through means of automatic overhead doors which load ten cars at one operation.

At the near dam site, or north end of the railroad, a Wellman-Lauchhammer revolving car dumper dumps two cars at a time in one minute. The cars have rotating couplers permitting the dumping operation to take place without uncoupling cars.

Trains are operated by an engineer and an oiler-helper. The engineer takes his locomotive through the dumper and automatically uncouples from his train. The loaded cars are pushed through the dumper automatically by a special car pusher. The engineer then proceeds to pick up a 42-car train of waiting empties to return to the loading area. Each locomotive has automatic couplers and air connections activated by solenoids. When the engineer backs into a cut of cars, he controls the coupling manually from his cab; after which action an automatic device makes immediate connection of the locomotive to the train. Thus, a minimum amount of time is lost at the unloader in uncoupling from the loaded trains and in coupling to empty trains. From the

east side of the river where the dumper is located, the fill material is distributed by a 2380-foot conveyor belt which spans the Feather River on its own bridge, depositing material at a storage pile located over a conveyor tunnel. This layout will move 77 million cubic yards from the left bank at the car dumper to the right bank storage area for distribution through a second set of belt conveyors and 55-cu yd wagons to dam construction area.

Western Pacific Moves Across the River

Before the contractor's railroad could go into operation, the Western Pacific had to move to the opposite side of the Feather River. First work was to prepare a new roadway for the Western Pacific and two diversion tunnels for the Feather River beneath the dam construction area.

Relocation of the railroad extends for 23 miles from Oroville to Intake, California. As measured on the old line, this was 27 miles. Thus, Western Pacific's route has been shortened by approximately four miles. Maximum curvature on the new line was reduced from 10 deg to 4 deg 30 min. Grades on the new line were held to the same maximums as on the old line: one percent compensated. Unfortunately, the new line has a considerable disadvantage over the old. The old had an easy 0.4 percent grade approaching "the hill," the point of maximum grade. Here, the engineer had a 14-mile run for the hill. Now virtually the whole line is on an ascending grade eastbound.

The new line departs from the former main line a few hundred yards north of Western Pacific's passenger station at Oroville. This station is some four miles downstream from the Oroville Dam site and has been the center of intense activity since a steady flow of supplies for both the railroad and the dam project began arriving. The old line which followed the Feather River will not only be completely inundated, but will lie directly beneath the dam. The new line departs from the Feather River canyon by turning west and first crossing Feather River. It then sweeps around Table Mountain which lies some miles to the west of the future reservoir.

The new Feather River bridge, the first bridge on the new line, crosses an afterbay in which the water will be up to 110 ft deep. The main plate-girder span is 125 ft long. Total length of the bridge is 1079 ft, all on a 3 deg 30 min curve. The spans are carried on attractive, single, circular, reinforced, concrete piers 12 ft in diameter at stream level and tapering to 10 ft at deck level. "T" heads support the steel girders which carry the ballast deck. Communication poles are mounted in steel sockets. Poles are 40 ft high, of which the lower 17 ft are 18 in. in diameter and the upper 23 ft are 12 in. in diameter. Where the permanent low-water channel of the Feather River was crossed, two massive concrete foundations were necessary on which to support the 12-ft base of the cylindrical piers.

As can be seen, bridges are an important segment of the new Oroville line change. Each of the Western Pacific's four principal bridges is different. Each is distinctive. All are designed for Cooper's E-72 rating; however, the railroad has since adopted E-80 as its new standard in order to meet the demands of heavier wheel loadings.

As the relocation swings around the mountains to the west of the canyon, it crosses the West Branch of the Feather River on a \$10 million combination highway and railroad bridge. This is a two-level truss bridge with a ballast deck on the lower level for the railroad. Highway 40A, some sixty feet above, consists of six lanes. The 1879 ft bridge includes one 36-ft deck plate girder, a 360-ft, two 432-ft, and one 576-ft through-truss spans. Trusses are supported on concrete piers measuring some 20x58 ft at their bases. Their tops are some 400 ft above the present water level. The massive spread concrete footings were well-keyed into solid rock. The railroad on this structure can be converted to double track should this become desirable in the future. Immediately upon crossing this bridge, an eastbound train will plunge into Tunnel No. 5 which is 2922 ft long.

Most striking of Western Pacific's four major railroad bridges is the North Fork Bridge which marks the eastern entrance to the new line. This dramatic bridge leaps 943 ft across the North

Fork of the Feather River by a series of striking concrete arches. The central arch, of 308 ft, is flanked by two other arches with spans of 194 and 247 ft respectively. In addition, the bridge includes ten ballast deck spans; seven being simple 22- and 28-ft spans.

This structure is described as a single-track, open spandrel reinforced concrete arch with a main span of 308 ft. Total length of the bridge, including approach spans, is 943 ft.

"It is believed to be the longest railroad reinforced concrete arch structure in the United States," explains Frank Woolford, chief engineer, Western Pacific. "Height from the base of the rail to the river bottom is 150 ft. To everyone's surprise, the cost of this bridge proved to be lower than that of more conventional types."

Needless to say, a line change in the mountainous terrain which surrounds the Feather River Canyon involves extremely heavy grading at many locations. Some cuts have maximum depths of 218 ft at the center line. Fills range up to 265 ft in height. Excavations totaled more than six million cu yd of material—most of it in rock. The contractor used Caterpillar bulldozers, scrapers, and other most effective and efficient earthmoving equipment, including Athey T Line PW660 material haulers with Caterpillar 660 tractors pulling.

Line Change Involved Building Five New Tunnels

As a general policy over the past 15 years, Western Pacific has been daylighting, relocating around, or concrete-lining tunnels; however, five new tunnels, 18x24 ft inside, replacing similar numbered but much shorter length bores, were required in this project. Longest is Tunnel No. 8—8856 ft. Trains westbound over the North Fork Bridge plunge directly into Tunnel No. 8 on the west bank. This is followed quickly by Tunnel No. 7 which is 4406 ft long. The two tunnels are only 125 ft apart with a 66 ft concrete arch bridge between them. Tunnels No. 4, 5, and 6 are 2410, 2922, and 2583 ft in length respectively. Territory traversed is rugged with hillsides lined with fir trees. The ghost town of Cherokee, once a thriving mining community, is near Table Mountain, which the new line skirts. Cherokee Mine pit, on one side of flat-topped Table Mountain, was once rich in gold which was mined hydraulically.

In open stretches of track, Western Pacific laid 119-lb CF&I 78-ft rail. In the tunnels and on the bridges, continuous welded rail was laid in 1440-ft strings. Through Tunnels No. 7 and 8, and also across the North Fork arch bridge, these strings were joined in the field by welding, utilizing the Rapid Thermit process.

"This is one step to get away from joints and joint maintenance," explains Frank Woolford. "For operating safety, we tested every thermit weld by cobalt X-ray. This track now serves as a test of the durability of Rapid Thermit welds on a mountain railroad engaged in normal operations."

These thermit welds have been in service since late 1962, with no evidence of failure. This line handles some 15 million gross tons of heavy traffic each year.

In laying the continuous welded rail on bridges, Western Pacific used a two-stage technique, necessitated by the lack of a storage area for 1440-ft rails, the unavailability of the welding plant on demand, and the limited number of rail cars. Lightweight rail was laid in construction. This rail initially served to put railroad into operation and secondly, as a route of travel for the equipment which brought in and laid the welded rail. When the continuous welded rail was placed, the lighter and former running rails were jacked over to an inside position where they became the inside guard rail through tunnels and across bridges.

The new line which removes the railroad from the lower reaches of the Feather River canyon begins at an elevation of 200 ft. near Oroville (timetable west end) and rises to nearly 1100 ft at Intake, named for the intake tower of the Las Plumas powerhouse.

Location work for the new line was made by Western Pacific engineers. California Department of Water Resources engineers drew up the working plans and handled the construction contracts for the subgrade and selected base materials, bridges, and tunnels. Western Pacific engineers designed the bridges, tunnels,



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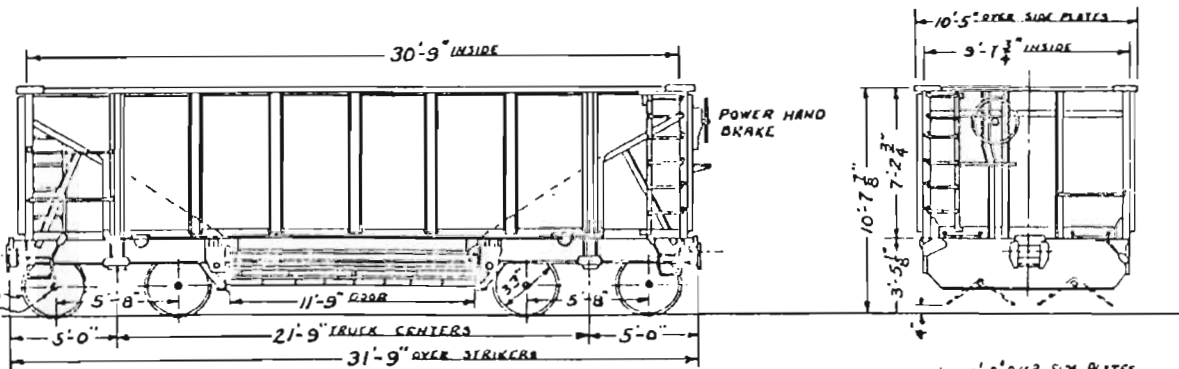
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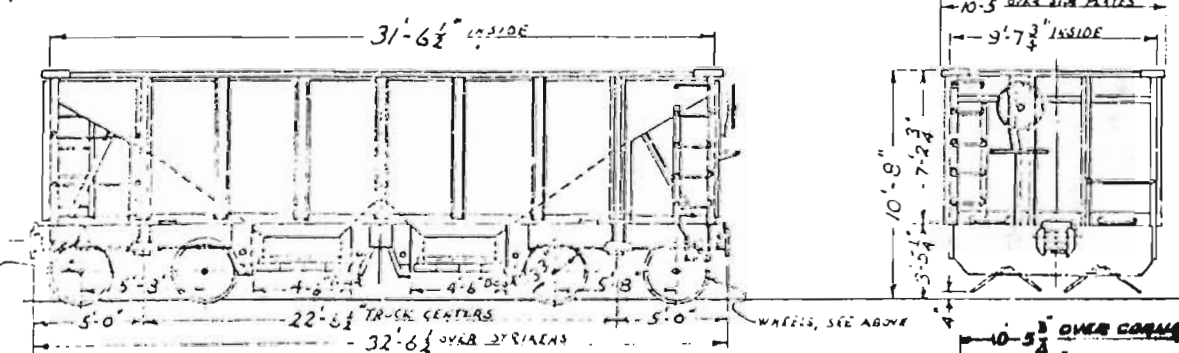
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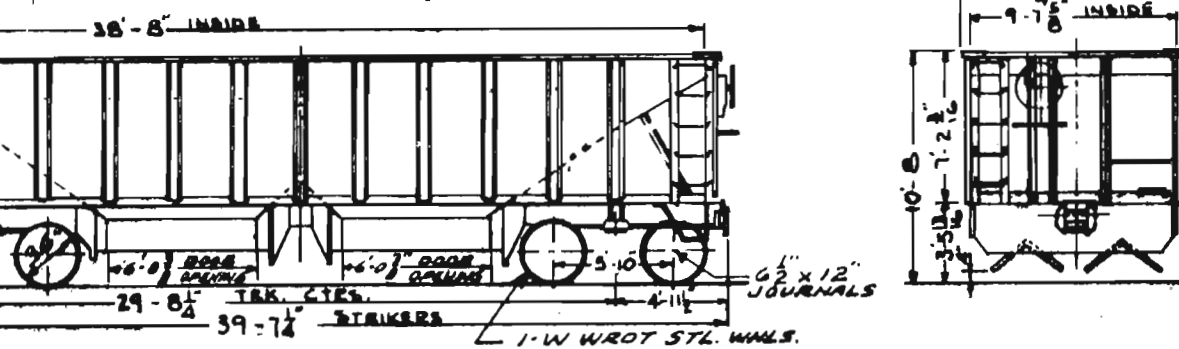
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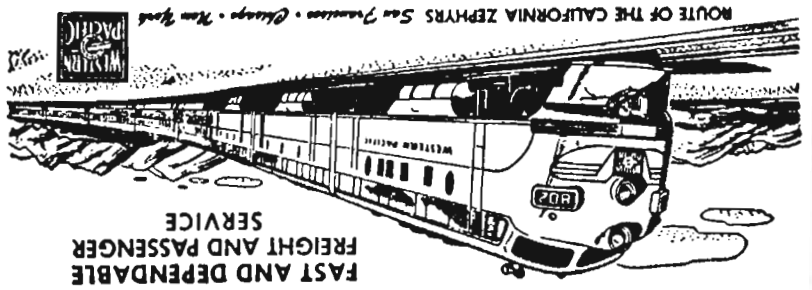
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