RPO

Summer 1994
Vol. 2, No. 2

Inside this issue:

Gateway Division - Mid Continent Region - NMRA

RPO

Summer 1994: Volume 2, Number 2

The *RPO* is the official publication of the Gateway Division of the Mid-Continent Region (MCoR) of the National Model Railroad Association (NMRA).

Editor:
Richard Schumacher

Cover Photographer:
Brad Joseph

This Issue's Contributors:
Robert Amsler Jr.
Brad Joseph
Herb McCurdy
Randy Meyer

Articles, photos, and other materials for publication are to be sent to the Editor. No payment can be made for publication of any materials. Items submitted for publication must arrive by the first of the month prior to the issue date. Issues are published quarterly: Spring, Summer, Fall, and Winter.

Subscription to the *RPO* is one of the services provided by membership in the Gateway Division. Send new membership applications to the Treasurer.

The editorial content of this publication reflects the opinion of the Editor only, unless otherwise credited, and does not necessarily reflect the policy of the Gateway Division.

Advertising of interest to our membership is accepted for publication in the *RPO*. Contact the Editor or Treasurer for current rates and artwork size information.

Please send submissions, suggestions, letters, and address corrections to:

The Editor, RPO
c/o Richard Schumacher Associates
PO Box 510500
St. Louis MO 63151-0500

Articles may be submitted in any format (handwritten, typed, or plain unformatted text on disk - either 3.5" or 5.25"), photo submissions are currently limited to 35mm color slides or 35mm negatives.

The *RPO* is composed in *Microsoft Word for Windows* and imaged on a 1200 dpi QMS PostScript laser printer.

From the Dog House

by Randy Meyer

Since the last *RPO* there has been a lot going on in the Gateway Division. I would especially like to thank all of the members who took time to help with the 1999 National Convention Bid and the Gateway Central Railroad Project.

On the National front, the paperwork, layout slides, and prototype video are all in the hands of the St. Louis Convention and Visitors Commission. They will be putting together our package and video for the bid presentation in Portland Oregon this August. I would like to thank all of the Gateway Division members that provided photos of their layouts, articles, support, and time to get all of the work finished on time.

John Winter's crew did a wonderful job putting together the Gateway Central. Those of you that were at the last Division Meeting know how good the layout looks. A good indication of its quality is the number of chances that were sold at the GATS show in St. Charles. In the two afternoons the layout was on display, we sold over 130 chances. If you have not seen the Gateway Central, look for it at other local swap meets. Thanks John!

The Spouse Appreciation Picnic is coming up in just a few days. If you have not signed up to attend, please do so at once. It will be a great chance to get together to share good food and a good time. Let Brad Joseph know so that he can send you a map. I hope to see you there.

One last thing. Our bid presentation at the National Convention will be at 1:00 pm on August 14, 1994. If there

are any Gateway Division members that are going to be in Portland that day, please stop in at the meeting to show your support [*we also want to put a "Ride the Gateway Line in 1999" promo button on you - Ed.*] I would appreciate hearing from anyone that is going. Drop me a note, or call me at 314-579-0933. Wish us luck at the convention, and until next time, keep on track.

Randy Meyer
156 Ladue Oaks Drive
Creve Coeur, MO 63141

Clinic Only at the 8/15/94 Gateway Division Meeting

There will not be a business meeting at the August 15 Division meeting, which will be at the Collinsville location, as most of the Division officers will be at the National Convention.

There will be a fantastic clinic that has been arranged by Phil Sheahan.

Gateway Division Picnic Update - July 18

by Brad Joseph

Not much time left until the 18th of July! That's party night. The main idea is too get your wife/husband to meet our friends and share some of the fellowship we enjoy. It's a social affair, no business meetings - no clinics, just a great pool and great food!

Don't forget your swimsuits and towels, your own non-alcoholic drinks (no liquor please), and a dish or snack to share. We are going to have a good turnout, over fifty people have sent RSVPs. If you haven't, don't miss the fun - RSVP now and you will get a map and invitation.

There will be no lifeguard on duty, so this is an *adult only* event. By the way, the Gateway Central project layout will be on display so everyone can see our efforts.

Due to the picnic, there will be no July Gateway Division meeting.

Division Meeting Minutes for 4/18/94

Meeting called to order by President Randy Meyer at 7:12 pm in Collinsville.

The clinic was the first in the series of clinics on the "Gateway Central" Division project layout. This session covered the benchwork construction lead by John Schindler. Break followed at 7:45 pm.

Business meeting called to order by President Randy Meyer at 8:11 pm. Introductions of visitors.

Motion to dispense the reading of the minutes for the February and March meetings, seconded, and approved.

Treasurer's report by Ken Thompson: $3,292.01 balance before tonight's transactions. Ken is still actively collecting dues.

Hank headed the committee to provide assistance and presentations at the National Museum of Transport's 50th anniversary in exchange for the Division's use of the meeting space in odd numbered months. We will provide a general display on the hobby at the Anniversary. The existing auto building will be available for railroad use and a number of clubs will have their layouts there for display.

Club reports: Mudhens have a spring meet at M of T on Apr. 23. They plan to go to Denver for the National meet. St. Charles will be at the GATS. Gary Hoover will present a clinic at the 16th Annual Ozarks Area meet Apr. 23. Columbia is starting on a permanent layout and voted to be on the club layout tour Friday night. They will also be displaying at DeSoto Days in June.

Motion that the Gateway Division not participate in the July 16 & 17 show at Union Station, called, carried.

Spouse's Division party - still planned for July 18.

Fall meet report: Hank has 11 layouts for the tour; Chris has arranged for Gary Hoover to present a clinic.

96 Regional meet report: John Hardy has accepted to be chair and is seeking help and a location.

98 National meet report: The Division will run the Silent Auction. Randy read a letter, to appear in the *Caboose Kibitzer*, about our participation.

99 National meet report: Hank talked to Mr. Williams and reported he was impressed with St. Paul, as the hotels are more convenient there (connected by walkway across the street from the convention center). Randy provided a list of NMRA members in the Division and wants volunteers to call individuals and ask if we can use their name and railroad name in the National bid presentation. Photos of layouts are needed to include in the bid video presentation. We need to have the package of materials complete by mid-July. Motion for the Division to host and pay for a small reception for Mr. Williams at the Hyatt, if the Hyatt does not cover the cost. Motion amended to a sum not to exceed $300 for Mr. Williams visit, seconded, amendment approved, motion to have Division cover the cost of food for Mr. Williams during the layout tour, seconded, approved.

Membership committee report: Chris requests help.

Motion to adjourn. Seconded. Approved. 9:18 pm.

Division Meeting Minutes for 5/16/94

Meeting called to order by President Randy Meyer at 7:11 pm at M of T.

The clinic was the second in the series of clinics on the "Gateway Central" Division project layout. This session covered the trackwork construction lead by John Lee. Break at 8:06 pm.

Division membership in attendance were videotaped extending a greeting to "Ride the Gateway Line in '99" to be included in the bid presentation.

Business meeting called to order by President Randy Meyer at 8:32 pm. Introductions of visitors.

Motion by John Hardy to dispense the reading of the minutes, seconded by Richard Lake, and approved.

Treasurer's report by Ken Thompson: $3,240.14 balance before tonight's transactions.

Museum of Transport 50th Anniversary committee report: Division volunteered to help the weekends of July 23 and 30 in exchange for the use of the meeting room. Call for volunteers for those weekends to man displays and answer questions.

Club reports: St. Charles layout will be at Union Station July 15-17 and cotton candy booth at Olympic Faire. Big River Valley is looking for members (round robin club, any scale, any gauge, anywhere). Columbia modular club, if you like to show off, meets Monday nights. Mudhens will be set up at St. Charles GATS and narrow gauge National in Denver Colorado. Mississippi Valley N Scalers has a fixed location and meet on 1st and 3rd Tuesdays, 2nd & 4th Wednesdays, and will be set up at GATS show on June 25-26.

Spouse's Division party: Make sure to return RSVP ASAP (get it in quick, ok?). Railroad will be running for a while.

94 Regional report: Brad Joseph won a large number of awards.

Fall meet report: Clinics (Chris) Tony, Allen, Eric (Utah Belt), Gary Hoover, Jeff Wilson (MR). John Winter also asked Miles Hale, Larry Long, and Pat Harriman. Layouts (Hank) include a number never seen before, including Eric's. Door prizes (Dan Osborne) working nicely. Registration (John Hardy) "has two already".

96 Regional meet report: John Hardy to write confirmation letter to Board of Directors of Region.

99 National meet report: Mr. Williams was in town Tues-Sun and seemed to have a good time. St. Paul showed him 3 yards and 30 layouts. We showed the hotels and convention center, a prototype tour of train watching spots and train chasing, and 18 layouts with a favorable response. It was indicated the decision would likely "boil down to" the convention center bid, with the lower cost site having the edge. Hyatt and Drury picked up the tab for Mr. William's reception. We did spend $17 (of the $300 max allocated) for Mr. William's lunch while on tour. Committee still needs member's model railroad photos and names. Committee recommended reception for Board of Trustees at National Convention. Motion by John Winter for the Division to sponsor the event up to $300. Seconded by John Lee. Question called. Approved.

Gateway Central project layout: John Winter thanks the track gang. Dan Osborne's insurance agency is sponsoring the printing of raffle tickets for the layout.

Motion to adjourn by John Hardy. Seconded by Gary Gross. Approved.

Call for Articles

The *RPO* needs you! Please send your articles, photographs or artwork to be included in future issues of the *RPO*. You gain AP Author points for material that appears in the *RPO*. Crayon to computer word processing are all acceptable article formats.

Send your submission to the editor at Box 510500, St. Louis MO 63151-0500 or give it to me at one of the meetings.

Railroads in the Civil War

by Bob Amsler

Prior to the Civil War in this country, railroads were a new and relatively untried invention. However, during the rebellion, railroads came of age. They became both strategic resources, as well as a military targets, precisely because they were strategic resources.

During the war, soldiers, material and food were routinely transported by rail along with civilians and the raw material necessary to keep the war effort progressing. It was soon realized that the railroads would help to make or break the Union in this conflict which was so bloody that the combined total of all U.S. losses in all other wars would not equal the losses in that war.

When the war began, there were approximately nineteen million people living in the United States. Of these, nine million were living in the South, of which three and one-half million were in bondage. The South was largely an agrarian society dependent on cash crops such as tobacco and cotton and, to a lesser extent, staple crops to feed its peoples and armies. Two-thirds of the rail miles and four-fifths of the manufacturing power of the entire nation were located in states loyal to the cause of the Union. In all of the states which attempted to leave the Union, there was only one plant which could reclaim rail which was bent into what became known as “Sherman's Bowties.” The South was at a distinct disadvantage in men, material, transportation and productive abilities.

There were more than two hundred railroads in existence at the start of the war. The majority of rail lines were found in those states which remained loyal to the national government. Most of these rails were four feet eight and one-half inches apart. By contrast, the South had only about one-third the mileage in the North and the gauges of the rails varied widely. This meant that the North could transport more troops and material to more places with less transfers due to gauge differences than the South. The South immediately realized the potential of railroads and used the rails it had to transport troops from one part not under attack to support fellow troops in a threatened area. The North was not so quick to learn this lesson.

An example of this is the First Battle of Bull Run in the summer of 1861. A large and unprepared Union Army under the command of General McDowell moved south out of Washington D.C. towards the rail center of Manassas astride the tributary known as Bull Run. A smaller and equally unprepared southern force under the command of General P.G.T. Beauregard blocked this advance ultimately aimed at Richmond, the Confederate capitol. The Northern forces were defeated when Generals Joseph Johnson and Thomas J. (Stonewall) Jackson arrived from the Shenandoah Valley with their armies. This concentration of secessionist forces was achieved by transporting these troops to the battle by rail.

The South was to employ this tactic for the rest of the war. The South could not politically afford to abandon any territory to the North and was therefore required to spread its limited number of troops to cover the numerous approaches to its territory which could be used for an enemy advance. Then when one area was under attack, the troops would come, usually by rail, from an area not currently threatened.

When Ulysses S. Grant was promoted to Lieutenant General and given command of all Union forces, he understood the advantage the South had in its interior lines of supply and the part railroads played. As long as the North squandered its resources in uncoordinated attacks upon the Confederacy, the rebels would be able

to transport troops from one area to another in order to halt any Union advance. By applying pressure to all points of the South, advances could be made in more than one place and, in those areas where national troops could not advance against the secessionists forces because of their numbers, the loyal troops would be able to keep the rebels occupied and unable to reinforce other rebel units. As Grant said in his memoirs, those who could not skin could help by holding a leg.

At the beginning of the hostilities, the northern railroads did not contribute as they should have to the Union war effort. Most railroad executives were more concerned about the rates for transporting war material and the profits they would make due to the high demand for their services than they were for the welfare of the Union. For a period of time after the South fired on Fort Sumter, which initiated the war, miles of track ripped up by Confederate raiders were left in a state of disrepair and, while boxes of food and ammunition sat on sidings, railroad executives haggled with army officers over the cost of transporting the goods. Lincoln's Secretary of War, Simon Cameron, who was a prominent investor in numerous railroads, was forced to resign because of his profiteering by manipulation of the rates the War Department would pay for the transportation of its soldiers and material. Such corruption in the rail industry prompted the enactment of the Railways and Telegraph Act of January 31, 1862. This legislation enabled the President to take possession of railroads and run them as required to preserve public safety. The War Department would supervise any railroads taken over by the government. This act was the precedent for the United States Railway Administration of World War I and government influence on railroads in World War II.

Few northern railroads were seized under the act but those that were seized were organized into the United States Military Railroad (U.S.M.R.R.). The railroads, faced with this tough legislation, immediately fell in line to aid in the Union war effort for fear of being seized. Profiteering and corruption immediately fell off and trains began to move in an expedient way. Southern railroads, however, were routinely impressed into the service of the national government whenever Southern territory was taken by Union troops. For a short time, during the invasion by the Army of Northern Virginia into Pennsylvania, some Northern railroads were seized to adequately and efficiently deal with the threat posed by General Lee.

In order to deal with rebel attacks on Union rail lines, the North set up garrisons along rail lines to guard depots and bridges. In addition, large stockpiles of railroad materials were gathered in certain areas to be rushed to a damaged area so that repairs could quickly and efficiently be completed. The national government went so far as to have pre-fabricated bridges made of wood in these stockpiles. General Herman Haupt, the Union's brilliant and innovative chief of construction and transport-ation, is the one who initiated the stockpiling of pre-fabricated parts. In addition, he used ferries to transport loaded rail cars to Aquia Creek and his successor did the same thing at City Point so as to reduce the time normally associated

with loading rail cars transporting them to the wharf, unloading the cars and then loading the barges for transfer to the next port where the process was reversed.

At the same time that railroads were recognized as benefits to the war effort, the military leaders also recognized them as great targets for destruction. General Nathan Bedford Forrest successful destroyed General Ulysses S. Grant's supply line, the Mississippi and Tennessee Railroad, South of Memphis when he first attempted to take Vicksburg. General Grant, lacking the necessary supplies, retreated to Memphis and, in order to feed his troops, ordered them to forage off of the land. When Generals Grant and Sherman again attacked Vicksburg the following year, they destroyed all five railroads which serviced both Jackson, Mississippi and Vicksburg. This prevented the easy transportation of troops and supplies by the rebels to the scene of the battle. By the time the troops and supplies arrived in the vicinity of Vicksburg, Grant's troops were too strongly entrenched and anchored to be dislodged from the stranglehold they had on the city.

After the Battle of Chickamauga, when the tables were turned and Union troops were besieged in Chattanooga, Grant used the railroads help to reinforce and supply his beleaguered troops who were half starved. This quick action by the railroads saved the Union garrison, allowed Grant to launch his brilliant battle to lift the siege and prepare the springboard from which General Sherman would undertake his March to the Sea.

General Sherman trained ten thousand troops in railroad repair before he left the vicinity of Chattanooga to begin his attack on Atlanta. He understood that his lines of supply would be under attack by local guerrillas and possibly organized Confederate units. Then, when he began the famous March to the Sea, his troops were so adept at repair of the tracks that the rail lines would often be in service within a day or two if not the same day.

When General Sherman cut loose of his supply line after the fall of Atlanta and continued the march to Savannah these same troops turned their abilities to the destruction of the railroads. The troops would pile up all of the ties from a stretch of track and place on top of these piles the rails taken from the same stretch of track. The pyre would then be set aflame and the rails would soon begin to glow red at the centers. The troops would then pick a rail up off the fire and take it to the nearest tree to bend the rail around the tree and, for added difficulty, twist the rail. They did all of this knowing the South had only one plant which could undo the destruction they had done to the rails. These actions crippled the ability of the South to react to Sherman's trek through the Georgia countryside and state capitol, as well as tax the ability of the South's shrinking industrial base to produce new rail and repair the old. General Sherman employed these same tactics when he left Savannah for his march through the Carolinas.

When General Grant began the siege of Richmond and Petersburg, two cities close to each other, he set up an enormous rail depot at City Point from which he provisioned his army. Without the miles of track, engines and rolling stock, Grant would have had to supply his troops with numerous wagons pulled teams of horses

managed by teamsters which would have required more forage for the horses and more food for the teamsters. It is possible that General Grant may not have been able to continue his hold on the cities of Richmond and Petersburg if the railroads had not been built to carry supplies from the harbor at City Point to his troops at the front.

As this article demonstrates, the railroads were a new strategic weapon which enabled the North to defeat the South and thus preserve the Union and put an end to slavery. Without the railroads contribution to the war effort, the conflict would have been much different and cost many more lives than the devastating war actually took.

Chicago, Rock Island and Pacific SW 1500

by Herb McCurdy

The Electro Motive Division introduced a line of switchers using their newly developed prime mover. This 645 based engine, with 12 cylinders producing 1,500 horsepower, was called the SW 1500. Production began on January 1, 1966 and the unit quickly became the preferred switcher among railroad customers. The SW 1500 was produced for almost eight years ending in January, 1974, with 807 units produced.

These switchers continued the evolutionary development of EMD's switcher line started in the 1930s. Along with a new prime mover, the body was the most noticeable change from past switchers, and included a taller cab with four windows (instead of two) on both sides which gave the engineer a 360 degree view of what was going on. The walkways were nine inches higher above the rails than previous SW models, and the headlight and number boards were integrated into the body to produce a more streamlined look.

These units were destined for more than just yard switching service, as they were used on road jobs as well. Although they were able to be MU-ed with road power, the SW 1500's short frame prevented the use of the EMD Blomberg road trucks and restricted the weight of the locomotive.

AAR Type A switcher trucks and 600 gallon fuel tanks were standard equipment, an 1,100 gallon capacity fuel tank and flexicoil trucks were offered as options. Most SW 1500s (765 out of 807) were equipped with the optional 1,100 gallon fuel tanks and flexicoil trucks suitable for speeds up to 60 mph.

The introduction of the longer framed MP-15, that was able to use the Blomberg trucks, was the reason for the discontinuance of production of the SW 1500.

The Rock Island's SW 1500

The SW 1500 was the last switcher purchased by the Chicago, Rock Island and Pacific prior to shutdown. Ten SW 1500 locomotives were built by Electro Motive and delivered in June 1966. The units were numbered 940 thru 949 with serial numbers 31745 thru 31754 respectively. These units were assigned to Armourdale and were used extensively in transfer work around Kansas City. All but three were still there at shutdown.

These units were able to be MU-ed with road power as they were equipped with the flexicoil truck option and allowed to run at speeds up to 77 mph. Track conditions of the system and their assignments made the high speed capabilities almost useless.

Notable features on the Rock Island units are the hood mounted hand rails (not sill mounted as on most units produced), the switcher flexicoil type trucks, and an air operated bell. They were delivered in the new '66 image: all maroon paint scheme, with "Rock Island" on both sides of the long hood and unit numbers on the cab sides.

The units had a couple of paint variations during their 14 year tour on the "Rock". The first variation was the same as delivered, but with yellow ends (front and back) for higher visibility. Finally, the blue image paint scheme was the scheme that most locomotives wore until shutdown.

Shopping List

Athearn SW 1500

Details West
- #167 Fuel Filler
- #175 Horn (check photo of specific loco as RI used different horns)

Precision Scale Co.
- #39132 Antenna

Details Associates
- #1201 Bell
- #1505 MU Stand
- #1508 MU Hoses
- #2202 Grab Irons
- #2205 Coupler Lift Bars
- #2206 Eye Bolts
- #2208 Footboard (optional for personal preference)

Micro Scale Decals
- #18 Rock Island Diesels
- #48 Builders Plates and misc. diesel markings
- #110-1 White Stripes

Kadee couplers
0.020 Wire
Floquil Rock Island Maroon

Modeling Rock Island SW 1500s

Step 1: Filling holes

Fill the stantion holes in the side sill with your choice of filler. Fill all the holes on the right side except the very front hole. Fill all the holes on the left side except the very front and last hole. Fill the hole for the handrail on the right side of the cab only.

Step 2: Drilling holes

Using a #79 drill bit, drill the grab iron holes on the right side and top of the hood; drill holes for the hood lift rings located forward and aft on both sides of the hood; drill the holes for the hand rails on both sides of the long hood. Drill four holes for coupler lift bar in both pilots.

Using a #76 drill bit, redrill the two holes on both sides of the hood that the handrails are going to mount in, referring to the pictures.

Using a #74 drill bit, drill holes for the MU hoses in the front and rear pilots.

Using a #74 drill bit, drill a hole in the center of the cab roof for the antenna.

Step 3: Detailing the shell

Installing the #2208 footboards and hose storage boxes is an optional step as the molded on ones would be acceptable. Remove the molded on MU hose box and footboard leaving a flat surface on the pilot. Install the #2208 footboards and hose storage

boxes as per instructions that accompany the part.

Taking the .020 wire, measure the distance between the #76 holes for the handrails and bend the handrails. Bend the handrails for the front and rear pilots. Install the pilot handrail, the #2205 coupler lift bar using the #2206 eyelets; now slide the #2206 eyelets on the hood handrail and insert into holes on the long hood.

Mount the #1201 bell in the hole in the front of the stack - don't forget the air line from the hood to the top of the bell using the .020 wire.

Install the #1505 MU stand to the left of the stantion on the front and rear pilot.

Install #2202 grab irons on the top and sides of the hood.

Install the three chime horn on the cab, also install the air line on the front of the cab made from .020 wire, and the #39132 antenna.

Step 4: Detailing the frame

File the fuel tanks smooth, removing the rough edges on both sides.

Install the #187 fuel filler as per the instructions with the part.

If installing Kadee couplers, tap the holes with a 2-56 tap.

At this time, remove the motor and trucks or mask them off.

Step 5: Painting the shell

Clean shell with detergent and water solution, rinse and dry thoroughly.

Paint overall shell and frame Rock Island maroon. Paint the truck sideframes silver. Let dry until solvent smell vanishes (sitting outside on sunny day works within hours).

Step 6: Decaling the shell

Using the Micro Scale Decals, install the decals as per photos. Rock Island Technical Society is able to provide painting and lettering diagrams for a small fee. Point of contact is Mr. David J. Engle, 8746 N. Troost, Kansas City, MO, 64155--dues to join society are $10/year.

Using the #48 Micro Scale sheet, install the oval “EMD Builders Plate” on the side sill centered below the battery box doors.

Install one of the leaser plates on both side sills right behind the handrails.

Using the white "F", install at the front of the locomotive in front of the stantion.

Step 7: Installing hand rails

Taking the long hood hand rails and one stantion on each side, install the handrail and the stantion in the hole left unfilled at the front on both sides with the stantion vertical to the walkway and the handrail horizontal with walkway. Using needlenose pliers, bend the handrail down leaving approximately the same gap between either side of stantion.

Using the stantion as a guide, make the final bend imitating the stantion.

Using the handrail as a guide, drill a hole in the side of the walkway and install handrail and stantion.

Repeat for the other side.

Bend the handrail for the left side of locomotive from cab to frame and install the remainder of handrails as per instructions that accompanied locomotive.

Step 8: Final stages

Install truck sideframes. Paint all hand rails silver. Paint bell as per photo.

You're now ready to enjoy your locomotive!

Dispatcher's Desk

by Bob Amsler

One of the most important aspects of operation is that it requires research in order to operate in a prototypical manner. This theme will be repeated, often! In order to operate well, the prototype must be studied.

Once the era is determined, look at the railroad that you are either modeling or using, as a guide to determine what the operating rules are that you will use on your pike. The era will influence what the operating rules were at the time your railroad existed. For instance, during the steam era orders were hooped up to both the engine and the caboose by an agent at a station when told to do so by the dispatcher. Today track warrants are common to control the movements of trains on light to medium density lines. These warrants are issued by the dispatcher by radio to the engineer and conductor and, possibly, the fireman, if there is one in the wide comfort cab of the SD70MAC. To use track warrants in the manner they are used today on a pike modeled in the 1930s or 1940s would be both unprototypical and an anachronism.

In addition, research of the prototype will reveal traffic patterns and the types of cars used by the prototype. For instance, it would be very hard to model the Pennsylvania and not have a few coal cars on the layout. The Pennsylvania had the largest number of coal cars on any roster, with one class so numerous that it numbered more than any other railroad's entire roster of coal cars. Therefore, the railroader modeling the Pennsylvania should have a few coal cars on the layout and may even want to try to model a mine or user of coal.

Modeling a traffic pattern will need research in the timetable to determine what trains ran where and when. For instance, modern railroads try to run TOFC or container traffic in the early evening from the shipper and have it at the receiver by the next morning. Thus the Chicago and North Western may run a train from Chicago at about seven in the evening and have the trailers or containers ready in Kansas City by three in the morning and other points west by the time of business the next day.

By reviewing timetables and freight schedules which were published in books available to shippers and railroad personnel, the modeler can see what the railroads were doing during the time he or she models.

Adventures in Wiring

by Richard Schumacher

This issue we take a break from the signal circuits to answer a reader question. The PC board, and assembly instructions for our siding interlocking controller, will appear next time.

How to make a good-looking control panels continues to be a problem for a number of modelers. A number of methods have been successfully used in the past, and computer technology can be applied to create new methods.

My first control panel (around 1972) started as a ¼" thick sheet of tempered Masonite which I spray painted bright white. After the paint completely dried, I applied charting tape to create a schematic diagram of my layout. It is important to check that there is sufficient room to install the pushbuttons and toggle switches on the completed diagram. After I verified that all of the tape edges were in firm contact with the panel, I spray painted the entire panel dark green. When the green started to dry, I removed the tape, leaving a white diagram painted in a dark green panel.

After the dark green has dried, you can also add white dry transfer lettering and a final coat of clear gloss to seal the lettering in place.

For a hard to damage panel, it is important that you use gloss paint and a type which dries to a hard finish. I used Red Devil Enamel on my first panel with very good results. Modern acrylic paint would also work well. Use the same brand paint for all layers.

Some modelers simply paint the background color and attach colored charting tape to create the diagram. This is quicker and easier than the method I described, but the tape tends to wear or peel off after awhile. Pinstriping tape for automobiles usually works better for this approach, as it comes in bright colors and is designed not to easily come off. A clear gloss overspray will also protect the tape.

Some of the later panels I made for my railroad and other modelers took a slightly fancier approach. The panel started as 3/16" clear Plexiglas. The track diagram was created in charting tape, but applied to the back side of the Plexiglas so it looked correct when viewed through the front. Dry transfer letters can be added, also on the back side, but it has to be done as a mirror image (so it reads right when viewed through the front).

I then spray painted the back side of the Plexiglas panel (this is the side with the tape and lettering), making sure no overspray gets on the clear front side, with dark green. This will seal in the dry transfer lettering and form the "background" color of the panel. When the dark green started to dry, I removed the charting tape leaving a clear track diagram surrounded with a green background.

After the green has completely dried, the back side is then sprayed with the color(s) you want for the track diagram. Silver looks very nice through the Plexiglas, along with most bright colors (Railbox yellow, for instance). You can easily mask parts of the track diagram and paint blocks in different colors.

A panel made this way looks very rich and expensive. However, it is easily ruined unless you follow these two precautions: (1) drill all your holes with special Plexiglas drill bits, normal drill bits tend to crack and shatter Plexiglas and (2) back the painted surface with a thin sheet of plastic or metal to prevent the pushbuttons and switches from scratching through the paint (this can happen during installation or later on if a switch works loose and moves).

All of these approaches so far work best for panels without much lettering.

Adding lettering to these will test your dry transfer application skills (and patience). Panels with a lot of lettering are best created as black & white artwork which is then duplicated or printed to make the control panel.

One excellent approach is to create "pen and ink" artwork of the panel (a black track diagram and text on white paper). A printer or blueprint shop makes a full control panel sized lith negative of the artwork, shot so that it reads correctly when viewed from the base side of the negative. Make sure to tell the printer not to "spot" the pinholes in the negative (since they usually use red paint and you need to do it with black paint to look correct). At this point you have a clear diagram on a black background. Animation cell paint (available in better art supply stores) is used to paint the diagram since it is completely opaque and brightly colored. All painting is done on the "back" side of the negative. First use black paint to touch up any pinholes in the negative (tape it to a window and you will easily see them). Then paint the blocks and lettering the colors you desire. The final diagram is sandwiched between two sheets of clear Plexiglas for protection. The desktop control panels in *Star Trek The Next Generation* are made this way.

Of course, the original artwork can be made more easily these days with a drawing program (not a "paintbrush" program) on a personal computer. The final artwork is best printed on a high res laser printer with a new toner cartridge on good paper (Hammermill Laser Print) - just like the originals for this issue of the *RPO*.

People who do computer art for a living use expensive, complex drawing programs like Micrografx Designer, Corel Draw and Adobe Illustrator. But good results are more harder than you might think. More on that, and panels made on color printers, next time.

On the Cover

The *Overland Mail Northwest* blows through Fort Collins Colorado on its way to Portland.

This scene is on Brad Joseph's Union Pacific Wyoming Division.

Division Call Board

Superintendent and
1994 Meet Committee Chairman
Randy Meyer
(314) 579-0933

Assistant Superintendent
Christopher Thies
(314) 845-1987

Division Director
Herb McCurdy
(314) 487-9291

Secretary / RPO Editor
Richard Schumacher
(314) 846-2224

Treasurer
Ken Thompson
(314) 394-2247

Event Committee Chairman
Phil Sheahan
(314) 832-0843

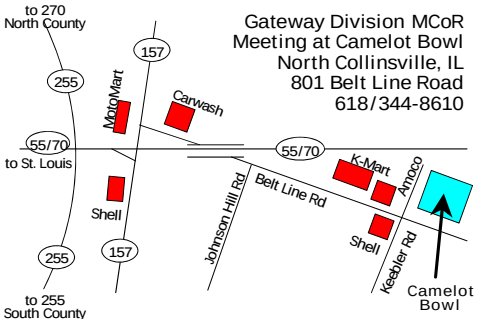
Gateway Central Committee Chairman
John Winter
(618) 526-4482

Achievement Program Chairman
Brad Joseph
(618) 233-8140

Where's The Meeting?

Meetings in odd numbered months (January, March, May, July, Sept., and November) are held at the National Museum of Transportation on Barrett Station Road in West County.

Meetings in even numbered months (the other ones) are held at Camelot Bowl in North Collinsville (see map).



Meetings are the third Monday of each month with the clinic portion starting at 7:00 pm. The business meeting follows the clinic after a short break.

Calendar of Events

Do you know of an event of interest to other *Gateway Division* members? Send the information to the editor so it can be listed here in future *RPO*s.

Mon, July 18, 1994
Gateway Division Special Meeting
7:00 pm Dee Joseph Home
RSVP required to attend, contact Brad Joseph to RSVP

August 14-21, 1994
Columbia Gorge Express
NMRA National Convention

Mon, August 15, 1994
Gateway Division Meeting
Clinic only, no business meeting
7:00 pm Museum of Transport

Mon, September 19, 1994
Gateway Division Meeting
7:00 pm Camelot Bowl (Collinsville)

October 15 & 16, 1994
Gateway Division Annual Meet
Belleville Area College