Modelling Cane Railways

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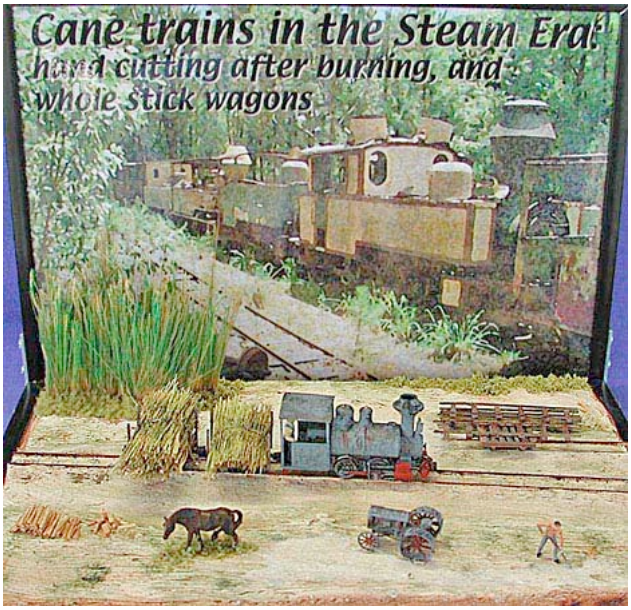
On30 Diorama

CaneSIG: http://www.zelmeroz.com/canesig

Building an On30 Diorama



An A4-sized HOn30 museum display diorama using a picture frame and a foamcore base created. The kitbashed loco is a *Colonial* Baldwin; construction of both the diorama and the loco are described in earlier Handbook articles.

I don't yet have much of a home layout but I've built a number of dioramas for museum and exhibition display. My initial dioramas were HOn30 (3.5mm = 1', 1:87, 9mm gauge) as I started modelling cane railways in that scale. While I was satisfied with the modelling, viewers indicated that the dioramas were too small, especially when inside an unlighted display case.

Since the purpose of the dioramas was to extend the understanding of our cane railway heritage, rather than just building interesting models (plus my large thumbs and declining eyesight making it harder to work in HO) I moved to larger scales: On30 (1/4" = 1', 1:48, 16.5mm gauge) and SM32 (16mm = 1', 1:19, 32mm gauge). This article details how I built my first On30 dioramas.

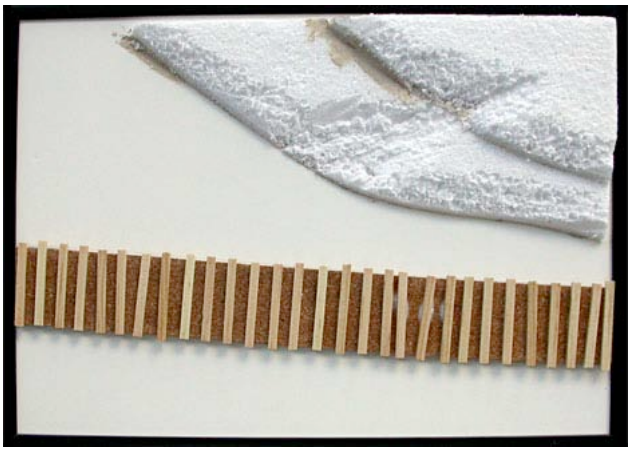
Getting Started: Sugar cane is grown across much of coastal Queensland, both in high rainfall areas with tropical trees and thick vegetation and in drier areas. I wanted the dioramas to portray a drier, semi-forested area near the cane fields with typical Australian colouring and vegetation (eg tree shapes). Equipment displayed could thus be from sugar mill or shire tram lines.

These dioramas are built to fit black A4-sized metal picture frames (~21 cm x 29.7 cm). With a piece of standard foamcore board fitted in place this provides a light-weight but reasonably solid foundation that doesn't distract from the diorama or models and I've used the same foundation for larger dioramas.

This was my first A4 On30 diorama, combining HOn30 (9mm gauge) and On30/On16.5 (16.5mm gauge) track in the same diorama to show viewers the size difference between the two scales. The larger loco (Malcolm Moore) and bin are actually On16.5 (1:43).

The completed A4-sized On30 diorama, ready for displaying locomotives and/or rolling stock. A ~15 cm high plexiglas cover, with a 15 cm x 40 cm backdrop along the back and half of the far side, completes the diorama and protect models from dust and inquisitive fingers. The right side of the case is transparent, it's just had the distracting background blanked out. The scenery base appears much whiter than reality from the photographic/reproduction process, it's actually a reasonable, albeit light, dirt colour.

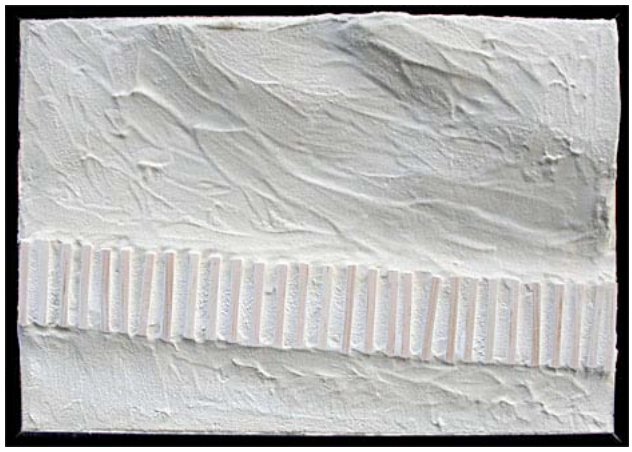
Base: Scraps of foam 'glued' in place with latex-type gap filler were shaped to a rough contour. Sleepers are Mt Albert Scale On3 Switch Ties (5" x 7" x 12') cut in half and white-glued to thin HO cork roadbed, which was similarly white-glued to the foamcore to make the slightly curved track formation.



'Hardshell' Plaster: Tape was used to mask the picture framing for the plastering and colouring steps. Woodland Scenics plaster cloth was cut to fit the non-track areas, dipped in water and smoothed in place. [Alternatives include paper towels, cloth wipes or cheese cloth dipped in a thin plaster 'soup'.]

The plaster cloth covered the surface, and will help minimise cracking when handling in the future, but another layer was need to shape the roadbed and make a continuous surface.

The top layer is a thin coating of Plaster of Paris, coloured with enough Yellow Ochre water colour (tube colour) to avoid white spots if the surface gets chipped. The water colour was squeezed into the bottom of the mixing bowl, followed by an appropriate amount of water, and finally the dry plaster. The resulting soup was then spread over all of the diorama, including the sleepers, and smoothed into place.



The plaster mix was scrapped off the top of the sleepers and somewhat from between them. The idea is to represent rough earthworks, not to bury the sleepers... and older cane lines never had rock ballast.

I've previously used coloured tile grout mixed with the plaster for surfacing the scenery but grout can

make the top layer brittle, and I expect that this diorama will get moved around enough that it needs to be more flexible.

Colouring the Base and Adding Trees: Sleepers were sanded smooth and coloured with water colour pencils (pencils which have a water-based colouring medium and are useful for situations where a normal water colour brush would be too broad). The ground was coloured with water colours using a broad brush: yellow ochre, Australian Grey, Payne's Grey, Hookers Green, etc.

Two of the three trees are commercially provided (Trackside Trees, Kurri Kurri, NSW), the third is homemade using similar techniques (copper wire armature, water-based coloured gap filler, and Heki-flor). They have been 'planted' in holes punched through the surface plaster and 'glued' with tan coloured gap filler.

The rails are nickel-silver, likely code 83, and have been fastened with Kemtron Code 70 spikes. While not yet complete in the photo, the intention is to spike every sleeper.

Detailing and Finishing: Detailing included Woodland Scenics coarse ground foam, lengths of coloured craft sisal (dull yellow and dusty green), and burned pieces of sleeper, all fixed in place with white glue.

Finally, powdered 'Todd River Sand' coloured grout has been dusted across most of the bare surfaces, including the sleepers, and fixed in place with a fine mist of water. This dulls the colours and unifies the scene.

The temporary background (above) is a piece of MDF board painted with a flat blue latex. A computer-generated 15 cm x 40 cm backdrop (see image below and previous page) has been fixed to the plexiglas cover with double-sided tape for normal use. It extends across the back of the diorama and part way along the right-hand side... roughly to the end of the ground elevation.

The '32 Ford ute is a 1:48 cast metal 'hot rod' (Universal Hobbies HK) with the steering wheel changed from left to right hand drive. It's been repainted and weathered but still needs license plates, rear view mirror and load. I could perhaps have replaced the modern tires with thinner tires if I was wanting to be authentic for an earlier era. The hand painted figures are inexpensive plastic (O-027) from Model Power.

For the technically inclined, the backdrop scene is a sugar cane farm from SE QLD on a cloudy day, the sky/clouds are from N QLD; they've been combined/ enhanced (watercolour filter) in Photoshop.

Here's a photo of the completed diorama without the plexiglas case. While the trees cast a shadow on the backdrop, the overall scene blends fairly well into the backdrop with its cane field and distant hills. I have a second backdrop mounted on foamcore board to use when taking photographs. It folds around the end of the diorama similar to the plexiglas case-mounted backdrop. The picture has been cropped to remove most of the picture frame mount and other edges.

The diorama makes a reasonable setting for model photography. The Bundaberg Fowler is a RJ Models kit professionally assembled. The four ton Moreton Mill cane bin is a Ron Aubrey cast resin model.

For the Future: Micro-layouts are operating layouts with a maximum size of ~3 square feet and can be small enough to fit in a shoebox. My dioramas don't generally qualify since they are not operational, but the 20" x 24" HOn30 layout shown in an earlier Handbook article (Scale/Gauge Choices) would.

Modular layouts are fixed dimension layout segments built by several individuals. Typically 2' x 4', with mandated mainline track locations and backdrops they can be joined to make an operating layout to fit the space and modules available.

My next On30 project will combine micro-layout and modular principles, with several dioramas or micro-sections that can be combined to make an operating display for exhibition purposes. After that, perhaps a SM32 micro-layout.