

Queensland Cane Mills' Second Generation Mainline Diesels

Lynn Zelmer

Previous articles in this series looked at the precursors to widespread dieselisation in the Queensland cane fields. This article focuses on the diesel hydraulic (DH) locomotives, primarily 0-6-0 type with jackshaft and side rod drive, of the 1950s and 1960s.

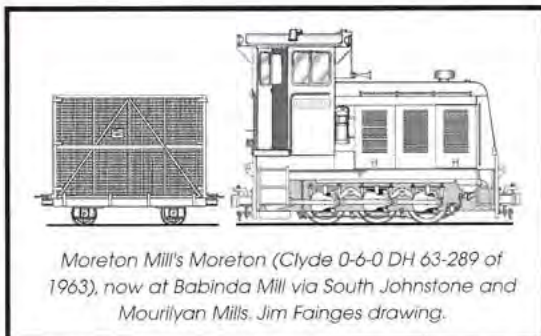
The first generation diesel mechanical locomotives demonstrated the value of internal combustion in the canefields (NGDU #29). CSR, for example, took delivery of Baguley-Drewry 0-6-0 DM locomotives in the early 1950s, but it took the introduction of DH locomotives for dieselisation to really take off. The result was more than 150 locomotives delivered to Australia and Fiji over about 10 years.

By the late 1960s Victoria Mill, one of the earliest mills to begin dieselisation, appears to have had five 0-6-0 DM locos, one 0-4-0 DH loco and seven 0-6-0 DH locos operating on its roughly 150 miles of track. At the same time it still had operational steam locomotives and even in 1978 still maintained one (Homebush) in operational order. (Browning and Mewes)

The older DM locomotives often remained in service, albeit in navy, shunting or light branch line service, with many of the DM systems converted to hydraulic transmission. A wide range of 12-24 ton DH locomotives from Clyde and ComEng (Commonwealth Engineering), and in the 1960s from EM Baldwin, became the norm in the Australian and Fijian (NGDU #23) cane fields. With lower operating and maintenance costs, as well as better availability, these diesel powered locomotives had obvious benefits to the mills. In addition, the early units could haul "1.5 times the load of a steam engine of equivalent weight", an important consideration on the relatively light track of the time (Crellin, p 12).

I've ridden in the cabs of several second generation locomotives and can testify that they can be quite rough riding. With a rigid frame, rather than bogies, they bounce about with every twist and turn of the track. Some have been retro-fitted with air conditioning and most have received more comfortable seating. Many have upgraded lights and modern communication equipment, and

BELOW: Mulgrave Mill #16 (0-6-DDH, Clyde, 1956, ex-Hambleton Mill #6), pictured at the mill during the early 1990s with an open engine compartment. Lynn Zelmer photographer.



Moreton Mill's Moreton (Clyde 0-6-0 DH 63-289 of 1963), now at Babinda Mill via South Johnstone and Mourilyan Mills. Jim Fainges drawing.

some have been modified for multiple unit operation and other special uses.

High temperatures in the engine compartment often required the locomotives to operate with their bonnet doors open or completely removed. Some have been fitted with screened doors, muffler guards, etc., to conform to current Health and Safety regulations.

From a modelling perspective the second half of the 20th Century is an interesting era, particularly the early years when

both steam and diesel locos operated. The visible drive mechanism makes this generation of small diesel locomotives attractive for railfans and modellers alike. Many are still in use in both Queensland and Fiji, with modifications that make every locomotive unique in appearance. For modellers this means that they can be part of the fleet on a modern sugar cane railway, although likely relegated to service off the mainline.



ABOVE: Mossman Mill, Mossman, 1995. Cook (0-6-0DH, Com-Eng, 1964) and Ivy (0-6-0DH, Com-Eng, 1965), fitted for multiple unit operation in the 1980s, with a rake of canetainers. Greg Stephenson photographer.

Significant Dates: Second Generation Diesels

- 1935: First diesel loco in the canefields (Isis Mill)
- 1951: Baguley 0-6-0 DM began post-war dieselisation with 15 locos
- 1951-55: Bundaberg Foundry licensed and updated Fowler steam locomotive design, building 8 for Queensland mills
- 1954: Clyde Engineering started DH, first "widely-adopted Australian-built canefield diesel locomotives", 18 tons, shipping 54 to Australian mills, 18 to Fiji.
- 1955: Commonwealth Engineering DH 1955, 14-18 tons, 60 to Aussie mills
- 1959: Comeng 24 ton 0-6-0 DH, 14 went to Qld mills
- 1961: Clyde improved power 18-24 ton, 18 went to Aussie mills, 8 to Fiji
- 1963: EM Baldwin started rebuilding, later constructing 15, 18 and 20 ton locos; 9 went to Aussie mills, 5 to Fiji
- 1972: EM Baldwin built first bogie (3rd generation) cane loco

Dates were extracted from McKillop, Robert F and Browning, John (2000). Sugar Cane Transport, LRRSA: www.lrrsa.org.au/LRR_SGRb.htm, downloaded 19/05/07.



ABOVE: Moreton Mill: Petrie (right, EM Baldwin 0-6-0 DH of 1968) and Bli-Bli (EM Baldwin 0-6-0 DH of 1965) at the Howard St yard, 8 June 2004. Many of these locomotives ran with their bonnets doors open or fully removed; by 2004 Workplace Health and safety had required such openings to be screened. Carl Millington photographer.

Until recently there were few models from this era in any scale, unless you were willing to forget the jackshaft and side rod motion. ComEng and Baldwin locomotives may be easier to scratchbuild than a Clyde, due to the distinctive slopes and curved surfaces of many of the latter's locomotives. Thus the O scale models proposed by Chivers Finelines some years ago, a white metal and folded brass Clyde and a moulded plastic Malcolm Moore, would have been very welcome.

Badger Bits recently introduced a brass etched On30 Bli-Bli kit (EM Baldwin 0-6-0 DH of 1965, reviewed in NGDU #28) using a custom Bullant mechanism with siderods and counterweights. The SM32 Clyde 0-6-0 DH from Tootle Engineering comes ready-to-run and is a true

2" (610mm) gauge model, running on the same gauge track as O scale standard gauge (32mm). SM32 is primarily a garden railway gauge but there are a few indoor layouts around the world.

For the real enthusiast, Edward Millington's scratch-built 5" gauge model (2.5" = 1") of Moreton Mill's Bli-Bli (EM Baldwin 0-6-0 DH of 1965) shows what can be done with narrow gauge on the MELSA-type operating layouts scattered around Australia's parks and rail museums.



LEFT: Edward Millington with a young railfan and his 5" gauge model of Moreton Mill's Bli-Bli (EM Baldwin 0-6-0 DH of 1965), seen operating in Rockhampton, June 2008. The ride-on trailer includes a full control panel and the loco will soon be fitted with yellow flashing safety lights as per the prototype. Lynn Zelman photographer.



ABOVE: 'Yandina', a Badger Bits On30 etched brass 'Bli-Bli' (EM Baldwin 0-6-0 DH of 1965) kit as constructed by Rob Nesbitt. This kit uses a custom Bullant mechanism and was about 80% complete when this photo was taken. Rob Nesbitt photographer.

Acknowledgments and References

Browning, John and Mewes, David (1978). *Australian Sugar Industry Locomotives*, Woodford: ANGRMS. Individual mill roster extracts available online from ZelmerOz.com/canesig/mills/millmap.htm

Crellin, IR (1979). *Australian Sugar Tramways, The Challenge of the 1980s*. LRRSA: Light Railways #66.



ABOVE: Tootle Engineering (www.toottleng.com) SM32 battery powered 0-6-0 DH Clyde and Moreton Mill-type wholestick cane truck. SM32 is 16mm scale operating on 32mm track, thus true 2' (610mm) gauge. The black tube coming out of the front step is the connector for the recharger. Lynn Zelmer photographer.

Wilson, Craig (2002). *Built by Baldwin: The story of EM Baldwin & Sons, Castle Hill, NSW; Melbourne: LRRSA*. Vol 2 of John Dunn's Commonwealth Engineering history, with the Comeng locos, is also due soon.

Zelmer, Lynn (2006). 'Fiji - From Steam to Diesel', NGDU #23, pp 15-17, for photos of 2nd generation DH locomotives with both wholestick trucks and their now-abandoned cane bins, and an additional photo of Tootle Engineering's SM32 Clyde.

Additional photos, plans and modelling details can be found on the CaneSIG web site (<http://www.zelmeroz.com/canesig>). ➔