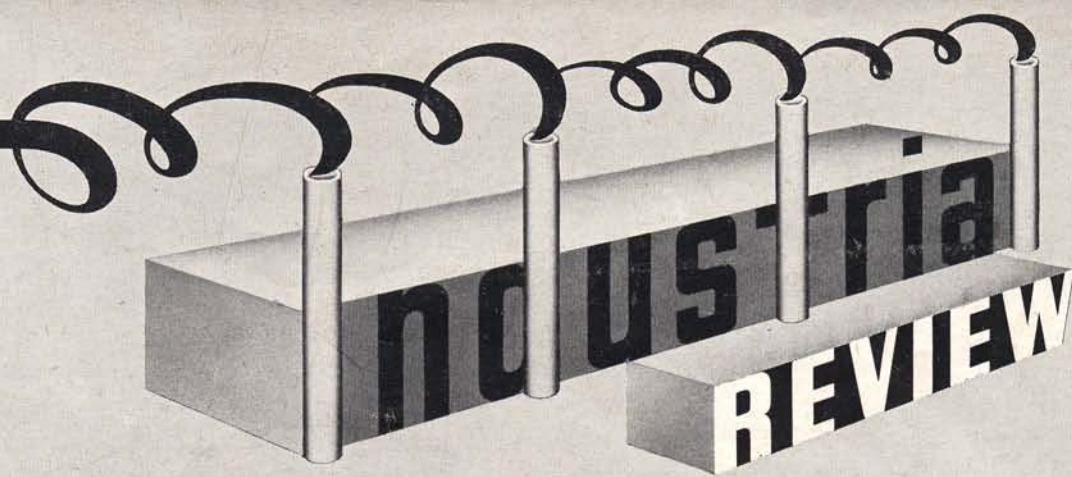
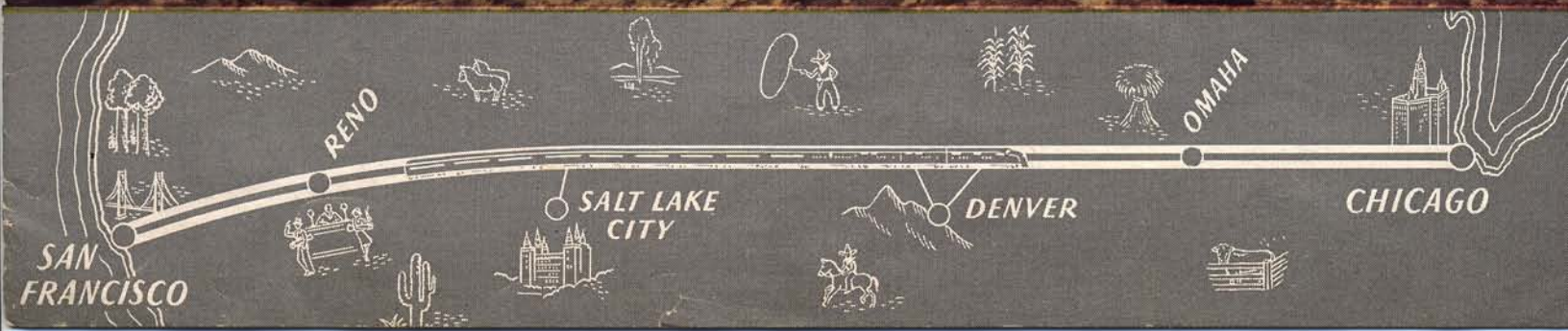


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THIS TRIP IS NECESSARY

Essential Travel for Pullman cars includes periodic side trips to the Company's Reconditioning Shops

If you read "Life on the Mississippi," you doubtless remember Mark Twain's amusing account of the first day and night—especially the night—of his apprenticeship as a cub pilot under the veteran Bixby. Mark was at last on the way to the realization of his dream of becoming a river pilot, but was to learn that piloting had a seamy side which he had not anticipated.

One of the highlights of the book is the passage in which Mark tells of his incredulous shocked surprise when he was routed out of bed in the small hours of the night to stand his watch. He knew that steamboats ran all night, but it had never occurred to him that people had to stay up, or get up, to run them. Fortunately for him and us, the discouragement induced by this episode was short-lived. It was the preliminary to a career that resulted in a valuable contribution to Ameri-

can Literature. "Life on the Mississippi" is the source of most of our knowledge of the "flush times" of Mississippi steamboating, when the river was the great artery of traffic for both freight and passengers.

If Mark Twain were alive today, and if he lived near a railroad line, it seems fair to assume that he would have no difficulty in transferring his affections and interest to the modern pageant of Railroad Transportation. With his passion for facts and figures and comparative statistics, as exemplified in many of his books, he would be thrilled—and probably stimulated to further literary endeavors—by the magnificent response of the Railroads to the unprecedented war-time demands that have been made on them. Railroad "fans" and the American public generally would be sure to find in Mark Twain a sympathetic



sharer of their pride in an achievement that is all the more remarkable when we realize that it has been accomplished without corresponding increases in the amount of available equipment—and with railroad organizations decimated by the requirements of the Armed Services.

When we watch the trains going by—the mile-long freights and the crack passenger trains, the special troop trains and the hospital trains—it is easy to appreciate the more spectacular side of the achievement. Standing on any station platform, we can see the passengers and troops and freight being moved. We can count the trains, and the cars in the trains, and make rough computations of the number of passengers and the tonnage of freight they carry, if we are sufficiently interested to do so. But railroad trains are not kept running by merely running them. They need adjustments, repairs, replacements of parts and occasional overhaul just as automobiles do, but more frequently than automobiles do, because of harder use and exacting safety requirements.

Importance of Maintenance

Maintenance is a major problem with the railroads, not only because of the unprecedented demands that are being made on them, but also because of the terrific wear and tear to which cars and locomotives are subjected, from the beginning to the end of every journey they make. There is probably no other type of power-driven equipment that is required to stand so many kinds of stresses and strains and shocks, and to stand them so continuously. The trains can and do "take it"

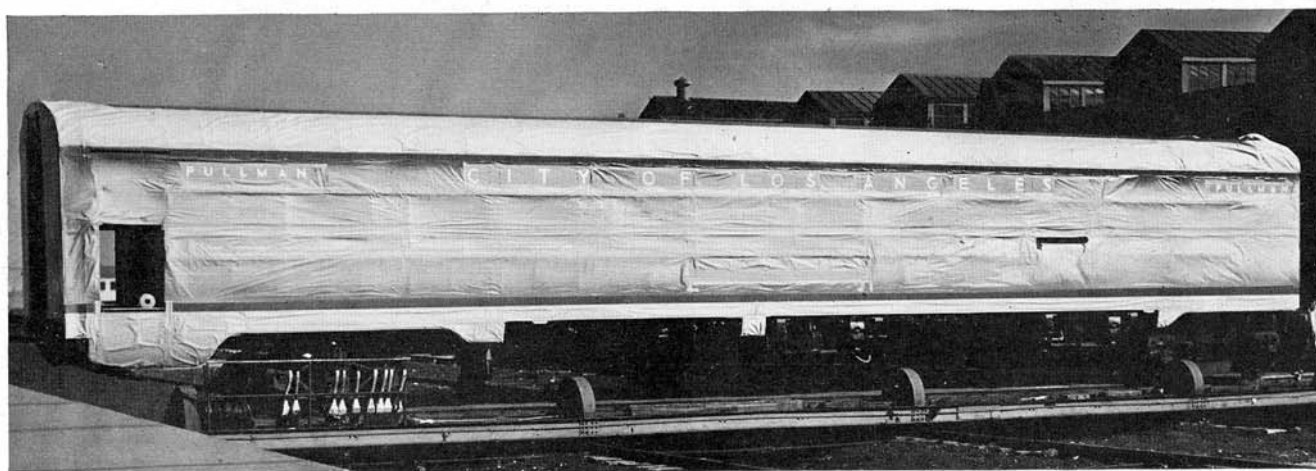
—but they couldn't take it long without the efficient collaboration of the maintenance organizations whose job it is to "keep them rolling."

In railroad shops throughout the country, and in the Pullman shops where all Pullman cars are serviced, equipment is repaired and reconditioned and restored to service on a time schedule that is one of the major achievements of American railroading. The equipment and methods used in these shops are one of the chief reasons for the ability of the railroads to supply *more transportation* than has ever been required of them before, at any period in their history.

Calumet Shops

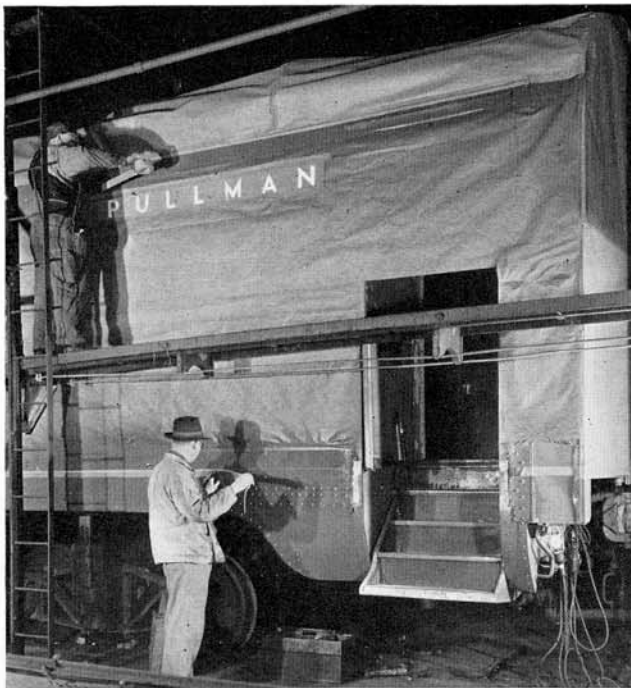
Let us take a look behind the scenes, now, by visiting the Pullman Company's Calumet Shops on the "south side of Chicago." Here we can see some of the things the Pullman Company is doing to maintain the supply of superior accommodations, and to enable you to travel in comfort and safety. If we time our visit right, we can see an interesting series of Maintenance operations—and can also see the facilities that are available, if you apply in time, on the famous streamlined trains "City of San Francisco" and "City of Los Angeles."

These trains are operated jointly by the Chicago & Northwestern, Union Pacific and Southern Pacific Lines. They run between Chicago and the cities for which they are named, on approximately a 42-hour schedule. Each train carries seventeen or eighteen cars. They are probably the handsomest trains now operating anywhere in the world,



Ready for spray painting second color. Both sides of "City of Los Angeles" car completely covered with Kraft paper secured with Masking Tape. Lettered areas are covered with a wide strip of Tape, out of which letters are cut to form a "stencil."

and their appointments are in keeping with their appearance. The interior arrangements of the Pullman cars provide every known type of accommodation for the comfort, convenience and recreation of passengers. There are open sections, compartments, roomettes, single and double bed rooms, drawing rooms, lounge and observation cars and diners. Engineers, designers and decorators have all collaborated to make these beautiful trains the luxurious hotels on wheels that they are.



The first color (yellow) has been sprayed on. It is now being masked for spraying a red stripe along the bottom of the car, and red lettering at top and bottom.

Keeping Them Fit

As you look at one of these trains standing in the terminal ready to begin its 2300-mile journey, or as you walk through the cars, you get an impression of spic-and-span *newness* that seems to belie the terrific wear and tear of high-speed travel, the deteriorating effects of sun and wind, rain and snow, dust and dirt on car exteriors, and the wear and tear on interior fittings and furnishings due to passenger occupancy and use. The wear and tear is a reality—and so is the apparent “newness.” The explanation is in the systematic Maintenance program of The Pullman Company, under which all Pullman cars make periodic side trips to the Reconditioning Shops.

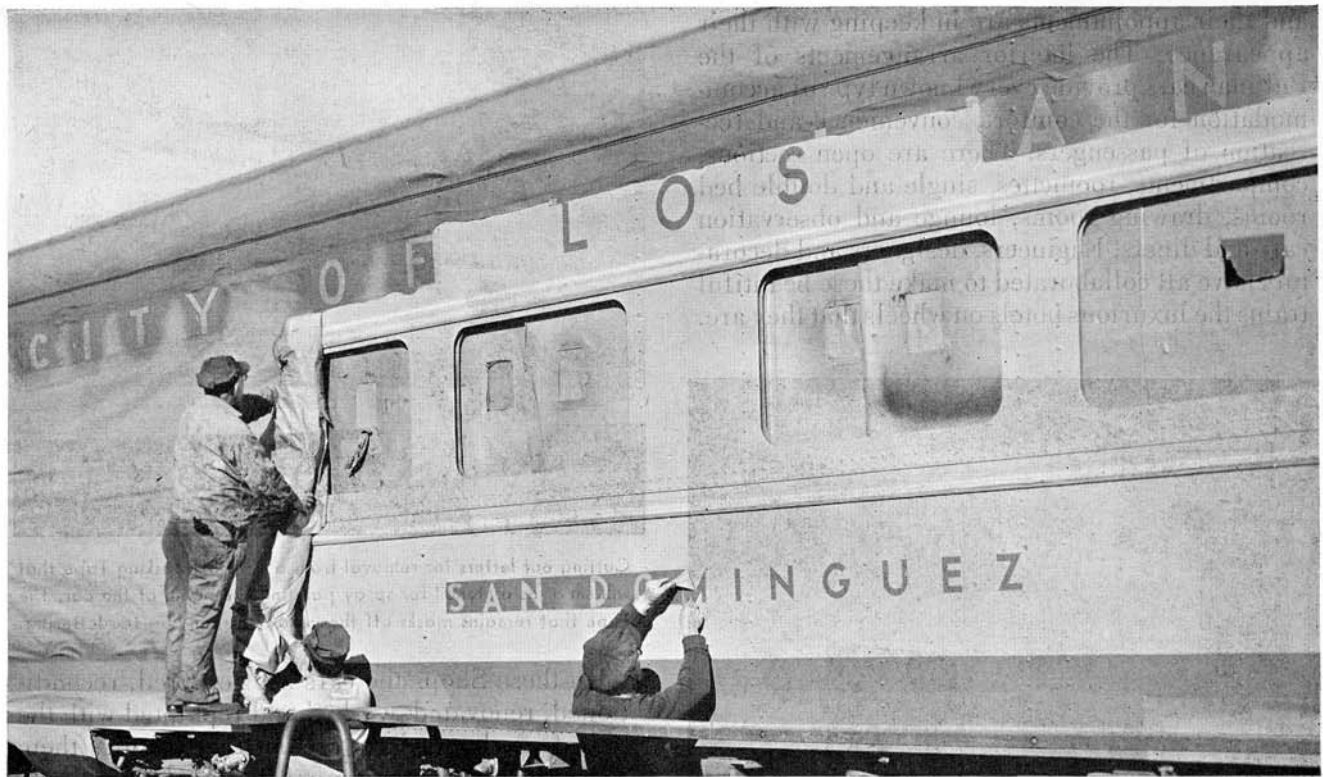


Cutting out letters for removal from a strip of Masking Tape that will serve as a stencil for spray painting the name of the car. The Tape that remains masks off the yellow surrounding the lettering.

In these Shops the cars are repaired, reconditioned, renovated, washed and repainted with the aid of mechanical equipment that handles them as easily as an automobile is handled in a service station. Car bodies are lifted to give access to the equipment and mechanisms underneath, and to permit the removal of the trucks for separate servicing. Temporary trucks are installed, on which the cars are moved into and out of the shops by a mechanical cable which eliminates the necessity for using locomotives or switching equipment. Moving platforms shunt the cars sideways from and to any one of several dozen sets of tracks which lead to various parts of the shop yard.



Spray painting the lettered area in red. The Tape serves as a stencil for the lettering, and as protective masking of the previously-applied yellow.



After spraying the final color, the Masking Tape and kraft paper are removed, leaving sharply-defined red letters on a yellow background. The workman at the right is stripping off the Masking Tape.

While the cars are in the Shops, all mechanical equipment is inspected, repaired and necessary replacements made; upholstery is renewed or repaired and cleaned; damaged or worn fixtures are replaced; all fabrics are cleaned; and all painted surfaces are either washed or repainted, depending upon the condition of the paint.

Saving Time by Spray Painting

But our visit to the Calumet Shops has been timed to coincide with a still more interesting operation on the "City of San Francisco" and "City of Los Angeles" cars, for on this trip they are to be spray painted, inside and out. The painting technique is particularly interesting because of the color scheme of the cars, and because of its wide applicability to other industrial requirements and procedures.

The first part of the paint job consists of giving the exteriors of the cars an over-all coat of yellow—while keeping the yellow paint off the aluminum strips that run lengthwise of the cars, above and below the windows. Then the name of the train and the names of the cars are to be lettered in red,

while keeping the red paint off of the yellow ground and the aluminum strips. Finally, the interiors are to be painted in *three* colors, with sharp separation between adjacent colors—and *no paint on furnishings, fixtures or mirrors*.

Examine the details of construction around any window in a railroad car, try to imagine yourself painting all of the surfaces with a brush, and you will have a clear understanding of one of the many reasons why it is essential that all of the painting on and in Pullman cars should be done with Spray guns and Masking Tape.

How Masking Tapes Help

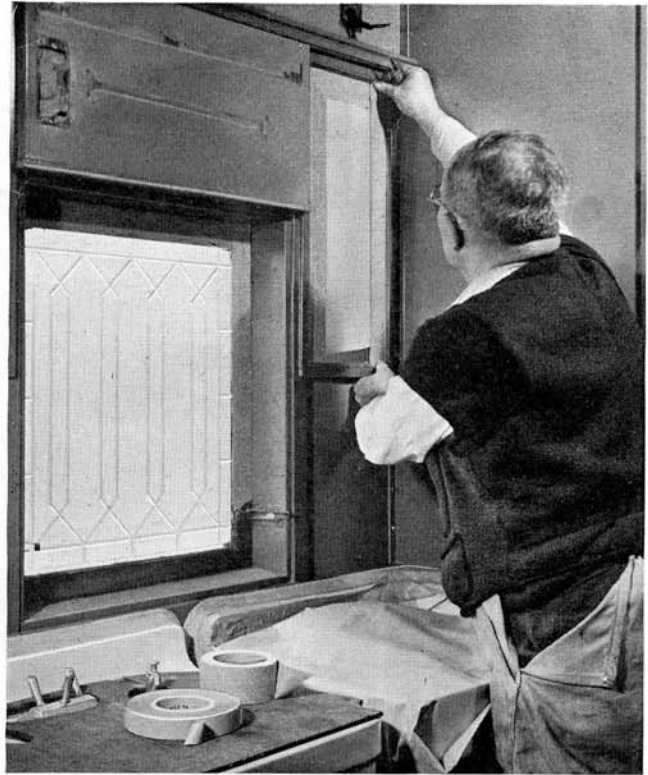
For most spray-painting operations, and for all that are involved in the refinishing of Pullman cars, Paper Masking Tapes are the indispensable adjunct of the spray gun. The spray gun puts the paint on, the Masking Tape keeps it off the areas where it is not wanted—and a better job is done with less paint.

Perhaps the most interesting of the painting operations is the application of the red lettering to the exteriors of the cars. The yellow background

is first covered with a wide strip of Paper Masking Tape, and on this the letters are outlined in chalk, using a master "pounce pattern" as a guide. The letters are then cut out of the Tape with a sharp knife, leaving a working stencil that adheres closely to the yellow background, so that clean, sharp letters will be formed when the red paint is sprayed on. The Masking Tape stencil is then stripped off, after the red paint has dried.

Easily Applied—Easily Removed

Inside the cars, keeping paint off of windows, mirrors, lights, metal fixtures, metal strips, registers, washbasins, etc., is as much of a problem as applying it where it is required. The solution, as shown in our illustrations, is found in the use of paper and masking tapes. A prime requirement of Paper Masking Tapes is that they must be easily applied and easily removed. They must adhere readily to the surfaces to which they are applied, they must stick tight as long as they are required to stick, and they must then strip off cleanly, leaving no residue. These requirements are part of the manufacturing specifications for Permacel Paper Masking Tapes.

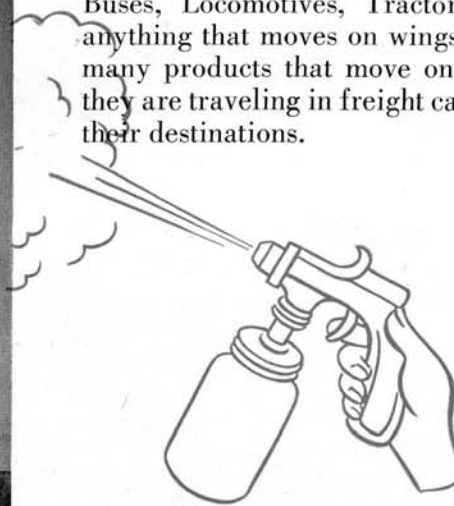


In this older Pullman, mirrors and metal surfaces are being covered with Masking Tape preparatory to spray painting.



Preparation for spray painting. All surfaces that are not to be painted in the next operation are masked off with kraft paper held securely in place by Paper Masking Tape.

The Pullman Spray-painting operations are typical of many and varied uses for Permacel Paper Masking Tapes in the Transportation field. You find them facilitating spray painting wherever such work is being done on Planes, Cars, Buses, Locomotives, Tractors, Automobiles — anything that moves on wings or wheels, and on many products that move on wheels only when they are traveling in freight cars from factories to their destinations.





OUT OF THE CALUMET SHOPS "ON TIME" AND READY FOR THE NEXT TRIP TO THE COAST

HERE is the Pullman car "Ferry Building," fresh from the Pullman shops, its five double bed-rooms, ten roomettes, and auxiliary rooms renovated, renewed and repainted, and the exterior resplendent in its sprayed coat of yellow and red. All of the space has already been sold, and the car is ready to join its train, "The City of San Francisco," on its next fast trip across the country.

While the car body was being made ready for passenger occupancy, the mechanical requirements of safety were not overlooked. Brake mechanisms and running gear were inspected, repaired and adjusted, shock

absorbers, springs, wheels, journals, and bearings were tested and necessary replacements effected, so that the reconditioned car came out of the shops "as good as new."

The speed and completeness of the entire reconditioning operation are a tribute to the work of the Pullman organization in "Keeping Them Up and Keeping Them Rolling."

Paper Masking Tapes facilitated the painting, by making the use of Spray Guns possible. Brush painting would have taken longer—and you might have had to wait longer for your reservations.