

# SMALL ROLLING STOCK WITH CHARACTER

by Lynn Zelmer



Fig 1: A selection of small wagons (left to right): scratchbuilt Fijian meat wagon (with opening door) on a RJ Models Moreton Mill wholestick truck frame, Chivers Finelines O16.5 flat wagon with tools, etc., four wheel baggage cart (Grandt Line?), Roy C Link 'Rugga' 7mm skip regauged to On30, and RJ Models Innisfail Tramway 7' guards van.

## INTRODUCTION

The genesis of this clinic was an article in *Narrow Gauge Down Under* magazine where I discussed some of the small wagons used by the sugar cane tramways, and how they changed with maintenance, accidents, conversion to new tasks, etc. Other railways and industries also use small wagons: mining and foundry skips, ore cars, disconnected log buggies, navy gear, etc. And, at the very least, my modelling interests include shire and branch lines, so the focus of this clinic is broader than just cane wagons.

For the purpose of this clinic small rolling stock is defined as being no more than 20 feet in length and can include four wheel and similar stock from the early years of main line operations when it can be adapted to my modelling purposes (See Fig 1).

The presentation focuses on a variety of stock with a potential for modelling, plus some modelling examples and techniques. This paper is a brief background to the presentation and includes some of the 'how' and 'why' of my own modelling.

The modelling examples I'll use are from HOn30, On30/O16.5, and SM32 but the techniques can be adapted to any scale and gauge combination through kit construction, kitbashing or scratchbuilding.

## KEEP IT SIMPLE...

Modelling is always a compromise, and the more we are aware of the compromises we make, the easier it is to develop our railway empire, and the more enjoyable the results.

**Scale/Gauge Choice:** My small 'under construction' (for about eight years) home layout started out as HO/HOn30 with mixed traffic and logging. It has since been repurposed as an On30 shire/cane operation with a visually isolated HO logging camp. The track plan remains as originally laid out, clearances have been increased slightly for On30 locomotives and rolling stock, and the structures in the main layout area will be O scale (1:48).

I've also been building museum displays and micro-layout for local display, and a SM32 (16mm scale on 32mm track) cane railway through the garden may be somewhere in the future.

The move from HO to O, and even SM32, is not just a matter of aging. Feedback on my A4/A3 sized HOn30 museum displays indicated that they were simply too small for viewing, especially when inside a display case. On30 will hopefully overcome that issue, although as this clinic demonstrates, some of the On30 equipment is still very small.

**Gauge Accuracy:** I have great admiration for individuals who model 2' gauge with true-to-scale 2' gauge track. However, I don't have the skills, time or patience to manufacture almost all of my models from scratch, so I was quite willing to accept the gauge compromises inherent in HOn30 and then On30. And in reality, there were a fair number of 30" gauge railways worldwide, including even some cane lines.

**Exact Prototype/Freelance:** Other compromises result from the selection of the prototype or freelance railway to follow. Accurately portraying a specific Australian shire tramway or cane railway, regardless of era, requires access to plans, photos and operational data that may be hard to obtain. Alternatively, a well-developed fictional history can guide the development of a freelance railway that is as believable as one that follows a specific prototype.

**Impact:** Models and layouts featured in the modelling press illustrate how the quality of our modelling, and the way we approach the hobby, can result in photo-realism, a believable general impression or a caricature.

As with the gauge compromise, my response to these issues is quite pragmatic. My interests are broader than just cane railways, and I want to be able to build individual models from a variety of locales. As a result, I'm a freelancer working in a relatively modern era, and building a railway that 'might have been' if sugar cane had continued to be an agricultural crop in Central Queensland. To further 'cover my butt', the On30 micro-layout currently under construction with ~9" curves, is an 'operating museum'.

**Modelling Materials:** Finally, my modelling skills were developed in an era when wood and card were the main scratchbuilding materials, and styrene was a 'new' material of choice. I have built a couple of etched brass models, but my soldering skills are weak. My models build

on the basic skills I learned decades ago, enhanced by more modern materials, and involve components from other scales as appropriate.

Many of my HOn30 models, for example, were built using styrene on an N scale chassis, and my On30 models are often fitted with arch bar bogies from my stock of HO parts. Similarly, while outside the scope of this clinic, I have plans to rebuild a brass HO geared loco for use on On30.

## CAPRICORN SUGAR

Sugar was grown on the Capricorn coast from the 1880s to 1901, when labour laws changed to stop the use of Islander labour. While transportation was a problem, as none of the mills had a tramway, it is unlikely there was sufficient water or cane growing areas to justify the mill(s). But what might the result have been if a tramline had been built, perhaps as a joint venture between the mill and the local shire?

Capricorn Sugar is a fictitious enterprise based in Central Queensland and operates a 30" gauge tramline connecting regional communities, cane farms, sugar mill and port facilities. While the shire once operated its own tramway, the mill now owns the track, but with a contract to provide rail services to shire residents. The mill also supports a local rail museum, which has restored two steam locomotives and some rolling stock.

The coastal area is characterised by small fields separated by rocky outcroppings and the surrounding coastal range. Trackwork is often rough, with sharp curves, steep grades and high operating costs. Rolling stock is generally small, and older equipment gets rebuilt or repurposed, with some wagons being built on ex-cane trucks and bin underframes.

## SCRATCHBUILDING/KITBASHING

As can be seen from the models displayed as part of this clinic and in the photos here, I'm not a modelling purist. For example, I didn't have any dimensions for the Navo crew car (See Fig 2), just a couple of photos. These were enough to develop a wagon using a Mountain Blue Miniatures On30 white metal underframe (18' 3" x 6' 4"), and the result captures the spirit of the Fijian prototype for me.

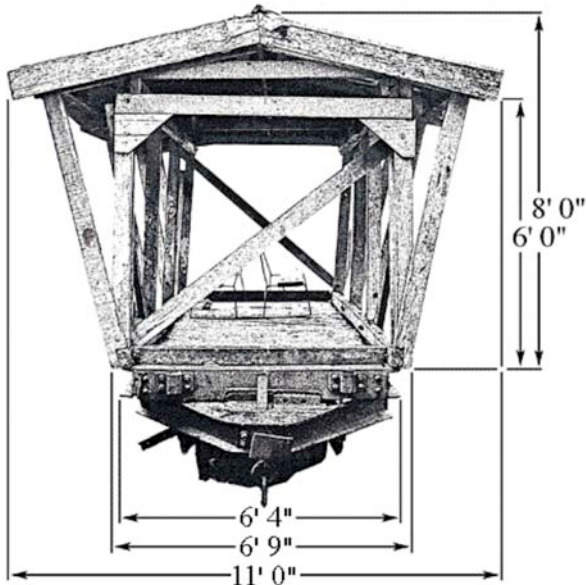


Fig 2: End view of the Navo crew van with scaled dimensions based on the 6' 4" width of a Mountain Blue Miniatures underframe. The actual model is wider due to adjustments during construction and the overhanging roofing material. Brad Peadon photo.

A number of companies, most notably in the UK and Europe, built small four-wheel side-tipping skips for industrial use. During the 1930s Robert Hudson of Leeds introduced the 'Rugga' pattern chassis (See Fig 3) with a variety of body types, including tipping skips, hopper wagons, sugar cane cars, timber bolsters, and platform wagons.

While the chassis was only ever built for two foot gauge, Roy C Link (UK) produces a number of 1:43.5 kits with a conversion kit for 16.5 mm gauge which capture the look of the small skips found around most mills (See Fig 1). While prototypically oversize for 1:48 scale, the size difference is not noticeable as the

models are so small (scaling just over 6' 6" x 4" in 1:48 scale).

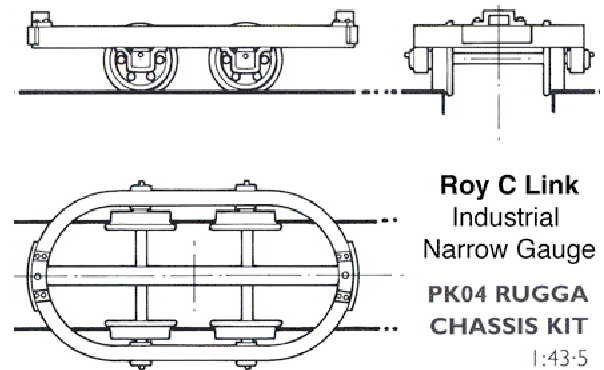


Fig 3: Rugga Skip Chassis from Roy C Link (1994). Industrial Narrow Gauge Catalogue & Handbook.

The chassis have great potential for kitbashing, albeit sometimes only as static foreground models due to their light weight. I've built several of the kits as intended but others are being kitbashed to resemble Queensland navy wagons.

**Scratchbuild/Buy:** My experience with scratchbuilding suggests that consistently constructing well-aligned 4 wheel wagon chassis is one of the most difficult modelling challenges. I could have built a casting master for either a wholestick truck or a cane bin underframe, however, it seemed simpler to use existing commercial products when they simplified my modelling.

After several years of experimenting I now have a stock of N scale Peco chassis kits for HOn30 wagons; and On30 'Rugga' chassis kits (Roy C Link), wholestick truck kits (RJ Models), and cane bin underframes (Ron Aubrey and RJ Models) for On30 wagons. A stock of 18' underframes (Mountain Blue) provides a base for longer On30 wagons.

**Clearance Gauge and Coupler Heights:** One of my challenges has been establishing appropriate clearances for multi-scale operation on the same track. Obviously there has to be adequate clearance for On30 models but it shouldn't be so wide that HO models look out-of-place.

The AMRA club in Brisbane also operates multi-scale trains (1/87, QR in 1/64 and 1/48) and after a visit there I adapted their gauge for my use. It's smaller than the recently introduced NMRA Narrow Gauge, but fits well with most of my rolling stock. (See Fig 4)

Two of my scratchbuilt models are too wide for the gauge: the Navo car is too wide (~14') to fit within almost any gauge, and the steps on the tourist car catch on one tight corner of my layout where obviously I was careless when laying the track.



Fig 4: Capricorn Sugar's clearance gauge (black outline) overlaid on the NMRA 1:48 Narrow Gauge Standards Gauge. Any wagon under ~9 scale feet can operate within the gauge.

HOn30 coupler heights are normally maintained at N standard height, and On30 at HO standard height, but with the uncoupling arm removed. Sugar mill railways do not have brakes on their rolling stock, thus the "brake hoses" are not appropriate. I have retained the brake gear on some of the kit-built wagons since it's all manual braking gear.

## CONSTRUCTION TECHNIQUES

The presentation has details of some of the materials, jigs and construction techniques used to build several of the models being displayed. Examples from other modellers will expand the range of models and construction techniques.

Narrow gauge railways are a minority modelling interest, and shire/cane railways a very small niche within that, so there is a definite lack of ready-to-run models and true-to-prototype kits. I'm aware that many modellers shy away from scratchbuilding because it's "too difficult".

None of my models are likely to win NMRA or other convention awards, but they do use basic modelling techniques that I believe are within the capability of any modeller to achieve a reasonable representation of the wagon being modelled. Give it a try and you may be surprised at what you can actually achieve.

## ACKNOWLEDGEMENTS

I don't see myself as an innovative modeller. I borrow ideas from other modellers and railfans alike, and am very grateful for the willing assistance provided to me through CaneSIG ([www.zelmeroz.com/canesig](http://www.zelmeroz.com/canesig), the sugar cane railway modeller's Special Interest Group), on-line discussion groups, museums, friends, etc. Additional photos and modelling tips can be found on the CaneSIG web site.

I'm also grateful for the support provided over the years by suppliers such as The Railcar, Gwydir Valley Models, Badger Bits, RJ Models, Capricorn Model House (Rockhampton) and others too numerous to name. I occasionally order materials direct from overseas, but I normally purchase locally and would be very unhappy if local suppliers became extinct.

Photos not otherwise credited are by the author.



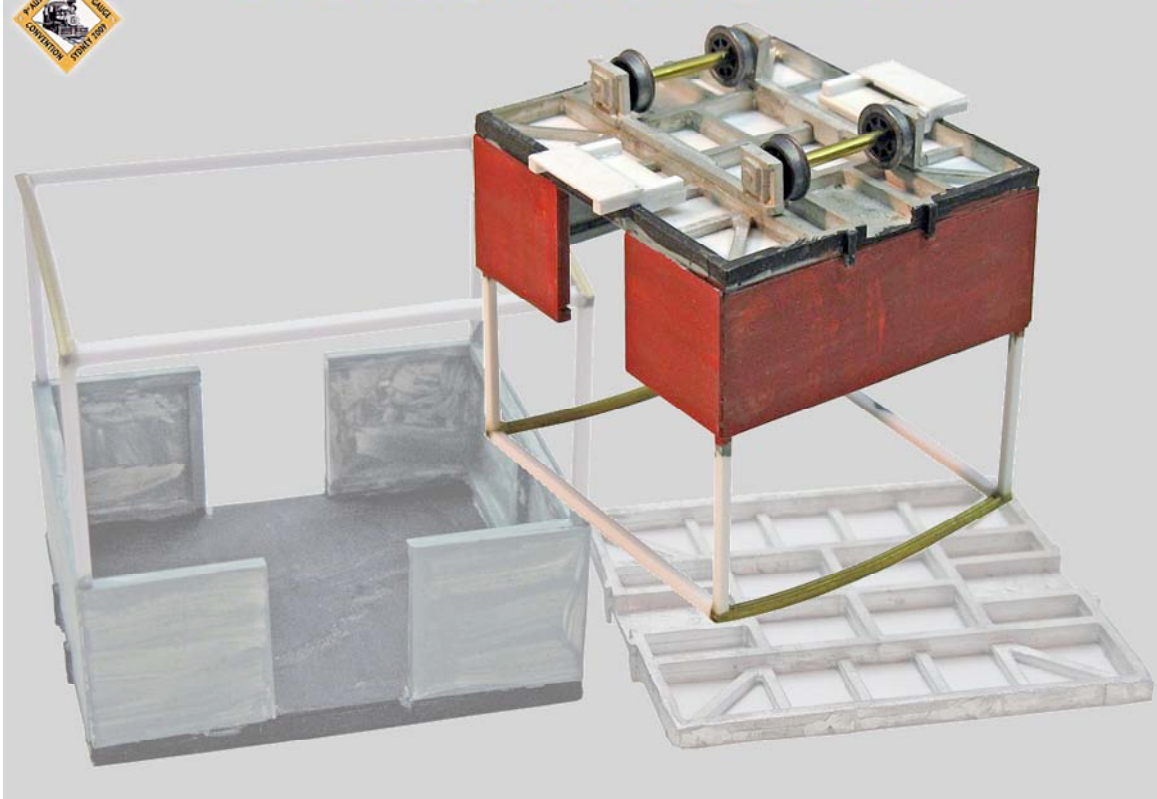
Australian Narrow Gauge Convention: Small Rolling Stock with Character



Scratchbuilt superstructure on Mountain Blue 18' 3" x 6' 4" On30 white metal underframe



Australian Narrow Gauge Convention: Small Rolling Stock with Character



Styrene and brass superstructure on a RJ Models Moreton Mill cane bin underframe

Australian Narrow Gauge Convention: Small Rolling Stock with Character



Ex-Moretton Mill, tool wagons, 2007 at Durundur Railway (Woodford)

Australian Narrow Gauge Convention: Small Rolling Stock with Character



Proserpine Mill, 1997: weed sprayer, ballast hopper, bottom dump mill wagons

Rob Nesbitt, photographer