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STEAM IN THE GARDEN

with Steam on the Pond

Vol. 13, Nº 3

Issue Nº 69

Articles

Departments

FRONT COVER:

D&RGW Nº 455 waits for a train under beautiful blue skies in.....Southern California? Yes, this is Larry Bangham's DJB Engineering coal fired K-27, and you can read all about it in this issue.

photo by Andrew McPherson

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Check out ***Steam in the Garden Online***, located at: <http://www.steamup.com>.

2003 CALENDAR OF EVENTS

May 16, 17 & 18, 2003 - Pacific Coast Live Steamers' Las Vegas Western Regional Spring Steamup will be held at Clark Lord's layout in Las Vegas, Nevada. A charge for food and drinks will be collected. $5.00 each day Friday and Sunday (lunch); $10.00 for Saturday (lunch and dinner) per person if you dine with us. Contact Clark Lord @ 1-800-578-9639 or clarklord@earthlink.net for specific details. Please RSVP if you are coming. We want to have enough of everything for all who attend. Wives and lady friends are welcome.

May 23, 24 & 25, 2003 - Pennsylvania Live Steamers Memorial Day Weekend Steamup. Rte. 29, 1 mile north of Rte. 113, Rahns, PA. Permanent Gauge 1 rack and Gauge 0/Gauge 1 portable tracks in operation. Night running with lights. Food available on site with lodging nearby. For information and directions contact Harry Quirk, PO Box 215, Springtown PA 18081 - phone 610-346-8073 - e-mail mikemoore@comcast.net.

June 21-25, 2003 - LGBMRRC National BTO Convention, King of Prussia, PA, a suburb of Philadelphia, near historic Valley Forge. There will be numerous excursions including a special visit to the Pennsylvania Live Steamers, a trip to Steamtown National Park in Scranton, and a full day in Strasburg to visit the Strasburg railroad, the TCA museum, the Pennsylvania Railroad Museum, and more. In order to attend the BTO convention you must be a member of the LGBMRRC. Dues are $25 per year. You can download a member application from the website at <www.LGBMRRC.com/>.

June 22nd 2003 - Garratt Sunday. The yearly get together of the 16mm Garratt Owners & Operators Association will be held at the South Arbury Railway, Waterbeach, Cambridge, England. This is a free event & non members are also very welcome to attend. The railway itself is a circuit of four scale miles of 32mm gauge double track main line with curves no tighter than seven feet radius & gradients of no steeper than 1 in 200, making it ideal for radio control or manual driving. For more details please go to www.southarburyrailway.co.uk • email: southarbury@lineone.net or call 01223 864029.

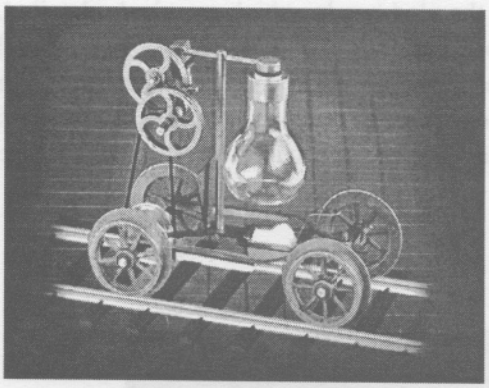
July 10-13, 2003 - 30th Annual Tuckahoe Steam and Gas Show, located in Talbot County on Maryland's Eastern Shore, five miles north of Easton between mileposts 57 and 58 on Route 50. Lots to see and do for the whole family. Mike Moore's portable Gauge 1/Gauge 0 track will be set up and operating, so bring your steamers and trains. For information call 410-822-9868 or e-mail: info@tuckahoesteam.org The web site URL is: http://www.tuckahoesteam.org/

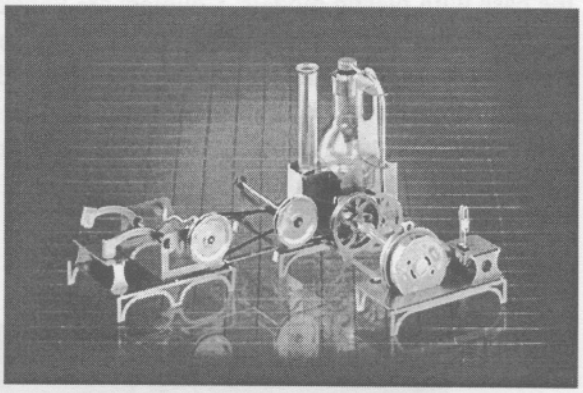
August 2 - Jim Curry's Annual Maine Steamup, 9am-6pm, call 207-273-4049 or jjc@structureguard.com for directions.

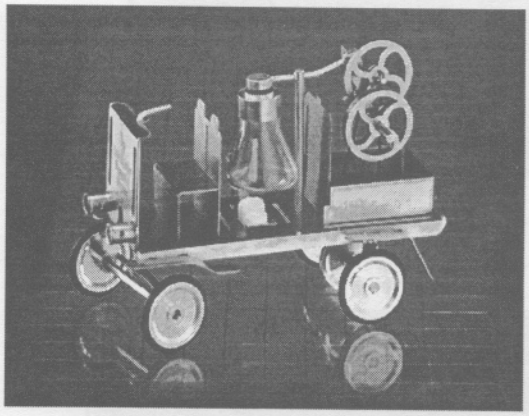
August 29, 30 & 31, 2003 - Pennsylvania Live Steamers Labor Day Weekend Steamup. Rte. 29, 1 mile north of Rte. 113, Rahns, PA. Permanent Gauge 1 rack and Gauge 0/Gauge 1 portable tracks in operation. Night running with lights. Food available on site with lodging nearby. For information and directions contact Harry Quirk, PO box 215, Springtown PA 18081 - phone 610-346-8073 - e-mail mikemoore@comcast.net.

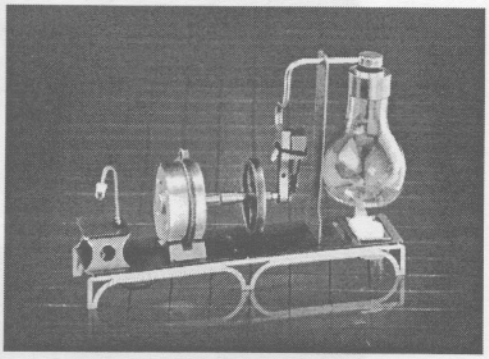
Because of publication lead time, please send info for Calendar of Events well in advance. Include name of host and location of event, with address and/or phone number to contact for complete information. Some basic info about the site is also useful (i.e., ground level or elevated, minimum curve radius, ruling grade, etc.)

WHAT'S NEW?



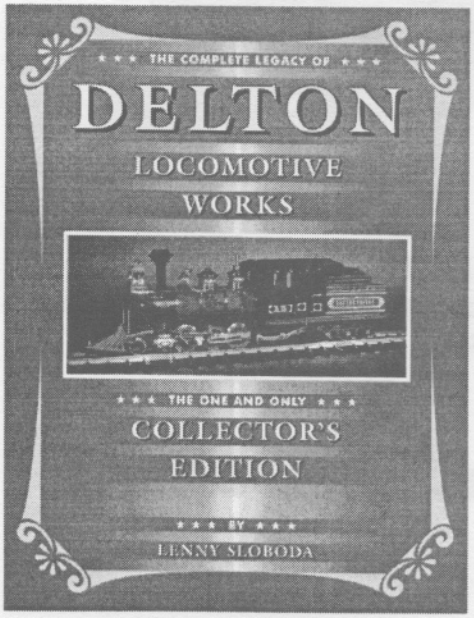






Royce Brademan of Quisenberry Station, 3903 Quisenberry Dr., Alexandria VA 22309 - phone 703-799-9643 (eves. & weekends) or e-mail Turbohvn@aol.com has acquired a line of the cutest little miniature steam goodies you've ever seen. They include HO and G gauge locomotives, wheeled vehicles like the truck seen here, steam powered tools (hacksaw, grinder, drill press, etc.). They are available in both kit form and factory built. The models in the photos seen here are only a portion of what is available. Contact Royce for a brochure and information on his whole line of steam and steam related products, and please mention that you read about it in SitG.

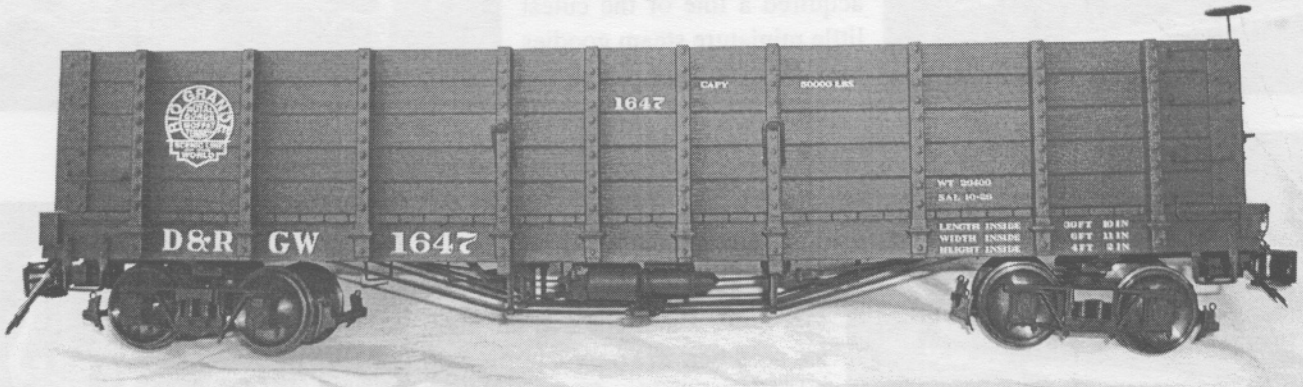
Royce Brademan of Quisenberry Station, 3903 Quisenberry Drive, Alexandria VA 22309 - 703-799-9643 - e-mail: turbohvn@aol.com, announces that he is now a Full Service Accucraft Dealer, authorized to perform repairs and warranty work on Accucraft live steamers.

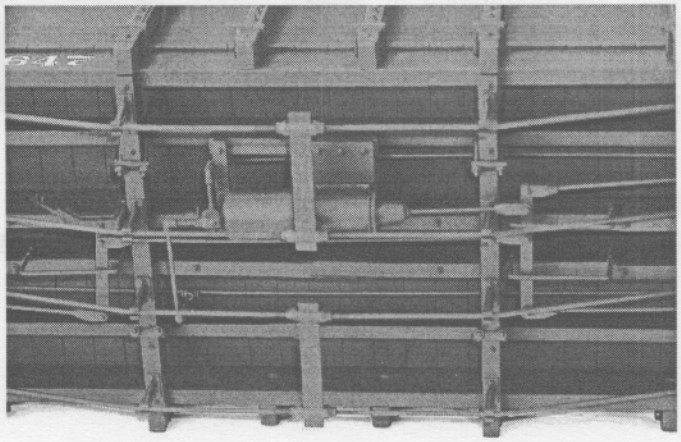


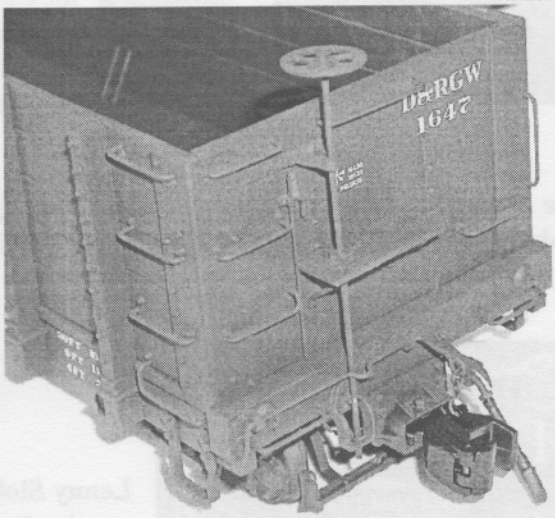
Lenny Sloboda has compiled an amazingly comprehensive and complete reference book on the entire history of **Delton Locomotive Works**. Over 200 pages and 589 beautiful color photos, descriptive captions and information covering everything Delton ever produced...and some that never quite made it to production. To order, or for more information, contact the author at: Sloboda Publishing Company, PO Box 785, Astor FL 32102 - e-mail: Sloboda@usa2net.net.

Accucraft has announced that **Jim Marski** has been appointed to the position of VP in charge of Marketing and Sales. Jim brings a wealth of experience in the hobby industry, and will be a real asset.

And speaking of Accucraft, we received a sample of their 1:20.3 scale high side gondola for review. The model is beautifully done, with sharp, crisp detail and plenty of it. The wood grain in the boards is realistic and not overdone as is so often the case with plastic models. Couplers are knuckle, with working lift bars. I like the glad hands, which are nicely detailed. Nice touch to use flexible tubing for the hose, so they will not be easily broken off. Lettering for the D&RGW is clear and sharp. None of the detail appears oversized or bulky, and even the underbody detail is there, yet everything is sturdy enough to take the abuse and rough handling required for outdoor use. This car has plenty of heft to keep it on the track and add mass and momentum to your train. Well done, Accucraft! Available from your favorite authorized Accucraft dealer...and please mention that you read about it in SitG.







Muddy River Railways, 13 Elm Street, Brookliine Ma 02445 - phone: 617-731-2754 - e-mail: muddyriverrailways@yahoo.com, has introduced large scale trackwork for both gauge 0 and gauge 1 railroading. Contact them for a free catalog, and please mention that you saw it in SitG.

Winter Steaming: You Can Run in the Cold

Article, Charts and Photos by Chuck Walters

One of the most aesthetically appealing aspects of small scale live steaming aside from watching the running gear doing it's thing, is the 'plume of steam' that emanates from the stack while the engine is under pressure. Picture it, the weather is a crisp 28 degrees Fahrenheit and the sun is shining brightly. The MOW crew has been busy all morning clearing the mainline of snow. The train, loaded with passengers hoping to get home for the holidays pulls out from the station on time. As it moves swiftly away from the station, there is a noticeable plume of steam hanging over the whole train, almost motionless above, as it moves forward. It is an incredible sight to say the least. There really is nothing like it.

Running your live steam train in the cold weather is really a matter of preference. If you can take the cold for modest periods of time and if your track is not buried under three feet of snow, then by all means, consider firing an engine up and running outside when it's cold. There are some considerations that must be made when running in the cold weather that we do not generally concern ourselves with in the summer, such as the type of fuel and water and oil behavior. But each of these considerations can be dealt with and can make winter running a reality. These factors will determine how well and how long the engine will run.

Lets first begin by looking at a myth surrounding cold weather running.

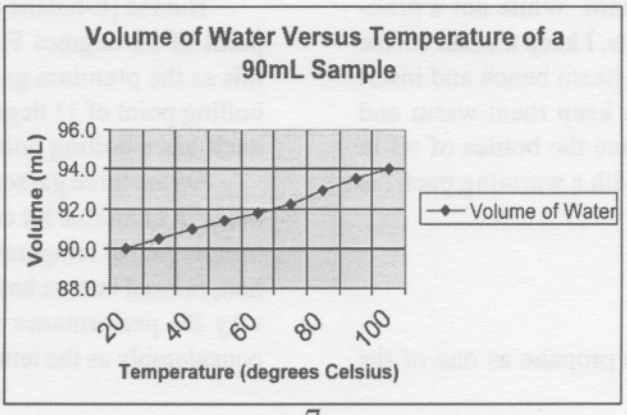
The Myth:

Filling a boiler with warm/ hot water will cause the boiler to run dry before the fuel runs out.

Many of the live steam engines manufactured today, are designed to run out of fuel long before they run out of water. This is a built-in safety factor that is especially good for the beginner. When firing a loco in the cold weather, you can use water that is cold, at room temperature or even close to boiling if you wish. The advantage of warm/hot water is that you don't have to expend excessive amounts of gas heating up the cold water. It's bad enough you have to heat up a very cold boiler and cylinders, if you had to heat the water also, a more than ordinary portion of your gas would be gone before you reach running pressure. One way to overcome heating a cold boiler, cylinders and water is to fire up inside a warm enclosure, and then carry the engine outside to the track for the run. However, warm enclosures are not always available for firing, and other problems that affect performance will be encountered, as you will see later in the article.

The myth comes into play when steamer believes that if you use warm or hot water in a boiler, it will run out before the fuel is used up. Why? Because hot water has a greater volume than cold water. While this is true, it is only slightly true and volume is volume. If you start with 250mL of cold water or 250mL of hot water, the volume is still 250mL. Water does expand as it is heated, but the coefficient of expansion is so small, the volume only increases a small amount.

To prove the point that the difference is negligible, I went into my old Chemistry classroom (where I taught for 16 years) and set up a graduated cylinder with 90mL of distilled water in it. I then placed a Celsius thermometer into the water and gradually heated the sample. The volume did increase, however, the difference in the volume at 20 degrees Celsius is only slightly less than the volume of the same sample at 90 degrees Celsius. The difference was just 4mL. To the left is a graph of the volume of water versus the temperature of



that water based on a sample of 90mL.

	OUTSIDE TEMPERATURE, DEGREES FAHRENHEIT														
	-30°	-20°	-10°	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°	110°
100% Propane	6.8	11.5	17.5	24.5	34	42	53	65	78	93	110	128	150	177	204
100% Butane	X	X	X	7.3	9.2	11.6	14.4	17.7	21.6	26.3	31.6	37.6	44.5	52.2	60.8
	VAPOR PRESSURE, PSI														

The difference in volume between water that is at 20 degrees Celsius and water that is at 90 degrees Celsius is not significant enough to worry about the boiler running dry if you use warm water versus cold water. The advantage is, the amount of thermal energy needed to heat the warm water is obviously less and you will get better/longer run times from your engine. However, that being said never take anything for granted and always watch the water level in your boiler, summer or winter.

Next, lets look at the facts surrounding cold weather running.

Fact:

Steam oil and lubricating oil will be more viscous in cold temperatures

The viscosity grade tells us the oil's thickness, which is called its viscosity. Thin oil has a lower number and flows more easily, while thick oils have a higher number and are more resistant to flow. Water has a very low viscosity; it is thin and flows easily. Honey has a very high viscosity; it is thick and gooey and flows hard. Viscosity is ordinarily expressed in terms of the time required for a standard quantity of the fluid at a certain temperature to flow through a standard orifice. The higher the value, the more viscous the fluid. Since viscosity varies inversely with temperature, its value is meaningless unless accompanied by the temperature at which it is determined. Fluids thicken as their temperatures decrease and thin out as their temperatures increase (like candle wax).

So outside in cold temperatures, your steam oil and lubrication oil will flow hard. While not a problem, it is annoying. To solve this, I keep a small coffee can full of warm water on the steam bench and insert the oil bottles in the water to keep them warm and flowing easier...or you can place the bottles of oil in an insulated box (ice cooler) with a warming pack (as described later in this article).

Fuel does make a difference

This section will refer to propane as one of the gasses used for live steam engines. 100% propane is NEVER to be used in a small-scale live steam engine. The pressure exerted by a sample of propane far exceeds the tolerances of the gas tanks on our little steamers. As you can see from the chart above, the problem only worsens as the temperature is increased. Propane is mentioned in this article because several modelers use a mixture of butane and propane for their preferred fuel.

The type of fuel you are burning in your live steamer is the one factor that really determines your success or failure when steaming during cold weather. If you are burning alcohol (Meths) or coal in your engine, this section does not pertain to you as you probably are already having great cold temperature steaming sessions. However, many live steamers burn some form of butane, isobutane or a combination of propane and butane in their engine. These gases do not behave well when the temperatures get cold.

The first question we can ask is, "Does one kind of gas burn hotter than the others?" A few camp stove manufacturers have completed studies showing butane, isobutane and propane deliver nearly the same BTU's (British Thermal Unit) of heat. This means that you will not heat the boiler any faster when using one gas over another.

Then, why is one type of gas (or a blend) better than another? In order to understand the issue, one must understand that each of these liquid fuels has a different boiling point or the point at which gas is produced from a liquid. When you buy your gas canisters, the gas is stored in the canister as a liquid under pressure and changes to a gas when it is released from the can and hits the air (if the air temperature is warm enough).

Butane (n-butane or normal butane) has a boiling point of 31 degrees Fahrenheit. Isobutane (think of this as the premium gasoline of the butane line) has a boiling point of 11 degrees Fahrenheit and propane by itself has a boiling point of -43 degrees Fahrenheit.

Of the three gasses listed above, normal butane is the least favorable for cold temperature running. Why? Simply put, at temperatures below 31 degrees Fahrenheit, normal butane has difficulty vaporizing, which is why the performance of a butane fired engine drops considerably as the temperature drops. In other words,

if you are using straight normal butane in your engine and the temperatures outside are lower than 31 degrees Fahrenheit, you are injecting liquid butane into the burner, not gaseous butane, and the engine will not light. Or if it does ignite, it will run very poorly.

Isobutane shows promise as a fuel for cold weather running. It has a boiling point of 11 degrees Fahrenheit. That means when the gas hits air that is warmer than 11 degrees Fahrenheit it should vaporize and allow you to start a fire. Of course, if you are out steaming in temperatures that are near 11 degrees Fahrenheit you are a better person than I am, and you deserve to have a good run with your engine. But isobutane gas is more expensive that normal butane and harder to find, so is this really the best choice for a fuel for our steamers? Hold on to your hats, because it just may be the best choice.

The third gas mentioned is propane. Again, the reason propane is mentioned is not the use of it as a stand-alone gas, but as an additive mixed with normal butane to help with the cold temperature problems of butane alone.

Many live steamers use a mixture of butane and propane in the range of 80% butane/20% propane or 70% butane/30% propane. When these gasses are factory stored in their canisters, they are mixed in the above ratios and the molecules are evenly dispersed. This means that, in theory, a sample of the gas will always contain a 70/30 mixture. However, lets examine this more closely.

In the summer, when the temperatures are very warm, both gasses readily vaporize and the resulting gas maintains a good ratio of molecules very close to the stated mixture. But as we approach temperatures near freezing, the butane does not readily vaporize while the propane does. When using a mixture like this, it is conceivable that the propane, which vaporizes much easier, will be used up before the butane and the performance of your engine will drop off dramatically. As a secondary problem, the can of gas will now contain mostly butane (with a trace of propane) and not work well in the cold weather below temperatures of 31 degrees Fahrenheit.

This explains why when you use a butane/propane mixture your engine ignites easily and runs fine for a few minutes and then drops off in performance. The drop is associated with a change in the fuel mixture and a reaction to the cold temperatures.

There really is a solution the gas problem

There are a few things you can do that will solve your cold temperature running problems.

- Run only engines that burn coal or alcohol as a fuel. These fuels are not susceptible to air temperature and will give an even performance in the winter or the summer. Of course this not a practical solution because so many of us own gas burning engines. So what can you do? Keep reading.

- For gas fired loco's, use isobutane as a fuel. The can will contain pure isobutane, so you can be assured that each filling of gas on your steamer will be very consistent. The liquid changes to a gas at a temperature much lower than straight butane and you can have successful runs with air temps in the twenties. If it is not available then some of the tips listed below will have to be adopted in order to steam in cold temperatures successfully.

- Regardless of which gas you use, straight butane or a mixture of butane and propane, keep the canisters warm. Place the gas in an insulated box (I use an ice cooler) and use a nice hot pack to keep the temperature up. Do not use a heat pack that uses fire or sparks to heat with, because you may just have a dangerous explosion if any gas leaks from the container. There are heat packs that use corn or rice in them that are heated in a microwave. These work great and the cooler is used to help keep the cold out and the heat in.

- If possible, keep the gas tank on the engine as warm as possible also. This is critical. Many manufacturers place the gas tank in the cab near the boiler. However, there is often not enough heat from the boiler to keep the gas warm enough to easily vaporize. If you could wrap the gas tank with some sort of insulation, it will help. I have always wanted to tap the boiler and run a coil of steam line around the gas tank and then back into the boiler to help keep the tank warm. A future winter project for sure. On my Accucraft C-16, the gas tank is in the tender and a heat pack can be used to keep the tank warm. Again, a nonflammable heat pack for safety reasons. I have also added a dose of warm water to the tender to surround the tank and this has worked as a quick fix, but often cools off too quickly.

That really is all there is to it. If you can stand the cold temperatures nipping at your toes, fingers and

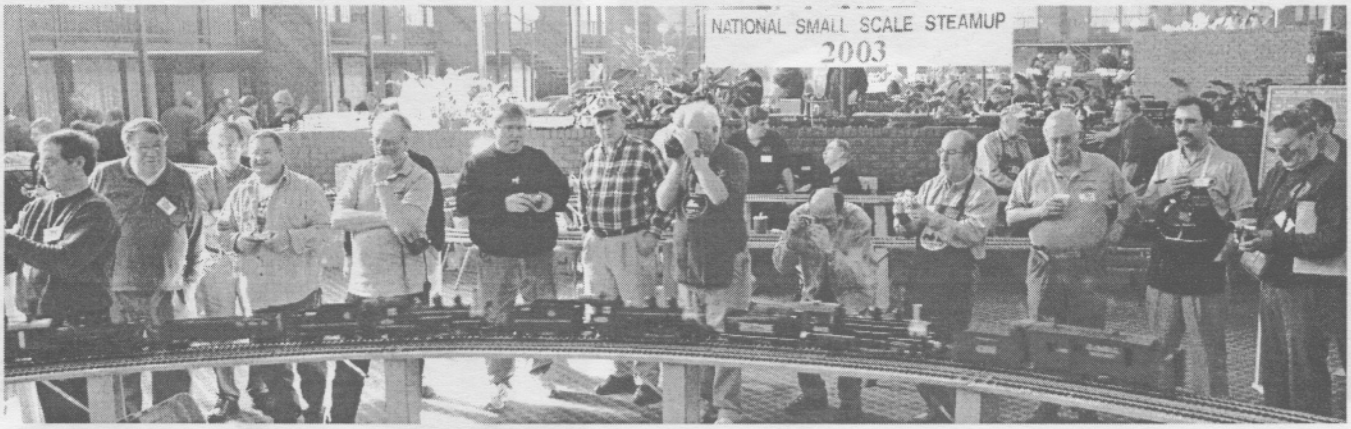
Just keep repeating, "Spring is coming - Spring is coming - Spring is coming....."

other various body parts, there really is no reason you can't steam in the winter. That is, unless your steam track happens to look like the one in the photo above!

Happy steaming and stay warm!!

Diamondhead Report - 2003

International Small-Scale Steamup... 11 years and no end in sight



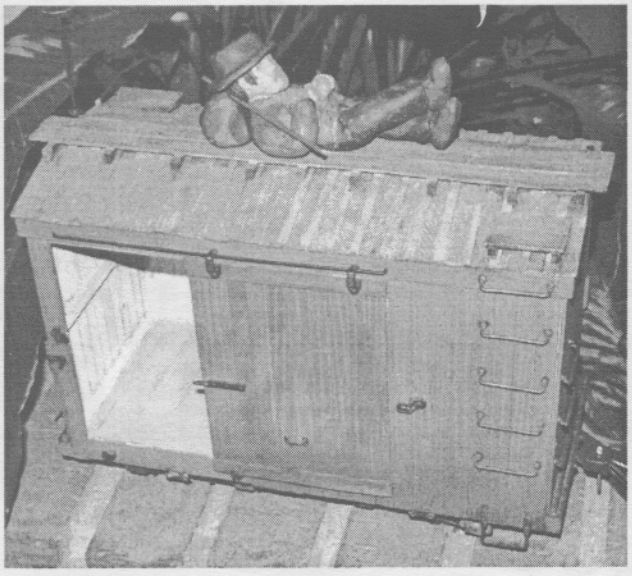
A group of Diamondhead attendees, cameras and camcorders at the ready, record a Colorado Narrow Gauge MOW operation, with several mighty K class locos pushing a steam powered rotary plow through enormous imaginary snowdrifts. *Carol Jobusch photo*

What more can we say about an event that has become legendary in our hobby than has already been said? 2003 was much like previous years...but even better. The mood this year was mellower, and of course there are always old friends to greet and new friends to meet.

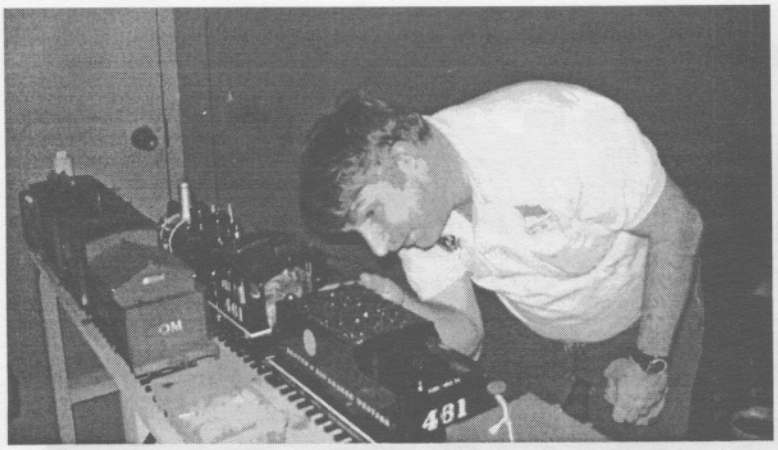
And let's not forget those wonderful steam engines and all the peripheral goodies! Every year we are amazed by the ingenuity and craftsmanship exhibited by our fellow steamers, and this year was even better than ever. Who wouldn't shout with joy and delight at the sight of a steam powered dragon?

Marc Horovitz' twin-boilered steam monorail is a thing of beauty that attracted a constant crowd of admirers. Please tell us we'll get to see it in action at some future Diamondhead event, Marc!

Now let's use the following pages to tell the DH '03 story in pictures.....



This laid back fellow seems to reflect the mellow mood at DH '03. I couldn't determine the builder of this little boxcar, but it's great! *Carol Jobusch photo*



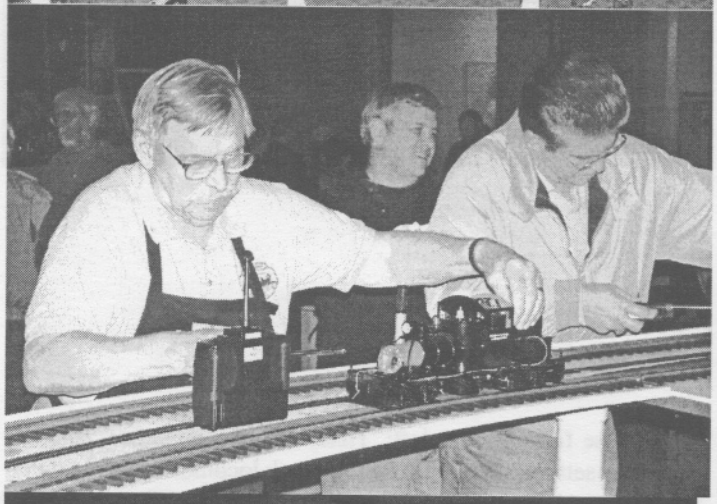
Clockwise from bottom left: John Clark (New Mexico) is justifiably proud of his scratchbuilt Emelia, which is now available to interested buyers.

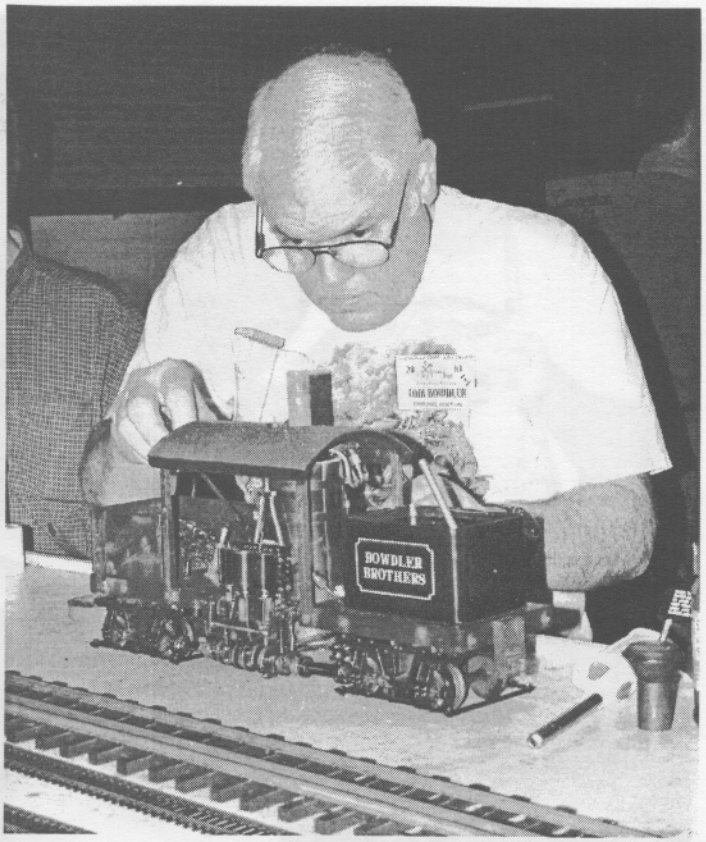
Jim Stapleton (Virginia) takes a close look at an Accucraft K-27. There were several of these large and beautiful locos at DH '03, and they proved to be powerful and reliable runners.

Roger Thornber (England) wipes down the rails as he prepares to send his scratchbuilt Evening Star out on the mainline.

Gordon Watson (Australia) of Argyle Loco Works discusses one of his beautiful scratchbuilt locos with steamup attendees.

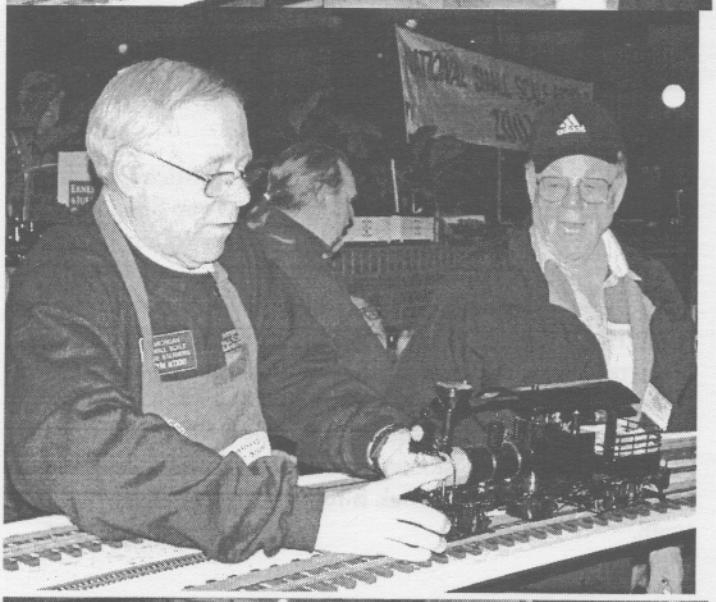
all photos this page by Carol Jobusch





CLOCKWISE FROM BOTTOM LEFT: Gentlemen light your engines! Al Bowyer (Kansas), Mike Eorgoff (Illinois) and Wil Davis (Florida) light up their Accucraft Shays in preparation to the running of the *Great Accucraft Shay Lashup.*

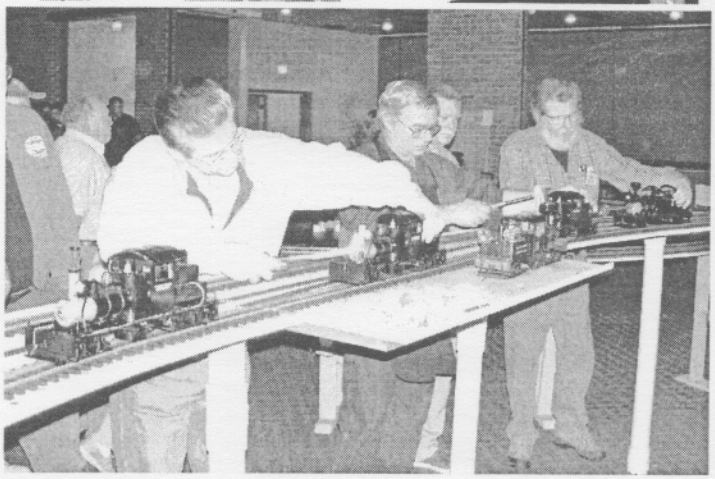
photo by Bruce Gathman



Tom Myers (Michigan), positioning his Accucraft Open Cab Shay on the track for the Great Accucraft Shay Lashup. Tom was the lead locomotive as he had radio control and could operate from a distance. Next year all engineers will be required to meet strict weight standards so that everyone can get to their locomotive at the same time. Gentlemen start your diets!

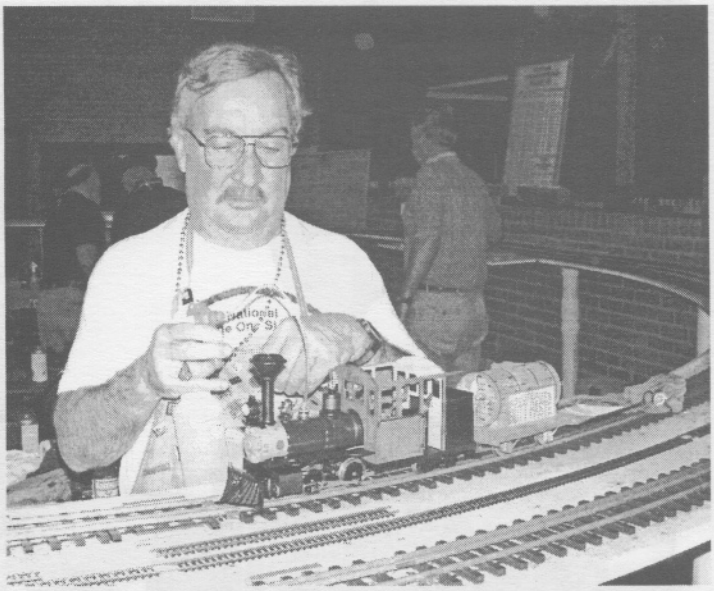
photo by Bruce Gathman

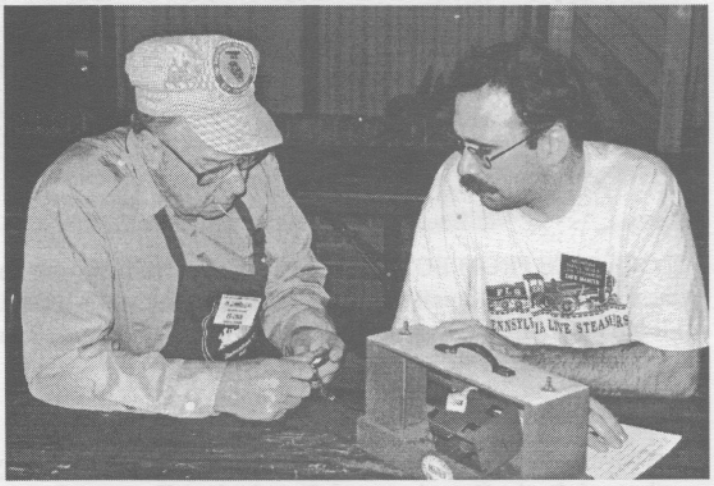
Alex Azary (Michigan) lights up his Mich-Cal Accucraft Shay for the run. The challenge was to tell if your loco was firing properly while five others sat nearby blasting away and a boisterous crowd is gathering directly behind you to witness the event. *photo by Bruce Gathman*



The Guinness world record Accucraft Shay Lashup all steamed up and ready for departure. L to R: Tom Myers, Alex Azary, Al Bowyer, Mike Eorgoff, Will Davis, and Jim Sanders. All the engineers have their hands on the throttle waiting for the drop of the flag to begin the run. It was quite a challenge to get all locos up and running at the same time and to know if they were all working and firing properly. *photo by Bruce Gathman*

Tom Bowdler (New York) stokes the fire on his newly finished coal-fired, scratch-built, Class A Shay lettered for the Bowdler Brothers. Tom proved to be an adept fireman with his coal scoop. *photo by Bruce Gathman*





Clockwise from bottom left: Harry Wade (Tennessee) fine-tunes the settings on a Aster Pannier tank locomotive as it runs on the large layout. Track clearances will be widened on this layout to allow the larger scale equipment now being produced sufficient clearance. *photo by Mary Gathman*

Ed Cook (Ontario, Canada) and Dave Martin (Michigan) discuss one of the many items available in the Swap Shop. *Carol Jobusch photo*

Keith Hawthorne (Colorado) fills the boiler of his modified Accucraft Ruby. This was a special train consisting of a single Buttpaste tank car. This high-value product required a special fast schedule train, hence the choice of the Ruby to deliver to the product to needy customers in the northern tier states. Their local WalMart does not stock it regularly, as do those in the south. *photo by Mary Gathman*

Pat Mueller (Illinois), assisted by Harry Wade, is running her Aster Pannier tank loco with a beautiful string of passenger cars under the close and watchful eye of track marshal Bob Simpson (Florida). *photo by Mary Gathman*

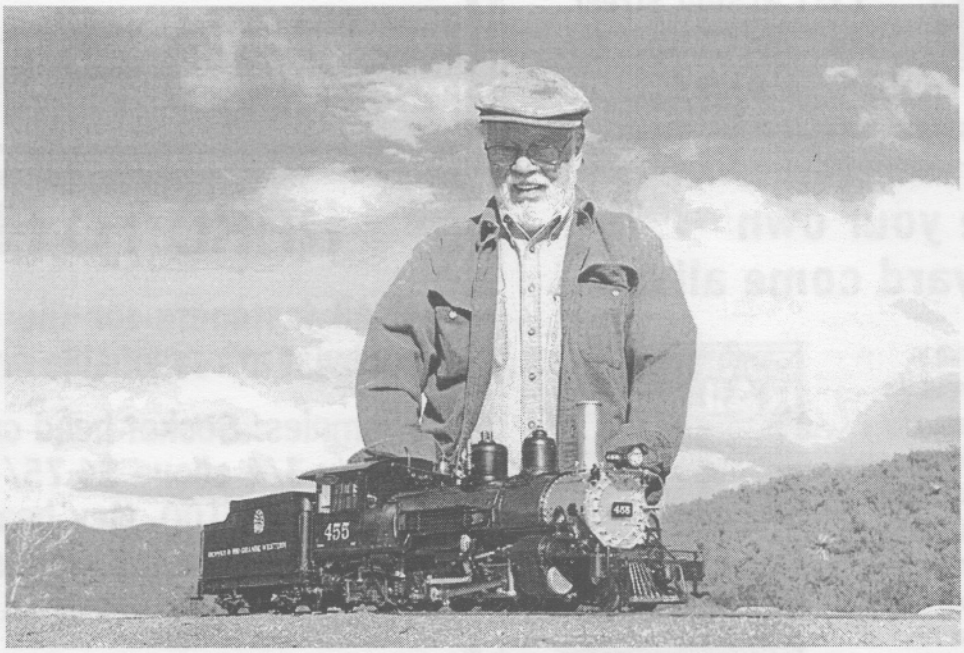
Loco Review

The Magnificent DJB Engineering K-27

text and photos by Larry Bangham

Although only ten of these locomotives were made for sale, I feel that its qualities are unique and will provide enough interest to warrant this review.

David Bailey has created about the closest thing there is to a real locomotive that one man can pick up and carry around. It is a significant contribution to gauge one model building. The DJB K-27 is a powerful engine, sporting 3/4" cylinders and a 1.0" stroke, with a 10-flue locomotive type coal fired boiler, twin super heaters, wet firebox, and 'D' valves with cross overs to simulate piston valve gear action. It has a true Walschaerts valve gear and can be notched up. Some of the more typical specifications are as follows:



Larry and his Mudhen at Lee Barrett's Burnt Valley Line, under construction in California.

photo by Andrew Mcpherson

Scale 1/20.3 • minimum radius 8 ft • engine length 21.46" • width 6.20" • height 7.53" • weight 25 lbs. in working order • tender length 11.81" • weight 8 lbs. in working order • boiler capacity about 600 ml at running level • tender water capacity 1.50 liters.

The engine is radio controlled with servos installed and wired for the regulator, reverser, cylinder drains, and whistle. The servos are all well hidden in the cab with the wiring located below a false floor just above the foot plate for protection. An apron covers the gap between the engine and tender, and protects the electrical cable from damage.

Other cab controls are blower, sight glass blow down, and axle pump bypass valve. The receiver and batteries are mounted in the tender below a removable coal bunker along with the interface connector receptacle, which is a large computer type.

David makes all of his highly detailed patterns for the lost wax brass detail castings, of which there are many. The boilers are produced by Cheddar Models to David's design and have been hydrostatically tested

Technical Specifications

Scale: 15mm to 1ft 1-20.3 for 45mm track
Minimum Radius: 8 feet
Length: 21.456" • Width: 5.597" • Height: 7.529"
Total Length: 34.51"

Laser cut steel mainframes with compensation on all wheels via dummy leaf springs and all compensation bars and levers • Gunmetal axleboxes with cast wheels mounted on 3/8" steel axles • Gunmetal cylinders with lost wax valve gear, reversible from cab • Can be supplied with either inside or outside admission piston valve cylinders • Laser cut steel coupling and connecting rods, machined to profile and fitted with bronze bearings • Wooden pilot beam with lost wax cast cowcatcher • Leading and trailing trucks to scale with laser cut parts in steel and axleboxes in gunmetal.

Coal fired multi tube boiler 3" dia x 13" long with stainless superheater, stainless rocking grate with stainless ashpan • Backhead fittings will include:- regulator, blower valve, water gauge, pressure gauge, pump by-pass valve and whistle valve • Water fed to boiler by axle pump, injector in cab and handpump in tender.

Cab - Correct etched nickel silver cab with sliding windows.

All external details reproduced to scale in lost wax brass, and include:- head and tail lamps, marker lamps, air pumps and piping etc. • Fitted with brass couplings, or customer's choice.

4100 Gallon type tender etched in nickel silver with all rivet details, contains water for the boiler feeds and coal space • Can be fitted with a brakeman's cupola • Fully detailed underframe • Cast frame bogies in lost wax with gunmetal axleboxes, compensated or sprung

RCS digital control for regulator and reverser, draincocks and whistle

Les lecteurs francophones peuvent contacter Guy Ozanne pour obtenir, gratuitement, une traduction sur un élément de texte paru dans SitG .41 rue Jeanne d'Arc, 94.500 Champigny, France; tél (33) 01-48-83-62-86; e-mail <Guy.0zanne@wanadoo.fr>

The K-27 in a classic pose. No question that this is a truly magnificent model.

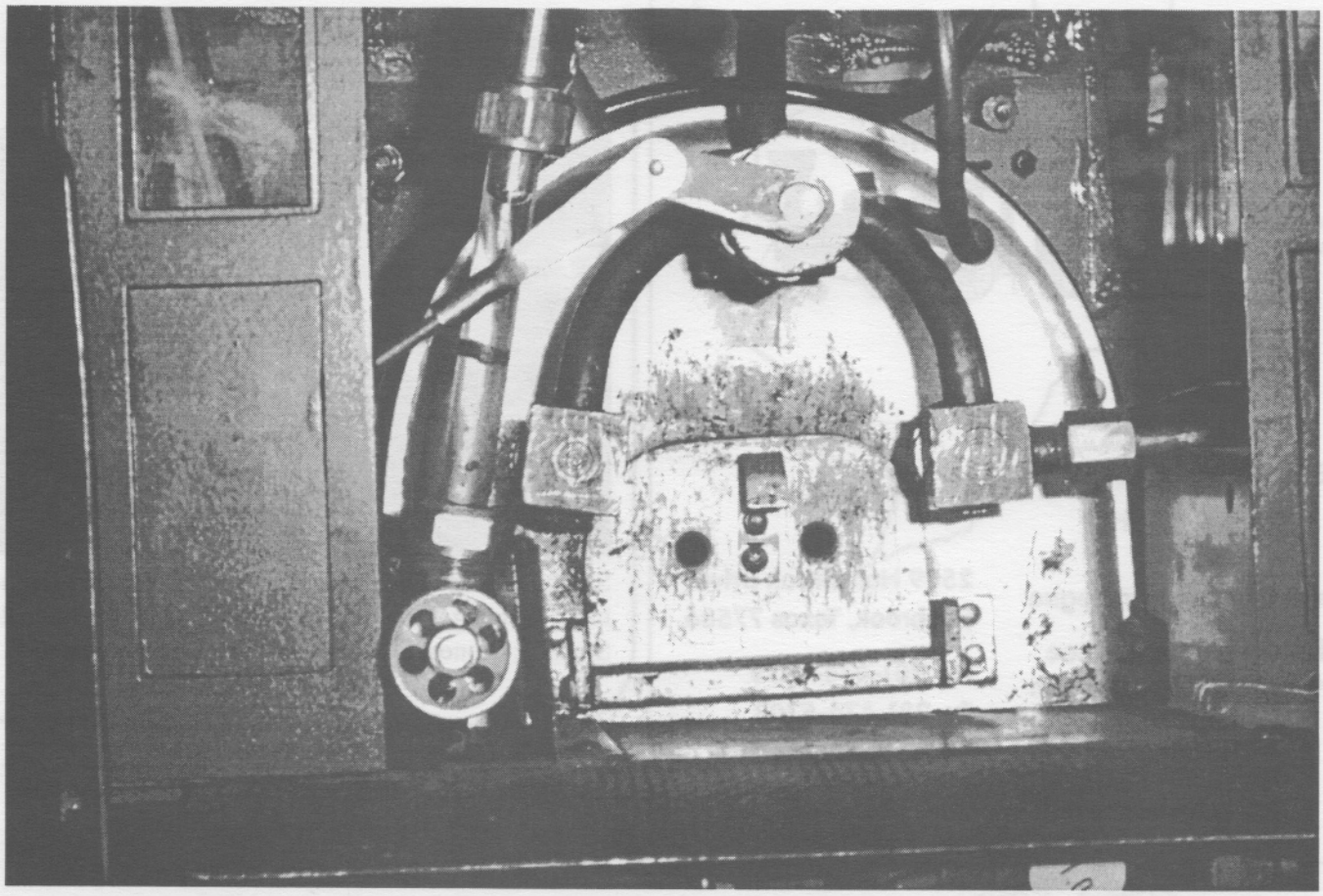
and certified.

Some of the not-so-typical features are: cylinder drain cocks (mentioned above) • dual boiler blow downs at the mud ring • individual boiler jacketing sheets with lagging • wired headlight • laser cut steel main and connecting rods machined to profile with lube cups at rod bearings • Goodall type valve in addition to tender pump and axle pump • glass in all cab windows • side windows slide shut • functional cab window shades with movable wind wings • pressure gauge mounted under operating roof hatch • resonator steam whistle mounted in dome • all axles equalized with compensation levers including front and rear trucks • front truck centering levers • rear truck articulation • wheels are cast bronze with foundry identification on the outside and full detail on the inside • prototypical brass knuckle couplers with adjustable height • miniature flow control valve on the lubricator tank • highly detailed superstructure with all piping and fittings in lost wax brass • stainless grate and ash pan • triangular shaped grate bars for maximum draft • a masterfully crafted pilot • wooden pilot and tender beams with working draft gear • laser cut steel main frame with gunmetal axle boxes • drivers on 3/8" steel axles • functional journal boxes and covers on tender trucks • nickel silver tender body with all rivet detail etched • tender trucks have safety chains • and .....

This is my first coal fired engine, so I really don't have a base of comparison, but after a half dozen successful runs, in spite of my clumsy firing technique, I can only conclude that it is a free steamer. Getting the coal into the fire hole without cluttering the foot plate is a challenge, as the cab roof does not lift, and it is a long way down there.

The first run was a comedy of errors, what with my trepidation, a leaky water union, improperly primed axle pump, loose seal nut on the hand pump. Everything conspired to keep me from adding water, except the Goodall valve which saved the day. Since then I have learned to relax a little more, tend to business, and enjoy the experience.

My friend John Coughran, who is our local coal guru, came over to mentor me and brought samples of coal that he has collected from around the world, and we proceeded to try a little of this and a little of that,



A peek into the cab.

much to my delight. That day I learned the importance of raking off the clinkers.

David's modeling style is not in the perfectionist vein but is more broad brush, not unlike a master Plein-air painter who, with a minimum of painterly strokes can create an image that is more than reality. American locomotive building practices of this era had become more utilitarian than esthetic, so when you look at such a locomotive you see lots of unmachined castings, part lines, tool marks, etc., and lots of nuts and bolts, all of which add to the aura, and this is the image that is projected when the K-27 is viewed close up. It looks real from near and afar.

In case I sound a little biased about this engine, (I am), let me point out that there are several things that have given me problems. Some I am learning to master, like hitting the fire hole and proper priming of the axle pump. Others I decided to change.

As originally furnished, the hardest part about running this engine was hooking up the tender. Smoothing out this maneuver made setting up much less demanding, and also made me feel that I was contributing a few custom improvements to this great engine. There were some other things that required working out, among which was a little more audio, (chuff) to accompany the visual action, which by the way is awesome. But now all is in order and the pleasure I receive from running and watching this locomotive in action is even more enhanced.

I feel very fortunate in acquiring this locomotive. The late Bob Paule was handling the American account for the K-27, and it was Bob's admiration of David Bailey that prompted me to get on the list. So for me, this beautiful engine is also a tribute to Bob's foresight and judgement.

Improving the Accucraft Shay

by Alex Azary

Light 'em up!

The Accucraft Mich-Cal Shay, as delivered, is a well-mannered locomotive. Forward and reverse are controlled by a true "johnson bar". The throttle shaft has a non-metallic knob fastened as does the butane tank valve. Once brought up to temperature, and all of the condensate and wet steam has been purged, the loco can be set to operate at a steady speed. Changes in speed and direction require catching the loco and adjusting the controls. Since I am not a track star, and physically lazy in nature, I prefer radio control.

Forward and Reverse Control

The Johnson bar has a detent screw in the handle to lock it in one of three positions; forward, neutral, reverse. Remove this screw. The top of the handle already has a hole to accept a clevis. Accucraft thoughtfully provided a hole in the front of the oil tank for a servo shaft to connect with the Johnson bar via the clevis. On the right side of the tank, remove the two nuts from the oil tank retaining straps. Pull the threaded ends of the straps from the brackets. Swing the brackets out of the way and remove the oil tank. Remove the (4) hexhead screws holding the water tank to the floor and remove the tank.

To mount the micro servo in the tank, a bracket must be made. (Fig.1 & photos 1&2). Using the bracket as a template, position it on the bottom of the oil tank to center it in the opening.(photo 3) Drill and tap (4) 2-56 holes in the lip of the tank.

Select a short servo arm with a pushrod connector hole 1/2" from the servo shaft hole. Mount a servo pushrod connector in the hole and secure it with a plastic or tinnerman retainer. Fasten the servo arm to the shaft, positioning it at neutral, or 90º to the body of the servo. Cut the pushrod to 1 1/2" in length. Thread the pushrod into clevis half way. Insert the pushrod into the connector, and lightly tighten the connector screw. Thread the clevis onto the pushrod to reach a distance of 1 1/2" from the centerline of the servo connector to the pin in the clevis Tighten the connector screw.

Mount the servo in the bracket using the two 2-56x1/4" socket head screws and locking nuts (Photos 1&2). Push the clevis through the hole in the front of the oil tank, and position the servo assembly on the bottom of the oil tank. Install the four 2-56x1/4" socket head screws.(Photo 3). Put the oil tank aside, unless you are planning to add light bulbs to the head and back-up lights now or at a later date.

To provide wire access for the back-up light, drill a #52 or equivalent hole just behind the back-up light,(Photo 4). Be sure to burr the edges of the drilled hole. You will notice that the two lights are drilled through the center to accept wiring.. Also notice the two spanner pockets in the backplate. Inserting the points of needlenose pliers, or a spanner tool, the back plate can be unscrewed. The reflector body then slides out. The wires from a 1.5 volt micro bulb (available from Miniatronics and others) may be passed through the hole in the reflector and the backing plate, and the assembly inserted in the light body and the backing plate reinstalled.(I always twist my leads for a neater and more stable assembly.

Throttle Control

A mounting bracket assembly is fabricated to mount the micro servo on the throttle shaft body.(Fig.2A&B; photos 5&6) The two parts of the bracket are assembled with two pop rivets, and two 4-40 screws threaded part way through the base plate. Mount the servo control control arm to the servo and secure with a socket head screw. File the heads of the pop rivets for a better fit of the servo in the bracket. Mount the servo on the mounting bracket assembly and position it on the throttle shaft body. Now mount the throttle arm in the throttle shaft and lightly tighten the screw. Install the connector blocks in the servo arm

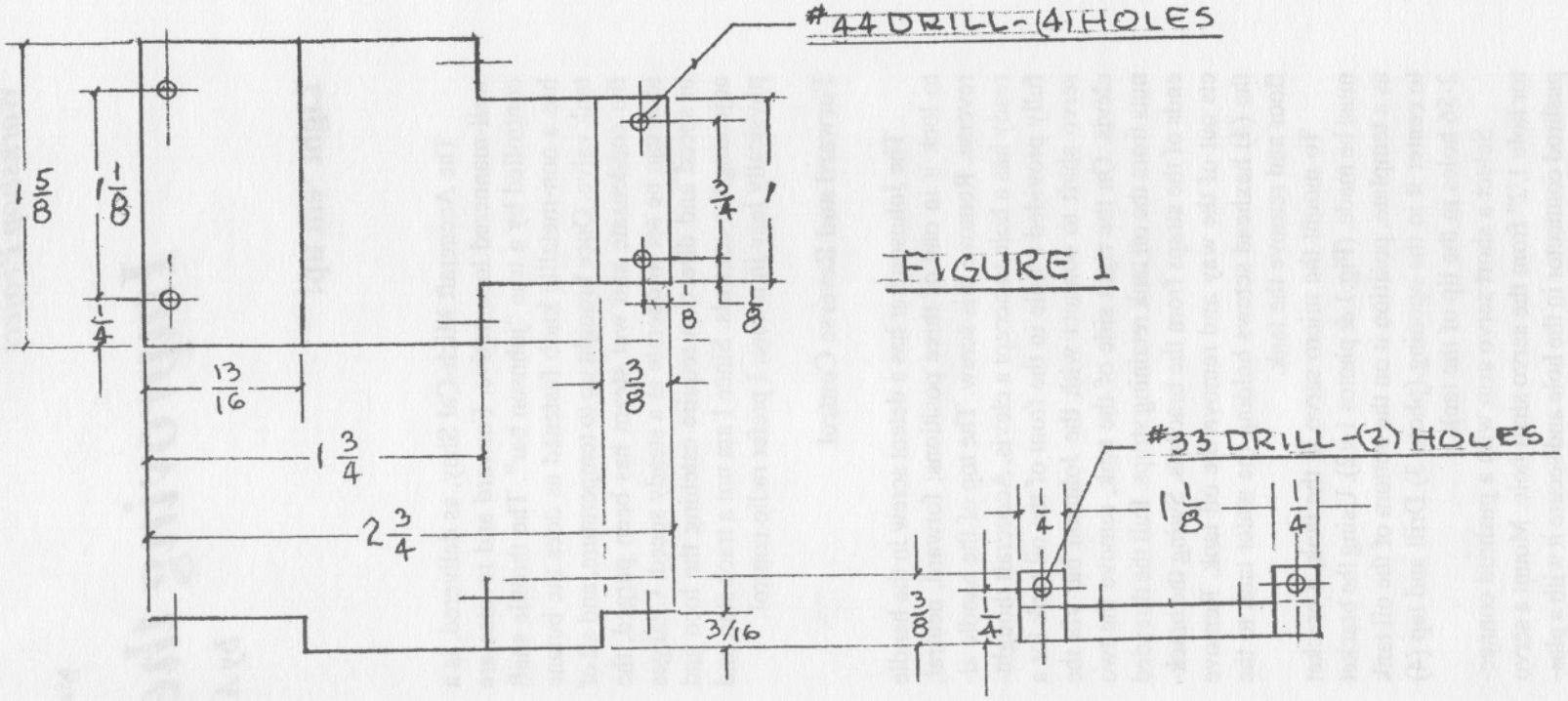


FIGURE 1

FWD/REV.— MICRO SERVO BRACKET .015 BRASS

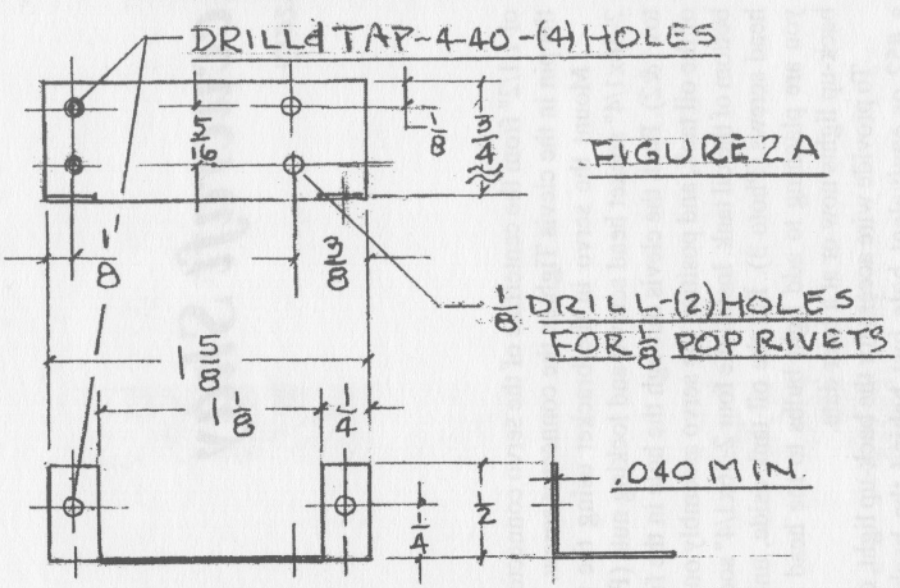


FIGURE 2A

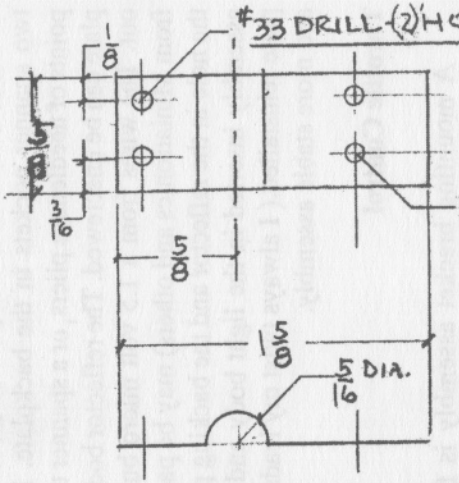
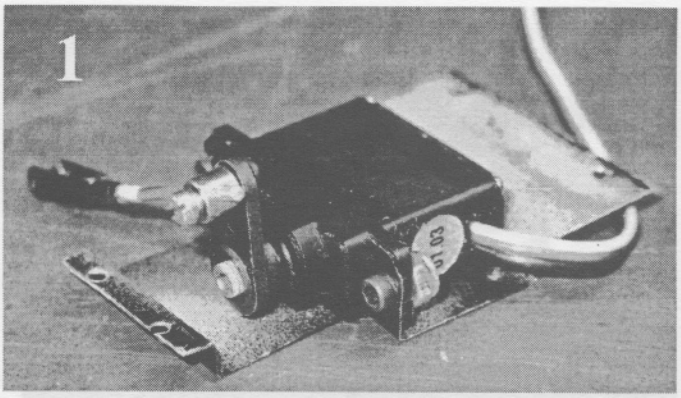


FIGURE 2B

THROTTLE-BRACKET CLAMP-.015 BRASS

THROTTLE-MICRO SERVO BRACKET-BRASS OR ALUM.

A. AZARY-REV. 12/28/02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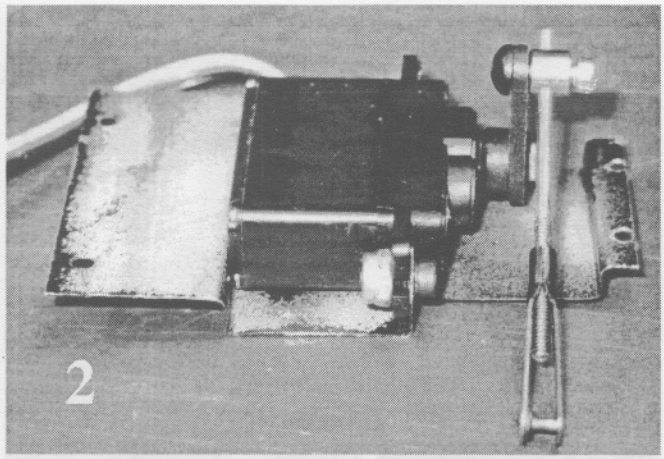
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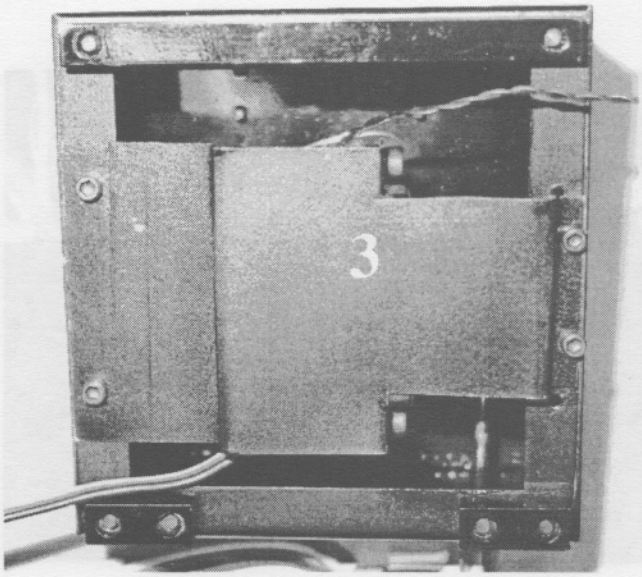
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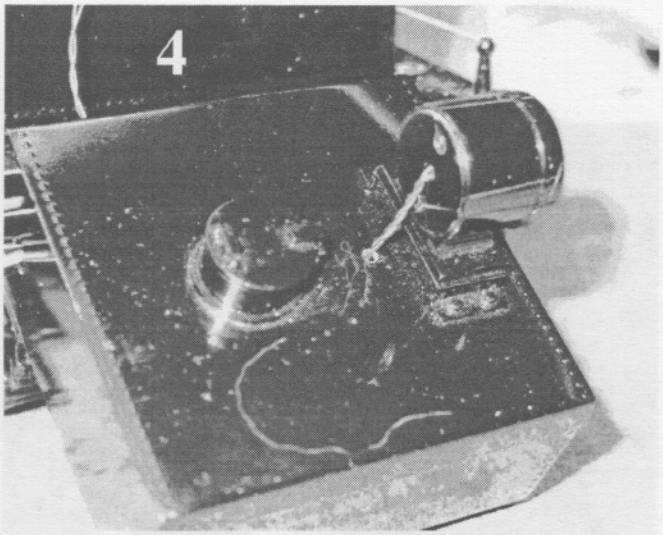
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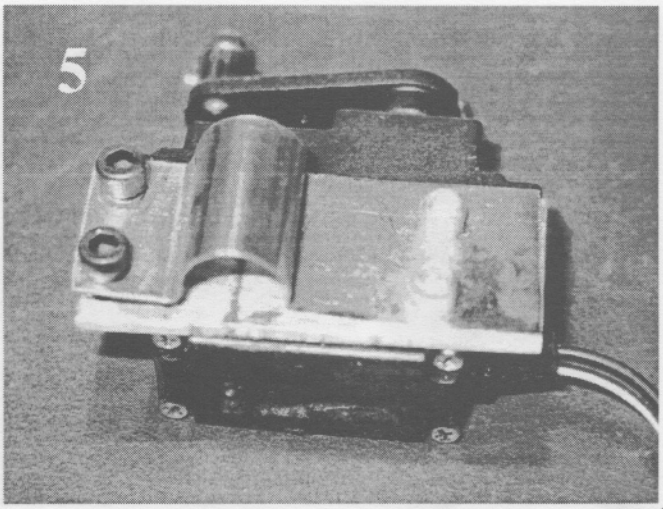
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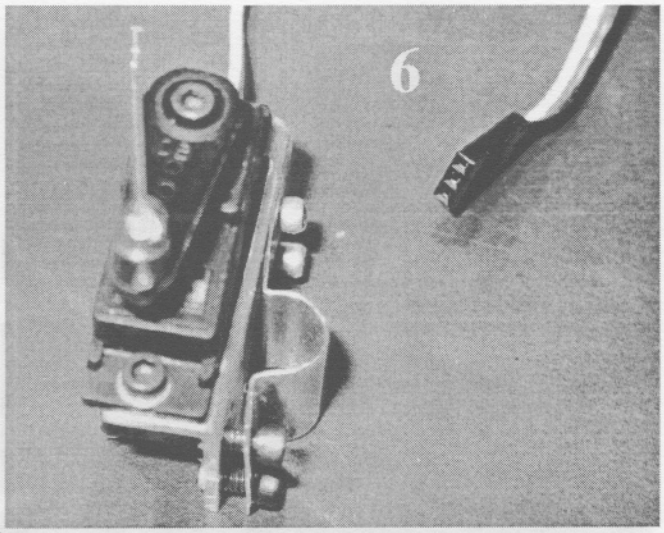
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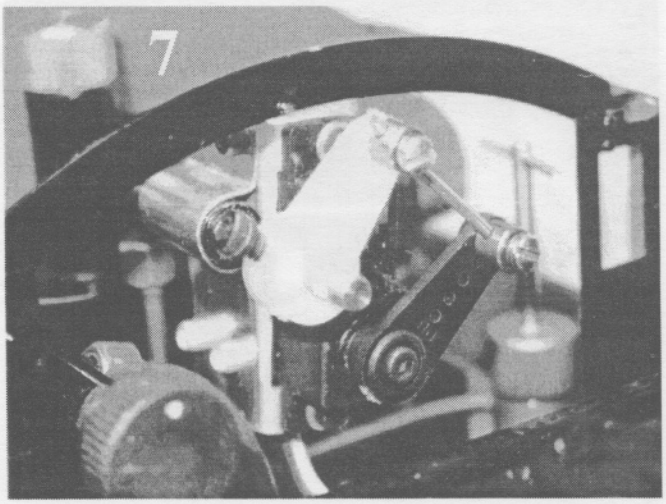
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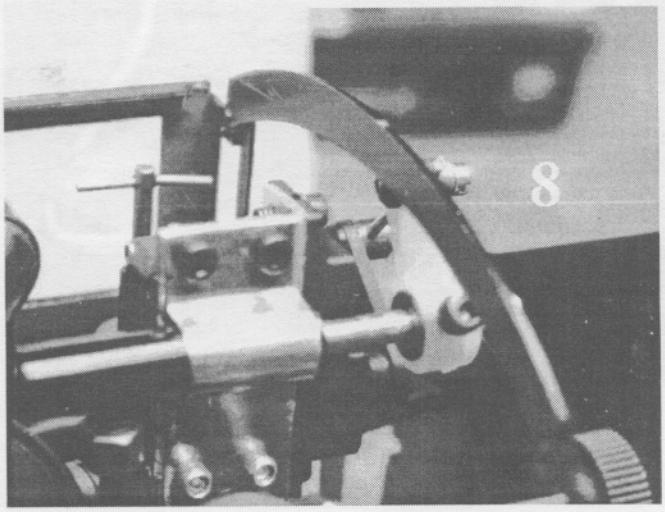
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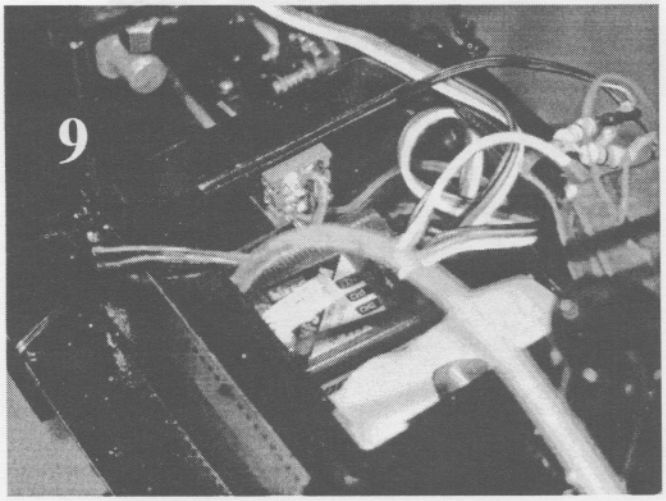
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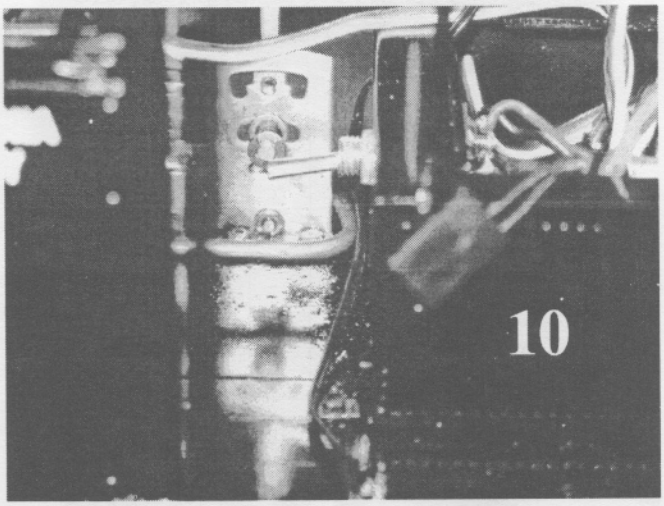
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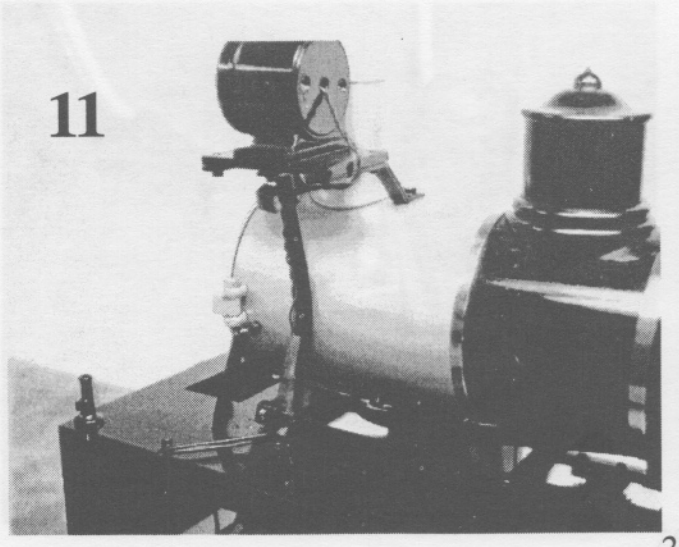
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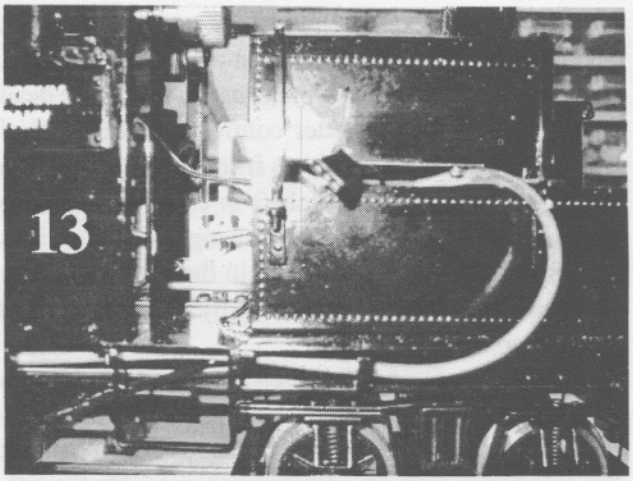


and the throttle arm and secure with socket head screws. From the remaining piece of the pushrod, cut a piece 1/4" long. Insert this piece into the two connector blocks and lightly tighten the screws.(photo 7). Align the two arms and tighten the two top screws in the bracket to clamp the servo assembly on the throttle shaft body. (photo 8)

Receiver

Purchase one of the flat four battery packs available at hobby shops.(4.8volt;600-1200ma). The battery, receiver,headlight servo, all go into the water tank. First, a double pole, double throw micro switch must be installed to control things. Drill a 1/4" hole in the front of the tank, centered, 3/8" from the top of the tank.(photo 9). It is easier to solder the wires to the terminals of the switch before it is installed in the tank.

The battery pack has two terminals extending from the shrinkwrap. The bare one is negative; the covered one is positive. Remove the cover used to protect the battery during shipment. Modify two Futaba connector assemblies as follows: Separate the white lead from the black and red leads. Cut it off at the connector. Cut the red and black leads to 2" in length. The wires from one of the connectors is used to connect leads to the battery pack. Red to positive, and black to negative. Shrinkwrap all bare wires and connections.

Observing polarity, solder the leads of one connector to the upper terminals of the DPDT switch, and the leads of the other connector to the lower terminals of the switch. The leads from the battery pack may be cut to 4" in length, and the leads then soldered to the center terminals of the switch. I used Velcro™ to attach the battery and the receiver to the floor of the water tank. This keeps things in place when moving or inverting the loco for service or repairs.

Insert the switch into the hole in the front of the water tank, with the handle operating vertically, and the receiver ON with the handle in the up position. The connector attached to the upper terminals of the switch is passed out over the left side of the tank, and is used as a charging plug when the switch is in the OFF position.(photo 10). The connector wired to the lower terminals is plugged into the "battery" socket of the receiver. The lead from the direction servo plugs into channel 1 of the receiver, and the throttle servo lead plugs into channel 2. Re-attach the water tank to the floor with the (4) hex head screws.

Head and Backup Lights

The lead for the back-up light is passed through the hole drilled in the top of the oil tank.(photo 4) The lead for the headlight is routed over the back of the headlight platform, down the long brace. The lead is not long enough to reach the water tank, so a #26 two wire lead is spliced with the twisted lamp leads, soldered, and shrinkwrapped and secured to the brace just above the running board with a mini tie wrap (photo 11). The lead then goes over the edge of the running board, and under, then along the frame to the stirrup step. Once around the step and up into the water tank. This circuitous route was devised to avoid the wire coming in contact with the hot boiler,etc. (photo 11). (Black shrink wrap blends in with the painted brace and is hardly noticeable)

In the water tank the leads from both lights are joined as follows: One lead from each light is joined and soldered together, the other lead from each light is soldered to a 68 ohm,1/4 watt resistor.(Required to drop the voltage from 4.8 volts to 1.5 volts. (photo 12). Again, shrinkwrap all connections and bare wires.

Servo to Control Lights

The lights are controlled by a modified micro servo and the third channel of the radio control.(This is based on a design by Les Knoll. A micro servo is used in order to fit into the water tank. Remove the four screws and separate the cover from the body of the servo, exposing the motor, gear train, and circuit board. Remove the gear train and discard. The motor is glued in place and cannot be removed,. This presents no problem. Unsolder the wires from the motor,

then note where these wires are soldered to the circuit board. The pair of head/backup light wires are soldered to this location after removing the motor wires. Cut a notch in the side of the servo case to allow the wires from the circuit board to pass through. Reassemble the servo body with the four screws. The connector from the servo is now plugged into the channel number three slot in the receiver. (photo 12) Slide the servo on top of the battery pack under the lip of the water tank. Tuck all the excess leads into the water tank, so they won't be visible when the oil tank is in position.

One item remains. The bright red antenna wire extending from the receiver, hanging out of the water tank. I painted it black, but it was still an eyesore. Where to place it for maximum range? My solution was to enclose it in a length of 1/8" plastic tubing, which I had first painted tan, (or gray, your choice). I then fed it over the side of the running board and through the braces along the frame. Voila! It is now my filler/fire hose! (photo 13).

With all components connected and in place, reposition the oil tank and the hold-down straps. Install the two retaining nuts on the ends of the straps. Now bring the clevis forward, spread the end with a small screwdriver blade and snap the pin into the hole at the top of the Johnson bar handle.

PARTS LIST

Three-channel radio transmitter and receiver
(prefer FM)
(3) Futaba S3101 micro servos (or equiv.)
(1) flat four-cell battery pack:
4.8 volt - 600-1200 ma.
(2) Futaba J- series connectors
(2) servo connector blocks with retainers
(2) 1.5 volt 30 mA micro bulbs with leads
(Miniatronics, etc.)
(1) threaded clevis
(1) threaded pushrod
(6) 4-40x1/4" sockethead screws
(2) 4-40 locknuts
(4) 2-56x1/4" sockethead screws
(2) 1/8" dia. x 1/8" pop rivets
1/8" dia. x 15" long plastic tubing
#26 or larger x 18" long (2) wire lead
(2) black mini tie-wraps
1/8" dia. black shrink tubing
(1) 1" square velcro™
(1) 2" square velcro™ or equiv.
A modicum of patience.

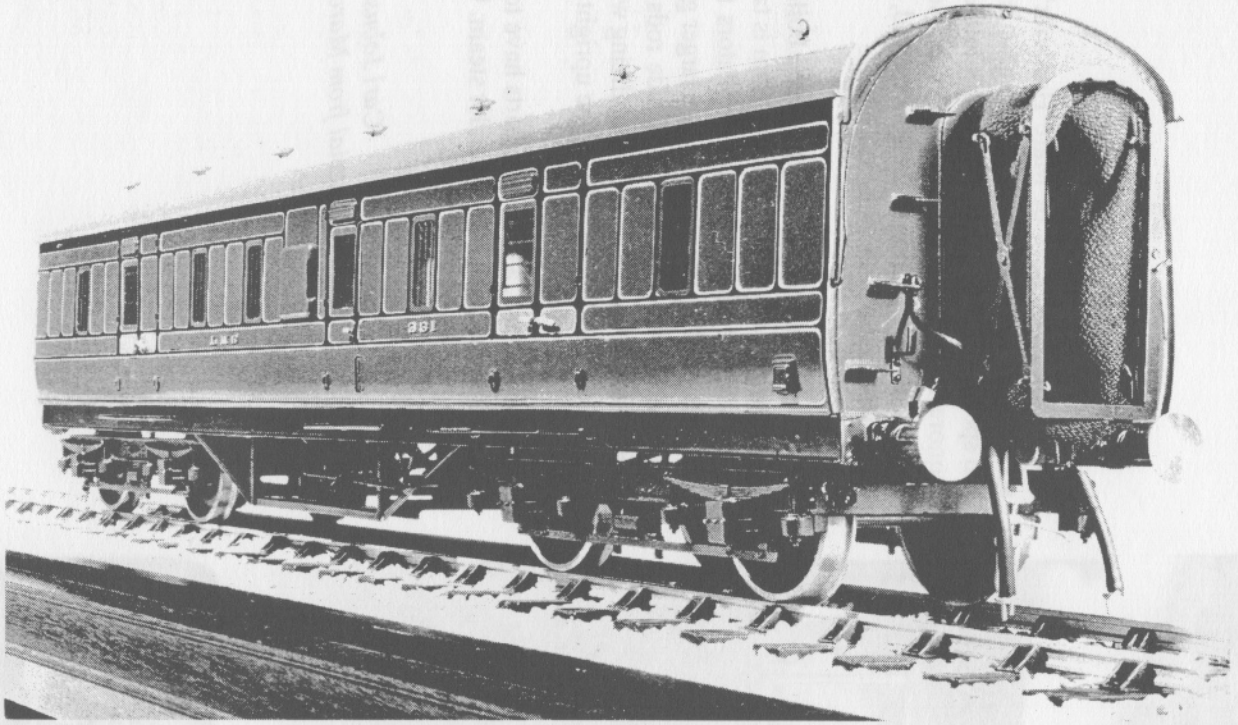
Turn on the radio transmitter and the receiver. Make any adjustments needed on the throttle linkage. Note the position of the Johnson bar. If it is not in dead center when the transmitter control is in the neutral position, disconnect the clevis from the j-bar and turn the clevis on the threaded shaft in either direction to center the control. This will not change with use, since the other end is firmly clamped in the connector. The lights can now be turned on or off by moving the third channel control.

When the ON/OFF switch is in the OFF (down) position, the battery may now be charged via the charging plug. When the switch is in the ON(up) position, the receiver is now on, receiving power from the battery.

My Shay has been a delight to run, and it was well worth the effort to incorporate the radio control and to see a locomotive in motion with its lights on as they were meant to be. If you have any questions or comments, please feel free to contact me. (734) 769-9898. e-mail: steelwheels@thesandybeach .net

L. M. S. Period Piece...

D. 1778 Gangwayed Passenger Full Brake in Period I livery.
Beautifully presented in 1:32 scale (GAUGE 1)



NEW! 60' U.S.A. Harriman Coaches are HERE!

Built in the 1920's by the London Midland Scottish Ry (LMS) the Corridor Full Brake built to plan D. 1778 was almost a pure extension of Midland Railway coach design and construction practice down to the sumptuous livery of Black, Gold, and Crimson Lake. Some cars entered British Railways ownership in 1947. Our model is available in three paint schemes; LMS Period I (shown), LMS Period II (simplified lining), and B.R. maroon. If you need a parcels or luggage van of distinctive design this Full Brake is for you.

At a glance specification summary:

- **Length over buffers:** 510mm
- **Availability:** April 1997
- **Wheels:** steel insulated finescale
- **Finish:** hand painted and lined
- **Weight:** 1.6 Kg
- **Material:** 95% brass, including roof
- **Price:** £ 660 plus shipping

THE FINESCALE LOCOMOTIVE COMPANY

MARLBOROUGH, WILTSHIRE, ENGLAND

Exclusive US Representative:

I E & W Railway Supply
38200 Charles Town Pike
Purcellville, VA 20132-2927
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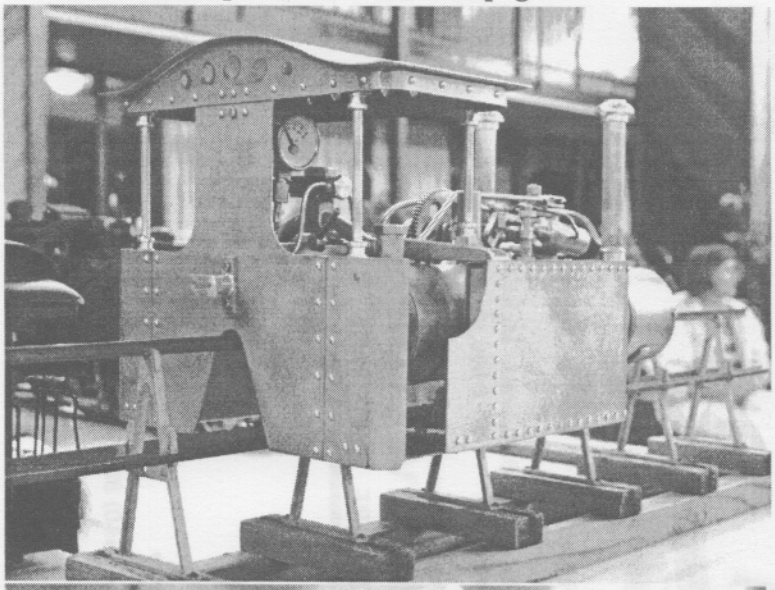
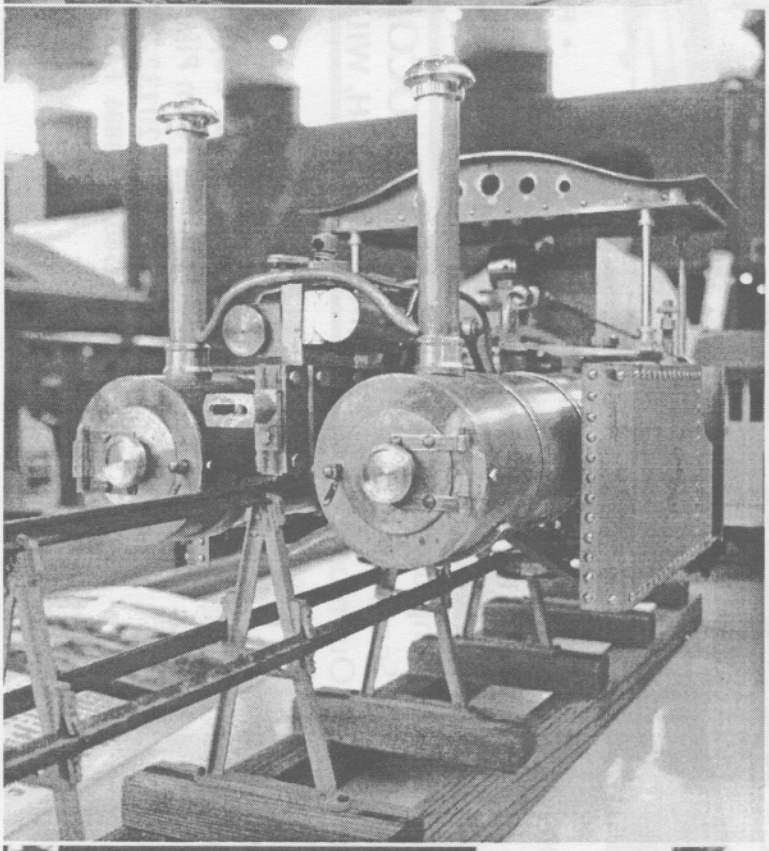
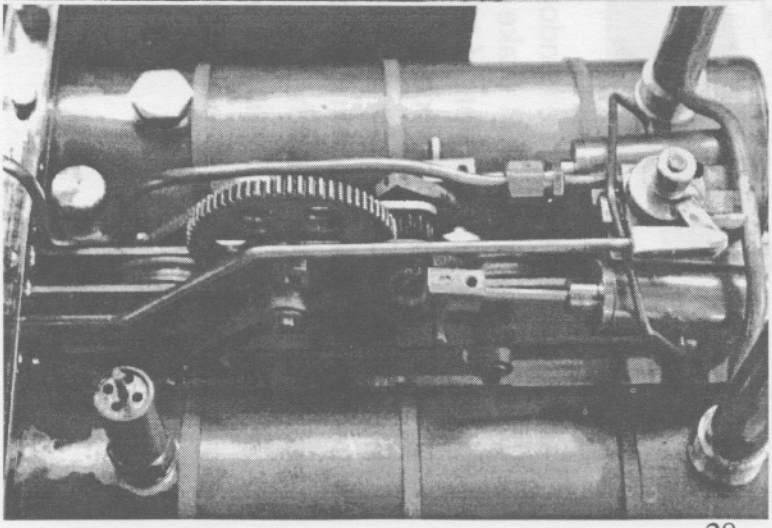
Diamondhead Report continued from page 14...







Three different views of Marc Horovitz' amazing scratchbuilt steam mororail. The engine is freelance (no specific prototype), but it is built to the Lartigue monorail system, the same that was used on the Listowel & Ballybunion Railway in Ireland, the Feurs-Panissières Line in France, and others.

The 0-2-0T model has twin, gas-fired boilers with a balance pipe between, off which steam is taken. Cylinders are two, double-acting oscillators that run a small pinion. This, in turn, drives a larger gear that is connected to the drive axles via side rods. Gear reduction is approximately 6:1. Stabilizing wheels ride on the side rails to keep the engine upright.

As of this writing, a few more parts have to be made before the loco can be tested under steam. Under air, it performs quite well.

Carl Jobusch photos
caption material from Marc Horovitz

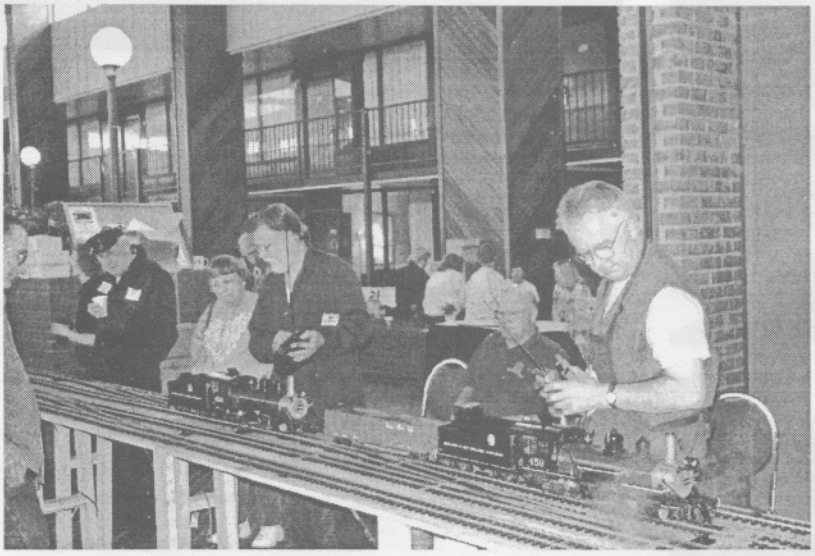
Clockwise from bottom right: David Morgan-Kirby (Canada) prepares a loco for a run.

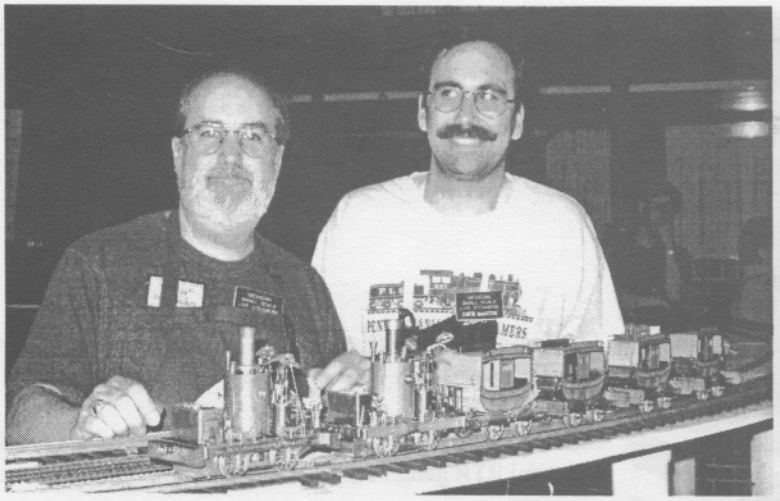
Northern Finescale (David Morgan-Kirby's) display of beautiful RTR gauge 1 freight wagons in the dealer room.

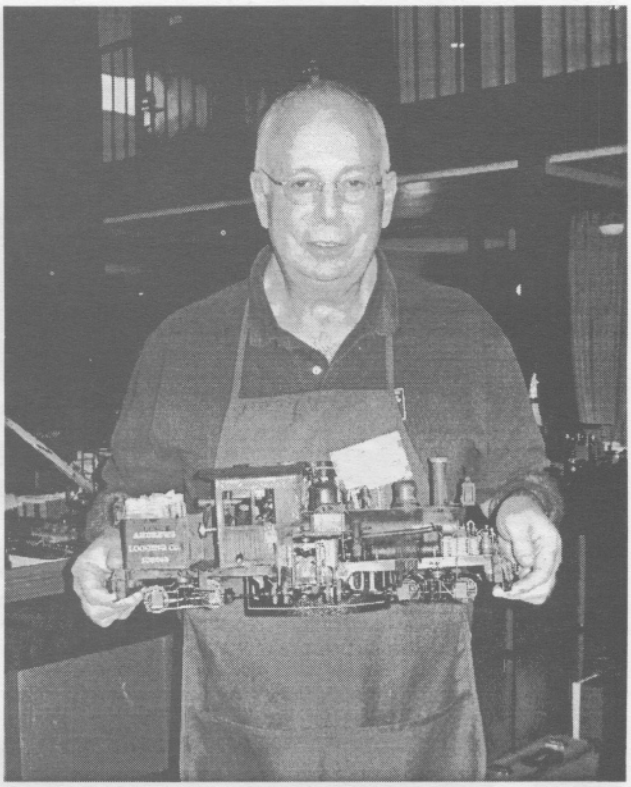
Larry Bangham (California) (left) and David Bailey (England) work their coal fired DJB Engineering K-27's. See Larry's review of this excellent loco in this issue.

Peter Foley & Jess Young (Ontario, Canada) demonstrate the proper useage of pistachio cars on the Gauge 0 line.

all photos this page by Carol Jobusch







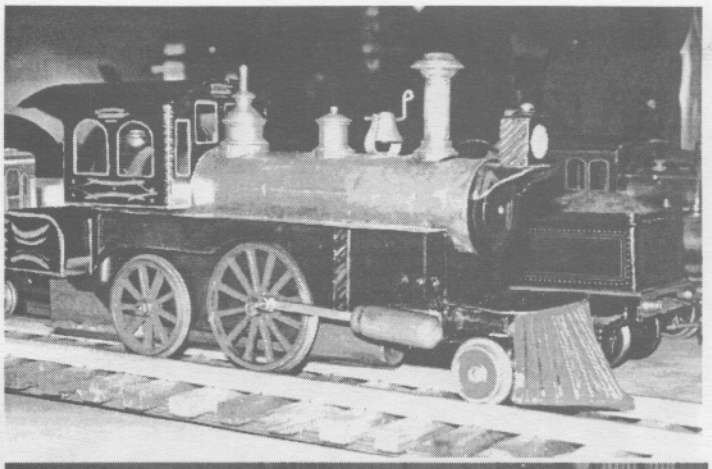
Clockwise from bottom left: Chris Sortina (Louisiana) runs his train on the new track.

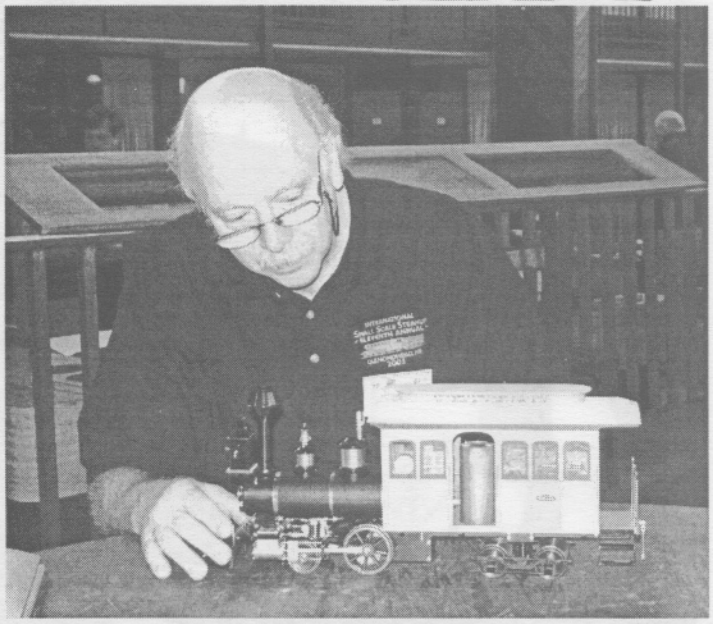
Jim Overland (Washington) and Soni Honegger (New Mexico) discuss the merits of the K-27 locos. Soni is producing the DJB Engineering K-27 here in the USA.

Fred Gandolfi (Michigan) and David Martin (Michigan) double-heading Aster Grasshoppers.

Sonny Wizelman (California), master scratchbuilder and weathering expert, shows off his beautiful Shay.

photos this page by Carol Jobusch





Clockwise from bottom right: John Riley (Florida) shows off his unique steam powered freight truck.

Scratchbuilder extraordinaire Bill Shipp (Ontario, Canada) with one of his beautiful trains. Bill built a small number of tiny DeWinton locos, some of which were running at this event.

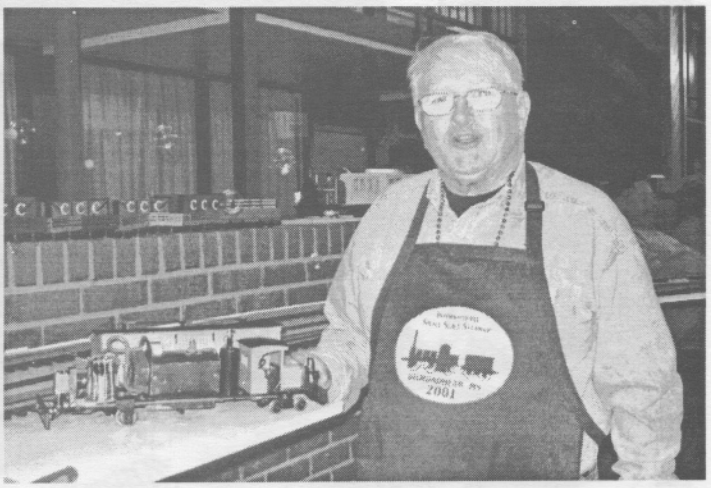
John Thomson (Texas) and Tom Bowdler (New York) with a table full of their locos. John and Tom will be familiar to SitG readers as regular contributors to the magazine and to the hobby.

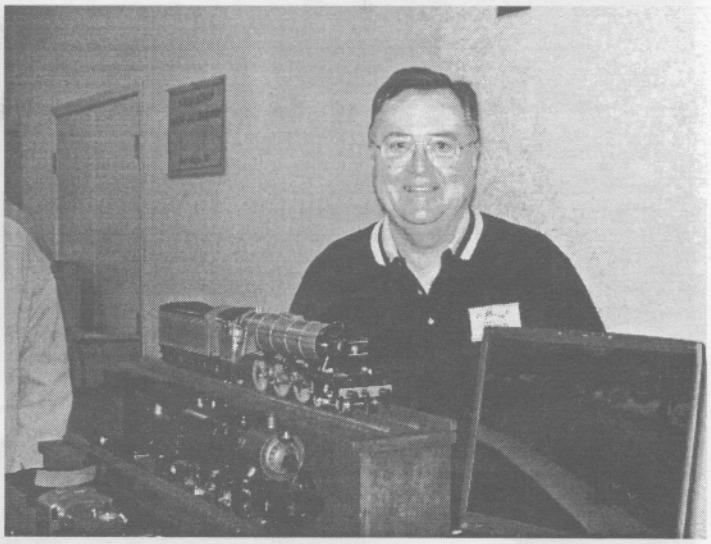
Bob McHale (New Jersey) carefully scrutinizes John Clark's Emelia. There were so many beautiful locos to admire that 3 days just wasn't enough time to do it all.

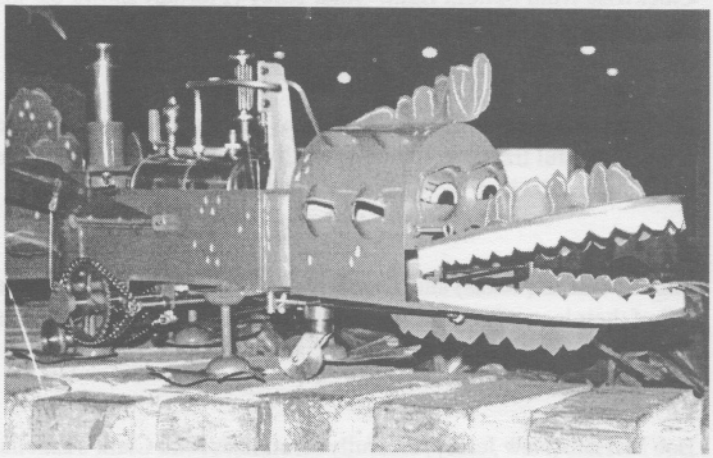
One of several tinplate toy locos from around the turn of the century. I think this one belongs to Larry Smith (Florida). In addition to restoring some of the old tinplate locos, Larry has built replicas that look and run like the real thing....only better.

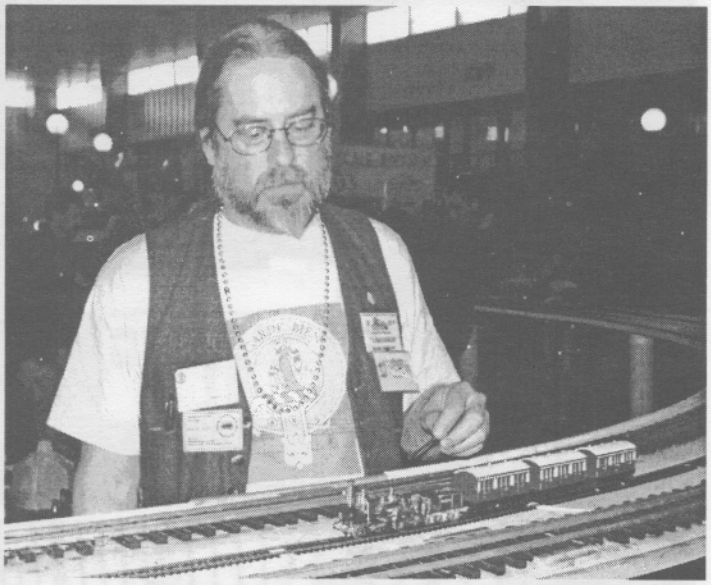
Jim Hadden's (Utah) awesome scratchbuilt, steam powered rotary snowplow.

photos this page by Carol Jobusch









Clockwise from lower left: Ted Sharpe (Washington) of Sunset Valley Railroad, chats with Dawn Brightwell (Washington) at his table in the dealer room.

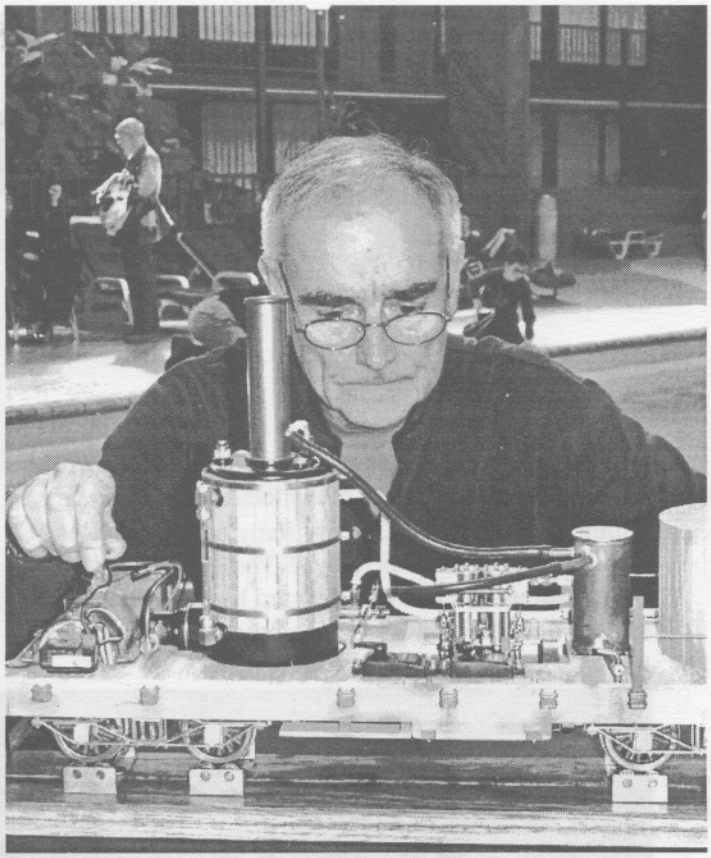
Lee Schulman (Florida) and Charlie Baker (Tennessee) discuss the price of locos at Charlie's table in the always busy dealer room.

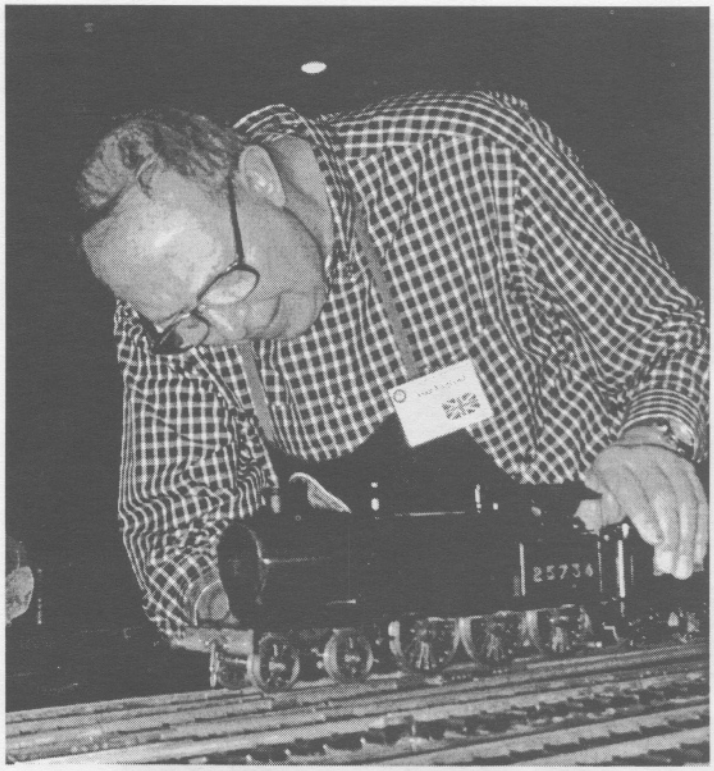
The next two photos show Bill Payne (Kansas) and his amazing steam powered dragon. It walked, flapped its wings, wagged its tail and breathed steam when it opened its mouth. Guaranteed to draw a crowd, even though it didn't run on rails!

Jim Pitts (South Carolina) greeted customers with a smile when they visited his Southern Steam Trains stand in the dealer room.

Jim Montgomery (Washington) is the master of tiny steamers. How many HO steamers have you seen running successfully?

photos this page by Carol Jobusch





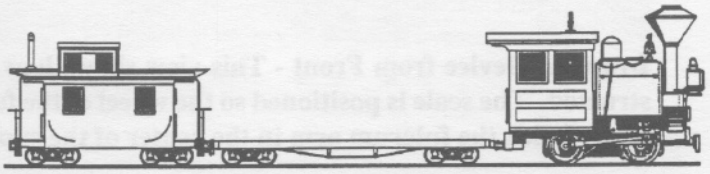
Clockwise from bottom left: Tom Burns (Texas) drives his K-27 on the big track.

Alan England (England) fires his Martin Evans Newbury.

Hank Peacock (Georgia) with his Basset Lowke 4-6-0.

Joel Neshkin (Alabama) warms up his scratchbuilt 7/8 scale vertical boiler Climax on rollers.

all photos this page by Carol Jobusch



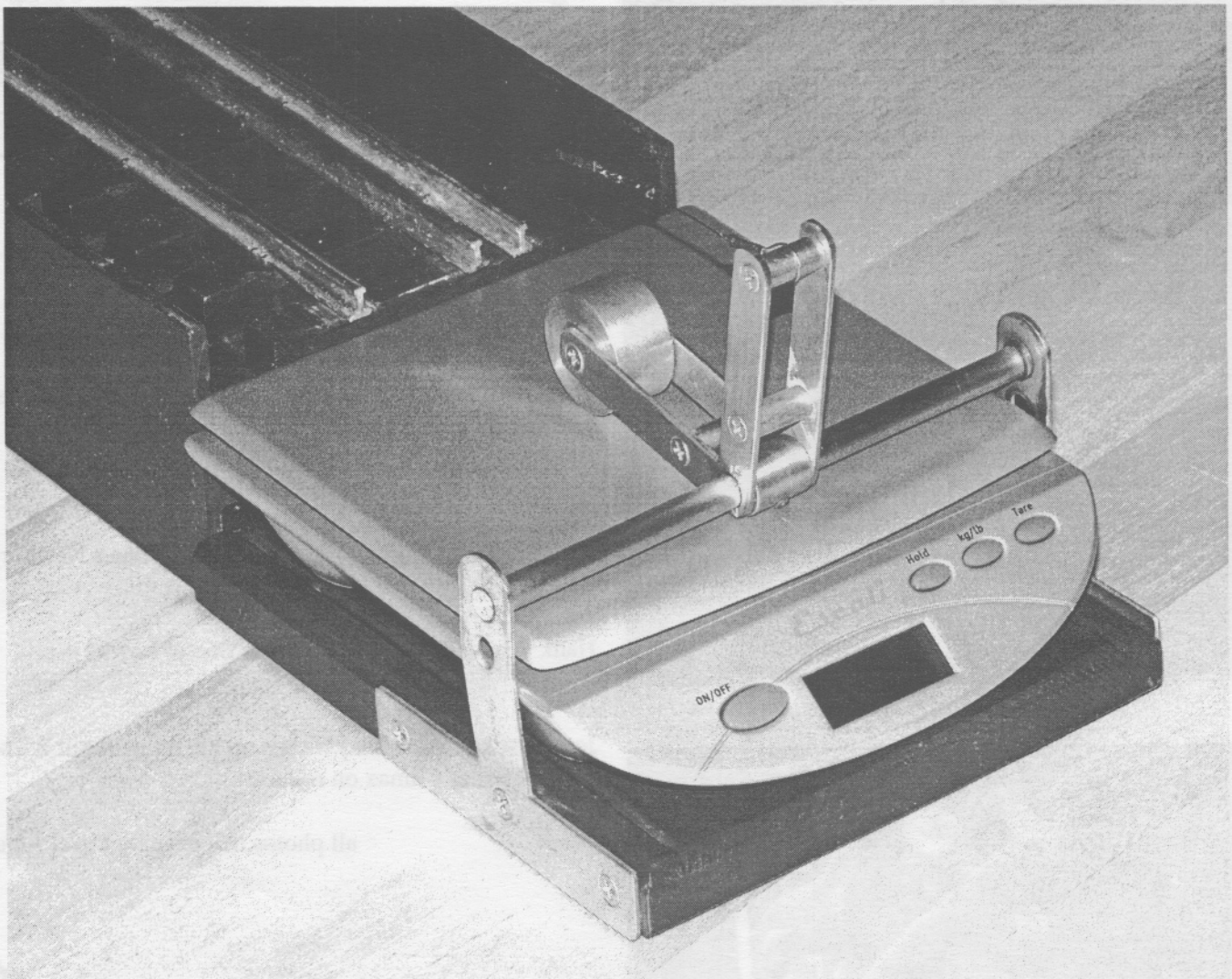
Workshop Project

Measuring Drawbar Pull

article & photos by Bruce Gathman

How many cars will my locomotive pull? Did the latest modification I made to my locomotive improve its pulling performance? Can my Ruby pull as much as or more than other peoples Rubys? These are just a few of the questions that can be answered by actually measuring the drawbar pull of a locomotive. No commercial offering is currently available to do this sort thing, so *necessity was the mother of invention.*

The purist will argue that the best measurement of a locomotives performance is a dynamic test under actual operating conditions. I wholeheartedly agree with this statement. Such a device would of necessity be a more



Drawbar Device from Front - This view shows how the tee plates, support arm, and fulcrum arm are constructed. The scale is positioned so the wheel of the fulcrum arm is centered front to back. The collar with set screw holds the fulcrum arm in the center of the support arm from side to side.

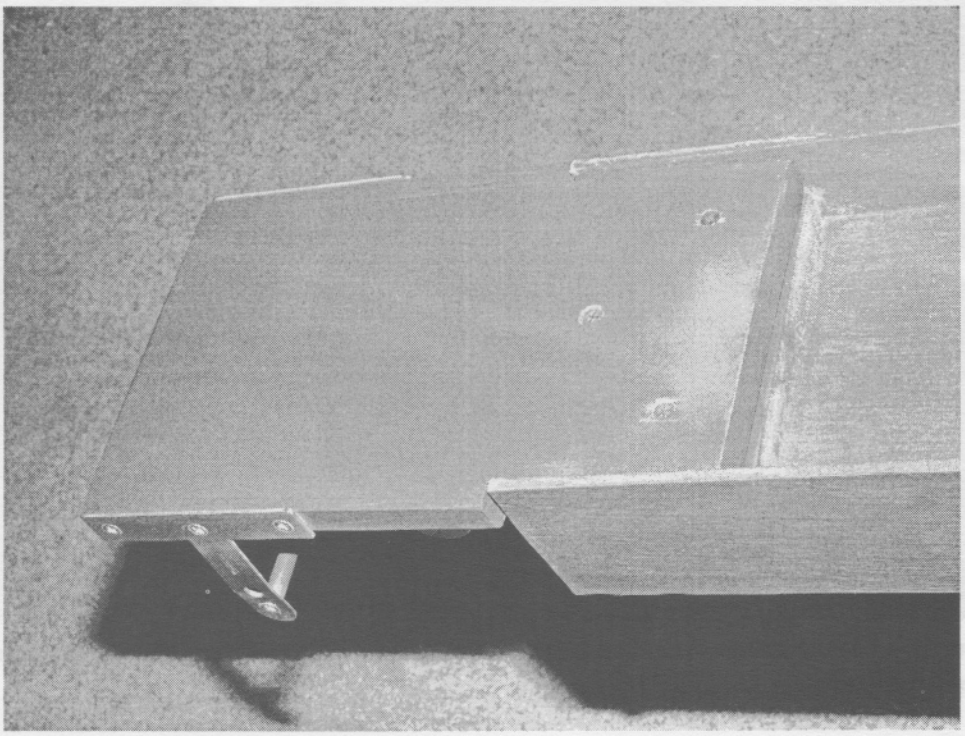
complicated and costly task to build than the device I have designed. To make meaningful comparisons a dynamic test would need to be run under exactly the same conditions. With my drawbar pulling device conditions are maintained equal and can be moved from one location to another easily.

Four years ago Walt Schwartz of Florida designed a *Weight Lifting device* for the Diamondhead International Small Scale Steam-up. The device measured how many beverage cans your locomotive could lift. This was great fun and was definitely in the spirit of the meet. The only problem was that many small locomotives couldn't lift even one can of beverage. As I remember, my Mamod was able to lift an empty can only - kind of wimpy results, but this was before I owned any Shays.

The following year Walt made modifications and improvements to the device by adding a strain gage to measure the pull being exerted by each locomotive. This was a big improvement but had a couple of shortcomings. A strain gage is nothing more than a costly fish scale. It is linear in function and at best can measure in one-eighth of a pound increments. Walt's device had many pulleys and a heavy cable that probably causes some lost effort just to overcome their friction and weight.

The first year of the Midwest Small Scale Steam-up Diana Eaton asked me to run some events to make the meet more enjoyable. I was immediately crowned the *King of Fun,* or more appropriately *Serf of Worker Class.* Of course, a drawbar event was a must and my brain went into gear about how I might construct a simple, cheap device to measure the pulling power developed by our small locomotives. After much thought and research for ways to do this, I hit on the idea of a small electronic scale that could be used - if there was some way to convert the horizontal pull to a vertical down force on the scale. As you can see from the photos it was extremely simple to do and only required a minimum of specialty parts and tools to be made.

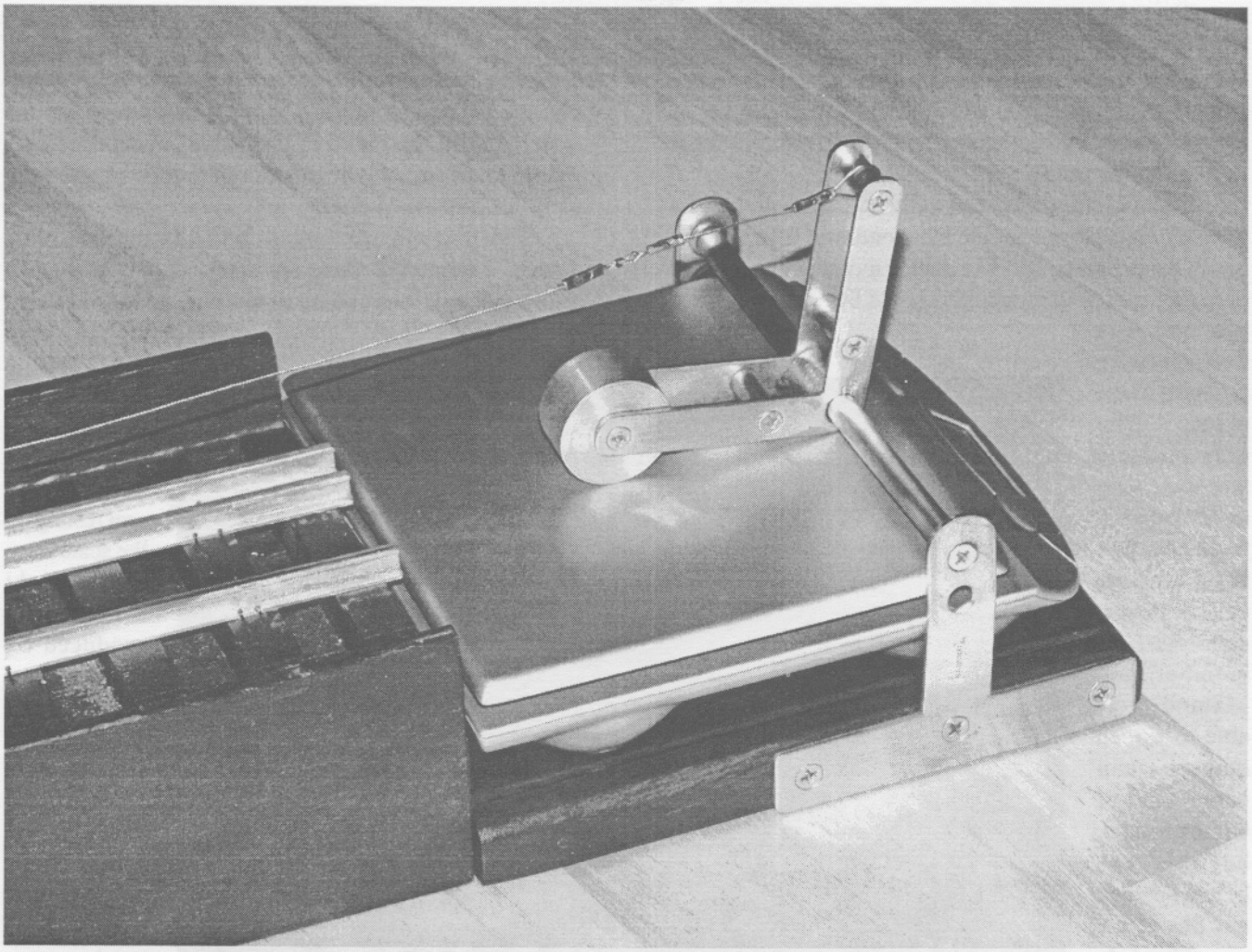
First you will need a scale to use for the measuring device. I found that there are many models of kitchen scales that will measure up to ten plus pounds and that they also have a tare feature that will automatically subtract out the weight of the arm resting on the scale from the weight measurement produced by the pulling force of the locomotive. The best place I found to purchase these was on eBay.



Drawbar Device Mounting to Track - Bottom view of the track assembly and the drawbar device mounting can be seen in this view. Three drywall screws are used to attach the device to the end splice plate. The offset to mount the tee plates to is seen clearly in this view to allow for the width of the scale.

Second, some sort of track was needed to attach the drawbar pulling device to. A track would have to be available for the other events (Go Slow Race and Hill Climb) also being run at the Midwest Steam-up. I therefore only needed a way to attach the measuring device to the track easily.

For the track construction I borrowed ideas from Ernie Noa's portable layout design. I took a sheet of one-quarter inch luan plywood and made a simple H-beam with two side pieces 3" high by 6" long and one floor piece 5" wide by 6' long. I then routed the sides lengthwise 1/8" deep and 1 1/8" down from the top to accept the floor piece. I made three stiffeners of 1x4 stock to a width to fit snugly between the sides when the floor was placed in the routed grooves. There is a stiffener placed at each end and in the middle on the bottom of the H section. The end stiffeners are used to screw



Drawbar Device from Rear - This view shows the attachment of the pulling cable to the fulcrum arm. The splices in the cable are explained in the article text.

into to mount the pulling device, and splice plates for joining multiple sections together for the other events. This assembly was glued with white construction glue. Track was made from wood ties and aluminum code 332 rail. I laid three rails to accommodate both gauge 1 and gauge 0 equipment.

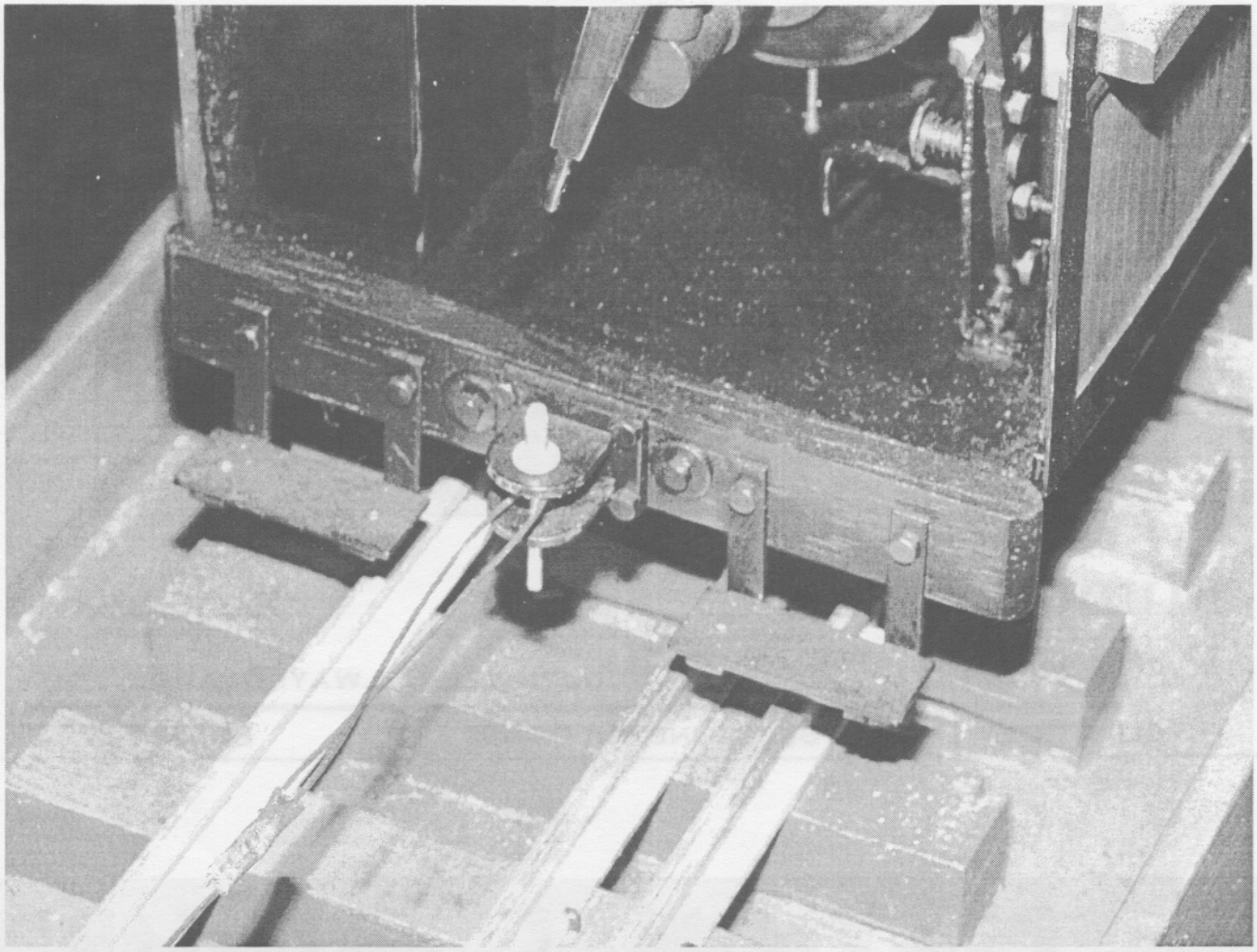
The measuring device mechanism was made from readily available hardware parts, a piece of 1" wood splice plate material leftover from the track construction, and some round metal stock I had on hand. The mechanism support plate fits between the sides of the track H-beam and extends out from the stiffener plate far enough to fully support your scale; mine measures 5" x 10".

To the edge of the splice plate material, outside the track structure, a couple of pieces were added to give sufficient clearance for the scale to fit between the tee plates. The two vertical 4" tee plates were modified and drilled to support the fulcrum arm above the top of the scale as it sits on the splice plate. I rounded the top to look more finished. The fulcrum arm support rod was made from a piece of 1/4" brass rod that was cut to fit between the tee plates. It was then drilled and tapped for screws sized to match the plate holes.

The fulcrum arm is made of two 3" angle plates, four brass spacers, a 1" diameter aluminum wheel, and a brass collar with set screw. The assembly construction should be obvious by looking at the photos. The collar is used to hold the assembly in the center of the support arm. The wheel can be made of any material as long as it turns freely. The *tare* function will subtract the arm and wheel assembly's weight.

Again, I rounded the corners of the angle plates to make them look more finished. Since the distance from the wheel to the fulcrum pivot and the distance from the pulling cable is equal distant there is no mechanical advantage/disadvantage introduced into the measurements.

The only thing left to build is the pulling cable. The cable comes off the top spacer of the fulcrum arm and attaches to your locomotive coupler. The cable was constructed from stainless steel fishing line leader. This is



Drawbar Loco Connection - The loop from the pulling cable is placed through the link and pin coupler as shown and on knuckle couplers usually placing the cable loop around the coupler is sufficient. Size the loop so it will fit over the larger size knuckle couplers.

very flexible and light weight. I used small crimped copper tubing to form and hold the attachment loops. You will notice there is a splice in this line just beyond the fulcrum arm. At one point we experimented using a spring in the cable line to offer some give to the locomotive when starting. It was a costly experiment in that one locomotive caused the spring to *sproing* several times like a yo-yo and was hilariously funny until I realized I had caused my Roundhouse Sammie to fall to the floor in the excitement. Sizing a spring is beyond my technical abilities.

Operation of the drawbar pulling device is simple. Prep and fire the locomotive to be tested. It is best to have it at the point of popping off. Wipe dry the track from the previous run. Apply the only authorized adhesion modifier - chalk, if desired. Place the locomotive on the track and attach the pulling cable. Pull the locomotive forward by hand to take slack out of the line and push the tare button to zero the scale. Let her rip!

It isn't necessary to slip the drivers to get a good measurement. In fact, the highest pulling force is developed just prior to slipping the drivers. Watch the reading on the scale for its highest point. We usually take the best pull out of three attempts to even out botched starts.

The only untested part of the device is the newer, bigger 1:20.3 scale locomotives. The K-27's weighing in at 20 plus pounds will be able to exert several pounds of pulling force. It is probably advisable to have a catcher at the end of the track in case a locomotive would break the cable or other attachment device. Have fun!

The 7th Annual Cabin Fever Expo

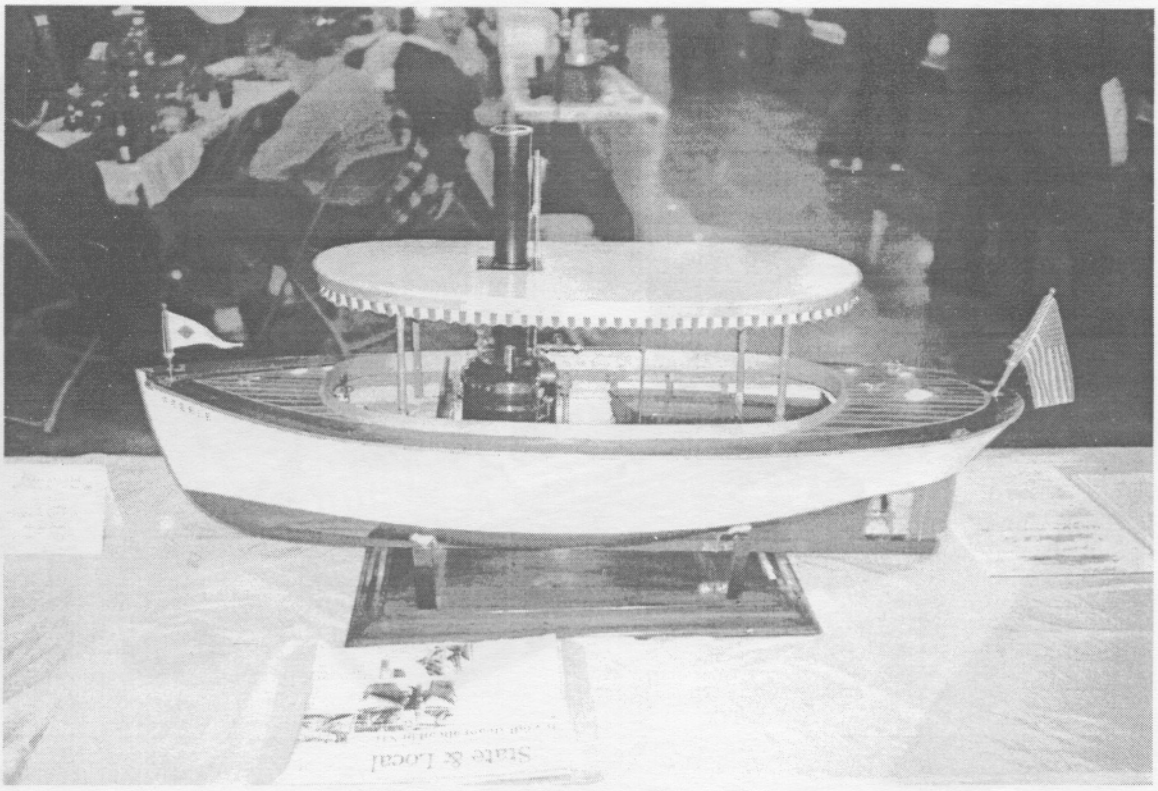
Article and Photos By Steve Siegel

The 7th annual Cabin Fever Expo took place on January 18th and 19th at the York Fairgrounds in York, Pennsylvania. Over its seven years of existence, the show has outgrown its two previous locations and will remain at its current York venue for the foreseeable future. With over 70,000 sq. feet of exhibitor and vendor space, this exhibition, devoted to all types of model engineering, has become one of the two most popular model engineering shows in the country.

This year's attendance of over 5,400 were treated to a special feature in addition to the usual model traction engines, locomotives, and gas engines. Show organizers Gary and Jared Shoenly decided to feature model steamboats as this year's key attraction due to the amount of interest in the steamboat models last year. As a result, a 10,000 gallon 30' by 50' indoor pond was set up for the steamboat exhibitors to run their models. Almost 20 steamboat models were ex-

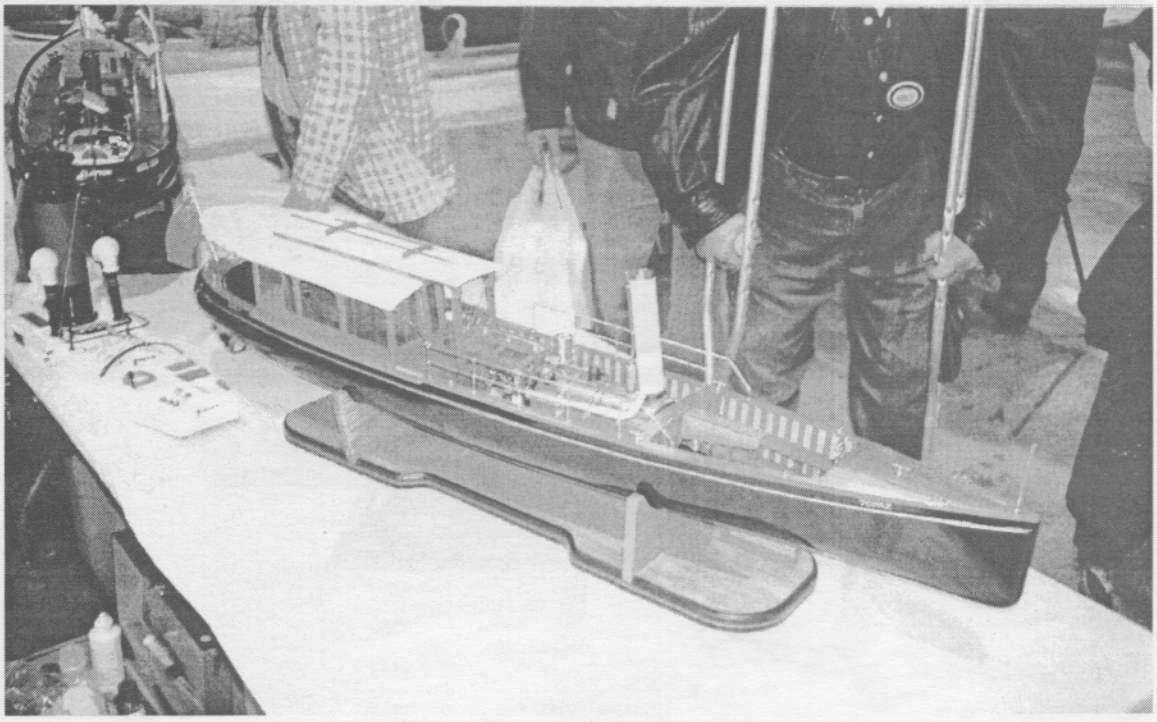
A section of the huge 30 ft. x 50 ft. indoor pool, with *The City of New York* steaming by. Note Charlie Roth's full size *Adamy III* in the background.

Just look at these kid's faces. Kind of makes it all worthwhile, does it not? That's a Midwest Models Elliot Bay steam launch they're watching.



Livingston Morris' beautiful *Feeble.*

Feeble being steamed up for a run.



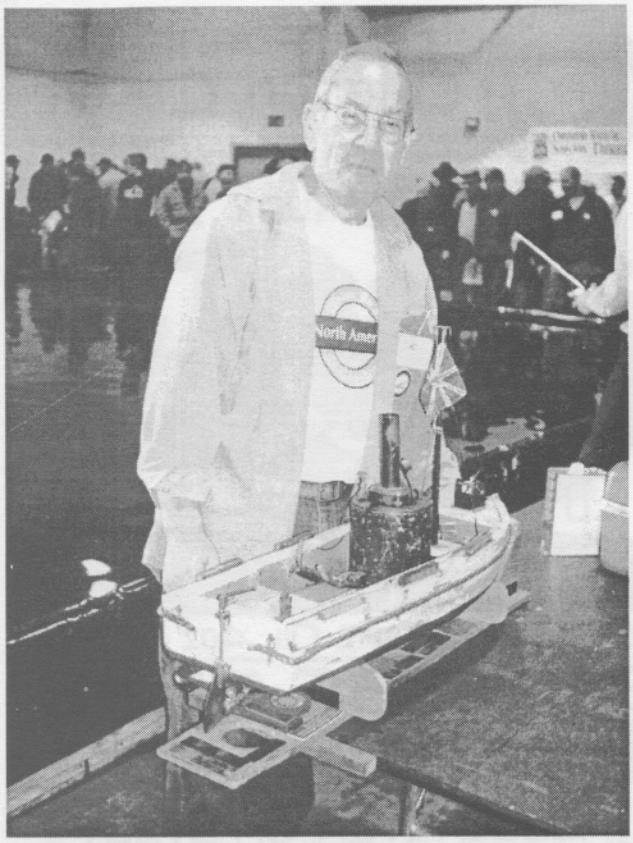
Magnificent *Topaz* built by Ken Hohmann.

hibited and run by members of the North American Steamboat Modeler's Association (NASMA) to the obvious delight of admiring crowds.

The size of the pond allowed even the largest of the models (Quentin Johnsons' 5' long *City of New York*) comfortable room on which to maneuver. The crowd around the pool was at times three rows deep with folks watching the model boats steaming on the water. A great deal of interest was shown in Charlie Roth's *African Queen* steam launch, especially by the younger viewers. Charlie, by the way, also had his full-size 25' steam launch *Adamy III* on display as well as a few full-sized steam engines. One of the most interesting models running was Livingston Morris' *Feeble*, an exact scale model of the diminutive launch designed by Weston Farmer in 1943. The 3' long model was built in the exact same manner with the exact same materials as the original boat, down to a real coal-fired boiler and scale Henry Greely single cylinder double acting engine.

Ken Hohmann displayed (but alas, did not run) his recently finished *Topaz* model launch. This was built from a kit produced by the firm Marten, Howes, and Baylis. Ken's model is magnificent to behold and almost too pretty to actually run. Ken informs me that he does plan to run her in the near future. However, he did run his *Alte Liebe* tugboat, a very nicely constructed Caldercraft kit with Cheddar Puffin steam plant and Cheddar automatic boiler control equipment installed. The open launch was the most popular type of craft at the show, with tugboats coming in a close second.

During breaks in the steamboat activity, there was time to browse the wares of 80 vendors selling machine tools, shop accessories, and books, as well as walk through the aisles marveling at the almost 1000 operating model engines and over 400 exhibitors. By all reports however, the model steamboats were by far the hit of the show, and we have been invited back next year. If you are at all interested in model engineering in general and model steamboats in particular, this show is a must-see event. See you there next year!



A very trim looking Charlie Roth with his venerable *African Queen.*

SWAP SHOP

For Sale: Tom Cooper's Garden Railway World magazines. Eleven issues in all. № 1 - 1988-1989; № 2, № 3, № 4, № 5, № 6 - 1990; № 2, № 3, № 7 - 1991; № 4, № 5. $10.00 each, buyer takes all. Stan Grebas, 2037 Jackson St., Scranton PA 18504. 570-346-9087. (68)

For Sale: Aster Reno 4-4-0 (alcohol fired), $2000.00. Aster/LGB Frank S. (butane fired) $1200.00. Plus shipping. Both are excellent runners. Leonard Delvey, 6450 Abisco Rd., Cocoa, FL 32927. (321) 633-6903. (68)

For Sale: Aster/LGB Frank S. Like new condition, very low hours. Has Futaba R/C installed, also a Goodall filling valve. Will supply custom woodburning stack, plus steam oil and butane tanks. $1100 plus shipping. Erwin Langer, 10917 Rollins Ct., Alta Loma CA 91701. Phone 909-945-2791. (68)

Wanted: Aster BR 86. Contact Larry Stone (919) 776-2620 or e-mail at larrymstone@aol.com (69)

For Sale: Steam Launch SeaHorse. A Beckman Boatshop Compromise 25, VFT 30 Boiler, Compound Engine 3" by 5" with 4" stroke. $28,750.00 Dave Young, 3308 Bruce Hall Road, Santa Fe, Texas 77510, Telephone 409-925-3312, e-mail K8DY@arrl.net (69)

For Sale: C&S Mogul, R/C. Hardly used. Bangham harmonic whistle (R/C), electric driven feed water pump, FM radio, All manuals. Many of O'Connor's eggs saving gizmos. Some times it seems to me that the engine produces more gas then it consumes! $2200 (cheap) in unmarked bills. Call 407-896-8610, ask for Norm. Arnold Hoffman, 2970 Ramona Rd., Atascadero, CA 93422. (69)

SOLD

Swap Shop listings are offered at no charge as space permits. No dealers and no phone-in ads, please! Send your listings to SitG, P0 Box 335, Newark Valley NY 13811, or fax to 253-323-2125 (24 hours), or e-mail to <docsteam@steaminthegarden.com>. Ads must contain sellers name, plus address and/or phone number. Ads will be run one time only unless previous arrangements are made.

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Neither snow, nor sleet....etc., etc. The long hard winter is just beginning as this photo was taken, and your editor had to bring out the rotary plow to clear the way for the FEDEX truck to pick up SitG № 68. *photo by Marie Brown*

End of the Line

It was a tough winter for those in northern climes, but don't feel too sorry for the SitG staff. Shortly after the photo above was taken, we packed up and headed to our Florida branch office. Instead of shoveling snow and huddling around the coal stove all winter, we've been enjoying shirtsleeve weather and steamups in the tropics. By the time you read this, we will be back in upstate NY, looking forward to a summer of steamups around the northeast...and a trip to the Shay Days event in Michigan. Hope to see you there!

We purchased a new printer in order to be able to bring our readers higher quality photos. Unfortunately, we (that would be me) failed to notice that this printer does not support Postscript fonts, so any changes will not be evident until we can correct the problem. Hopefully in time for № 70.

Happy steaming,

Ron

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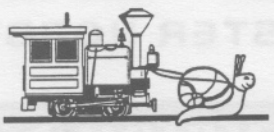

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Above, left: A MOW train with a rotary plow on the point clears the heavy snowfall from Chuck Walters' track in upstate New York. ***photo by Chuck Walters***

Above, right: A woodburning Shay rumbles through the snow covered landscape with a work train on Tom Bowdler's scenic line in upstate New York. It has been a long, hard winter! ***photo by Tom Bowdler***