

RIDING RAILWAYS NEWSLETTER



Grand Scales
Quarterly

NOVEMBER 2007

Hello and welcome! First off, I hope you have had a chance to visit our newly designed web site for *GSQ* (www.grandscales.com). I have added a bunch of articles and links and things I hope you will enjoy. Please let me know what you think about it. Like this issue, all future issues of the newsletter will be available there for you to download at your convenience.

Next I will be redoing the 7+RAILROADER website. If you have any suggestions for improving it, or would like to see something in particular added, then please let me know. In the future we hope to add video clips to both sites as well. We'll keep you posted.

Have you visited the **Discover Live Steam** photo contest? Voting ends the first week of December. As usual, there are some great photos entered. Take a peek at <http://www.discoverlivesteam.com/photocontest/index.htm> and vote for your favorites.

Lastly, Have YOU enjoyed one of our DVD programs? If so, we would love to hear your comments and to use them on our web site. If you are interested in sharing your thoughts, please send me an e-mail or letter with permission to use your comments. Please also indicate if we can use your name, City and State.

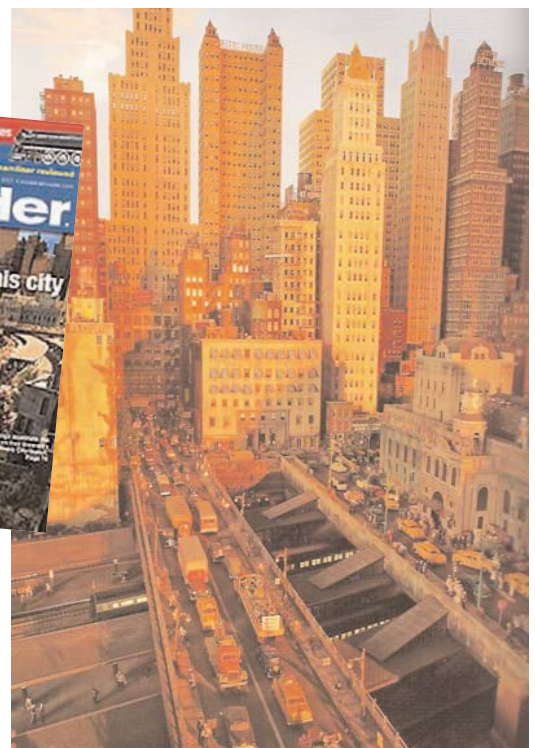
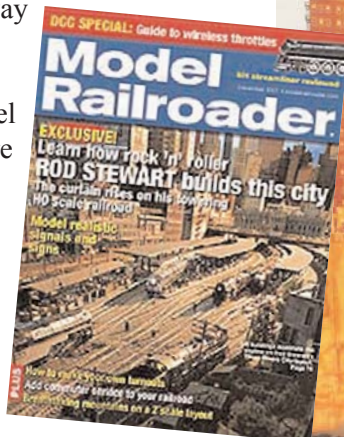
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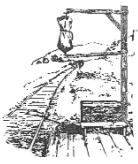
A handwritten signature in blue ink that reads "Susan".

PS- I have a new e-mail address. You can still contact me at mainline@sunset.net for a short while. But in the future, please use srobinson@theskybeam.com. Please make note of this in your spam filters so I can still contact you when future issues of the newsletter are available. Thanks!

CELEBRITIES AND THEIR TOYS

By now you may have heard that rocker Rod Stewart has his Three Rivers City model railway featured on the December 2007 cover of *Model Railroader* magazine. One of Stewart's chief loves is his perfect scale model of New York City, complete with 26 miniature trains, more than 100 skyscrapers and, of course, one or two football pitches. Ex-wife Rachel Hunter once claimed the miniature railway was the real reason behind their eventual split. "He spent all his spare time playing with his Flying Scotsman," she complained. However, Rod has always denied the claim, saying railways are "important – but only after family, music and football". Hmmmm . . . at any rate, it's an impressive layout and worth a look. You can pick up copies of *Model Railroader* at many bookstores and hobby shops. ■■■





MAIL BAG

We were asked by HIT Entertainment in NY if we could take *Thomas, Annie & Clarabel* to the **Orange Empire Railway Museum** in Perris, CA, for the second weekend of their *Day Out With Thomas* on November 17 & 18, 2007.

(http://www.oerm.org/pages/dowt_main.html)

Tony Martin visited the previous weekend event and spoke with the museum president, Tom Berensen and agreed that the space made available was suitable. We had been given an approx size of 60' x 60' (18 x 18 meters) area of tarmac(asphalt), next to the Bob The Builder stage show marquee.

Tony built an oval specially designed for the area track of approx 192' (58.5 meters), and completed Annie & Clarabel in the week between the two events.

Tony and I met in Perris on Fri 16th, and laid the track, unloaded Thomas, Annie & Clarabel and made sure that Thomas was operating OK. Tony had also had the idea of building a radio control unit, to maximize the number of passengers per ride. This hadn't been done



before with a miniature railway(as far as we knew), but the unit worked fine.

We were away from the main Thomas area and events, behind the *Bob the Builder* show and were told that probably wouldn't find us until after the first Bob show at 11:00. Not true! We arrived at 8a.m. each morning and were running passengers from approx 8:30 until 4:30 each day.

The ride consisted of two laps, with Thomas coming slowly down the last straight to enable parents to get pictures whilst he was in the shade. Each ride with turn-



around took approx 3 minutes, and we estimate that we moved 2000+ passengers on each day.

The queue (line) went along the front of the Bob marquee and then disappearing off round and down the side of the marquee.

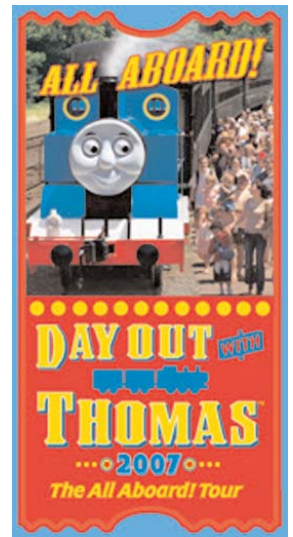
I am very very pleased with the event and how it went, there was a lot of interest in our Thomas. Kids didn't want to leave; they were hugging Thomas and everybody wanted to have their photo taken with him after the ride, which we tried to accommodate. A large number of people asked if Thomas could be purchased to have in their back yard to hold birthday parties, take him to state fairs etc. We had comments like "the big Thomas is awesome" but this is the real Thomas, and I feel that was simply because of the size ratio of child to Thomas, and that he had Annie & Clarabel behind him.

There was no advertising done for the event, parents were asking if we would be back next year, we had made children's days, so many photos and videos being taken, I'm going to keep an eye on You Tube as at least one will probably end up on there.

Thanks to all at HIT who made it possible, for us it proved that our belief in our product has been justified. Just need to sell a few now!

Regards,

Dave Dean, Senior VP - Marketing
Complete Miniature Railways Ltd



Thought your readers might like to know that we have bells in the following diameters available: 4" (7-1/2#), 6" (24#), 8" (42#), 12" (125#) & 16" (310#) Features include: Cast bronze bell used by the railroads of the 1800's, machined to exact specifications, hand-polished to a mirror finish, and coated

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Regards,

Steve Patton

Classic Train Works 704 /357-8850

GRAND SCALES ON A BUDGET FABRICATED WHEELS

By Jim Alves



“MAN, I NEED WHEELS!”

Thus, the cry of the lonely Grand Scale modeler. Close behind “Rail!” comes “Wheels!”

As most railroads found out, soft gray iron castings don’t last long “in service”. John White’s book on “American Locomotives” (Dover Publications) has some very interesting numbers. Back in the 19th century a wheel could get between 30,000 to 50,000 miles before wearing enough to be “re-turned” to profile. Reducing this to 5” scale/10” diameter wheel, we should get 8,500 miles on an iron wheel . . . only trouble is —we don’t run on IRON track . . . but STEEL. As a result, those iron bits get the stuffing knocked outta them. Erich Thomsen figured on less than 4,000 miles. OK . . . in daily service, six runs a day, on a 2 mile round-trip, that’s less than 1 year, then back to the big lathe!

Going to steel wheels increases this mileage figure immensely. But most of us can’t afford the \$150.00 plus per wheel, that an alloy casting costs. Those that can . . . well, they’ re probably chucklin’ at these notes.

Gray cast iron runs about 15,000-18,000 pounds tensile strength. Mild steel, say 1010 to 1020, runs 60,000 pounds or better. 4130/4140 grade hits 90,000 pounds tensile strength (annealed). So, even going to a mild steel wheel over a gray iron casting should get you several more years and many more miles of service.

GETTING THE MATERIALS

Now, most of the time, I spend my “bean-n-bread” money on my “hobby”. (Haven’t won any lotteries or “Lost Wages” jackpots!) So, I head to where I can get steel the cheapest: the “remnant” pile or the “junque/recycling cen-

ter”. Picking items out of the scrap heap does take time. Especially if you want some idea of what you’re getting. My rules are: 1) It’s gotta be identifiable —the grade of metal / paint code / embossed / stamped numbers, etc. (or at least obviously soft enough to work). 2) It must be in good enough shape to use. 3) It has to be in small enough chunks to handle.

PREPARING THE MATERIALS

For some 10” diameter tread wheels, I found a few 10 3/4” od., 1 1/8” wall pipe “cut-offs” (that’s schedule 160 in the catalog). My poor old bandsaw had a devil of a time -could only cut partially into the stock before “fouling” on the guides. I had to roll the item and commence cutting again. After some time -success! - rings of 10 3/4” diameter by 2 3/8” long steel.

Using some 3/4” and 1” plate, I torch cut some 8 3/4” o.d. x 2 3/4” i.d “doughnuts”. These form the inside of the wheel. The center “hub” came from solid 3” shafting cut into 2 3/4” lengths on the band saw.

Let’s assume you want to build this wheel with essentially the same materials. You would go to



the lathe and prepare the “doughnuts” for welding. “What?” you say, “can’t I just stick ‘em together?” NOPE. Both the outside and inside diameters of the doughnut need to be beveled on both sides to allow a complete weld at the joints. Thus the 3 pieces become a homogeneous whole.

Grip the inside first, machining the outside to a 90 degree “point”. This should just squeeze into the “rings”. The gap should be no more than 1/16”, but less is okay. Now, re-chuck and bore the i.d. to fit the 3” hub. Again, cut a bevel, as before. Here also up to 1/16” clearance is okay but “spot-on” is even better.

WELDING SEQUENCE

As we need over 11” on the top of the flange, the pipe tread needs to be built up a bit with a weld bead of 3/16” to 1/4” proud there. Mark off where it’s needed, and make this the first weld. (Do not try to weld this after the rest of the wheel has been fabricated—or try to add on more than 1” of bead. The proto-wheel will crack!) Use 3/16”, 7018 rod, reverse polarity D.C. (If you don’t know what this means, find somebody who can help you.) I don’t use “Wire feed” or “MIG”. I’ve busted off more of that pigeon-poop than I care to mention.

For the second weld, place the “Doughnut” inside the pipe ring, using wire or steel bits to shim it in place. Tack weld in 3 or 4 places, then turn up the juice. You need to fully penetrate with your weld bead. If you don’t, grind it out, and try again. I sometimes use 1/8” —6010 or 7018 really “cranked up”. You have to melt into the pipe and doughnut completely. After getting your “root pass” right, clean out both sides, and start filling in the bevel.

It’s a good idea to do a pass on one side, then turn over, and do a pass on the other, bouncing back and

forth. When you’ve filled up the bevel add a couple more passes on the “ring” side for machining. Make sure you clean out the slag between passes—you’re trying to do a solid weld.

All this welding really heats up the assembly, so dropping in the 3” diameter hub piece should be a snap! Tack weld in a couple places, as before: clean, and start your root pass. Again, you want to fully penetrate both the doughnut and the hub piece. When you think you have it, clean it completely, then start filling in. Remember to clean between passes, and alternate sides. Add more “wash passes” after you’ve filled the beveled area, to give you something to beautify.

At this point, you’re tired and very hot. You can cool yourself off with water, but **don’t** do that with this weldment! Let it cool slowly—bury it in ashes, or under an asbestos blanket or heated firebrick. Give it 8 to 10 hours, or more, before playing with it.

If you’ve done your work well, a solid wheel fab-met results. However, one out of ten will go “plink” or “crack”. “Vee” it out with a grinder and fill it in. Very rarely will the crack be more than a couple inches. Anything more than 3” long should be telling you something (poor metal, poor rods, poor welding,



or a combo of each). If it's more than a quarter of the way round —sorry. It will be better to scrap it. You'd spend more hours repairing it, than doing another one.

MACHINING

Let's assume it's doing okay. After cooling, chuck up in the lathe. There are lots of ways to machine wheels. Just treat it like a lump of steel, and carry on. Personally, I face the back first and rough the back of the flange, getting the flange o.d. close. Then face the back hub and rough the inside to "close". Then, re-chucking on the flange o.d., I get the tread diameter, face and rough bore the hub.

After getting the tread and flange root, I can taper the tread and finish bore or ream the hub. (This keeps the tread and bore reasonably parallel to each other!) I then rough the profile on the inner face, but keep enough of the straight surface on the inside of the tread to "chuck up". By turning the wheel around,

plugging and using the live center on the rear of the hub you can then grip inside and finish your flange surfaces.

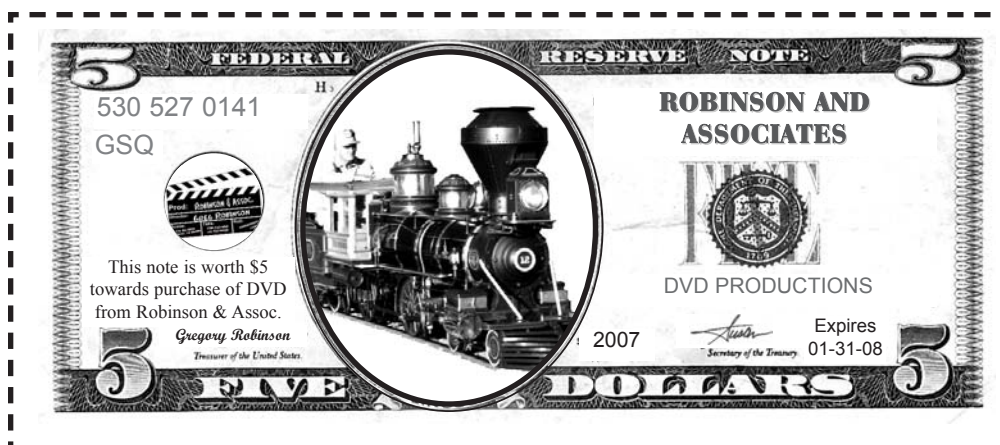
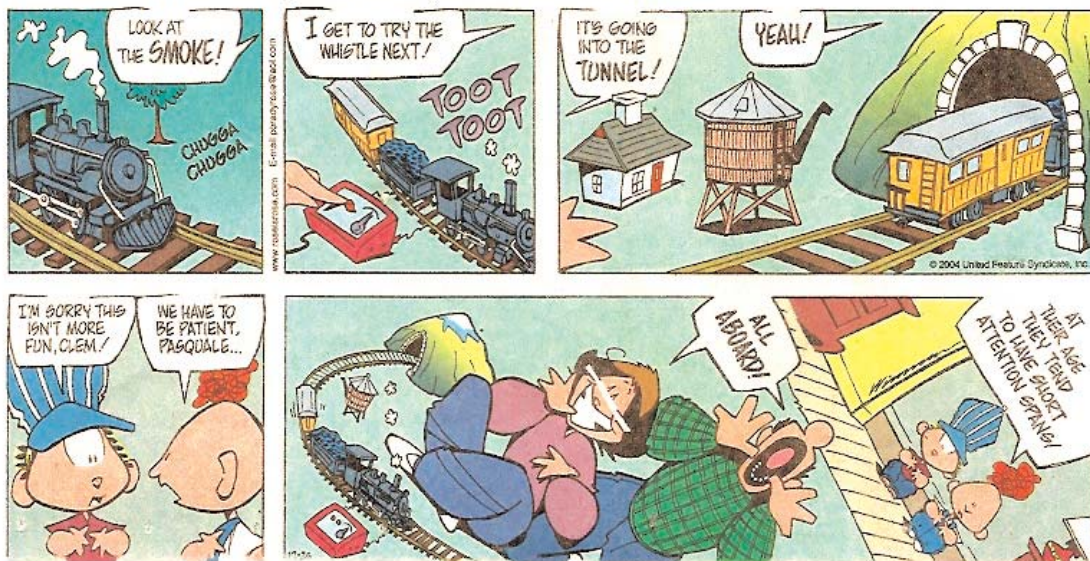
There you go! Not as easy as throwing money at it . . . but not as hard as chucking up 100 pound biscuits of 11" diameter steel, and chips all over. Just remember to do your final "clean-up" on the axle between centers after pressing.

I hope this is of some help to you. If you're on a budget and want to make serviceable wheels with a respectable appearance, this is one method that has worked well. ■■■

Jim Alves has been long-time member of the GSQ family, and is a regular metal choppin' and weldin' maniac. We hope he'll share more of his ideas with us in the future.

Note: This article was originally published in GSQ issue no. 9.

ROSE IS ROSE/ by Pat Brady and Don Wimmer



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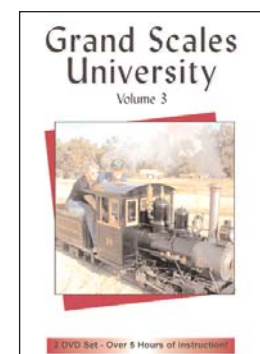
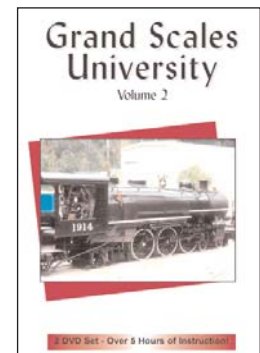
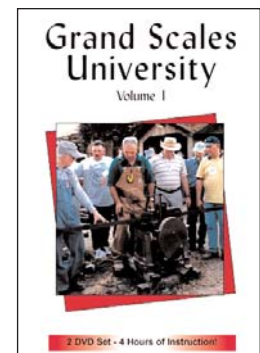
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Robinson & Associates
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Red Bluff, CA 96080 USA
530-527-0141

Fax: 530-527-0420
www.grandscales.com
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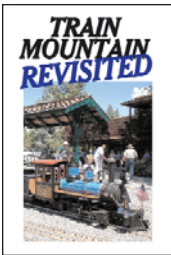
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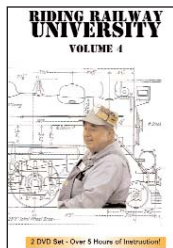
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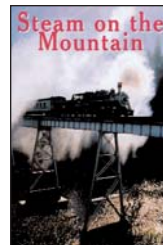


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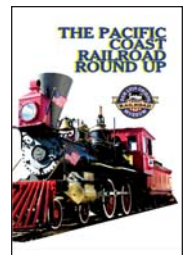
ful drive rods and steel wheels. You'll enjoy the dramatic scenery and hearing the engineer describe what it's like to run a steam engine over a railroad he has worked on for decades. And there is no sound in the world like a lonesome steam whistle echoing through the pine trees.



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