

Modelling Cane Railways

A C Lynn Zelmer, CaneSIG coordinator
Copyright © 2010. May be reproduced for non-commercial use
only; contact the coordinator for any other use.

31

Modelling
with Card

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

Modelling with Card

Since Queensland specific structures and related details are not generally available in O scale I've developed a number of models using photorealistic card techniques for my own use. Having created them on the computer it was easy to package them in pdf files for free distribution via the web. This Handbook note has been written to answer some frequently asked questions on building card models.

Older modellers may remember card models with some distain as they tended to be rather two dimensional. However, computer technology and photorealistic textures have made it possible to create models from card that are the equal of those using other modelling materials... and at the same time are quite inexpensive and easy to construct.

HO and O scale modellers can use individual board and multi-layer construction, as well as extra details, to significantly add to the realism of the finished models. However N scale card modellers will likely just rely on the realism of the printed textures.



My first photorealistic card models: *Paper Creek* outhouse and a partially completed *Clever Models* shed, both free O scale kits downloaded from their web sites. The single layer of card used for the shed was too light, resulting in warped and wavy walls. I should have doubled the wall thickness and provided extra bracing. The rafter units are pre-stained scale lumber since at the time I didn't think I could cut, fold and glue card rafters accurately enough.

Cardstock: Card kits can be printed on paper and glued to light weight card, styrene or other bracing material, but smooth surfaced card up to about 210 gsm can also be printed in many computer printers.

I normally use white card, but have used other colours for special tasks (eg: shipping boxes and the metal window shades on the Queensland cottage). I also use 'photo quality ink jet paper' when I want a glossy surface (eg enamelled signs). Glossy paper or card needs careful drying to avoid smearing.

Cutting: Use a 'self-healing' flexible plastic cutting board from art stores, craft and sewing stores, and hobby shops.

Use sharp single sided razor blades or a biological scalpel with pointed blades. Neither are suitable for young modellers without adequate instruction and supervision. Dull or broken blades are dangerous and should be disposed of carefully. [Think Sharps!]

Use several light cuts along a steel straight edge, rather than forcing a single cut.

Cut the 'glass' from windows and other detail work before cutting the frame or whatever from its surrounding card. Lengths of timber for decking, stud work, etc., are also easier to fabricate if they are glued to their backing before being cut apart.



Minor kitbashing: Quonset hut from *Clever Models*' O scale steel industrial buildings CD. Some of *Clever's* textures have been used, with permission, in the Queensland models.



Scratch built: This Queensland worker's cottage, built using a board-by-board technique of overlapping weatherboard, doesn't yet have a full field of supporting stumps underneath, plumbing pipes or front rain gutters. The sleep-out area beyond the open door has been detailed (floor and walls) and a led light illuminates the figure in the doorway.

Minor modifications, such as replacing the stumps with a foundation, extending the weatherboard around the verandah, or fully enclosing the verandah would make this cottage suitable for other locales. See the 2010-11 *Narrow Gauge Down Under* series of articles for development details.

Folding and Gluing: Mark fold lines with pin pricks and use an empty ballpoint pen (or the smooth corner of a thin straight edge) to score fold lines from the back side BEFORE cutting out parts.

Use good quality PVA or gap filling superglue (5-15 second curing time). Less glue is always better than and minimises warping.

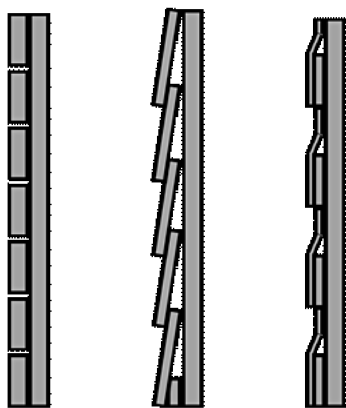
Work slowly and fit components before gluing. Clamp or weight down joins until the glue has dried. PVA glue requires frequent drying under weights but may offer more flexibility in working.

I have a ~10 kg sack of lead shot as my primary weight, plus two small shot-filled leather bags, miniature clothes pegs, hair clips, tweezers, etc.

Assembly Tips: Identify potential assembly problems and create glue tabs and/or extra bracing (often from heavier mat board) as appropriate when cutting out components.

Print multiple copies of the kit pages to allow for the base level, slicing up for individual board construction, and surface detail. The topmost component (eg window or door frame) in a multi-layer assembly should often be slightly wider than components below to help cover the ends of adjacent boards.

For maximum realism anything that has depth in real life should have depth on the model, sometimes resulting in a base layer, 5-6 texture layers (eg door panels and frames, moldings, hinges, locks and knobs) plus mat card bracing.



Board-by-board construction of timber decks, etc. (left), require boards (card) glued side-by-side with the base sheet or framing holding them in place. Weatherboards (centre) have a narrow spacer at the bottom with subsequent boards (card) lapping the board below. Chamfer boards (right) are more complex, requiring a spacer (card) for each board and the texture (printed on paper) pressed into the space as it is glued in place.

Finishing: Edges may show white unless they have been coloured prior to assembly. Use an artist's coloured felt tip pen and work quickly from the back of the item to avoid marking the front. Interior edges on window frames, etc., should be coloured before cutting the frame from the surrounding card.

Seal the model, inside and out, with a clear lacquer or similar spray after assembly. Artist's watercolour pencils work well for subtle weathering after

assembly. Lightly apply the colour to the card surface and smear with a damp brush. Alternatively try weathering chalks over a mat fixitive.

Resizing for different scales: Since the Queensland card kits are all distributed as pdf files, generally in O scale (1:48), they can be resized when printing for use in smaller scales. You'll end up with more white space around the edges, but the printed sheet will be in the scale you use.

O (1:48) to S (1:64): print at 75%

O (1:48) to HO (1:87): print at 55%

O (1:48) to N (1:160): print at 30%

HO (1:87) to N (1:160): print at 54%

Scaling up is more problematic as you may get pixelation, especially in finely detailed areas.

Kitbashing: Card kits are particularly easy to build into a model quite different from the original. Extending walls, changing the roof design and similar changes usually just require printing extra copies of existing kit pages or combining items from more than one kit.

The Quonset hut on the previous page, for example, has doors from two different kits as well as the added air conditioner and fire equipment box. While unseen, the far end of the building has an office-type door rather than the original overhead roller door.

More complex changes may require extracting items from the pdf file and modifying them in an image manipulation program on your computer.

Acknowledgements and Download Sources

Queensland modellers Jim Fainges and Ron Aubrey were instrumental in my developing models and kits of Queensland prototypes. The *Clever* and *Paper Creek* collections more recently demonstrated the potential of photorealistic card materials.

Clever Models LLC: www.clevermodels.net (also extended construction tips)

Paper Creek Models: www.papercreek.com (now out-of-business)

A series of articles on modelling with card can be found in the **Narrow Gauge Down Under** magazine beginning in 2010.

www.narrowgaugedownunder.com

Download the free kits from

QldRailHeritage.com/mrqc, www.zelmeroz.com/ngrail or www.zelmeroz.com/CaneSIG.

The Queensland cottage has also been modified by Clever Models and is available from their web site.

Use the *CaneSIG Image Collection* to help detail your model. An appropriate search term will retrieve photos of the Comeng loco, cane bins and buildings.

http://www.zelmeroz.com/album_query/_search.php

Additional Queensland buildings are available on CD from Jim Fainges.

LadnDad Models: fainges@ozemail.com.au