

# Operation streamliner

Sign the book and go right out to the train. You're going to be the fireman on the City of Los Angeles

BY WALTER H. THRALL JR.

IT'S the kind of warm, bright March afternoon that only southern California can boast in the winter. You're on your way to report for work as the fireman on the Union Pacific's *City of Los Angeles* from its

namesake city to Las Vegas, Nev. You hold your grip in front of you and try to keep your clean cap and coveralls from brushing against the sides of the big red Pacific Electric baggage cars loading and unloading



express at the huge Los Angeles Union Passenger Terminal.

You see that already passengers are walking through the gate marked *Union Pacific Train No. 104—Streamliner City of Los Angeles*. You wave to the assistant stationmaster and hurry out through the gardenlike patio, past the baggage platform and into the door by the ramp. A left turn brings you into the UP enginemen's locker room.

"Hi, Van." You put your grip down on a bench and greet your engineer, Van Santongue, a likable cuss and a swell guy to work with. Van has his Ball watch out, comparing it with the standard clock on the wall. You pull out your Hamilton to compare it with his watch and the clock. You're six seconds fast, not enough off to have to reset it.

You register out in the large book on the table, writing down the engine and train number, direction bound, names of the engineer and fireman, the hours of rest you've had, the time you were called on duty and the time you were ordered to report, and finally, the time you compared your watch.

Then you open the big books on the



Frank J. Peterson.

Conductor H. C. Brown, Engineer Van Santongue (center) and the author compare their standard watches at Los Angeles Union Passenger Terminal beside the engine of Union Pacific's streamlined *City of Los Angeles*. The three will take the streamliner to Las Vegas, Nev., 336 miles.



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table by the wall and read the new bulletins issued by the superintendent. One of the books contains the Santa Fe superintendent's bulletins, and you read them too, because the UP has trackage rights over the Santa Fe from Riverside Junction to Daggett.

You're on duty at 4:30 p. m., and it's about that time when Van finishes reading the bulletins and the two of you pick up your grips and walk up the steps and out to the tracks. You keep a sharp lookout for the Southern Pacific Baldwin diesels switching head-end equipment in and out of the shed, and at the same time you try to avoid the tractors that whiz past you from every direction towing baggage wagons.

Over on track 10 three spotless chrome-yellow EMD E-7's are purring on the head end of your 12-car streamliner, and you note with satisfaction that No. 998 is on the point. You look back along the train of 12 streamlined yellow cars where in the hustle and bustle everyone seems to be in a gay mood as he boards the train. You notice the baggagemen laughing and joking as they transfer the baggage from trucks to the baggage car behind the diesel.

You climb into the cab first and Van hands the grips up to you. "You want the hand-oiler, Van?" you kid him. You remember how not so long ago the first thing you did was to wipe off the hand-oiler and hand it down to your hoghead so he could oil around the steam engine.

Now you watch while Van makes the first of three air tests, this one on the automatic air brakes. He moves the brake valve to service position and makes a 15-pound reduction. Then he checks to see that the leakage does not exceed five pounds a minute. While he's doing this the car toads (inspectors) are checking the brakes on the cars, and you go down in the nose of the unit to put up your indicator numbers.

From a large bundle of metal number plates you select two sets of 104 for the train number and slide them into place in the illuminated slots in the nose. Then you pick out two sets of 998 and put them in a handy place so that you can exchange the train numbers for engine numbers at Riverside Junction to conform to the Santa Fe practice of using engine numbers only. Then you make sure the classification lights are extin-

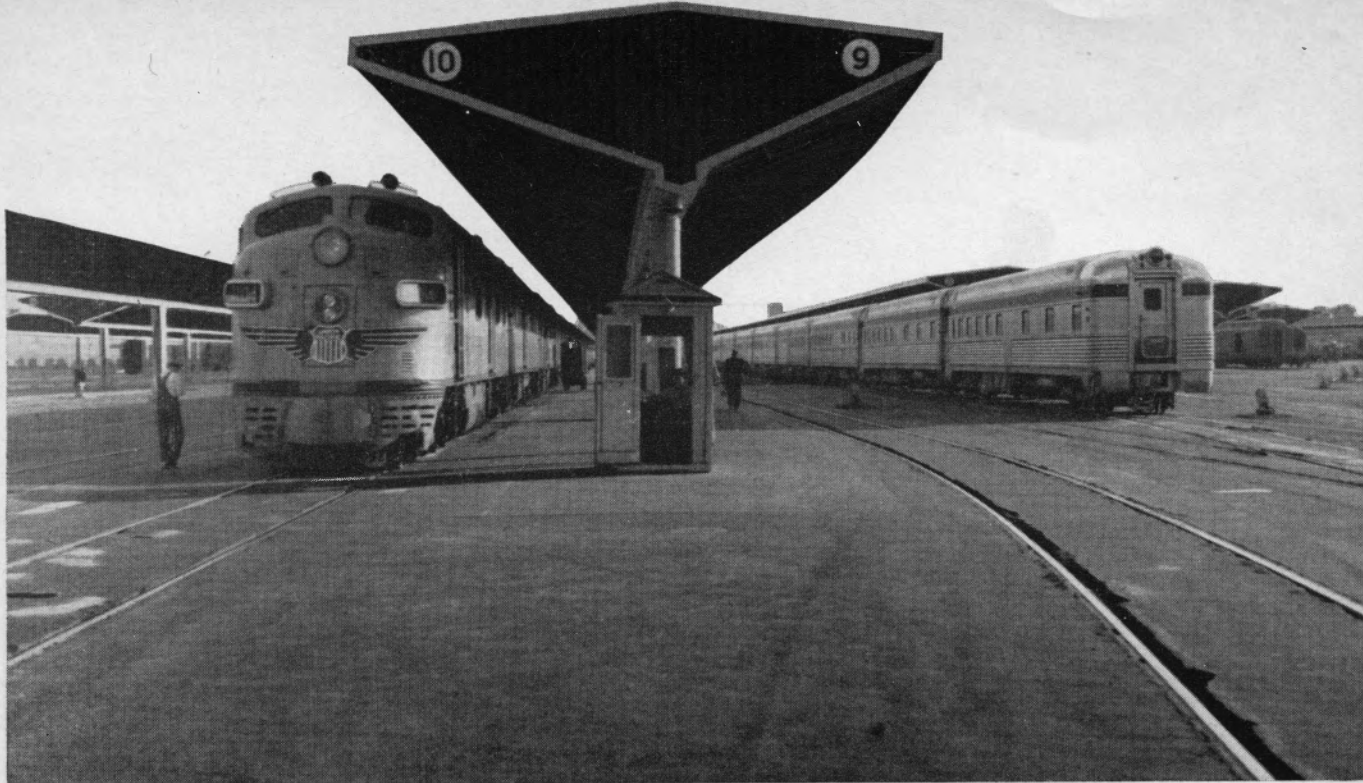
This is the diesel that you are firing to Las Vegas, but here it is on the westbound City of Los Angeles at Devore in Cajon Pass, passing a westbound UP freight. The engine number in the slots conforms to Santa Fe practice, not UP.

guished, for this is a regular train with no following sections. You call to Van to turn on both headlights, and you check to see that they are working and that the Mars light is oscillating in both the red and white positions. Everything's O.K., so you duck under the heavy beams in the nose and climb back into the cab.

The shrill communicating whistle sounds four times and Van pushes the brake valve back to running position, restoring the pressure in the brake pipe to 110 pounds and releasing the brakes on the entire train. The whistle signals for another test, and Van moves a lever on the brake pedestal from "AU" to "SA," cutting in the electro-pneumatic brake. There isn't a sound of air escaping when he makes a 30-pound reduction.

THE car toads once again are checking the brakes, so you inspect your flagging equipment, which must consist of a red flag, six red fuses, 10





Union Pacific No. 104, the City of Los Angeles, is about ready to make its daily evening departure from Los Angeles Union Station, track 10. Over on track 8 is the Southern Pacific's new Budd-built Sunset Limited, just in from New Orleans. No. 104 is pulled by three EMD diesel units.

torpedoes, a red lantern and a white lantern. You also make sure that you have two white and two green classification flags and that the seal on the large first-aid kit is not broken. You find everything in good shape as the communication whistle signals Van to release the brakes. A few minutes later the car toad yells up to the cab, "Blue flag's off—12 cars all okay." (When a blue flag is hanging on a locomotive or a car it means that it cannot be coupled into or moved, since men are working under or on it.)

"Now let's see if this darn pedal works," Van says acidly. He takes his foot off the dead-man pedal and releases the independent (locomotive) brake. Instantly the cab is filled with the sounds of air exhausting and a whistle blowing. A red light on the instrument panel goes on, indicating that the emergency red Mars headlight is flashing.

Van shoves the brake handle around, and you note that a 20-pound brake application was made when Van took his foot off the pedal—the dead-man control works, all right! You reach down and pull a small switch and the red light goes out, indicating that the Mars light is back on the white side.

You grab a rag and start back through the hot, noisy engine rooms to check your diesels. First you check the lubricating oil in the two giant 12-cylinder diesel engines that make the power in the 998. Then you check the oil level in the governors, the engine-water level, the fuel and boil-

er water gauges. You take a look at the steam generator—it shows 150 pounds of steam pressure—and the air valves on the automatic cooling shutters.

You go through the same procedure in the second unit, and nearly bump into the maintainer, who is checking some electrical contactors. He'll ride as far as Ogden. There's too much noise to hear even yourself talk, so you edge your way back through the narrow passageway into the third unit and repeat your inspections.

You climb down the ladder of the third unit and find Conductor H. C. Brown writing the unit numbers in his train book as he walks toward the head end with the train orders. You compare your Hamilton with Brown's and Van's. All three timepieces are within 12 seconds of each other.

Brown hands the orders to Van and you read them with your engineer. They consist of a C.T.C. clearance card, Form B, and one order, No. 636; which is addressed to "C&E all eastward trains": "Look out for high winds and sand drifting between Ontario and Mira Loma." Oh, brother! How well you remember those sandstorms in the steam engine days and how rough they could be!

It's getting close to departure time when you sit down in your seat on the left side of the cab. What a contrast this cab is to the cab of an 800-class steam engine! Instead of some 50 valves and other controls you have an emergency brake valve protected

by a red shield on your left, and an alarm panel in front of you. If something should go wrong back in the units a bell would ring and one of the lights on the panel would come on, pin-pointing the trouble.

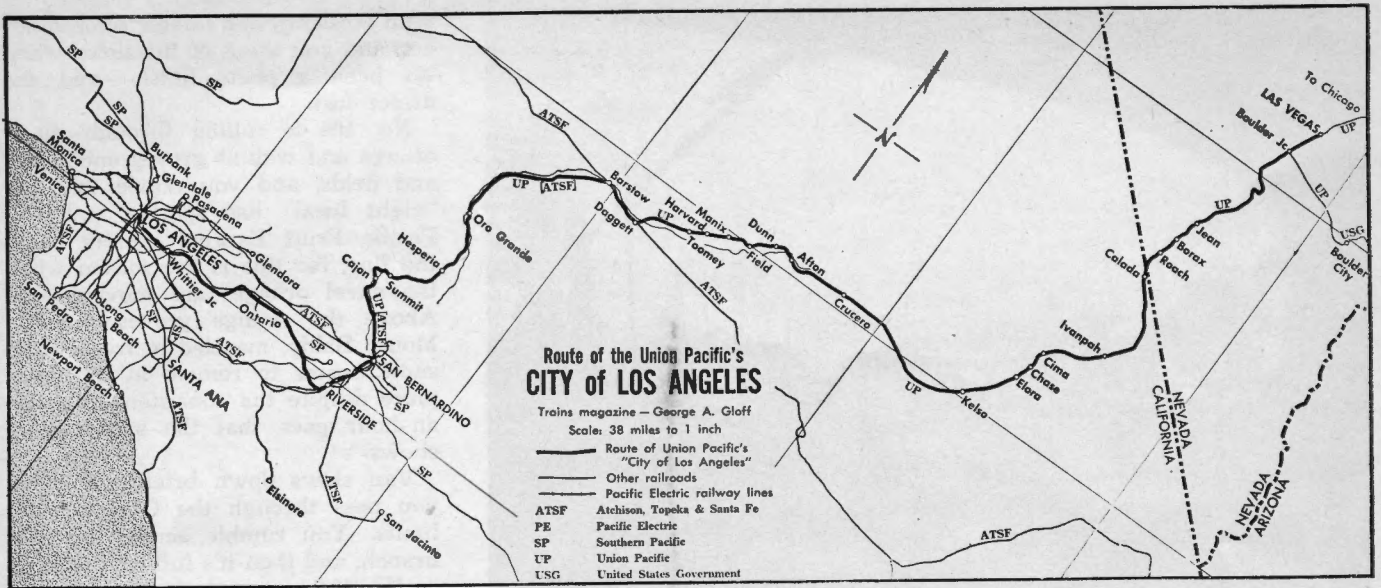
Below the alarm panel is the train-heat control panel with three black buttons, with which you can tend your boilers from your seat, for you are not allowed out of the cab while the train is moving. To the right of the alarm panel is a steam-heat gauge.

And look at the hoghead's side of the cab compared to his station on an 800! Instead of the huge throttle suspended from the roof he has a small lever with eight positions. He has the usual two air-brake valves, plus the reverser lever, the bell and sander valves, and a long row of buttons which actuate everything from the two headlights to the inner electrical workings of the engines.

To his left, facing him, is the large recorder-type speedometer (the tattletale, you call it.) Outside each cab window is a large vertical rear-view mirror which enables you to see the entire train, especially when you're going around a curve.

You see Brownie's signal in your mirror and you sing out "Highball!" The communicating whistle sounds twice as Van turns on the engine bell.

"Clear pot!" he calls, and you answer in acknowledgment as he releases the engine brakes and moves the throttle back a notch at a time.



You watch the red dwarf signals change to yellow and then to green in the interlocking plant ahead, and you are aware of movement in spite of the loud bell and the rising tempo of the diesel engines. No. 104 twists slowly through crossovers and thumps over switches as she makes for the Union Pacific's main line out of the Los Angeles Union Station. At Mis-

sion Tower, Southern Pacific No. 4405, a big, black 4-8-4, rumbles noisily past you on track 5. You wave back to her fireman, and you can't help noticing that he looks just like you used to when you fired UP's 800's—hot and dirty!

"Red over yellow on the bridge!" you sing out as No. 998 swings south of the tower, rumble-thumps over

the Santa Fe's main line, and crosses the nearly dry, concrete-lined Los Angeles River. Below the home signal targets is a reflector-type sign: "Begin C.T.C." The red-over-yellow aspects of the signal indicates that the C.T.C. dispatcher is crossing you over to track No. 1 here instead of at Downey Road or East Yard. This will save some time, for the double track ends at Montebello.

The Union Pacific's double-track main line swings past the SP coach yard and follows the river for several miles. You watch in your mirror as your train takes a restricted curve beneath the First Street bridge onto a long segment of straight track. As the observation car comes around the curve you sing out "Straight track!" and Van peels the throttle back to the eighth position. The engines roar and you are away—hell-bent for election!

You answer Van's "Clear block" as each green signal flashes into view. You wave to several SP diesel switch engines that are pulling long cuts of cars past on track No. 2; they're probably transfer jobs from the Pacific Electric or Los Angeles Junction Railway going to Taylor Yard, Southern Pacific's big freight terminal.

You see the tracks spread out to form East Yard as No. 104 speeds over the Downey Road viaduct. A yellow EMD switcher comes out of a far track with a long string of Pullmans and coaches. "There goes 38's equipment to the depot already," Van comments as he waves to the switcher's crew. No. 38 is the eastbound *Pony Express*.

Van sounds a long blast on the 998's horn and ahead you see the East Los Angeles suburban station. You feel the brakes take hold as No. 104 thrashes over the switches; you hear the brief hollow roar as she passes over the steel viaduct. Then with her bell



Santongue has his hand on the electric brake valve, ready to make an application to reduce speed on a curve outside of Los Angeles. This is the cab of the City of Los Angeles on a different day; the diesel is the 985, which has a slightly different arrangement of its controls.





First stop out of Los Angeles is the station at suburban East Los Angeles. This is the way it looks to you from the fireman's seat in the cab of the diesel. You're running in C.T.C. territory, and the dispatcher has you on the left-hand track. The double track ends at Montebello.

chanting the streamliner glides past the upturned faces on the station platform, past the baggage wagons, on one of which rests a casket. The pattern of noises ceases as the silent electric brake brings the *City of Los Angeles* to a gentle stop.

You stand in the cab doorway and watch two boys photograph your diesel. You look back and see the casket being loaded in the baggage car; farther back friends are waving good-bye to those who have boarded the train. You reflect on the joy and sorrow aboard the streamliner tonight, and then you recall the steam-engine days when there was always a crowd up around the locomotive to watch it and listen to its many sounds. And when the big 3900-class articulateds were on the passenger trains there was always a *big* crowd. But today is typical—two small boys. Many times there is no audience at all now that most steam power is gone.

"Highball!" Again Van pulls his throttle back to the last notch and the 998 is rapidly increasing her stride as you flash over the many road crossings. The horn demands and gets the right of way from subservient motorists. You're moving faster and faster, through Montebello, across the Rio Hondo trestle, around the curve into Pico. You exalt to the feeling of greased-lightning speed. Again there's the roar of steel on steel as you cross the San Gabriel River bridge and thunder over the switches at Whittier Junction, where the UP's

Anaheim Branch swings off sharply to the right. Now No. 104 is out in the country, skirting the green hills and bisecting the fields of southern California.

"Seventy!" you holler as you pass a yellow speed board marked 70-60-50. "Seventy!" answers Van as he makes a light brake application approaching a curve at Clayton. The top figure on the board is the maximum permissible speed for streamliners, the middle figure is for conventional passenger trains, and the bottom figure is for freight trains. You smile as you notice Van return the wave of a group of kids wading in the creek near Hillgrove in the true fashion of friendly railroaders.

You grin and call out, "Clear order board!" For no longer is there an order board at Hillgrove, or at any other office, for that matter. No longer do you get the friendly "highballs" from the operators along the line. Instead the stations seem deserted and you miss the lights in them at night. Even the water plug at Hillgrove adds to the solitude of the place. Yes, C.T.C. and diesels now are in command on the California Division.

"Look out, you so and so!" Van yells, and hauls on the whistle cord. You grip your armrests harder as you watch a car approaching the crossing ahead as if trying to beat you to it. But the driver apparently loses his nerve at the last minute, and you relax as he stops to let you flash past. Even the latest-type signals at

road crossings don't deter some drivers, and you think of the times when it's been a photo finish—and the driver lost.

No. 104 is rolling through many orange and walnut groves and farms and fields, and you notice that the "night local" has spotted a lot of Pacific Fruit Express reefers along the line, for this is the season when the navel oranges are moving east. Above the orange groves majestic Mount Baldy, mantled in fresh white snow, seems to remain in the same place despite the consistent 70-mile-an-hour pace that the speedometer shows.

Van slows down briefly to 40 as you pass through the Ontario yard limits. You rumble across the SP's branch, and then it's full speed ahead as No. 104 passes the world's largest vineyards. You're really flying low now, as Van often says.

You notice that the wind is blowing hard through the huge eucalyptus trees that parallel the right of way, and ahead you see it—a huge brown cloud of dust blotting out everything. Van applies the air and mutters, "There's our Santa Ana!" (A Santa Ana is a big windstorm to all southern Californians.) You see that the sand is up to the top of the rail in some places, and you feel sorry for the section men, their heads wrapped up so that their eyes barely show, as they stand back from the track. Almost as quickly as you entered the storm you pass Mira Loma and emerge from it. Once again all is calm and serene and you see in your rear-view mirror that the sun is setting.

"MAN in the hole!" you holler to Van. "Looks like the hogs and bulls." A yellow four-unit EMD diesel is in the siding at Bly with a long string of stock cars, most of which are yellow and have roller bearings. A brakeman highballs you from the rear of his yellow caboose. That's the *DLS*—UP's fast livestock train from Salt Lake City, the hottest train on the railroad, next to the streamliners.

You swing around a right-hand curve and onto the graceful Santa Ana River bridge, built when the old San Pedro, Los Angeles & Salt Lake was built in 1901. The cement for its many arches reportedly was imported from Germany. Today it carries the huge diesels and heavy articulateds as well as it did the tiny engines of the old Salt Lake Route.

Your streamliner rounds another curve and flashes past a long drag in the siding at Streeter. Then you rumble over the Pacific Electric at Magnolia Interlocking with the throttle partly closed. Van opens the 998 up

again as you stream through deep, rockbound Pachappa Cut and out onto a high fill. Then you're slowing for Riverside's yard limits.

"Stop sign at the depot!" you call, and Van answers the agent's flag with two short blasts on the horn. Some of the travelers waiting to board at Riverside are carrying skis, you notice, as the 998 slides past them. Bound for Sun Valley, no doubt.

As you leave Riverside you go down in the nose, take down the train numbers and put up the engine numbers. Riverside Junction tower is ahead. "Clear interlocker—red order board!" Van calls. You lean out of the cab door and scoop up the orders from the fork held by the operator. Now you're on Santa Fe rails, and it's double track all the way to Daggett, where you'll pick up UP track again.

It's pretty dark as No. 104 swings around the curve and into sight of Colton Tower. No. 998's Mars headlight is making figure-8's in the dark sky. A westbound train approaches, dims its headlight as Van dims the 998's, and Santa Fe No. 7, the *Fast Mail-Express* slams past behind a diesel. San Bernardino is the next stop, the last one until Las Vegas. You look at your timecard and see that on the UP's California Division it's 336 miles from Los Angeles to Las Vegas, and that No. 104 travels 268 miles from San Bernardino to Las Vegas non-stop! And that includes going over two steep mountain grades and miles of desert. Actually, there's hardly a stretch of level track on the entire division!

Your Hamilton shows 6:35 p. m. as No. 104 pulls out of San Bernardino station—two minutes off the advertised. Van extinguishes the Mars light after you cross the last of the many highway crossings, and now all of the 998's 6000 horses are straining at their bits as they work their way up the Cajon Pass grade of nearly 3 per cent at a steady 33 miles an hour with no helper. You pass a constant stream of Santa Fe and UP freight trains and light helper engines descending the hill. It makes you feel good to see those UP steam helpers back on the mountain again in place of the diesel helpers. And most of the men seem happy to have them back—both the men who run them and the men getting helped, for they do a better job of helping the long trains over the Pass.

You see two of UP's beautiful big 5090-class 4-10-2's behind a yellow caboose in Keenbrook siding, and about 90 cars ahead you pass a four-unit Alco-GE diesel on the point, eager to follow No. 104 up the Hill. Remember when the 5090's were

three-cylindered engines and were numbered in the 8300's? And how you used to love to fire them because of their tricky, rhythmic exhaust as they barked at you through the many cuts in the Pass? Those were the good old days when steam was still supreme!

"Clear order board!" you sing out as No. 104 comes into sight of Cajon station. You wave to the operator, an attractive young woman, as Van eases his throttle back to the seventh position for the 30-mile-an-hour curve just ahead. The eastbound main swings away sharply to the left, for between Cajon and Summit the westbound main is steeper, having been built first. You watch the headlight pick out the jagged rocks as No. 104 swings around Cajon's horseshoe curve.

You watch the ever-rising track in the headlight as No. 104 snakes around the sharp curves, conquering the grade with power to spare. The 998's ammeter shows an output of 800 amperes to the singing traction motors.

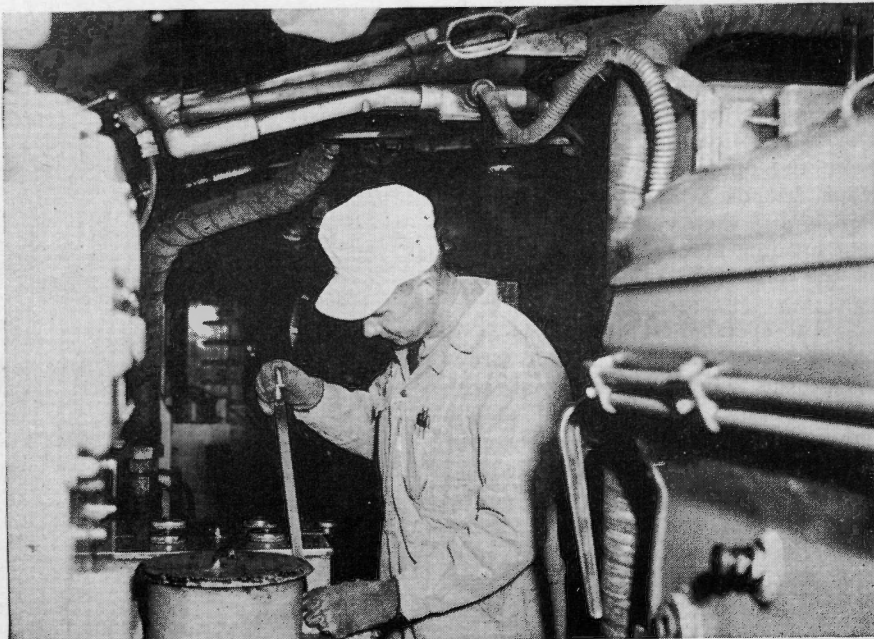
You pass through the two short tunnels and are suddenly aware of four pin-points of light ahead—the eerie eyes of two deer, blinded by your headlight and rooted to the track in terror. Van quickly douses the headlight and blasts away on the horn. In the pale moonlight you barely make out the deer as they escape in graceful leaps.

Now you're nearing Summit. You watch the headlight of a westbound diesel freight as it descends the steep grade far down to your right. You

can tell its length in the darkness only by the sparks from its brake shoes: The caboose markers apparently are in a cut. The flanges of your train scream on a sharp curve and you see the lights of the Summit office—the green light of the order board and two yellow markers on a caboose in the eastbound passing track. You return the operator's highball and look at your watch. You just made your running time, but are still two minutes late.

Van makes a running air test, which the flagman acknowledges on the communicating signal, and No. 104 begins to drop away from the 4000-foot altitude of Summit around long graceful curves. You race along the long segment of 90-mile-an-hour track through Hesperia, then twist around more curves until you see the bridge carrying the westbound main over the eastbound. You watch a 5090-class engine obviously fighting the grade with a heavy train on the westbound track as you duck under the bridge, and then you notice two big 5000-class 2-10-2's shoving for all they're worth behind the caboose. "The Oro Grande Turn has sure got a load tonight!" Van comments.

The lights of Victorville flash past, you slow briefly for the Mojave River, and then the demand is for speed and more speed on the fast track to Barstow. The speedometer hand creeps past 90, sometimes reaching 96—97—98! Not until you holler "Two yellow!" approaching Barstow does the train's pace slacken. Then West Yard



Fireman Thrall measures the lubricating oil in one of the two 12-cylinder, 1000-horsepower engines that make the power for each of No. 104's three units. The large cover is for filling the lube oil tank; the four small holes are glass ports over oil filters. The engine is at right.



Tower at Barstow looms out of the desert darkness. You cross the switches at slow speed. The huge yard's floodlights illuminate it like a giant stage.

"Just make sure you grab the orders and not that cute girl," kids Santongue as you lean out of his cab door to grab the order hoop from the young lady at the passenger station. Van sounds a long blast on the horn for the route as No. 104 swings away from the depot. You watch a yellow and a red block up ahead successively change to green. The towerman waves as you streak past East Yard Tower through the wide deep cut. Daggett and UP track is your next objective.

Van has just closed his throttle and you're drifting at 90 when — *bang! bang!* — two torpedoes nearly scare you out of your seat. The hoghead acknowledges them with two short blasts on the horn, and in your mirror you see fire from every brake shoe as the brakes take hold.

"One yellow!" you call, then "Red block!" and "Red fusee!" Van acknowledges the red flare being waved across the track. The flagman puts out the fusee as you stop beside him, and he climbs into the cab.

"Got a UP drag up ahead," he tells Van. "The air went into emergency, but he called me in a few minutes ago so he ought to be in the clear pretty quick." You see that the red block is changing to yellow and then to green, and No. 104 moves on down to let the flagman off at his caboose, which is in the clear at Daggett.

You leave Daggett on UP track and under C.T.C. control, and you can see the lights of Yermo across the desert. Yermo is the division point for the First and Second districts for freight crews, and it used to be for passenger crews too. You slow down through the yards, grab the orders from the operator, wave to some of your friends who are sitting on a bench, and then you are out of town and heading across the vast openness of the desert.

THE speedometer needle is at 79 as you overtake and pass a Greyhound bus, whose driver signals with his spotlight. It's 8:50 p.m., so you turn on your cab light, open your grip and take out some sandwiches and a vacuum bottle of hot coffee. You see that Van is doing the same. You watch the station signs whiz past, and you know them all — Toomey, Harvard, Manix, Field, and Dunn. Then No. 104 is dropping down toward Afton Canyon around 45-mile-an-hour curves. Your headlight spots the second Mojave River bridge ahead, and you see a four-unit EMD diesel

on a westbound freight in Afton siding. Looks like the *Forwarder*, a hot-shot manifest, to you.

You dive into the deep, narrow, crooked Afton Canyon, the tracks hugging the left bank where the right of way is protected by electric slide fences. It's too bad that it's dark, for in the daytime the canyon is beautiful, with its many cathedral-like rock formations of all colors. Once in a while in the daytime you can see some wild mountain sheep grazing on the colorful slopes.

No. 104 crosses the Mojave for the fourth and last time and emerges on the desert and onto track that is perfectly straight for 7.4 miles.

You pass a small station and a group of section houses surrounded by trees — Crucero, where the old Tonopah & Tidewater used to cross the UP. But now the T&T is abandoned, the tower has been torn down, and all that's left is the old roadbed stretching both ways out into the desert. East of Crucero No. 104 rounds a slight curve and is on another 7-mile straightaway. You see that sand dunes line the track, and that anti-drift fences have been built along the right of way. It's the same thing for miles — desert and sand, passing tracks and clear blocks, but no sign of life, save for a few section houses. Sometimes a coyote slinks away from your headlight, and once in a while you see the herds of wild burrows that roam in this vicinity.

About the time you're getting used to the desert blackness you see the lights of Kelso ahead. To the rail-

road, Kelso is a helper terminal, but to anyone else seeing it in the daytime it would appear to be an oasis in the vast, empty desert, for its trees can be seen miles away. Trees, a clubhouse, a few houses, a wye — and water — and you have Kelso. You pass through at reduced speed, and see the three Fairbanks-Morse helpers on an adjacent track. Other than the station and shop lights the town is dark.

No. 104 climbs the steady 2.2 per cent grade for 19 miles at 32 miles an hour to the summit at Cima. You watch a headlight far off across the desert; probably it's a freight train coming down the hill. Van guesses you'll meet him at Chase, so you say Elora just to make it interesting. Your hoghead wins as you meet an ore drag in the siding at Chase. Smoke is coming from its hot wheels.

As you sit in your seat and watch the scenery and clear blocks, you reflect on a question put to you not long ago by a non-railroader: "What does a fireman do on a diesel?" You answered by asking him whether he would enjoy flying in an airliner if there were no co-pilot and the pilot were up in years. Who would handle the airliner if anything happened to the pilot? Where things can happen in a split second two heads and four eyes are better than one and two.

In addition to that safety angle, it's almost impossible for the engineer to see things that are very close to the left side of the train. The fireman also is needed to pick up train orders, call signals, and protect the front of the train when he is needed for that job.



Jim Ady.

A westbound Union Pacific stock train — the "hogs and bulls" — thunders across the crossing at Colton Tower behind four EMD F-3 units. The livestock movements west across the California Division to Los Angeles are second in importance only to the streamlined City of Los Angeles.



Las Vegas, the end of your trip. This is an early-morning scene of the Union Pacific's ultra-modern passenger station, with No. 3, the west-bound Uahn, arriving behind 6000-horsepower Alco-GE diesel No. 605. Las Vegas is the major terminal between Salt Lake City and Los Angeles.

He must be thoroughly familiar with all operations of the train.

You pass the silent, dark little depot at the top of the hill, and you read the sign: *Cima — Elevation 4185 feet*. No. 104 seemingly is at the top of the world, for you can see the highway lights miles away, and in the distance is the pinpoint of a headlight which no doubt is No. 37, the *Pony Express*. You should meet him at Ivanpah if he's on time.

"High yellow!" The signal at the west end of Ivanpah siding indicates that No. 104 will go on up the main line, and that it must be prepared to stop at the next signal, which is red. Had the indication been red over yellow instead of yellow over red the switch would have been lined for No. 104 to enter the siding. As you near the signal it changes to green over red, indicating that No. 37 is all the way in the siding and the switch behind her is lined for the main line again. Van speeds up the 998 as you pass No. 37 behind its three big Alco-GE units.

No. 104 streaks across the desert on smooth, rock-ballasted track, and milepost after milepost is illuminated briefly by your headlight. You see new ties along the right of way, waiting for section men to place them. You pass the state line marker at Calada and are in Nevada. From here to Jean the track is built across a huge

dry lake bed. If it were daytime you could see that the track is straight and tapers gently down across the lake bed and then back up, as if it were crossing a giant salad bowl.

VAN tells you that he operated a steam shovel for the construction company that built the old SPLA&SL. He tells you how long trainloads of rock were used to make the fill across this dry lake bed between Roach and Borax, and how it continually disappeared until they had dumped an estimated 30-foot-deep bed of rock to lay the track on. He points out the spot at milepost 306 where the last spike was driven to complete the railroad. There used to be a siding there called Sutor, he says, but it was torn out when the C.T.C. was installed.

It's 11:20 p. m. when you first see the lights of Las Vegas, 20 miles out in the desert. Your first impression is of a brilliant, dazzling jewel, for Las Vegas is a city of numerous outlandish neon signs that are given greater contrast at night by the vast depth of the desert darkness.

Now No. 104 is rushing headlong across a slightly descending plateau. The big gypsum plant and the lonely depot and water plug at Arden blur past, and then your train is thundering over the switches at Boulder Junction. A long westbound freight

is in the hole at Bracken, and now you are in the midst of the bright lights as you enter the Las Vegas yard limits with fire flying from all the wheels. The 998's bell is chanting rapidly as you pass the diesel switchers working in the big yard, the long Pacific Fruit Express icing dock, and slip up to the modernistic depot displaying a neon replica of a UP diesel and the slogan *Las Vegas, Nevada — the streamlined city of the West*.

"Right on the money!" you exclaim to Van as you come to a stop. You exchange greetings with the relieving engine crew and walk along the train to the locker room as workmen refuel, rewater and clean up the three diesel units for the next leg of their cross-country run. You see the maintainer and kid him about his long underwear, for he goes on to Ogden where it's still cold. You have brought No. 104 336 miles closer to her destination in six hours 45 minutes, and your day's work is done.

You come out of the locker room in time to see No. 104's neon tail sign and markers glide away into the darkness. You walk up Fremont Street, past the C.T.C. building where even now the Second Subdivision dispatcher is guiding No. 104 on its eastbound journey, and turn in at the UP's attractive club house. A soft inviting bed offers you sound slumber.