



**Three Lakes Model Railroad Club**  
**Volume 3, Number 5**

**1<sup>st</sup> 100% Club in Wisconsin**  
**May 2012**

### **Stainless Steel: a glimmer of hope**

*by R.G. Blocks*

The Silver Streak was a movie that was based on the Burlington Pioneer Zephyr that ran from Denver to Chicago. A record breaking run was made in 1934 and can be seen: <http://www.youtube.com/watch?v=HXZMMVz6lY8>

The E.G. Budd Manufacturing Company built the Burlington Pioneer Zephyr as the first diesel powered streamliner in America. It was 660 HP, using an eight cylinder Winton Diesel Engine. The first public appearance was in the 1933 Century of Progress Expo in Chicago. The very first run was April 9, 1934 to Perkiomen Junction and return to Philadelphia where it was christened the Burlington Zephyr. Then, on May 26, 1934 it made a “Dusk to Dawn” run from Denver to Chicago, about 1015 miles in 13 hours and 5 minutes for an average speed of 77 mph. The public was hooked.

Young Ralph Budd, the new CEO of the CB&Q took over the railroad in 1932 and decided almost immediately to fight loss of ridership. The great depression and the strains of WWI on the rail industry had caused ridership to drop 20%.

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The automobile, gaining in popularity would cause loss of another 20% shortly. He was determined that his railroad, with some 11,000 miles of track, would not falter. He needed passengers, repeat customers.

How does a young fella get to own a railroad? Well Budd graduated high school and college in six years with a Civil Engineering degree. Then, he worked for the Chicago Great Western and then under John F Stevens on the Rock Island. At age 27 Budd built the railroad across Panama for John F Stevens as part of the Panama Canal Project. Budd finished his work ahead of schedule and under budget. He was literally a rock star!

That Canal triumph got the attention of Great Northern's James J Hill and by age forty Budd was its youngest rail executive and named its President.

Budd oversaw the GN's Cascade Tunnel project. It was the longest tunnel in the world at the time. In 35 months, for seven days a week men dug thru rock. Dangerous rail switchbacks and seasonal avalanches would be eliminated with a 7.8 mile shaft. To provide light, Budd installed diesel generators. In diesel, Budd saw reliability, economy and dependability.

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Ralph Budd, as the young President of the CB&Q knew that a socialist regime was in power but felt that Joe Eastman, then FD Roosevelt’s coordinator of Transport was willing to relax antitrust regulations to encourage methods, materials and new locomotives. Ralph took a ride in E.G. Budd Mfg

Co’s, gas electric car, “The Green Goose”. He asked Ed Budd; an auto manufacturer before the depression and Charles Kettering at General Motor’s to build a streamlined train for the CB&Q.

The Chicago Burlington and Quincy’s very popular Pioneer Zephyr used the Jacobs bogey wheel configuration. Picture in your mind, two cars balanced on one wheel-set. All modern high-speed train-sets use them today. TGV, Eurostar and Talgo each offer current examples. Intermodal freight Pacer Stacktrains are now using Jacobs bogies under groups of cars.



The public of course didn’t care about Jacobs wheel-sets only about speed. The government regulated industry to the point of nearly killing it. Rail was worried. The government had seized the railroads during WWI. Roosevelt and Eastman also had a notion to nationalize rail for WWII. Ralph Budd

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was the voice of reason that convinced them to use existing organizations.



On May 28, 1940 Budd was named federal transportation commissioner. Trains carried 90% of the troops and 97% of the WWII freight.

Washington began massive highway building projects after WWII. Also, hundreds of cities built airports post war. Rail was

beset with higher taxes and union problems. Consequently, whereas in 1954 there were 2,500 intercity passenger trains, we find by 1969 the number down to 500.

Ralph Budds' last day working as President of the CB&Q was at the Chicago Railroad Fair on August 31, 1949. He was progressive.

Transformation of streetcars, to interurban also took place on Jacobs's



bogies with the advent of Electroliner. These eighty (80) mph lightrail trains ran from 1941 to 1976 between Chicago and Milwaukee and later in Philly. The Chicago, North Shore and Milwaukee Railroad bought them from the Saint Louis Car Company.

Electricity was the fuel of this light motive power.

Electric traction motors

were provided within sets of permanently coupled cars. These lightrail cars are rapidly accelerating vehicles that work well in and outside tunnel and city traffic environments since they don't produce noxious fumes.

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Every high-speed train and interurban system in operation today is a descendent of these not-so simple Budd Zephyrs and St Louis Electroliners. The Electroliner actually reached 110 mph speeds. At times it reached crossings before gates were properly lowered. Thus, the trains were run at reduced speeds for their entire lives to match the slower (and more normal) speeds of other Chicago, North Shore & Milwaukee equipment. Ninety mph was the maximum allowable peak speed (imposed for gate operations).

My pal, Roy Stuart remembers coming home to Racine from school in Milwaukee after WWII in about 1946 on the Electroliner and more than once having a ham sandwich and beer for 75 cents.

The advantage of a lightweight train structure means cheaper construction. The lightweight means less noise rounding corners from squeal and squawl from rail rub and a significant savings in power to propel the device.

The North Shore ceased operations in 1963 and the Electroliners were sold to the Philadelphia Suburban Transportation Company and modified for third rail operation. One of the two train-sets is now at the Illinois Railway Museum, in Union Illinois.

The Electroliner photo, posted by Nate Beal to Flickr is used with our thanks. The Zephyr photos were those of the author. There are several Electroliner models in HO and MTH makes one in O gauge.

### **Railroad Happenings: or Semi-local events...**

May 5, 2012 NMRA WinnebagoLand Division Spring Meet, Plymouth, WI  
Info at <http://www.wld-nmra.com/>

May 17-20, 2012- CNW Historical Society Convention- Norfolk, NE  
Info at: [www.cnwhs.org](http://www.cnwhs.org)

June 16-17, 2012- Annual Strawberryfest Model Railroad Show- Waupaca, WI  
Waupaca Recreation Center  
Saturday June 16 10 AM to 5 PM  
Sunday June 17 10 AM to 3 PM

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June 28-July 1, 2012- Milwaukee Road Historical Assoc. Annual Convention Moscow, Idaho

Info at: [www.mrha.com](http://www.mrha.com)

July 21, 2012- Rail fair- Copeland Park- LaCrosse, WI

Info at: [www.4000foundation.com](http://www.4000foundation.com)

July 29 – August 4, 2012 it's the 77<sup>th</sup> National Model Railroad Convention, Grand Rapids, MI. The host club is found at [www.grmrhs.org](http://www.grmrhs.org) a 100% NMRA club. For info on the convention: [www.gr2012.org](http://www.gr2012.org) Seventy fantastic layouts within one hour of the 12<sup>th</sup> best hotel in North America (Amway). Let's all go!

Sept. 13-16, 2012- Soo Line Historical Society Annual Convention

Thief River Falls, MN Info at: [www.sooline.org](http://www.sooline.org)

Oct 21, 2012 Model RR Show and Swap Meet – Circle B Recreation  
6261 Hwy 60 – Cedarburg, WI

Info at: [www.lammscape.com/cedarcreek](http://www.lammscape.com/cedarcreek)



**Sandstone & Bridges  
on the T&O**

*by R.G. Blocks*

The task of making sandstone cliffs is eased by adding sand to the surface covering. Nothing is better than the real thing.

My technique is rather simple. I mix drywall compound with Burnt Sienna, Raw Umber, Flat Black, a dollop of Yellow and Orange and throw in about a cup of sand and a half cup of water. Mix to suit and paint it on, or “glob it on,” atop the structural underlayment which consists of: wooden forms, screen wire, rags dipped in plaster and a prior layer of dry wall compound colored as above.

Techniques for earlier layers have been described in prior newsletters (see

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[www.tlmrc.org](http://www.tlmrc.org) for past newsletters). This is the last physical coat of surface material. It is strong enough to withstand handling by grandkids and strangers. You can drill, file, cut, burnish or shape the surface even after it dries. Our multilayer process hides the white T shirt or towel that acts as a support member.

I also dip the brush in a can of sand to add surface irregularity and a naturally abrasive texture. Our technique does not prohibit you from adding rock castings on as a next step and / or highlight the surface with a variety of water based paints. Either wet or dry painting techniques work well for the next step depending on the modeler's goal. We'll be discussing those items when I've made a bit more progress.

We will work in the bridges, a large wooden trestle a yard, mine, ash dump, waterfall, stream, and thus have many steps to both created and document.



It took about four hours to treat the five modules we've begun describing in recent months. That works out to be roughly 10 square feet of plaster work per hour. I've let this layer of work setup for a couple of weeks. It will not need any cure time before drybrushing on a few highlights which is the next anticipated path of action.

A horizontal couple of views of the old stone, rail and road bridge is below. It is



strictly a series of cardboard cutouts at this point.

My scheme for designing and building stone bridges isn't overly complex. Some guys might get out their drafting

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setup, make drawings and either create or imply an element of precision. I simply got some cardboard from old boxes, measured and cut out basic semicircular arches for my bridges. Here we can enter some thoughtful debate. I'm for practical and realistic fun.

Successful stone bridges will have been either parabolic, elliptical or circular arches. All three shapes were used world wide. All three shapes have currently standing examples when we confine our thinking to stone materials. Bridges containing any of these approximate shapes will last indefinitely just as long as a parabolic shape fits within the arc of stones and the base stone of that arc is prevented from sliding outwardly.

Roman stone bridges or stone bridges built elsewhere are based on rules that were not understood until Civil Engineering became science based and not simply empirical.

It may be worth digressing. Civil Engineering is the profession dealing with design, construction and maintenance of structures such as buildings, roads, bridges, canals, dams and sewers. Some say it's focus is historically the purest and most fundamental. Civil Engineering has only two rules that one must commit to memory. Rule One: Sewage flows downhill. Rule Two: Don't lick your fingers. End of digression.

Our bridge shape will be supported by inserting construction foam within the cardboard confines. Foam of blue, pink, yellow or gray is not important. It must stay within the cardboard outline and be a support for that surface. Our inner foam is intended to stiffen the ¼ inch foam surface that will take the place of the cardboard shape.

Foam from homebuilding construction scrap is an excellent source of these inexpensive raw materials. Use PL 300 for an inexpensive glue to hold pieces in place. Carving and cutting is best done with a Styrofoam Brand hot wire knife. It works like a very thin hot rapier: you are one of the Three Musketeers. Carve away.



A top down view of the bridges is shown to the left. Green tape covers the wooden roadbed surface. Some complexity is involved. We have a single track across the top of the photo to the left. That uppermost bridge is the one in the foreground of the preceding page.

The 30 degree crossing is where a piece of handlaid track will be placed as one of three items required for the NMRA Civil Engineering AP.

The wider (green tape covered) roadbed actually is for both a narrow road and a single track. Thus, our bridge spans carry three tracks and a gravel road. Two of the three

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bridges carry the track that intersects at a 30 degree crossing. Hand laid turnouts are on each end of the bridge complex. Complexity and we hope functional and practical beauty for our narrow gauge railroad empire all exist at this stone monolith.

Until nexttime; I hope you're enjoying my slow progress. I'll make you feel superior yet!

PS Please refer to Mr Paul Wussow's model of the Moen Lake, Wisconsin Central bridge in the May Rhinelander Warrant. Paul presents another practical approach to make a realistic model.

## **From the Tower**

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As some of you know I have been making tracks over the last few months and will have a clinic and newsletter article about the process. It is almost addictive, after you make your first turnout, test it and find that it is better than money can buy, you want to do more.

This month we have added articles in The Three lakes Turn and the RRA Warrant on "measuring up" in order to build structures from scratch. Finding buildings to measure should not be a problem and I hope a number of members will join me measuring and building the SOO Line Scale House which is now located in the RRA area of Pioneer Park in Rhinelander. If we get enough participation I will publish the scale drawings in the Regional and maybe the National NMRA publications as well as on our Web site. This will open up a contest for structures at the fall 2013 Division meeting in Rhinelander.

Another topic that has crossed my desk this past month is the building of modules to take to the fall 2012 train show in Minocqua. Both our club and the RRA have been invited to bring modular layouts to the show. I know of at least 3 members of TLMRC who want to build and operate modules at the show. We can always use more members. If you are interested in building a module we can supply a support team that will help with design and construct from the ground up. I was able to be part of the RRA building of modules and I must say a good time was had by all who were there. Look at the results they had with their display for the Holiday Season in downtown Rhinelander. I wonder if there is a space for the Three Lakes Club to do the same for our town.

Don't forget our web site which features Bon French's Photographic backgrounds of Cheyenne Wyoming as seen from the UP yards. [www.tlmrc.org](http://www.tlmrc.org)

Paul Wussow  
President  
Three Lakes Model railroad Club