

Arizona Railroad



Historical Society

The DESERT DISPATCH

Time Table

Layout work sessions

Every Wednesday and Saturday beginning at 9am:
Arizona Capitol Museum
1700 W. Washington St.
Phoenix, AZ

ARHS Spring Swap Meet

Saturday, May 11, 2019

9am-1pm

Location: Glendale Christian Church 9661 N. 59th Ave, **Glendale, AZ**

More information, call:

Craig 623-340-3529

DeWayne 623-308-1574

Model Rail Events

Sun City Model Rail Club Swap Meet

Saturday, February 9th

Fairway Recreation Center
10600 W Peoria Ave
Sun City, AZ

Winter Cactus Swap Meet

Saturday, February 16th

N. Phoenix Baptist Church
5757 N. Central Ave
Phoenix, AZ



All Aboard!

Trains Run on the ARHS Layout at Open House

story and pictures by Bob Bridges

The Arizona Railroad Historical Society officially opened its doors to the public for an open house on Wednesday, November 14 2018. Visitors enjoyed a close-up look at the progress on the ARHS model train layout, which has been under construction at the Arizona Capitol Museum since May of 2018.

The occasion included the first running of a train on the layout, which occurred two months ahead of schedule! A number of guests of all ages, including several school groups, toured the layout with ARHS members providing information about the construction and future plans for the project. Benchwork for two of the four levels is nearing completion, with track, wiring and scenery to follow over the coming months.

continued next page

ARHS Officers

President - Jesse Poole

Vice President - Don Stewart

Secretary - Dave Brown

Treasurer - Dan Kubarych

Director - Ken Nelson

Director - DeWayne Koltin

The Desert Dispatch is a bi-monthly publication of the Arizona Railroad Historical Society.

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Mission Statement

The **Arizona Railroad Historical Society** strives to create a world class railroad experience which includes history, education and railroad operations centered around the state of Arizona.

We are honored and excited by the opportunity to create that world class railroad experience in the Arizona State Capital Museum in downtown Phoenix.

The layout, which depicts the history of railroading in Arizona during the 1950's, is scheduled to be completed in about 4 years. This period was the highpoint of rail operations in the state, and represents the transition from steam to diesel powered locomotives. Railroads depicted will include the Santa Fe, Southern Pacific, Grand Canyon Railway and more.



ARHS President Jesse Poole (right) describes the location of Tempe to a school class during the open house tour.



Arizona Capitol Museum Administrator Dorie Hanson (center) gets instructions on running the trains from Don Stewart, ARHS Vice President as Naomi Primeau records the event for the museum.



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Santa Fe steam locomotive 3755 in front of Phoenix station before making the inaugural run for the public on November 14, 2018.



ARHS Secretary Dave Brown, center, describes the layout to guests Brent Norton, left, and Jack Washburn at the open house.



Young visitors get a close up view of the ARHS layout.



Events

The Great Train Show

March 9-10

Arizona State Fairgrounds,
1826 W McDowell Rd
Phoenix AZ 85007

Adult Admission: \$10 Saturday
\$9 Sunday, kids under 11 are
free both days

The **Arizona Railroad Historical Society** is located on the 2nd floor of the Arizona Capitol Museum, 1700 W Washington St., Phoenix AZ 85007.

Tax-Deductible donations to the ARHS may be made through the **Arizona Capitol Museum Guild**, a 501(c)(3) organization. Please specify that your gift is for the **ARHS**.

The ARHS is a 100 percent National Model Railroad Association club.

visit us on the web at:

www.azrhs.com

Breaking Fresh Ground

Jesse Poole-ARHS President

The exciting part of a new club is that everything we do is breaking fresh ground. This newsletter is the inaugural edition and I think a very important part of our growing as a club. We officially became the Arizona Railroad Historical Society on Nov 7, 2017 when the Arizona Corporation Commission reserved our name. Since then we moved into the Capitol building, started building the layout and ran the first train before Thanksgiving. We invested almost 10,000 man hours of volunteer labor since May which is quite an accomplishment for our first year of existence!

This will be an exciting year as our focus moves from bench and track work to scenery and controls. Progress will appear to slow down, but we will be doing a lot of work at home (off the layout) and under the layout. We have two major milestones to meet before the end of the year—the first is deciding on and procuring the layout controls before April, and the second is running both the ATSF and SP trains before Christmas. This is a challenge, but I am confident that we can stay ahead of schedule.

Selecting the control system has been an on-going challenge, but we have had offers of assistance from key individuals in the new Layout Command and Control (LCC) community. This should help us make a final decision on the controls approach and then start the procurement process. We should have this completed in mid-February, which will keep us about two months ahead of schedule.

The major concern at a program level is funding. We have yet to stimulate a vigorous donation program. We vitally need cash to start flowing, so any ideas you may have or people that you know are welcome. We need to work this!!

I believe we will find a way to keep the program funded and remain ahead of schedule. That means that we will be running trains for Christmas. Now there is something to look forward to!!



Tips to Building Better Models

By Don Stewart

Why is building better models important? Self satisfaction is gained through quality work. When compared with your other models or peer models, better quality models are a source of pride. If you enter contests, you will score higher and may earn an NMRA merit award.

Plan, Patience, Practice are the three critical aspects of building better models. Using tools properly augments these aspects.

Plan

If building a kit, scan through the instructions to see the general construction process. Gather the tools and materials needed for the project so you do not have to stop and search for a tool you need during the building process.

Patience

If you are having difficulty with a kit, stop and reread the instructions. Perhaps you missed a step, or you are holding a part backwards. If you are thoroughly frustrated, stop and do something else for a while before getting back to the model. Disassembling models is not the way to build better models.

Practice

Build all kinds of models: kits, scratch-built, cars, structures, locomotives. Even if all you do is add details, add something to each model you have. Study the prototype for ideas on the details you can add. Start with simple structures or cars and build kits to get the hang of construction. Work up to more difficult kits and scratch-building as your skills improve.

Tools – Proper tools are essential for building better models. The right tool makes the work easier and more accurate. A catalog is available from Micro-Mark that is a source of some great tools. They are on-line at www.micromark.com or by phone at 1-800-225-1066.

Hobby knives – as the blades dull use them to scrape molding seams on visible areas of your models or paint from areas to be glued. Always have a sharp blade around for precision work. I find that I use the #11 blade almost exclusively and the #17 blade as a precision chisel to get off molded on grab irons.



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I have 4 to 5 handles with different blades in them. I paint the end of the handles different colors so I know which ones hold the sharp blades.

- New, sharp #11 blade (usually 2 handles as I misplace one occasionally)

- Older, dull #11 blade (usually 2 as they get dull and I forget to change them)

- Chisel blade, #17 to remove details such as molded on grab irons

Tweezers – I use sharp pointed tweezers to apply small parts. Be careful as these tend to poke your fingers if you slip. Also parts can go flying. A flat set of tweezers is good for installing grab irons on cars. Curved tweezers are good for adding detailing inside structures or cars.

Needle nosed pliers – A set of fine needle nosed pliers are essential for inserting items requiring a tight fit. Xuron makes a good pair.

Rail nippers – These handy tools are great for cutting rail to the exact length needed. Just a slight bit of filing makes a clean joint.

Sprue cutters – These are excellent tools for removing plastic parts from their sprues. Little cleanup of the parts is required after they are removed.

Pin Vises – Either double ended or single are necessary for drilling small holes in models for wire grabs, electrical lines entering structures, or holes for applying small parts. More precision is obtained with the single ended tools and you do not drill through your finger if you forget you have a drill in each end. If you are careful, you can put a tap drill in one end and the tap in the other to always keep these two related tools together.

Clamps – Inexpensive clamps can be made using clothespins. Miniature ones are available at craft stores (used for scrapbooking). Cut off the tips at an angle for better clamping on smaller areas or tight spots.

Dead weights – Metal scraps cut to size or shot in a cup can be used to hold down pieces in lieu of clamps. Most anything will work including large books

Angles – Machinist's Squares are great for getting perpendicular corners on buildings or flat car sides built up properly. Other angles may be helpful for building trestles and structures with angled supports.



Sand paper – Various grits and types of sandpaper are helpful. For most model work, fine grit 220 or finer is useful for wood. Styrene may need 400 grit or better for a smooth finish. Sanding sticks or emery files make great small area sanding tools. Emery boards found in beauty supply stores are less expensive.

Razor saws – A fine tooth razor saw is excellent for cutting larger pieces of wood for cars or structures. Used in combination with a miter box and precision angles can be obtained.

Miter boxes – These are handy for precision angle cuts with razor saws. As suggested in one of the clinics, a thin piece of Masonite as a sacrificial plate can keep your miter box in good shape.

Chopper plates – Usually available from Micro-Mark, these tools use a handle with a single edged razor blade to cut stripwood or styrene. Angle gauges allow angle cuts of 30, 45, and 60 degrees in addition to the 90 degree cut. The newer models have a self healing (for a while) cutting mat.

Dremel tools – These handy tools are great for drilling and cutting off metal tubes. Either battery

powered or plug in type are available and a multitude of rotary tools may be used.

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Airbrush – For a smooth, even finish, these are a must have item. Applying the weathering by blending in the dust and soot is easily accomplished. When first using an airbrush, some practice is needed to develop the skills for using this tool.

Chalks – These are common methods of weathering models and are quite useful. An overcoat is needed to hold the particles in place. Several chalk applications may be necessary as the clear coat tends to lessen the chalk coloring. Using powdered tempera paints was suggested to minimize this need for multiple coats.

Scale cards – these small wallet sized cards contain images of people and dimensions in your scale. The cards are available in 1:700 to 1:12 scales (32 cards) including 1:220, 1:160, 1:87, 1:64, 1:48, 1:32, 1:29, 1:22, 1:20.3 and are available



Techniques

Cutting shapes to length – Cut just outside the final point and sand to fit. This makes for a smooth joint with a minimum of filler needed.

Stain wood before gluing – A misplaced spot of glue will not stain and show up as a blemish on the finished model.

Use Jigs – When building multiple pieces such as trestle bents, make jigs to keep the parts in place and the construction uniform. It also speeds up the building process.

Castings – For exact duplicates use molds. These generally are made of silicon rubber for the molds and resin for the castings. Resin cuts and works like hardwood. Casting kits may be obtained from many sources such as local hobby shops or Micro-Mark.

Wear down your wood – Whether using styrene to represent wood or using the real thing, older structures have worn railings, steps and other wear areas. To simulate this sand the areas with a fine grit sandpaper or sanding stick.

“Antiquing” your “wood” – When using styrene to represent wood between the boards may be used. Antiquing in ceramics is where the painted piece (say in acrylics) is over-painted with a darker oil

based paint and then wipe off the excess. This leaves the darker paint in the cracks and crevices and gives the item more depth. Using this on a flatcar deck yields realistic grain in the plastic “wood” and highlights the board edges. Simple but effective.

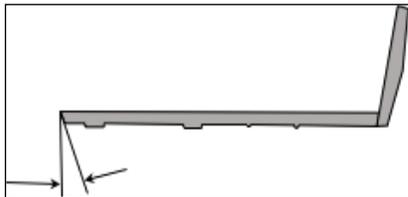
Fillers – Using a filler to fill a bad joint or crack in plastic will greatly improve the look of the finished model. Squadron makes two putties, white putty and green putty. The green putty is a bit finer grain than the white. Both can be thinned with liquid plastic cement. They both shrink somewhat so large areas need a styrene plug to fill the gap. They can be sanded and painted when dry. A suggested method from the audience during the clinic is to melt fine plastic shavings with the liquid plastic cement forming a paste and apply that as the filler.

Seam scraping – Mold seams from two-piece molds are common in plastic models. They appear on the top edges of gondolas, hoppers and anywhere the two molds fit together to form the plastic piece. They are prevalent on metal castings and are called “flash”. The dull hobby knife from your toolkit is excellent at removing this flash or mold seam.

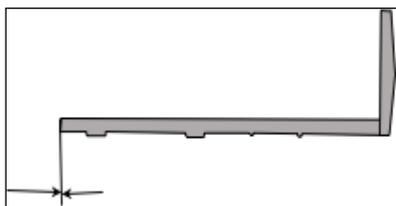


A special Seam Scraper is available from Micro-Mark (P/N #80801). It has a triangular point and works very well without gouging the model.

Dealing with draft angle – Draft angle is the angle from 90 degrees that a cast part is shaped to allow it to be pushed from the mold. Virtually all plastic parts have some draft angle as it would be very difficult to get the plastic part sprues out of the mold. In most cases the draft angle is not critical, but gluing car or structure sides to ends, it becomes critical as the joint will not be square or there will be a gap at the joint. File the draft angle down for a close fit.



Draft Angle



Draft Angle sanded off

Painting

The final finishing techniques are the painting. A good paint job will bring out the models best features while a poor paint job will detract from the overall look of the model.

When painting a model, apply the paint as if the model is fresh from the factory. This will provide the correct contrast with the decals. Decal makers strive to use accurate colors to allow an accurate model to be made in its shiny new paint. Thus if you mix your paint to lighten it the contrast will be off. Also the weathering will be too even and look unnatural. When you weather your model, you will want to weather the paint and decals the same.

Much has been written about painting and weathering. This clinic will cover some tips I have developed over the years.

Basic painting tips

- Use an airbrush.
- Apply several light coats.
- Apply a light gray coat under reds, yellows and whites for the best color and coverage.
- Paint as if new, then decal, then weather.
- Decal on a glossy surface to reduce silvering. Paint the whole model, not just parts you need to decal as it will build up a coat of the gloss, especially if you use a brush.



- Use decal solvent to melt the decal into the model and avoid decal silvering.
- Wipe the edges of the decals (when dry) to remove excess decal glue (this makes the decal film disappear) with a damp cotton swab (Q-Tip).
- Weather less than you think is needed as most models are over-weathered.
- Use photos for weathering references. Color photographs are best.

Advanced painting techniques

Peeling Paint — galvanized roofs on cars, peeling paint on structures I read about it in the NG&SL Gazette many years ago – it is effective

- Paint undercoat (silver or wood).
- Dab on rubber cement in irregular patches – note prototype photos for best effect.
- Paint the finish color.
- Gently peel off the rubber cement.
- Weather the model as you normally would.

Wood grain in styrene Tips to highlight or create wood grain in styrene

- Use razor saw to scrape sideways leaving a scored area in the wood. This forms the grain.

- Use about 100 grit sandpaper going in the direction of the grain to soften the scored area.

- Use fine sandpaper (-220 grit) to smooth the top and wear the edges where it would be worn.

- Airbrush the wood an earth, wood, or foundation tan color.

- Using a brush (or masking off individual boards) paint a slightly

- lighter or darker color randomly along the fence or car deck.

- Let dry.

- Using a contrasting type of dark paint (acrylics (Polly-S, Tempra, etc.) on an oil base (Floquil, Scalecoat, Auto enamel, etc.), cover the boards in small sections. I use grimy black for weathered boards and roof brown or railroad tie brown for newer or dirty boards.

- Before the paint dries, wipe off excess paint in the direction of the grain.

- Use a bed sheet or similar type of fabric. Do not use tissues or paper towels as they will leave fuzz. Do not use towels as they will remove too much paint and leave unnatural looking grain.



- Wipe little of the paint off for older or more used boards. Wipe most of the paint off for a lighter, newer look to the wood.

Car and structure sides: Dust, dirt, soot, & rust

- Lower part of sides is usually dusty or dirty. Reference your photos.

- Upper part of sides is usually sooty or bleached out. Reference your photos.

- Rust spots are not one color. Use roof brown around edge and rust color in center. Color photos are a big help here.

- Rust streaks on buildings and car sides may be one color, but generally have darker edges. A V cut in an index card may be helpful when using an airbrush. It also gives a feathered edge, typical of streaks. Dry brushing the streaks is also effective.

Wear and dings on the sides. Gondolas are particularly prone to these. A warmed screwdriver blade or hobby knife can provide the dents from the inside. Caution: too hot and the tool may poke through the car body. The prototype would patch this as some of the car contents may spill out.

NMRA Contests

A good way to evaluate the quality of your models is to enter them in NMRA contests. A team of judges evaluate 5 areas of your model and provide a score. The judges are encouraged to write comments supporting their score on a separate sheet for the PSR and AZ Division (that I know about) contests. The 5 categories include: Construction, Details, Conformity, Finish & lettering and Scratch-building. Filling out the contest forms do not require extensive writing. There are some tips in filling them out that will maximize your score.

Construction (40 points) – Describe the methods used in constructing the model. If from a kit, include a copy of the instructions. This category is worth more points than any other so spend the time to fill this in well.

Details (20 points) – List the details you have added beyond the basic structure or car. Many craftsman kits now provide plenty of details so little else needs to be added. Remember this is a list, so do not describe how you built the details, they are covered in the construction category above.



Conformity (25 points) – This is the category where most people lose points needlessly. A photograph of the prototype is most beneficial here. If you freelanced the model, use photos of similar models and describe how your model relates to the photos. For example: “the railings and steps followed the building shown in Photo 2 and the roof shingling used the same style shown in Photo 3.”

Finish & Lettering (25 points) – This category can contain less writing as the finish will speak for itself. Just describe the paint mixes and techniques you used to achieve a realistic finish.

Scratch-Building (15 points) – List the parts you built from scratch. Little to no construction discussion should occur here as building methods should be contained in the construction portion.

Entering contests will give you a gauge to measure your improvement. These tips are intended to improve your modeling skills and techniques. Remember to *plan*, be *patient* and *practice* your skills for the best models. A great deal of satisfaction may be gained by creating a scale model of your favorite prototype.

Above all relax and have fun!

Arizona Railroads

Link to the Past, Bridge to the Future

The display under construction by the Arizona Railroad Historical Society is intended as a miniature time machine to allow visitors to the Capitol Museum a glimpse of the rich railroad history of our state. The model will represent a moment in time, the 1950's, when railroads were reaching their peak as a transportation, economic



courtesy ASU photo archives

and social resource for Arizona. At that time, railroads linked all the major cities and many of the smaller communities in the state.

Each issue, we plan to highlight various aspects of this rich history, from the mainline railroads, the Santa Fe and the Southern Pacific that evolved into the BNSF and Union Pacific that still serve industries in our state today, to the various short lines and narrow gauge mining railroads that once criss-crossed the deserts and mountains of Arizona. We look forward to the journey!



More Events

Arizona Railway Days

Feb 23, 9am to 4pm Free

AZ Railway Museum
330 East Ryan Rd
Chandler, AZ. 85286
480-821-1108

www.azrymuseum.org

Arizona Junction 2019 PSR Convention



September 25-29 2019

Sheraton Mesa at Wrigleyville W.
860 North Riverview
Mesa, Arizona 85201

[http://azdiv-nmra.org/
psr2019convention/](http://azdiv-nmra.org/psr2019convention/)

- Tony Koester, guest speaker and clinician
- Over 35 Layouts in Tucson, Prescott and metro Phoenix area.
- OPS Sessions
- Special Day trip / ride the Verde Canyon Railroad / private car
- 40 plus Clinics
- And much, much more!

Layout Progress

Photos by Bob Bridges



Left, ARHS member Ray Rumble works on a structure model during a January work session.

Above and below photos show the layout at the end of the year with much of the 2nd level completed.

