

MANCO MATTERS

A PUBLICATION FROM MANCO ENGINEERING GROUP

WINTER 2013

Blacktown "Progresses" with Manco



Since being renowned for breeding the "Bush Brumby" horses back in 1810, the Blacktown region now with a population of approximately 330,000 residents has followed progressive and dynamic growth.

The city's Coat of Arms with the inscription "Progress" records its historic beginnings and associations; aboriginal head, horse, kookaburra and kangaroo. All these symbols are representative of Australian flora and fauna which, before colonisation

would have been prolific in the Blacktown area.

With a fleet of 29 automated side loaders and 8 rear loaders (the largest Council owned fleet in NSW), Blacktown Council collection route supervisors and engineers are recognised as industry leaders. Continuing with councils motto, "Progress", the city has put into operation one of Manco's new SL85 side loaders mounted on a 23m³ refuse body. Incorporating Manco's new IQANik in cab electronic HMI control system, an abundance of data, diagnostics and safety interlocks is provided while providing a simple and easy to operate system. Additionally, a key feature with the SL85 arm operation is the simplistic single cylinder design to achieve bin collection geometry.

Since delivery of the first unit a second unit has also been commissioned. Manco is immensely proud of this important council association and looks forward to on-going "Progress" by providing dedicated product support.



Inside this Issue

Blacktown Progresses with Manco.....	page 1
Balfour Beatty in Malaysia.....	page 2
Belling Contracts and Norematt.....	page 2
The "2600 Tonne Man".....	page 3
Manco's new "Z Series" Front Loader...	page 4
Manco's Heavy Duty Friction Drive.....	page 4
Palmerston North City Council.....	page 5
Jones Environmental Services.....	page 6
Manco's New Work Platform Vehicle...	page 6
Auckland's Rail Electrification.....	page 7
Smart Environmental	page 8
Contract Landscapes.....	page 9
Agent Orange Trials in Vietnam.....	page 10
How Low Can You Go.....	page 11
EnviroWaste Puts Safety First.....	page 12



SL85 Cab featuring the Manco IQANik In-Cab control system

Balfour Beatty maintains high profile contracts in Malaysia.

Balfour Beatty



With an extensive fleet of Manco Rail equipment Balfour Beatty Rail and in conjunction with local Malaysian contractor Ansaldo STS, the joint venture is currently engaged in the design, supply and installation of electrification, power supply, signalling and communications on approximately 326 km of new double track.

The current project from Ipoh to Padang Besar forms part of Malaysia's on-going plan to create a modern and efficient railway connection between Kuala Lumpur and Thailand with a long term objective of establishing a Pan-Asian rail network between Singapore and China.

Incorporating four Manco lowbed transporters, two Manco friction drive tippers, and a full assortment of fifteen work platforms from scissor lifts, telescopic and pedestal units Manco's presence on this important project cannot be overstated.

All plant items undertook full Factory Acceptance Tests (FAT) prior to shipment and then in conjunction with the various Malaysian authorities completed Site Acceptance Testing (SAT) before starting a vigorous construction regime.

Photos show Manco AWP80T working on wiring completion tasks, with Balfour Beatty's latest Manco 1250 transporter.



Belling Contracts cuts downtime with Noremats proven reliability

With operations spreading from Central Plateau to the Cape, for the last 25 years, Belling Contracts Ltd, a private family business from Taupo, has been one of the largest agricultural contractors in the North Island, and covering three divisions they handle more than 1500km of road side mowing and vegetation control annually.

Their fleet of mowers includes 15 flat mowers and 5 reach mowers, the last two purchased reach mowers being the Noremat Optima and Magistra models. These new Noremat reach mowers are equipped with standard configuration safety features such as reversing shock absorber, dual pressure retraction, floating head and the patented left-side pivot. These features make Noremat reach mowers unbeatable for speed, efficiency and safety!

"With such a large operation we cannot afford to keep the equipment in the workshop! Noremat mowers with their robust structure and high reliability have surpassed the other manufacturers a hundred fold! The new reach mowers that will be purchased by Belling Contracts will definitely be ONLY Noremat mowers!" says Mr. Jeta Belling, the Managing Director of Belling Contracts Ltd.



"2600 TONNE MAN"

puts Manco's new Swap Body to the test

Northland Waste's KeriKeri LEV Operator dubbed the "2600 tonne man", says his loading efficiency is all thanks to his new Manco "Swap Body" 23m³ LEV vehicle.

With eight years operators experience, Hugh Robertson is modest about his achievements and laughs off the title.

"A colleague was here a few weeks ago and saw me load 10 tonnes that day - he must have multiplied it by five days and 52 weeks to get that number". However the figure might not be too far from the truth. Hugh says he estimates he loads an average of 9 tonnes a day in winter and 11.5 tonnes in summer.



Hugh puts his efficiency down to the new Manco Swap Body compactor with LEV (low entry vehicle) side loader, he has been driving since December last year. "The previous one was built by a competitor and while it could load 9 tonnes it would take three to four hours longer". With the Manco Swap Body LEV I can do 9 tonnes easy in a 8 hour day".

The Manco Environmental Swap Body system utilises a new regenerative box compactor system, auto bin locking and 23m³ Swap Body that can be easily removed and replaced with any standard hook loader. Due to extended compaction head penetration minimal waste remains during bin change over, and combines with a leachate removal system to ensure environmental management is of the highest order.

The Manco SL85 automated side loader can also combine well with the Swap Body system when transfer station or landfill distances warrant twin bin truck and trailer transfers.



MANCO

LIGHTER - SMARTER - PAYLOAD - PROFIT!!!

Manco will shortly release it's new "Z" Series of high performance new generation Front Loaders with capacities from 28, 30, 33.5 and 35m³

Two years in the making, this exciting product is an evolutionary step forward from Manco's previous front load designs, with a mandate focused on a body lighter and stronger than current market offerings. Manco engineers have reduced the weight of the body by some 14% which will make it the lightest in the industry, considering comparable features. Also with the inclusion of Hardox 450 steels in the design of the body, the service lifespan of the bodies has been dramatically increased.

"State of the Art" Manco's IQANik control software with an all-in-one control and diagnostics in-cab control panel, coupled to a two-axis, 12-function operators joystick, will provide the operator an efficient and easy to use control system. Ejector blade position is monitored via laser positioning through the IQANik control system, thus offering the option to end-users of positioning the blade and load automatically to ensure correct on-highway axle loadings when used in conjunction with loadscales.

Key fabrication features include;

- Single sheet side panels and floor panel made from hard wearing Hardox 450 steels
- Revised hopper and wind door design
- Revised and reshaped ejector blade
- Revised and reshaped fork loader arms

With units sold to traditional Manco clients in both Australia and New Zealand first deliveries are due for the end of June 2013.



MANCO RAIL



Manco Rail introduces the FDR150 friction drive hi-rail gear for use on hi-railed plant and equipment requiring axle loadings of up to 15,000kg (subject to rail network regulations). The FDR150 is based on Manco Rail's successful FDR060 hi-rail gear that has been in the marketplace for over twenty years, and features several improvements to meet today's hi-rail needs.

Each FDR150 can be supplied with bespoke chassis attachments to suit your vehicle, and can be supplied with or without hydraulic control valving. All FDR150 hi-rail modules come

Heavy Duty Hi-Rail Friction Drive

complete with raise/lower double-acting cylinders with SAE pad mounted counter-balance valves pre-fitted.

Bearings installed are of high quality with either SKF or Timken bearings used throughout, with the same bearings installed on both the layshaft and driveshaft.

A reversing gearbox is installed so that vehicle gear selection and direction is the same for both on-rail and on-highway use, and it is complete with heat treated heavy-duty module-5 gear and pinion wheels to ensure long life and high torque transfer from the layshaft to the driveshaft.

Technical Specifications

Axle Weights:
9000 – 15000kg
(subject to network regulations)

Wheel Profiles:
All wheel profiles available

Suitable Vehicle Chassis Widths:
760mm – 900mm

Drive Ratio (Rail Speed : Vehicle Speed)
1.37:1 with 456mm rail wheels

Track Gauges:
1000mm / 1067mm / 1435mm

Wheel Diameter:
456mm (18")

Suitable Vehicle Chassis Heights:
950mm – 1000mm

Dry Weight of FDR150:
920kg (basic specification)

Palmerston North City Council expands kerbside collection operations



Following the successful implementation of the automated MGB collection of recyclables with Manco SL85 23m³ sideloaders, Palmerston North City Council has now expanded its kerbside operations with a fleet of Manco LEV kerbside glass sort vehicles and LEV side loading refuse collection vehicles with hydraulic MGB bin loading capability.

The council operators who transferred from their previous rear loading vehicles have all adopted to automated side loading (recyclables), LEV - Low Entry Vehicle loading (refuse) and Kerbside Glass operations with a totally positive and constructive outlook and are to be complimented for the significant productivity gains as well as the increased waste stream reduction levels.

With 27,849 households within a population of 75,543 persons, the city monthly collection tonnages are averaging 317 tonnes refuse, 428 tonnes recyclables and 155 tonnes glass. These figures clearly show just how well the extraction of recyclables is having on the historical waste stream going to the landfill.

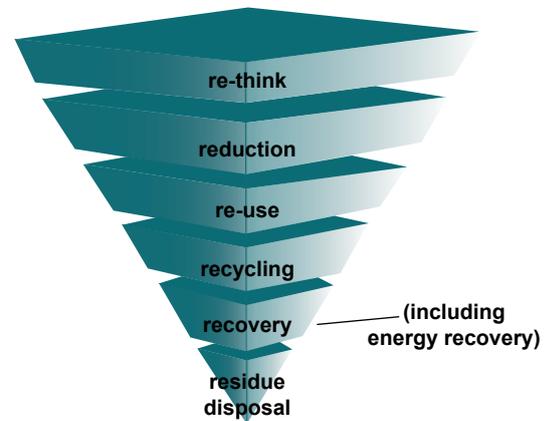
The next phase in the council's comprehensive "Waste Management & Minimisation Plan" is to vigorously continue its original mission statement "to become a leading city in the quest for environmental sustainability by changing its approach to waste, in all aspects".

The original plan is summarised with the inverted pyramid diagram under the heading, "6R Waste Hierarchy" showing the key objectives.

Manco is proud of this important association, as the council continues to forge trend setting results.



Where Waste Used to Go



"6R Waste Hierarchy" Pyramid



Awapuni Recycling Centre



"Keep it Simple Stupid" Provides a Competitive Advantage

When Jones Enviro Services Tasmanian State General Manager - Mark Perkins travelled to Manco's Auckland assembly plant in late 2010, it was the simplicity of the Manco SL85 Side Loader Arm that caught his attention. He liked what he saw, in his words "Less bells, less whistles, less to go wrong".

This design simplicity is no accident. Manco Chief Engineer Ross Williams has been designing Waste equipment for 3 decades - long enough to realise that there is a lot of merit in the "Keep it Simple Stupid" principle. After all at the end of the day it isn't showbiz, it is about picking up rubbish & recycling in the most economical & efficient way possible.

Tasmanians are typically a straight talking bunch. Their no nonsense approach to the job ideally suits Manco

engineers philosophies. Jones Enviro Services Tasmania is part of Queensland based Wanless Wastecorp. Wanless is owned by astute Queensland businessman Ron Wanless who is a no nonsense bloke. Ron calls a spade a spade and you know once you have shaken hands with him. Mr Wanless saw the competitive advantage in purchasing Waste equipment from across the ditch several decades ago. "We have

purchased Kiwi product for years now, the quality is on par with Australian manufactured equipment & the cost savings provide us with a real competitive advantage when competing with large multinational waste operators".



MANCO Extends Safety and Performance to New Heights !

Reliable, safe, dependable, efficient, low cost of ownership – These are words one wants to hear when making a decision to purchase rail maintenance equipment. With the demands on quick track access times and highly efficient work methodology, you can't do better than the MANCO EWP4500, extended work platform.

This highly compact unit boasts a 5M working height, with a 90 degree slew angle at a 10 degree cant with 3 men and their tools extended out to 4m from centre of track. The EWP4500 is equipped with a remote control system in the basket which includes: forward and reverse creep modes, elevation and slew up to 90 degrees either side of track. The work platform is mounted on a sturdy pedestal system with a wide diameter slew ring. With safety being one of the highest considerations, the unit features 4 point load cells and a digital display at track height, should the maximum safe working load of 300kg or cant angle of 10 degrees be exceeded the unit will automatically shut down. To suit rail maintenance and construction in any part of the world, the EWP4500 is available in standard, narrow or wide gauge options.



The MANCO EWP 4500 brings safety, speed and efficiency together to provide a truly cost effective way of performing rail electrification and maintenance tasks.

**MANCO – Staying on track,
Staying on time.**



MANCO RAIL
ALWAYS ON TRACK

KEEPING ON-TRACK WITH AUCKLAND'S RAIL ELECTRIFICATION.

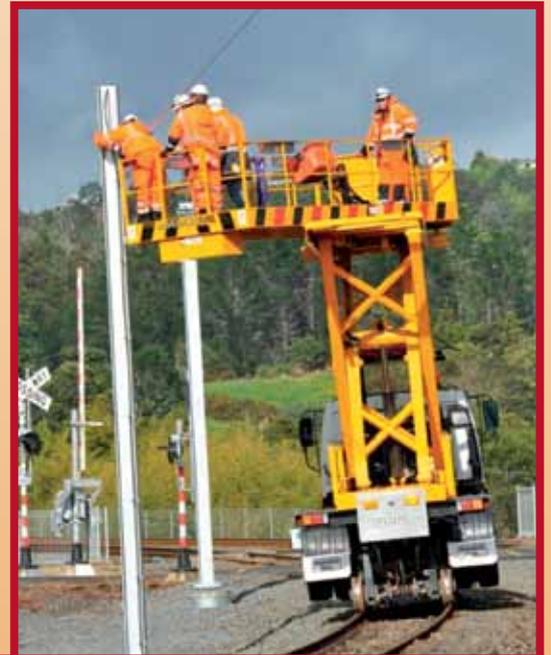
MANCO RAIL
ALWAYS ON TRACK

As the DART (Developing Auckland's Rail Transport) rail electrification project enters its final construction phase, Manco Rail continues to play an essential role.

A Joint Venture between Hawkins Infrastructure and global construction company Laing O'Rourke the 137 km twin track project from Swanson to Papakura, is well into the wire tensioning and alignment phase in expectation of the fifty seven EMU (Electric Multiple Unit) trains. The three carriage stainless steel units, with a power unit at each end are capable of 0 to 60 km in 24 seconds and will start arriving at the end of this year.

The electrification wires will carry 25,000 volt power at a height over road crossings of five metres.

Manco Rail's fleet involved in the construction consisted of one 1250 rail transporter with 40 tonne metre crane, three pole erection – wiring road rail vehicles with radio remote cranes, two 500kg SWL scissor platforms, two 400kg SWL scissor platforms. One 300 kg SWL telescopic platform, one 30 tonne payload Scania Truck – rail lowbed trailer, and six excavators from 5 to 20 tonnes all with rail mounted equipment.



smart environmental

Builds Strong Partnerships with Local Councils.



Nationwide waste and recycling company Smart Environmental continues to live up to its good reputation with two of its most recent contracts.

The Manawatu District Council awarded their comprehensive waste minimisation contract to the company in 2012 as part of their plan to achieve significant waste reduction to landfill.

Under the seven year contract, bagged waste is collected from the kerbside, simultaneously to glass collection from a crate placed at kerbside in the same unique dual purpose single collection vehicle. Developed by Manco engineers in close cooperation with key Smart management staff, the vehicle provides a three colour glass sort providing full glass recovery from the waste stream.

Using 240 litre Wheelie bins the remaining comingled recyclables are collected by Manco SL85 automated side loader and fully recovered at Smart's new MRF (Materials Recovery Facility) based in Fielding.

A similar contract with Queenstown Lakes District Council commenced in 2011, providing significant financial savings for Council, again with a multipurpose specialised collection vehicle, resulting in the previously collected glass which was

crushed locally being colour sorted at kerbside and then fully recovered at glass manufacturer's O-I's Auckland facility. The other comingled recycling materials are processed at the Wakatipu MRF, designed and operated by Smart. The multipurpose LEV collection vehicle specifically designed for the logistics of this contract is a major contributor to enhancing the efficiency and safety of the kerbside collections. Council Solid Waste Manager Stefan Borowy says "the partnership with Smart is working well, with their professional operation making it a pleasure to work with them".

In addition to these two important Council Contracts, Smart has also recently been re-awarded the Waipa District Council's Recycling contract commencing in 2013. New fleet has been ordered for this contract and is currently being delivered – this includes a new LEV side loader and two multipurpose collection vehicles, again designed to achieve optimal collections efficiency.

Smart's Chief Operating Officer Mark Lawson says, "Smart values its relationship with Manco as a responsive partner with which it can jointly innovate and develop efficient safe solutions which we can tailor to meet our Council customer's objectives".



Wanaka Sorting Facility

28,000 TONNES!!!

Truck Rail Trailer exceeds all expectations.

Reaching the final stages of the new Auckland rail network civil work, Manco Engineers working in conjunction with Contract Landscape's renowned rail civil work construction team, are well pleased with their innovative decision 18 months ago to manufacture a special purpose road – rail – rail trailer combination unit.

The result has been that approximately two thirds of the projects' 28,000 tonnes of ready mixed concrete has been transported on rail using this unique system. Once positioned on track the prime mover lowers the lowbed rail trailer using a Manco RL200 rear hook loader. Once the combination is located at a road crossing the awaiting ready-mix vehicle self-loads and moves down track to the designated pour. The prime mover a 420HP Scania easily copes with an all up train weight of 46 tonnes with hydrostatic track speeds up to 25kph.

In total CLL's specialist team have completed (with an impeccable safety record) 2163 piling operations, 552 pads and 22 rock anchors, mostly between the hours of 11pm and 5am as this is when the project has had track access time.

Good work CLL – let's do it again someday!!!



MANCO

Agent Orange Trials go well in Vietnam

Manco associate company Environmental Decontamination Ltd (EDL), supported by funding from the NZ Government, has just completed a very successful research and development project in Vietnam. The project, a joint effort funded by international agencies piloted the removal of toxic chemicals from soil and is the first part of a much larger environmental restoration programme. The success of the project showcased NZ's innovative engineering, the Kiwi "can do" attitude to implementation and our concern for the environment.



The MCD plant in operation at Bien Hoa Military Airport

Vietnam has among the worst dioxin contaminated sites in the world. Studies in Vietnam have documented serious environmental effects and health risks to populations in the vicinity of the affected areas. Dioxin contamination in Vietnam originates from the armed conflict over the period 1961-1971, when herbicides were used to defoliate terrestrial forests and mangroves, to clear perimeters of military installations, and to destroy crops.

During the armed conflict, military installations throughout Vietnam served as bulk storage and supply facilities for Agent Orange. The soil dioxin concentration at these airports (where large quantities of herbicides were stored, spilled and handled) is classified as highly contaminated hotspots with elevated levels of dioxins.

The highest and most complex dioxin residue levels in Vietnam have been measured in Bien Hoa airport. The project "Environmental Remediation of Dioxin Contaminated Hotspots in Vietnam" funded by the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP) piloted a mechano-chemical destruction or "MCD Technology" developed and patented by EDL.

Through an international tender, EDL was awarded the GEF funded project in 2012 to remediate 100 tons of dioxin contaminated soils at Bien Hoa military airport.

The project was successfully completed in late 2012 with an independent review now completed of the process, operations and results. The following summarizes the conclusions and recommendations from the demonstration:

1. The MCDTM process demonstrated the capability of destroying dioxin contaminated soils;
2. Highly contaminated soils (up to 30,000 ppt TEQ) were successfully treated where the bulk of contaminated soil in terms of volume exists in Vietnam; and
3. Costs of US\$500 per ton have been indicated to clean up the anticipated 300,000 tons of contaminated soils located at this military base.

Environmental Decontamination Ltd continues to work closely with the local Vietnamese Ministries including Office 33, MONRE and national experts to identify on-going projects for application of the technology.



Contaminated soil heading to the dryer



A top view of the dryer



The decontaminated soil discharged from the plant



How Low Can You Go...

MANCO

Manco Engineers have worked hard on the development of a new, exciting and innovative automated sideloading arm in answer to the growing demand from the commercial collection industry targeting Hotel, Restaurant, and height restricted collections.

Numerous “downtown” bin locations are under hotel lobbies, within high density car parks, or just low height operational areas.

The new Manco SL55 answers all these collection restraints with an arm that prevents the bin from exceeding body height during discharge, without compromising its excellent 1500 mm horizontal reach capability.

An added feature is that the arm is equally productive in normal street collection applications with a cycle time from between 8 to 10 seconds.

Now with over 1,000,000 simulated test lifts completed, the arm will be released on new split body vehicles in September of this year. With a side by side 60\40 ratio split the bodies can be used for multiple collection applications such as; food\refuse, recycling\food, refuse\food and the traditional recycling\refuse.

Suitable for GVM vehicles from 12,000kg to 25,000kg the bodies feature a twin tailgate system, and total leachate sealing. ... The first operational vehicle will be commissioned for collections in Sydney’s CBD early in October of this year and will feature extensively in the next issue of Manco Matters.



Manco SL55 - First production unit under vigorous final testing

EnviroWaste Puts Safety First!



Waste collection, processing and disposal methodology and technology has changed significantly over the years. The challenge for waste companies is to move their safety compliance with it! EnviroWaste has put a significant amount of effort and resources into improving the safety of its employees, whilst satisfying the needs of its customers.

For example, in April 2012 EnviroWaste took on the Manukau Refuse Collection contract under the brand "EnviroWay". The volume and collection method this council contract involved required the build of 14 new vehicles where a 'runner' could be utilised to collect bags.

The previous contractor had used Rear Load Compactors which have a hopper at the rear of the vehicle and steps positioned either alongside, or at the back and multiple 'runners'. However this collection methodology had a very poor safety record and so EnviroWaste worked with Manco to design a vehicle that would improve the workplace safety of runners.

Subsequently a 'Dual Entry Vehicle' (DEV) with a runner 'sentry box' was designed, incorporating many safety aspects. The following are just a few examples of the safety considerations EnviroWaste incorporated into the design:

- A sentry box allows the runner to be safely transported during collection, in a platform that sits on the left hand side of the vehicle, behind the cab. This allows greater contact & communication between the driver and runner. It also results in the runner's 'workzone' primarily located along the left side of the vehicle – as opposed to operating at the end of a Rear Load Compactor, exposed to far more traffic hazards.
- A safety barrier arm in the sentry box lowers automatically when the handbrake is applied. This ensures the vehicle is stationary before the runner disembarks.
- To prevent entrapment injuries, the runner has been given control over the compaction paddle when they are in the sentry box, utilising two-handed hold-to-run levers.

Pia Carpenter, EnviroWaste Safety Training and Compliance Manager comments:
"Safety is not, and should not be, a 'bolt-on' aspect of running a company. Seeing safety as an integral part of the business and its operations gives EnviroWaste the power to serve our clients and customers in the most productive and efficient way – whilst ensuring our employees go home safe to their families at the end of each and every day".



MANCO ENGINEERING

Australia

P.O. Box 6546, Wetherill Park BC
NSW 2164
1 800 MANCO1 (1 800 626261)
www.mancoeng.com.au

New Zealand

139 Cryers Road, East Tamaki
AUCKLAND 2163
+64 9 274 9862
www.manco.co.nz

Hong Kong

Rm 2205, Universal TC, 3 Arbutnot Road
HONG KONG 35000
+85228101720
www.edl.asia.com

