



The Squeaky Wheel



The MOTAT Society Newsletter
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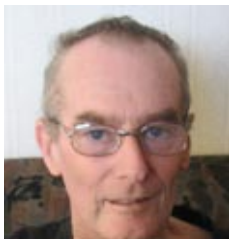
Steam punk fans Philip, Sally and little Gage Gibb, all dressed up to enjoy one of their favourite steam locomotives, the Price CB bush loco, at the annual MOTAT steam festival held on May 24. See article on page 8.

Evan James photo



Editorial

As this is the first issue of The Squeaky Wheel under my editorship, it is time to reflect on the startling job that Tessa Phillips had performed during her tenure as editor and secretary of the MOTAT Society, and to introduce myself.



With Tessa advising the committee of her intention to stand down, I was invited to apply for the position. I have been editor of the Tramway Section's magazine, The Controller, since 2009, and because of that work was a recipient of the Lush Award for 2014.

While I will be struggling to match Tess's sheer enthusiasm for the position of editor and society secretary, I hope to be able to bring my skills as a professional journalist and magazine designer to the position.

One of the things I want to emphasise is the restoration and other work being undertaken by the sections.

To this end I hope to be able to make contact with the sections on open and work days.

I know much of what is happening in the Tram Section and that forms the basis for The Controller magazine, and I want to give the other sections to same sort of publicity. Hopefully this can result in renewed enthusiasm for the other sections.

Walking around some of the sections I have noticed a large number of new members taking part in the sections' live activities.

This was especially noticeable in the Rail Section where there were a large number of young people who had recently joined the section.

With this in mind, I am hoping I can do my bit to encourage the same sort of enthusiasm in the activities of other sections.

Slow membership renewals

Membership renewals have been creeping along slowly with only about half of our members renewing their subscriptions so far.

This low number impacts on our administration in more ways than one, so to make life easier for life members and volunteers (who don't pay subscription fees), if they could just drop me an e.mail to "evanjames100@gmail.com", stating their name and membership number, and I can get the paperwork done and send out their membership cards.

EVAN JAMES
secretary
Squeaky Wheel editor

In this issue

- Page 3 FRONZ award for Rail Section
Printing section news
Science fairs popular
- Page 4 Aviation news
- Page 5 Rail section news
- Page 6 Road Transport news
Military section news
- Page 7 Tram section news
- Page 8 Steam Fair

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Rail Section's Paul Spearpoint, hot rivetting part of F.180 (Meg Merrilees) cab.

Evan James photo

HOT RIVETTING ON SHOW

Hot rivetting will be demonstrated when the Rail Section hosts a Demo Day on July 7.

The first Sunday of the month has been set aside as Demo Day, where patrons can view specially themed demonstrations, speak to the experts and ask questions. Hot rivetting, where steel rivets are heated in a special oven, and then hammered into shape with special pneumatic rivetting guns while still red hot, was a staple means of joining two pieces of metal until the widespread adoption of welding, and is still used in some special circumstances.

VILLAGE GETS SPRUCE UP

Buildings in the Pioneer Village have received a spruce up recently.

The internal surfaces of each village building were cleaned in April to improve the appearance of these buildings and their displays and to facilitate the inventory of these buildings.

TOP AWARD FOR RAIL RESTORATION

A Rail Section restoration project that spanned many years took top prize in its category at the Federation of Rail Organisations of New Zealand annual conference held at Blenheim over Queens Birthday weekend.

The Ransomes and Rapier 5 ton six wheeled crane, No. 283, built in 1874, won the section the top award in the Goods/Service Wagons category.

The prize, which included a \$500 grant towards a study trip in Australasia, donated by the MOTAT Society, was collected by David Maciulaitis.

Top award at the conference, the P S Heighton Award for Excellence, went to Steam Incorporated with Ab.608.

This also included a \$500 study grant courtesy of the MOTAT Society as did the Tramway Restoration Award which went to the Tramway Historical Society of Christchurch with Dunedin four wheeled tram No. 11.

In addition to David Maciulaitis, MOTAT was represented by Leyton Chan of the Tram Section, and Peter Fisk and Toby Hutton of MOTAT.

ABOVE RIGHT: The MOTAT six wheeled crane No. 283 which won the Goods/Service Wagons restoration award at the Federation of Rail Organisations of New Zealand's annual conference held over Queen's Birthday weekend. Also in the photo are N-1 class runner wagon N.76 which is in line for restoration, and TR 21.

David Maciulaitis photo



SCIENCE FAIRS DRAW IN THE PUBLIC

Science fairs are proving to be popular with the public. MOTAT's chief executive officer, Michael Frawley, said that visitor numbers to this year's Science Street Fair were up by 94 on last year's figure, with 1153 visitors, despite wet weather and road works on Great North Road adjacent to the MOTAT gate.

The day featured 120 scientists on site.

This has been followed up with the "Dr Robotech's Robot Lab' being installed in the Challenge Zone.

An evolving workshop where Chris Chitty of Massey University modifies and displays robotics, this display is scheduled to change over time as new robots become available.

In addition, a robotic technology display called "Stretchsense" is scheduled for June and planning for the July school holiday experience entitled "Science Roadshow" is well underway.

This will be held from July 4 to 19 with two new themes and more than 60 hands-on exhibits to explore.

The museum is also in discussions with Rocket Lab to acquire rocket technology prototypes for the museum's collection and displays.

Mr Frawley said the exhibitions will be part of new initiatives to position MOTAT as a "lightbulb institution", and ensure that the museum will be in a good position for 2015/16.

PRINTING

MODERN MACHINERY HELPS PRINT SHOP

Relatively modern machinery in the Printing Section's workshop is helping to improve the quality of the end product and make life easier for the volunteer printers, most of whom are new to the trade.

Section head Graham O'Keefe, said one such machine is the Heidelberg KSD cylinder, which he is training section member Willy Coenradi to operate.

The machine, built in 1974, was produced until 1983, and was used by one of the country's largest printers, Geon of Highbrook, as a die cutting machine until the company's demise in 2013.

It then came to MOTAT via printing machine specialist, Alex Peters Machinery.

It is an A2 sized machine and according to Graham, its reliability has meant the section can take on more jobs for the museum.



Print Section's Graham O'Keefe (right) shows section member Willy Coenradi how to mount a "chase" into the section's Heidelberg KSD cylinder printing machine. The chase holds the type and a photo block that is to be printed.

Evan James photo

AIMING FOR A SPECIAL CHRISTMAS

Completing the refurbishment of the Sunderland aircraft and getting it inside the museum building by Christmas is the aim of members of the Aviation Section .

This is because the work needed on the aircraft cannot be performed inside the building.

To make this happen two teams are currently working on the aircraft, a team

outside on the aircraft itself, and a team in the workshops repairing and reconstructing the items which are deemed to require such work.

The outside team, lead by Frank Hannay, is working under an all weather shelter on industrial scaffolding Norm McKelvey of the section said there is still a fair bit of work to be done including the tailplane where the rudder and fin are in various states of restoration.

DAMBUSTER PILOT'S MEDALS FOR MOTAT

The MOTAT Aviation Museum made worldwide headlines when a special ceremony was held in April.

This was when the last surviving pilot from the Dambusters raid in World War 2, Les Munro of New Zealand, handed his medals and memorabilia over to MOTAT.

Mr Munro, aged 95, had originally intended to sell the medals to raise money for the upkeep of the Bomber Command Memorial in London.

However, in a deal brokered by British philanthropist Lord Ashcroft, it was agreed that he would supply the money for the upkeep of the memorial in return for the medals and memorabilia returning to New Zealand to reside at MOTAT. The items had already been sent to the United Kingdom by Mr Munro for auction.

In a ceremony attended by the Prime Minister, Rt Hon John Key, and Mr Munro, Lord Ashcroft personally handed the artifacts to MOTAT's chief executive officer Michael Frawley.

The ceremony was held under the wing of MOTAT's Lancaster aircraft, the type of aircraft used on the raid.

KITES FOR MATARIKI

Kite making skills will be taught when MOTAT celebrates Matariki, the Maori new year on June 20 and 21.

Matariki is the Maori name for a cluster of stars that is also known as Pleades, and its significance will be explained, and the symbolic connection of kite making to the Matariki celebrations.

This will involve the participants learning how to design and construct their own mini kites, and also learning about the principles of flight.



Protection against the weather and safe working conditions are paramount for Aviation Section volunteers working on the Sunderland aircraft.

all photos by Evan James



Hand skills come to the fore as Don Legg cuts aluminium sheet for a section of the Sunderland that is being replaced.



Ron Wilson uses a specialist tool for rivetting a new section for the Sunderland.

BEFORE WORK STARTS - THE STORY OF La24910

In this article by Rail Section's Pete Cairncross, he details the work that goes into a restoration project before the work actually starts, in this case steel high-sided wagon La.24910 the section's next project.

There are currently 6 complete L/La type wagons in the MOTAT Western Springs Railway collection plus the chassis of an unknown wooden framed L in very poor condition.

L533, wooden bodied to diagram L-1. This is currently operational and in use as a passenger vehicle, use members of the class saw in the 1920's. See picture back page.

L3496, in use as flat wagon for a workingman's hut. This vehicle is not operational.

L5141, to diagram L-6, iron bodied currently stored outside. This vehicle is not operational.

La 18057, to diagram La-6, high side steel body currently stored inside. This vehicle is not operational.

La 24481, to diagram La-8, high side steel body, duplicate of La24910, currently stored inside. This vehicle is not operational.

La 24910, to diagram La-8, high sided steel body, currently stored inside. This vehicle is not operational but has been identified as the next vehicle for restoration.

Across New Zealand there are 67 L/La wagons preserved 51 of them to the general La 10 foot wheel base design. Of these there are 16 from the 1943 to 1951 build program to diagram La-8.

Three of the preserved La-8 diagram wagons were rebuilt by A & G Price Ltd of Thames to the diagram La-8A with heavy duty corrugated pressed steel ends. Two are preserved at MOTAT, La 24881 and La 24910, the other La 21338 at Weka Pass Railway.

Wagon History

Built at Addington workshops in the 1948/49 financial year, to the diagram LA-8 of 1943, La24910 was issued to general traffic.

It was rebuilt with heavy duty pressed steel corrugated ends by A&G Price of Thames 27/4/74 to diagram La-8A.

It was allocated to Makareao – Burnside rock traffic in April 1976, around this time it was fitted with heavy duty axles, and renumbered to La75483 in 1978.

It may have been transferred to TeRapa for use in glass transport, but there is no documented proof of this to date. It was more likely used for rock traffic out of TeRapa given how it was lettered when it came to MOTAT.

Condition at time of restoration

This vehicle was in reasonable condition considering it had been stored unused outside for the last 10 years, during some of this time it was used to store locomotive coal.

An inspection of the vehicle had identified significant rust in three of the four door lower pillars, as well as rust holes in the side top sills.

There were a few small rust holes in the floor along with significant rust pitting; there was also damage to approximately 200 square centimeters where the floor had been punctured.

The door catch on one side needed renewing together with removal and repair of a patch in one side.

There was a small hole in one end near the corner that could not be repairable by building up with weld; this would

RAIL



La24910 at MOTAT 2010

David Maciulaitis photo

need a shaped piece of steel to be manufactured for the repair.

The gussets below the floor from the side sill to the outer edge of the vehicle will need repair with at least 5 requiring full renewal.

The hand brake had seized and wear on the W irons/axle boxes would require replacement sleeves be installed. The wheel tyres and brake blocks appeared to be within code as did the springs on the couplings.

After the initial assessment the vehicle was high pressure water blasted to remove all paint and rust. While some existing rust holes were enlarged by this process, no additional issues were identified.

Restoration Period Discussion

As this vehicle was rebuilt by A&G Price with the corrugated ends in 1974, it could not be back dated prior to that.

With current thinking that the MOTAT rolling stock should be restored to a period that is as old as is practical so as to fit with the locomotives it would run with, the wagon would not be lettered for a post TMS period.

As the heavy duty axles were fitted in 1976 at the time when it was allocated to stone traffic, and La 24481 does not have the heavy axles, lettering this wagon for stone traffic with its pre TMS number would be appropriate. When La 24481 is restored it could be represented as normal traffic wagon or possibly as issued for rock traffic.

RESTORATION PROGRAMME

BODY REPAIRS

- Repair side top sills x 3
- Patch floor holes x 4
- Patch rust in end
- Door sills x 4 inner and outer
- Lower side panels x 2
- Patch in side panel, opposite corner to hand brake

OTHER MECHANICAL REPAIRS

- Hand brake
- Full split pin check/replacement
- Brake block wear assessment
- Axle box wear check/repair
- Axle box wool check/replace
- Full brake test

PAINTING

- Wire brush and undercoat chassis
- Second coat of undercoat when all repairs completed
- Final top coat
- Identify appropriate lettering/numbering
- Have stencils made, apply lettering

TRUCK RESTORATION PROGRESSING

One of the Road Transport section's major projects, a 1971 International ACCOD 1820 truck, is now starting to show some reward for the work that has been put into it.

This will be a working vehicle for MOTAT with planned uses including transporting exhibits to outside events, such as steam festivals at Glenbrook Vintage Railway.

Recent work has included replacing the deck wood as well as mechanical work, and some body work.

The truck was built in Australia, and features a Perkins diesel motor, driving through a five speed gearbox, with a two speed axle transmission.

Meanwhile existing vehicles in the MOTAT collection have been receiving attention. This includes cycling vehicles on display through the workshops for a clean and cut and polish, and offsite vehicles and motorbikes have been raised on jacks and covered to improve their preservation.

RIGHT: One of the Road Transport section's current restoration projects is this International ACCOD 1820 truck seen last month.

Evan James photo

ROAD TRANSPORT



RESTORING ICONIC MILITARY VEHICLE

One of the iconic vehicles used by New Zealand troops in World War 2, a CMP truck, is currently under restoration in the military workshops at MOTAT.

The CMP truck, short for Canadian Military Pattern, saw service with all Commonwealth armies in just about every theatre of the war, and many were drafted into tough civilian service after the war.

They were made by Ford and General Motors of Canada, and available in a wide variety of different models, ranging from 101 inch wheelbased 8 cwt 4 x 2 models, up to 160 inch 6 x 6 models, and with a variety of purpose built bodies including ambulances, wireless huts, and mobile machinery repair shops.

By the war's end just over 209,000 CMP trucks had been produced.

The trucks, which were all right hand drive despite being produced in Canada, featured three different types of cabs,



The newly overhauled flathead Ford V8 motor being lowered into the CMP truck being restored by the Military workshop.

Evan James photo

MILITARY



The two types of cabs that CMP trucks featured is clearly seen in this photo, with a type 11/12, such as MOTAT's, in the foreground, and the more familiar type 13 behind it. The cab on MOTAT's version will feature a roof.

photo from the Pinterest website

known as type 11, 12, and 13.

The type 11 and 12 versions were visually quite similar, and the type 13 version was the familiar cab that features on other CMP trucks in the MOTAT collection, including the Holmes wrecker. This was produced from 1941 until the end of the war

The version being worked on at present has a type 11/12 cab, with "suicide" doors that hinge at the rear, a snout for a bonnet, and headlights on the mudguards.

Designated as a F60L model (F for Ford, and L for long wheelbase), it came to MOTAT after serving as a bulk fertiliser spreader in the New Zealand countryside.

Work on the MOTAT truck so far has included overhauling the 239 cu in flathead Ford V8 motor, and chassis strengthening.

FLOORING WORK ON STEAM TRAM TRAILER



New member Zam Yang seals the new kauri floor boards for trailer number 21 with shellac, closely watched by project leader Leyton Chan.

Evan James photo

Chassis work on steam tram trailer 21 is proceeding at a fast pace, with teams working on Tuesday nights and Sunday afternoons, lead by project leader Leyton Chan.

The latest work involves preparing and fitting the floorboards.

These are in the form of 4 inches by 7/8th inch kauri tongue and grooved boards which were milled especially for MOTAT from 423 board feet of timber which the museum purchased from Colville.

The timber was cut to size by Timberlab of East Tamaki, and the tongue and groove was machined by Papakura Joinery.

Once the floor boards had arrived at the museum they received a seal coat of shellac followed by three coats of White Knight grey flooring paint.

Leyton said there had been some criticism of the use of kauri, especially as it was to be painted, but it was chosen because it was to the original specifications, as per the rest of the rebuild.

Once the flooring is screwed down, work can then start on the superstructure of the trailer.

Before work could start on the floor, it was all hands on deck to get the chassis to the stage where the floor could be installed.

This involved fitting steel side sill plates, which give the wooden chassis its strength.

This was not without its problems. Because of the transport and engineering logistics, these had to be manufactured off site in two halves and welded and annealed in situ at MOTAT.

But this was also not without its problems, when it was found that one of the plates had moved as it cooled, and this meant reheating and realigning the joint.

It was also found that some of the holes that had been pre-

TRAM NEWS

drilled in the chassis timber for the bumpers were out of position and the holes had to be filled and re-drilled.

Once this was done the sill plates received two coats of primer followed by three top coats of gloss black paint.

Once that was done it was on to the headstocks, which were made from 12 inches by 2 inches Jarrah timber, as per the original specifications.

Also on the menu are the towing timbers, which are specified at 7 inches by 2 inches.

Meantime, Tony Messenger and his Sunday team are continuing to work on the Brill 21e truck, which has now been fitted to its wheels.

This involved manufacturing new oiling felts in brass holders, which were made at MOTAT by Dave Lennard.

However, the springs had to be subcontracted to Archers Auto Springs of Rotorua which had to rework a spring from Bendgo tram museum in Australia from seven leaves to six leaves to match the other springs, and a make a new set of coil springs with Wellington tram 301 providing the pattern.

REFURBISHMENT OF 135

Tram 135, one of the original trams in the MOTAT collection, is undergoing a much needed facelift to replace jaded paint and install items which missed the first round of restoration.

This will include a complete repaint and interior refurbishment, a periscope mounted in the roof so the motorman can view the destination sign without leaving his cab, destination blind boxes, coloured light route indicators, route numbers held in a special frame, and eight canvas striped duck roller blinds for the open centre compartment.

The tram arrived at MOTAT on May 29 1964, and it is 35 years since its previous restoration.



John Wolf painting floorboards for trailer 21 with flooring grey paint, with Ross Wilmoth behind him. They are working alongside tram 135 which is undergoing an extensive refurbishment.

Evan James photo



RAINY DAY DIDN'T DETER STEAM FANS

More than 1600 steam enthusiasts braved a day of passing heavy showers for the annual MOTAT Steam Fair on May 24.

The day included the annual Steam Punk festival, where adherants wore wearable art fashioned to the writings of authors such as H. G. Wells and Jules Verne.

The MOTAT 1 site featured the pumphouse boiler in steam powering the triple expansion engine, Tangye and traction engine.

The MOTAT 2 site featured the Rail Section with Y542, L507, Bush Tramway's Price Cb 117, and Bertha in steam, as well as the Wallis and Steevens steam roller, Fowler traction engine, and Marshall stationary steam plant.

Shuttling between the two sites was Baldwin steam tram number 100.

A line up of portable steam power, from left, a Wallis and Steevens steam roller, Fowler traction engine, and Marshall stationary steam engine.

all photos by Evan James



Graham Anderson explains the workings of the Wallis and Steevens steam roller to patron Mark Botting.

ABOVE: Guard Alex Smith raises the door on L wagon 533 pulled by Bush Tramway's Price Cb 117 loco.

BELOW: Roger Curl tends to the pump house boiler.



David Maciulaitis, with enthusiast Mathew Tresham on L.507. The driver is driver in training David Gaham.