Union Pacific Railroad, Omaha Shops

The Omaha Shops complex was quite large, and each work area was known by a specific “nickname”. Near the far north end of the complex was a lumber storage area, and the Mill. This is where all woodwork was done- from building cabinets and trim for the Business cars, and refinishing furniture, to building pallets and crates for shipping materials and parts.

Located just south of this a short distance, was the Coach Shop. The Coach Shop is where repairs were performed on passenger cars, including the business cars. There were four or six tracks in this area. Within the Coach Shop was the Chrome Shop (where decorative items, large and small, were nickel, brass, or chrome plated), and an Upholstery Shop. Upholstery work could be for passenger cars, business cars, or office needs, and was always busy. There was a lunch and Locker room in this area for the workers at this end of the complex, and a small Tool Room for signing out specialized equipment needed for the days work. There was also an area where small air and hydraulic tools for all of the shops were maintained and repaired. Next door to the Coach Shop, was the Car Shop, where heavy freight car repairs were handled, on about 8 or 10 tracks. Light service tracks extended out the North side of the building, with service pits for inspections, changing brake shoes, etc.

Along the south side of the Coach and Car shops was the transfer table, used for moving cars from one track to the next for specific repairs, or for moving them to one of two paint booths, which were across the transfer table, on either side of the Wheel Shop (coaches on the west, freight and locos on the east).

Used loco and freight wheel-sets were brought to the Wheel Shop to have the wheels and axle ends trued in the large lathes as a complete assembly if they were within spec. If out of spec, we dismounted loco and freight wheels for scrapping or renewing individually, then cut the axle journals and bored wheels to size, re-mounting them with a 100 ton press. We then mounted the roller bearing assemblies (which were refurbished within the Wheel Shop, in an air conditioned “Clean” Room). Completed freight wheel assemblies were rolled out the south end of this building to a storage track, where they would be loaded onto cars for shipment across the system. Loco wheel/gear assemblies (gears were also re-profiled and mounted to the axles here) were rolled into the next room, where they were either mounted into new or refurbished traction motors, or shipped only as a complete wheel-set. Used traction motors were tested here, and either sent to the main Electric Shop for rebuild, or were cleared and re-fitted with refurbished wheel-sets. Completed assemblies were loaded into gondolas or special cars for shipment. Typically we would assemble 10 – 14 traction motor assemblies per shift, and about two dozen car wheel-sets.

Generally west of the Wheel Shop and Paint Shops was the Power House. This is where steam was generated and fed to all of the shop buildings primarily for heating (there were radiators in all areas of the shops), and to the Blacksmith Shop to operate the steam hammers and other large equipment.

The Blacksmith Shop was generally south of the Power House, but a fair distance. This was a particularly fascinating area, with lots of very big machines, red hot iron being handled, and lots of cutting, welding and grinding. During my apprenticeship, I machined a set of dies from rough steel, then watched them put to use here, as grab irons were stamped out of red hot, plain bar stock. This is also where I passed my stick welding certification during my apprenticeship.

West of the Blacksmith shop and the Main Machine Shop building, was the Blue Room which was where old components, including entire engine cases and four axle loco truck frames, were stripped and cleaned in huge vats of harsh chemicals. This building is also where EMD and GE heads were rebuilt.

West of the Blue Room was the Shop Superintendent's office, which included the Timekeeper, and the Research and Standards Laboratory. My Dad spent a great deal of time on work at the Lab over the years in various engineering positions. There were some great advancements in the technology of the day developed there; but it was also extremely important for a lot of routine work as well. For example, every time a loco comes in to the service track or shop, an engine oil sample is taken. This sample goes to the lab for analysis, which can then tell

a great deal about the condition of the engine. A catastrophic failure could be prevented by this analysis, and the loco pulled out of service for necessary repairs before serious damage occurs.

Often, years before I started actually working at the shops, I would accompany Dad to his office in the Lab on Saturday mornings. It was a fascinating place, with all manner of failed components stacked about, waiting for metallurgical analysis. There were areas for ongoing accelerometer tests of paint samples, spectrometers analyzing oil samples, scopes reading the internal flaws of axles, and, of course an area where a variety of beakers and chemicals were being mixed and heated by the resident chemist, Tom Ruckl, wearing his white lab coat. I would, many years later, work with his brother Lou in the Glass House.

Dad was an avid photographer who always had his camera with him when out on road tests for UP, and for many years he traveled frequently between Omaha and Pocatello, testing and photographing various equipment. Eventually he realized one of his dreams: UP 210, a mobile laboratory loaded with electronic gear and recording equipment, a kitchen, and sleeping quarters for the testing crew. They would run cabling from the car to the loco (or car) they were performing tests on, and then ride the rails for days and sometimes weeks, monitoring the data and making visual observations from the cupola.

Sometimes on those Saturday mornings, we would climb aboard the Test Car (normally kept on a stub track right next to the Lab) to check on preparations for the next run. I remember a couple of occasions where I rode with Dad over to the 'Bluffs, or out to Valley and back. The lab engineers that were usually on the car with him were Paul Rhine, Al Williams, and Charlie Johnson. Great guys, they always took the time to show me the cool electronic stuff and explain what they were doing! Back at the Lab, I would sometimes get to watch as they performed destructive testing on various materials and components.

North of the Superintendent's Office and the Lab were a small B&B department Maintenance Shop, and a separate Store Department Maintenance Shop, primarily for repairs of their material handling equipment.

South of the Blacksmith shop was the main shop employees lunch and Locker room, and then nearby was the Air room, where all brake equipment, air compressors, shutter cylinders, and air horns were rebuilt.

Next to the Blacksmith shop, Locker room, and Air room, and extending about twice their length overall, was the Main Machine Shop. This too had a number of different areas for particular gangs. The (main) Electric Shop was on the north end. Here they rebuilt and rewound armatures for the main generators, traction motors, and other large equipment motors. They also rebuilt all kinds of small motors and loco electronics in a smaller, air conditioned clean room within the larger Electric Shop.

Next, on the east side of the main aisle was the Truck Shop, where loco trucks were trued and refurbished, then traction motor assemblies were installed to the frames. The entire truck could then be shipped out complete, or was moved to the far south end of the shop, where heavy loco repairs took place, on the Floor. Once there, they would be positioned on the tracks and an entire locomotive would be picked up off of its worn out or damaged trucks, maneuvered through somewhat of an obstacle course, then set down on the reconditioned assemblies. This was accomplished through the use of two overhead 100 ton capacity (each) bridge cranes, which were independently operated by a hand held, battery operated, remote control, from about the late 1970's by Machinists (Other crafts had access to these controls for other work when needed as well). It took a good eye and even better coordination between two operators on the ground to walk theses suspended locos between tracks full of other locos from point A to point B, setting them down on the bolster center-plates perfectly lined up. This did not always go perfectly, as I remember one occasion where a complete 4 wheel-set, traction motor, and truck assembly for a 6900 was incorrectly rigged, and dropped on the Pipe Shop. Another time a 900 passenger unit was somehow dropped, landing partway in the service pit at about a 45 degree angle. Fortunately, no one was injured in either of these incidents.

Next to the Truck shop, on the west side of the main aisle, was a repair area for the lift trucks and other shop vehicles. South of this was the Machine Gang, where an assortment of very large lathes, mills, and shapers were

kept busy machining new parts, and renewing or modifying existing components. Traction motor cases were trued, cams and crankshafts were polished, cut down or built up, and a variety of other tasks carried out on mostly very old machines...dating to the 1910's. There were only two or three CNC machines on the line. On the east side of the aisle, nearest the Truck shop, was the Boiler shop. This was where damaged sections of the locos were fabricated or repaired. They worked on everything from the exterior “skin” to rebuilding the loco frames that were bent or destroyed in wrecks. It was not uncommon to see a loco stripped and cut down to a portion of the bare, essentially flat, platform, and be rebuilt entirely with new wiring and electronics, trucks, engine, and all ancillary equipment. The cabs and long hoods would sometimes be bought new from the manufacturer, or, if there was enough left to work with, replacement parts would be fabbed from flat steel. The loco platform is very thick, solid steel, and would be repaired or straightened as well.

Back on the east side of the main aisle, and south from the Machine Gang, was the Glass House (so named because the interior and exterior walls were largely glass block, providing a lot of light during the daytime). This was one of a very few air conditioned areas throughout the shops, and was also a clean room of sorts. This is where the loco engines were rebuilt from the ground up. Smaller components were rebuilt within this shop as well, such as injectors, fuel pumps, and governors. There were a series of electrically operated drop pits, with a rail guide-way running the length of the engine rebuild area. Each of these pits, or stations, was for a particular phase of the engine reconstruction: crank and pan installation, then, power assemblies, cams and the “front end” accessory drive and components, and finally, the “back end” with either a turbo or supercharger and the associated drive train installation. The engines, at the first pit, were set onto a wheeled metal frame which was manually rolled from one pit to the next as each phase was completed (requiring the effort of about 12 guys!). When all was done, it was manually pushed outside the Glass House to be picked up by an overhead crane, and then deposited onto a flat car for shipping to other points, or transferred to the other side of the aisle for installation into a waiting loco frame. At the very south end of the Glass House was the Blower Room, where turbos, superchargers, and flashcocks were rebuilt.

There was also another area, above the Glass House and part of the Machine Gang area, on The Balcony, where the Repair Gang was based. This crew installed and repaired all of the mechanical equipment throughout the shop complex. From pouring custom fit babbitt bearings for old machines, to manufacturing unavailable components, these guys kept the shop operating. Included in this area was a Machine Tool Room, which had a wide variety of smaller machine tools- shapers, mills, drill presses, lathes, band and scroll saws, etc. for creating or renewing small parts of all types.

Adjacent to the Boiler shop, were the heavy repair tracks, extending all the way to the south end of the building on the east side of the main aisle. These two tracks included pits for the entire length, and virtually all loco repairs and inspections took place here, on The Floor. Replacing major components such as engines, turbos, or generators was commonplace, as were “lighter” repairs such as power pack change-outs, injector exchanges, main bearing replacements, air compressor replacements, and radiator exchanges. A shorter third track was where the Drop Pit was located, for changing out individual traction motor assemblies. The Pipe and Tin Shop, and (loco) Electric shop, were located between this stub track and the Boiler shop. The electrical gang in this area specialized in all repairs and rewiring of locos in for repair, trouble shooting, and load testing. Essentially at the middle of the main building was the Tool Room, where everyone could sign out specialty and standard tools for their task of the day. Of course, most journeymen had their own set of general tools, but often you needed larger equipment, or little used air tools for a certain job, along with air hoses and safety gear to operate with.

South of the Machine Shop building on the west side, were the locomotive Service Tracks. There were long service pits here also, for changing brake shoes and performing inspections. The sand tower and fueling station were here, and there were a pair of short stubs where load testing was performed on locos after an engine change. The locos would be hooked up to a resistive electrical load, and run the engines for one hour in each notch. We would constantly be checking the engine room for leaks, abnormal sounds, etc., as well as checking exhaust temp at each cylinder and recording engine rpms at the governor.

In the wintertime, it was common for dead engines to be brought in to the service track, and we would need to try to get them started again. Not an easy task when you have some 50+ tons of ice cold steel. Surprisingly I'm sure to many, is the way we went about starting a cold engine: We would open two airbox covers on each side of the engine, spray in some standard ether starting fluid such as you find in the automotive section, close the airboxes, and hit the start switch. You had a slightly better than 50/50 chance that the engine would start. Either that, or it would “burp”, and you would lose the turbo! Of course, sometimes no amount of trying would get them to start. We would then switch them into the House (Machine Shop), let them warm up for 24 hours, with about a dozen “salamander” kerosene heaters strategically placed, and then try again.

The Roundhouse used to be located west of the main Machine Shop, and just south of the Store Department. The turntable remained in use to the very last day of the plant closing in 1989 for turning locos on the service tracks.

The Store Department main office and warehouse was located west of approximately the southern half of the main Machine Shop. All orders for parts, supplies, and material were processed through here. There were also numerous areas throughout the shops complex used for outside storage of materials and components, generally situated near the areas where they were worked on. There were storage areas for wheel-sets; traction motors (with and without their wheel-sets); engines; generators; air compressors; auxiliary generator/blower assemblies; and there were racks for skidloads of smaller components and raw material. The engines and generators were in an area serviced by a gantry crane, while most other outside material handling was via forklift. The Wheel Shop also had an old light duty derrick that was used in the wheel storage area for loading and unloading wheels, wheel-sets, and traction motors directly to/from gondolas or specialized flat cars. The Blacksmith shop and the Mill also had their own storage areas for raw materials.

There was a tremendous amount of camaraderie among the shop employees but they were also a very colorful, and diverse bunch of guys (and as I recall, only two women, total, during my 16 years). The language was coarse, the humor blue, and the torment inflicted on the “fresh meat” (apprentices) was never ending. I'm sure this would now be considered a “hostile” workplace, but I loved every minute of it, and truly miss it! There were many lifetime friendships that began here. A lot of the Old Heads were immigrants themselves when they started with the railroad, or they came from families that were first generation Americans...there were a lot of Italians, Bohemians, and a few Mexicans, among others. I remember one fellow in the Machinist craft that had a tattooed number on his arm from time in a concentration camp as a child. We all got along just great, and, let me tell you, these guys (and their wives at home) could really COOK. Some of the most fabulous meals of my life were heated up in pans sitting on the steam pipes, or in “re-purposed” drying ovens and metal forges. Home made, hand stuffed sausages with peppers, enchiladas, BBQ ribs, rich stews, and some of the best home made breads and desserts you can imagine. Mealtime was always important for socializing, and what better way than over some great food! Night shift crews generally placed an even higher importance on this, with fairly regular feasting. Those were truly, The Good Old Days!