

Small Rolling Stock with Character

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The Ninth Australian Narrow Gauge Convention will be history by the time this is published, but this article will provide a 'taste' of one of its clinics. And it's appropriate to do so, since the genesis of the clinic was a comment I made in an earlier NGDU article about small wagons on the sugar cane tramways.

Railway wagons change their appearance and often their function over time, due to the wear and tear of operation, general maintenance or accidents. There have been articles on small wagons in previous issues. John Burgess and others have modelled small sugar cane wagons, and I've highlighted such models, including a meat wagon, a crew car and a tourist car. The small wagons found on narrow gauge, industrial and sugar cane railways have a particular attraction for me.

This article includes even smaller wagons but all exemplify my personal modelling interests. I'm a freelance modeller, I scratchbuild where necessary, but I use commercial models where available, sometimes kitbashing or using individual components to make my modelling easier. I also model in other scales but all of the models in this article are On30. For the purpose of the clinic I defined small rolling stock as having a maximum length of 20 feet, and my inspiration included four wheel and similar stock from the early years of mainline operations when it suited my modelling purposes.

Challenges

The first challenge faced by an On30 modeller of essentially two foot gauge railways is adapting the model to the gauge width. Larger bogie wagons often just require a change of bogies, but small wagons may require much more significant adjustments if they are to retain their characteristic shape. Roy C Link's 7mm 'Rugga' skip, for example, requires the chassis to be widened and part of the original frame removed, to permit widening the gauge from 14 to 16.5mm. Once that is done, however, the superstructure details are much the same as they would have been for the narrower gauge.

My current layout was designed for HO standard gauge and has been re-purposed with an O scale main yard and a HO logging camp at the end of a branch line. Since most of my On30 motive power and rolling stock will be relatively small in prototype terms, I should be able to operate trains over the whole railway in both scales. One of my challenges, therefore, is to ensure adequate clearance for On30 models without being so wide that HO models look out-of-place.

The AMRA club in Brisbane also operates a multi-scale layout (HO standard gauge, QR in Sn and cane operations in On30 or O-16.5) and after a visit there I adapted their clearance gauge for my use. The clearances are smaller than the recently introduced NMRA On30 gauge (see illustration), but fits well with most of my rolling stock.

Two of my scratchbuilt models featured in previous NGDU articles are too wide for the gauge: at roughly 14 feet over the eaves the Navo crew car is too wide to fit within almost any gauge, and the steps on the tourist car scrape/catch where I was careless when laying the track on my layout. Obviously I need more care in designing and constructing rolling stock, and some of my track needs repositioning.

I generally use HO standard coupler height for my On30 models, but with the uncoupling arm removed. Sugar mill railways do not have brakes on their rolling stock, thus 'brake hoses' are not appropriate. However, I have retained the manual brake levers or wheels, etc., on some of the



ABOVE: Ex-Moreton Mill 4 wheel gas wagon, now filled with junk, at Durundur Railway, Woodford (Australian Narrow Gauge Railway Society), July 2007. While this wagon is built on an old wholeshtick truck with metal uprights, a reasonable model could be built to fit almost any 4 wheel from a Rugga-type chassis to a cane bin underframe.

kit-built wagons and will add a link and pin adapter to one of my smallest locos.

Small wagons are, by definition, small. They are also quite lightweight and may require additional weight for good operation. Weight can be added with a load but clean wheels and good trackwork are also very important. For example, I've seen unweighted Rugga skips with link and pin couplings running at a prototypical slow speed behind a four-wheeled Lister rail truck without derailment.

NMRA On30 Standards Gauge overlaid with my more restrictive On30 Clearances (black outline), more appropriate (in my opinion) for sugar cane and industrial railways with small locomotives and rolling stock.





ABOVE: The upright frame and tarpaulin cover on these two QR B100 open wagons can be easily adapted to On30 use using the Chivers 7mm or similar models; date and location unknown. Bill Blannin photographer.

BELOW: Moreton Mill: both generator and compressor are mounted on small 4 wheel chassis and could easily be modelled with either a Rugga-type or ex-wholestick truck. Greg Stephenson photographer, 1982.



RIGHT: This 1997 shot of the Moreton Mill compressor clearly shows the wholestick truck origins of its 4 wheel chassis. While the roof and frame could be modelled in styrene, a better option would be soldered brass square rod and sheet to provide some durability and weight, Greg Stephenson photographer.



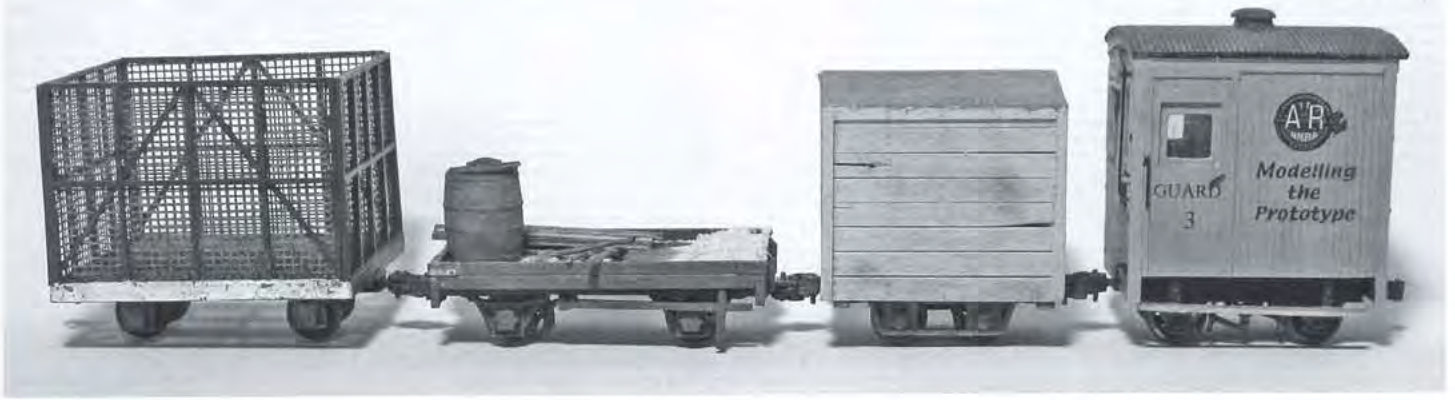
ABOVE: Bundaberg Sugar ballast wagon at the Australian Sugar Cane Railway, Bundaberg, November 2007. This would be a more challenging project but the Roy C Link 'Rugga' axle boxes and wheelsets would be a good starting point for a freelance version of this wagon.



ABOVE: This Bingera Mill water tank is mounted on what appears to be a timber wholestick truck. Probably the most challenging part of modelling this wagon would be the pipe fittings and hose as suitable tanks could come from a variety of HO scale sources or be easily scratchbuilt, Greg Stephenson photographer.



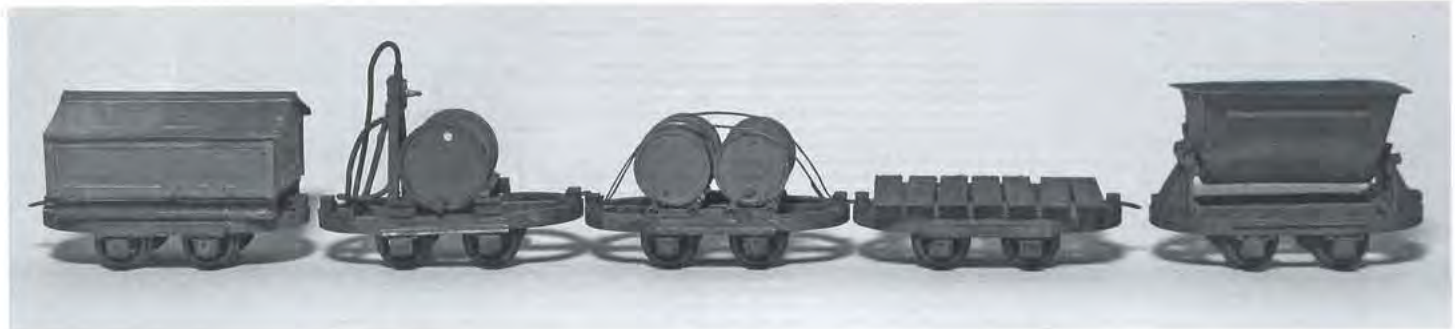
ABOVE: Ex-Moreton Mill 4 wheel tool wagon at Durundur Railway, Woodford (Australian Narrow Gauge Railway Society), July 2007.



ABOVE: Three of these models are kits built without modification, the other is my scratchbuilt meat wagon on a commercial chassis. The Moreton Mill 4 ton cane bin is an On30 white metal kit from RJ Models, as is the 7 foot Innisfail Tramway guard's van. The open wagon is a Chivers 7mm kit with the brake lever retained. The meat wagon is scratchbuilt from scale lumber on a white metal On30 RJ Models Moreton Mill wholeset truck.

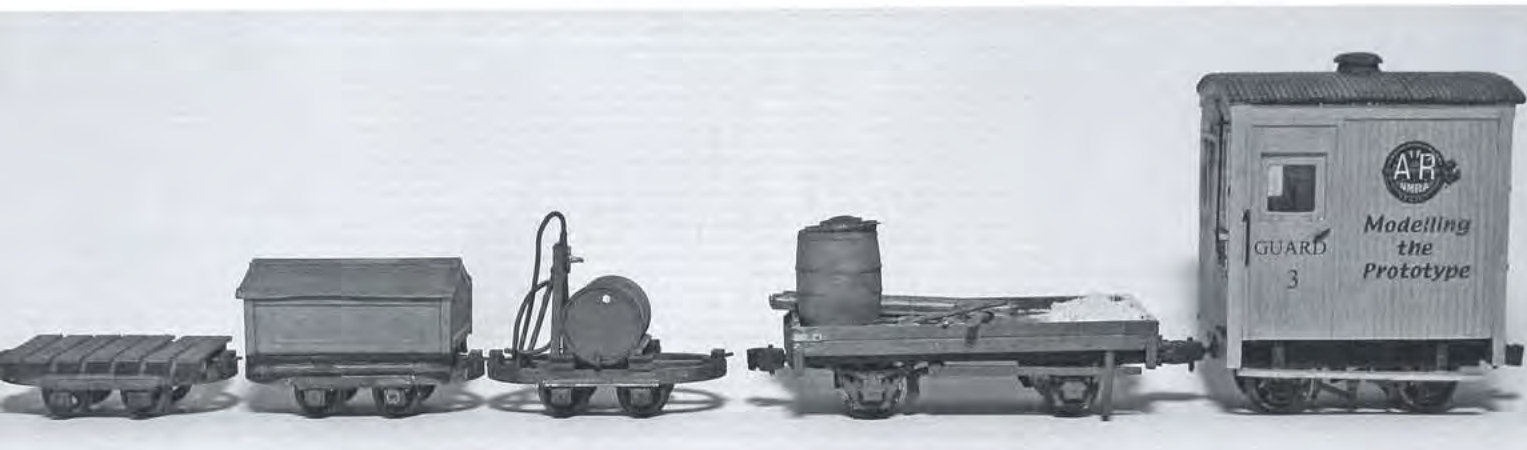


ABOVE: Two Chivers 7mm injection moulded plastic kits. The low sided wagon is built without modification except for the load. The higher sided wagon has had the brake lever and related hardware removed



ABOVE: Five models based on the Roy C Link Injection moulded plastic Rugga patent skip. All have had the gauge widened, a piece of angle has been added on the outside of the frame and part of the inside of the frame has been removed to clear the wheels. Wheelsets have needle point axles in brass bearing cups. The petrol barrel with pump wagon and the side dump skip are built straight from kits. The toolbox is fabricated from styrene on a basic chassis, the flat wagon has a timber deck on a basic chassis. The wagon with the twin barrels is kitbashed from an available kit, but uses 1:48 barrels, rather than larger 1:43 barrels similar to those on the wagon with the pump.

BELOW: This view shows the relative size of these models, all of which are described in other photo captions. The 7mm open wagon looks quite reasonable in a train with the guard's van, but the link and pin couplings, and light weight, of the Rugga skips requires separate handling. My intention is to create a link and pin adapter for a Kadee-type coupler on one end of my smallest On30 loco.



Modelling

Many On30 modellers delight in building small 'critters', rail tractors and other small motive power that push the limits of available power mechanisms. Small wagons are required to complement these models and scratchbuilding or kitbashing will often be the only way to get the models you want. Several local and overseas manufacturers have kits, both goods and passenger, which meet my length constraints and provide a starting point for modelling. A few current examples include:

Bachmann: Operating On30 wood side dump and V dump wagons, ready-to-run in sets of three. These wagons are appropriate for a mining operation, industrial plant or cane mill. Bachmann is also one of several manufacturers of small timber wagons (skeleton log cars, etc.).

Backwoods Miniatures: On30 resin kits, 13 select-a-car 4 wheel cars based on a common underframe. I've not yet tried any of them but the concept looks good and BM has a reputation for quality.

Chivers Finelines and International Hobbies: Freelance 14 foot injection moulded On30 goods and passenger wagons. CF's 7mm 4 wheel goods wagons are also adaptable. The fiction on my railway is that the 4 wheel wagons were built by a mainline railway workshop for a shire tramway. Replacing the wheelsets with a smaller diameter would require modifying the coupler mounts as well.

Roy C Link: True to scale injection moulded plastic models and track components for 7mm scale, 2' gauge industrial railways (slate, peat, plantation, etc.). The Rugga skip chassis can be regauged for On30 and is a good starting point for mill equipment, etc. I've also used the wheelsets themselves to build a closer-to-scale old style 1.5 ton wholestick truck.

Mountain Blue Miniatures: The 18 foot cast metal underframe is a good starting point for a longer small wagon (such as the Navo crew car). My 'must do' list includes cutting down a Banta Model Works camp car to fit this underframe.

RJ Models: Queensland prototype, primarily sugar cane and shire railway, white metal On30 kits. I have a stock of wholestick truck chassis and bin underframes for future scratchbuilding of navvy wagons, crew cars, sprayers and similar rolling stock.

Scratchbuilding: Building from raw materials (and its kitbashing subset) is not as difficult as many modellers imagine. Start small with a basic wagon kit that just needs some modifications and a load to give it character. Next, use photos or plans as inspiration for a superstructure that converts a commercial chassis into a freelance model that 'could have been'. As you gain more experience you can become more adventurous and build more exacting model of your favourite wagons.

I'm not an adventurous modeller. All of my models have been built with conventional modelling materials and techniques. Specialised materials, such as scale corrugated iron sheeting, are readily available, and items from other scales can often be adapted for use in your scale.

Just get on with it: a small wagon with lots of character will give you a unique model for a small investment of time and effort.

Acknowledgments and References

Zelmer, Lynn (2009). 'Small Rolling Stock with Character' in the handout notes for the Ninth Australian Narrow Gauge Convention, Paramatta. Photos not credited are by Lynn Zelmer and all models were built by the author.

Additional information, photos and construction articles can be found on the CaneSIG web site: www.ZelmerOz.com/CaneSIG. Appropriate search terms in the Image Collection would include navvy, weed spray, generator, and tool. →