



The Squeaky Wheel



The MOTAT Society Newsletter
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Bookbinder Tom Bichler shows Lliam Walker how to prepare a book for binding watched by Bela Bausal with her father Sandy looking on. The bookbinders are now part of the Printing Section's workshop and have proved very popular with MOTAT patrons as they introduce the public to the ancient craft of book binding, and give practical lessons on how to bind a simple book. In the meantime they are also working their way through the MOTAT library, re-binding books in need.

Evan James photo

MUCH TO DISCUSS AT SOCIETY AGM

by MOTAT Society chairman Henry Swan

As you can see from the advertisement in this edition of the "Squeaky Wheel," the AGM is to be held in Cropper House in MOTAT 1 at 6.30 p.m. on September 13.

We urge you all to attend as many significant events and changes have occurred over this past year some of which represent the determination of the Society to maintain the integrity of vision that the founders of the Museum of Transport and Technology 56 years ago had planned for MOTAT.

These principles include saving, restoring, preserving and displaying for the people of Auckland and New Zealand, treasures of transport and technological interest and significance.

Let none of us forget the fact that technology is racing along at a rate that grows exponentially faster with each moment with new ranks of engineers and technicians growing daily.

An example of this rate of change is of course the ubiquitous

Smartphone which New Zealanders have taken to with enthusiasm, it can do so much!

But do you know that the latest 200 gram Smartphone can navigate around the world much more accurately, literally to within a metre, and more easily than an aircraft navigator of 30 years ago with a over hundred-plus kilograms of radar and computerised navigation equipment to assist them; or even 20 years ago, with three computers, also radar aided. Now this is a story to develop.

Earlier this year six members of the MOTAT Society met with five representatives of the Auckland City Council's Regional Funding Authority (RFA) to express their concerns over some of the prevailing differences with the MOTAT current administration's decisions and actions.

Unfortunately this petition was met with an element of apparent hostility and rebuff.

Following this presentation and its very cold reception I was asked to present the concerns we expressed to the Infrastructure Committee of the Auckland City Council. This I did and the consequences were fascinating; I will be talking about this during my Chairman's address at the Annual General Meeting.

Last year your Society committee recognised that the current Board structure had very little museological experience or indeed evidenced volunteer empathy within its members ranks,.

To redress this we interviewed several candidates and elected to the Board a MOTAT contributor of enormous qualification and experience, Mr Bill Rayner, to provide that skill base.

Because of the reaction that we met to that selection we have now moved the Society away from the joint MoTaT Society /RFA selection process for MOTAT Board members and this year we have conducted our own independent interviews entirely in accordance with the MOTAT Act 2000.

This has been very successful and we will be announcing the two Society new Board appointees for this coming term at the AGM.

We will be conducting our selection of The MoTaT Society Committee officers at the AGM; this is a very important function of great significance to the future of the MoTaT Society so we welcome your nominations in advance of the AGM.



ANNUAL GENERAL MEETING

SEPTEMBER 13 2016

6.30 PM

**CROPPER HOUSE
MOTAT**

AGENDA:

- Apologies
- Obituaries
- Chair's welcome and minutes of last meeting
- Keynote speaker
- Chairman's report
- Treasurer's report
- Election of Officers

Nominations for Committee: To be with us 14 days before meeting.

Notices of Motion: To be with us 21 days before meeting, and will be included in agenda subject to committee approval.

**CURRENT AND FINANCIAL MEMBERS
ONLY TO HAVE VOTING RIGHTS
ALL ARE URGED TO ATTEND THIS
VERY IMPORTANT MEETING**

**The Society is also looking for enthusiastic new
volunteers to serve on the committee and help
steer it on a course which heads it into the future**

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WORK STARTS ON ICONIC BOMBER RESTORATION

With the restoration of MOTAT's Sunderland flying boat in abeyance, work has turned to restoring the Lockheed RB-34 Venturer World War 2 bomber.

Numbered NZ4600, the aircraft was one of 143 Venturers flown by the Royal New Zealand Air Force between 1943 and 1948 in nine squadrons, mostly in the Pacific, but also with No 487 Squadron operating in Europe as part of the RAF.

They operated in Nos 1, 2, 3, 4, 8, 9, and 487 squadrons as well as No 1 (b) OTU and No. 14 servicing unit.

In the Pacific they were used for garrison duties as well as routine patrols, bombing and strafing missions, air-sea rescue patrols and photographic reconnaissance.

The Venturer was developed from the Lockheed Lodestar, as a replacement for the Lockheed Hudson bomber, both of which are in the MOTAT collection.

The aircraft of No. 487 Squadron suffered very heavy losses while on daylight bombing raids over occupied Europe. One such raid, against an Amsterdam power station on May 3 1943 resulted in all 11 aircraft being lost to German fighters, and resulted in Squadron Leader Leonard Trent being awarded the Victoria Cross for his leadership on the raid.

FORMER COMMITTEE MEMBERS RETURN

Three key former members of the MOTAT Society executive have been co-opted back onto the committee.

They are former chairmen John Syme and Andre Pointon, and former committee member Nick Taylor whose co-optation has brought the committee up to 10 members.

Chairman Henry Swan said their addition would add considerable expertise to the committee.

Mr Swan said that Mr Pointon was the first editor of The Driving Wheel magazine and, together with his father, Ken Pointon, was the driving force behind the restoration and operation of the beam engine which had received world-wide recognition.

Mr Taylor is a barrister of the High Court.

LOCOMOTIVE ACCESS CLOSED

The discovery of asbestos has resulted in locomotive K.900 being closed to the public.

MOTAT collections manager Steven Fox said that in the course of inspecting the locomotive it was discovered some asbestos was in the process of being dislodged.

This resulted in public access to the locomotive being stopped pending the outcome of an assessment of the locomotive and the surrounding area although an initial indication was that the risk to the public and the MOTAT team was low.

The Venturer was powered by 2 Pratt and Whitney R-2800 radial engines giving it a maximum speed of 322 mph and a range of 2600 miles.

Its armament comprised 4 x 12.7mm Browning M2 machine guns, and 2 x 7.62mm M1919 Browning machine guns.

It had a bomb capacity of 1.4kg; or 6 depth charges; or 1 torpedo.



Aviation Section's Frank Hannay (left) and Mike Smith working on a flap as part of the Lockheed Venturer restoration project. The work, which includes body repairs, will include a repaint.

Evan James photo

COMING UP AT MOTAT

September 4

Wild Wheels

September 10

Model A Ford Day

September 24 - October 9

Colour - School holiday experience

Until October

Da Vinci's machines

In this issue

Page 2 - AGM Notice

Page 3 - Aviation - restoration of Ventura starts

Page 4, 5 - Tram news - 21's restoration schedule

Page 6 - Model railway history continues

Page 7 - Rail - Meg's cab painted

Page 8 - Printing - Franklin press a hit

MILESTONE REACHED ON 21 PROJECT

A milestone has been reached on the project to restore Wanganui trailer 21 with the uniting of the underframe with the truck.

Although only a temporary fix so the workshop could be re-arranged, project leader Leyton Chan described it as a minor milestone.

However, getting the truck to the stage where it could be rolled under the frame was delayed while defects in the hornway guides in the sideframe casting were corrected.

Meantime body work has proceeded on two fronts, varnishing the laminated ash roof bows, and laminating large pieces of ash for the body pillars. These will be subcontracted out for CNC machining into the 10 pillars required.

The roof bows are being varnished with up to six thick coats of varnish, to act as a grain filler, with each coat being sanded down with 600 grit sandpaper.

To assist the future work on the project Mr Chan has produced a 51 item tick sheet setting out each job required and the order in which they are to be done - see below.

LEFT: Jeff Grobbin adjusting clamps as two pieces of American ash wood are laminated together to form the basis for the body pillars. These are to be contracted out for final CNC machining.

both pictures by Evan James



The underframe of 21 rolls out into the sun for the first time on July 24 after the frame was united with the truck. Some of the timber for the body sits on the underframe.



51 ITEM TICK SHEET

Body/coachwork framing tasks to complete:

1. Complete varnish finishing of roof bows;
2. Repair steel roof bows at ends;
3. CNC body pillars (x10), requires timber to be outshopped for final thicknessing, then sent to CNC to be profile cut. Final finishing will be done in house;
4. Complete laminating bulkhead and body end pillar timber. Outshop for final thicknessing to size then sent to CNC to be profile cut;
5. Outshop end bulkhead panels to be sliced and thicknessed to finish dimension. These will be cut to fit bulkhead framework when assembled;
6. Outshop end bulkhead beam to be thicknessed to size. Shape to be cut on site or outshopped for CNC profiling
7. Outshop cant rail timbers to be profiled. Mortices to be cut on site;
8. Profile and cut front apron pillars and cross-work;
9. Assemble front apron frames & connect cant rail timbers;
10. Manufacture pillar tie-down bolts;
11. Manufacture canopy roof bows;
12. Cut & fit front aprons;
13. Manufacture false ceiling frame and panels
14. Manufacture monitor roof frame;
15. Roof tramcar;
16. Canvas tramcar;
17. Fit gutters & downpipes;
18. Apply beading to panel work;
19. Paint tramcar, line and artwork, clearcoat/varnish finish

Interior fit-out tasks to complete:

20. Make pattern for inboard seat frame, & cast frames ex malleable cast iron;
21. Manufacture seat arms, fit to seat arm upper castings;
22. Machine and profile seat back timbers, varnish & fit grab handles. Fit to seat arms;

23. Machine and profile seat base frames, cut & assemble slats, assemble with iron slat stretchers, varnish;
24. Machine and cut foot rest rods;
25. Fit and finish seat outboard end castings. Two required to be re-manufactured (pattern made, then cast);
26. Outsource sliding doors to be manufactured from existing sample (x2), varnish & fit with hardware;
27. Machine and profile window frame timbers, assemble over-size & fit to framework;
28. Glaze & varnish windows;
29. Machine and fit advertising door framework, fit hardware, varnish & install;
30. Fit sliding window tracks to pillars & finish;
31. Re-manufacture sliding window pillar castings, fit to pillars;
32. Machine and profile pillar to roof bow infill timbers, fit sliding tracks to complete track assembly;
33. Machine and profile floor slats, cut & fit to floor;
34. Remanufacture aluminium side panels, fit steel frames & install;
35. Fit exterior grab stanchions
36. Fit drop rail castings;
37. Manufacture drop rails & varnish;
38. Fit tail lights to apron;
39. Restore concertina gates & install;
40. Remanufacture hand brake units (Christchurch pattern), install;
41. Fit interior wiring & lighting;
42. Fit interior bell & cord;
43. Cut, fit & varnish interior panelling and trim mouldings;

Chassis/Engineering Tasks:

44. Manufacture towing base (Christchurch pattern) & install;
45. Manufacture towing bar & install;
46. Overhaul vacuum brake unit;
47. Design & build brake linkage for vacuum system;
48. Design and build brake system for magnetic brakes;
49. Design and build brake system for hand brake;
50. Remanufacture side step brackets (ex Christchurch pattern) to suit car height when on truck;
51. Machine and fit timber side steps;

PEER REVIEW OF WORKSHOPS

The operations of the MOTAT tramway and railway workshops came under scrutiny on Queen's Birthday weekend when delegates to the Federation of Rail Organisations of New Zealand held their annual conference at Auckland. The conference was attended by representatives of most rail orientated groups and organisations in New Zealand, and part of the agenda included visits to the MOTAT tram and rail section operations.

photos by Evan James



MOTAT's Leyton Chan (right) with delegates from the Tramway Historical Society of Christchurch Dave Hinman (left) and Bruce Maffei



The finer points of CAD as a restoration aid are explained by Leyton Chan to Trevor Burling of the Wellington Tramway Museum (centre) and Stephen Taylor of the Tramway Historical Society (right).



ABOVE: Tony Messenger (right) and Dave Lennard (centre) from MOTAT explain the building of Trailer 21's truck to Murray Sanders of the Tramway Historical Society, Christchurch.



Teachers and pupils from Meadowbank Primary School relive days gone by when their suburb was on a tram route. Here they pose in front of Tram 248 with motorman Albert Chan who displayed the historical destination sign "Meadowbank via Town Hall". The service to Meadowbank Road along Remuera Road, began in June 1930, and was one of the final routes to close in 1956, the service lasting until August 17.

John Miller photo

MODEL RAILWAY BECOMES A MOTAT PROJECT

Life member Les Downey continues his look back at the history of the MOTAT model railway layout under the band rotund.

Part one of the article appeared in issue 23 of The Squeaky Wheel.

Assistance Coming Aboard – With Mutual Benefits

The late Don Allan had started an NZR model train-running group at another venue but there were some difficulties with the arrangements at that venue so I floated the idea of them becoming part of the MOTAT project and I arranged for their evening monthly running nights to be held in the band rotunda basement at no cost in exchange for their members assisting with the layout construction and maintenance.

This resulted in them becoming MOTAT members and eventually in the forming of a MOTAT model railway section, an arrangement that worked well for around 14 years until I left to live in Australia.

I made approaches to other experienced modellers to assist in the construction work and was fortunate to have had some of NZ's finest modellers complementing the effort.

Particularly with the scenery, we allocated various areas to experienced modellers according to their particular expertise and these became their own mini projects within the overall effort.

Inexperienced modellers were partnered with the experienced ones as assistants, and as a learning experience for the newbies.

It would be fair to say that many skills and techniques were shared during the construction period.

One member spent his evenings simply mixing plaster to order for each mini project leader, thick, thin, white, grey, black. He became very proficient and quick in supplying the various needs.

We were thrilled to have an offer of assistance from radio personality Merv Smith whose scenery skills particularly in what's known as "the carpet underlay" method are legendary.

I had never used that method previously but I kept an eye on what he was doing and now I still use the method extensively to this day.

Mr Smith did the morning radio session and called in for a couple of hours most mornings on his way home.

Fellowship And Fun

Merv and I would have morning tea before he got started on "his area". He would often bring cream cakes or cream buns which were enjoyable and appreciated. Because I was often covered in plaster dust or something similar and washing facilities were some distance away I would try to hold the cream cake carefully without getting too much plaster dust on it and a couple of times I dropped it. In the final roundup Merv in his humorous way told me that as I had a habit of throwing my cream cake on the floor he was never going to bring me another one.

And now it's a bit far to come to test whether he was serious or not. Building the layout was hard work and a massive project and the pressure was always there driving towards completion. But we had a lot of fun as well and learnt a lot. There was a sense of belonging in completing as a team a successful project like this.

We were fortunate to have the assistance of a fellow

MODEL RAILWAY

modeller who was also a talented

artist. One evening when he was painting the background bush he was colouring the tree trunks grey. The evening was permeated with good natured ribbing about these "grey" tree trunks to which he smiled and quietly suggested we have a look at some real trees. Well guess what? Mature trees viewed from a distance mostly have grey coloured trunks. Great fun times.

The Details

The large Hapuawhenua viaduct which incidentally is a true 1/64th scale length and height version of the real thing was set out on what I would best describe as a simplified version of a surveying team with plumb bobs and levels to get everything where it should be.

Because of the shape of the band rotunda we were not going to be able to access most of the wiring once the scenery was in place so all the section and point wiring was done with 10 amp 3 core heavy duty power cabling. The idea was that it should never need to be seen or touched again and so far has proven the wisdom of the decision. From memory I think we depleted the electrical wholesalers stocks of cable but he didn't complain at all.

The New Zealand Railways Input.

The New Zealand Railways Publicity Manager in Wellington gave us every assistance and provided all the pelmet photographs and maps as a donation to MOTAT. For three days I virtually disrupted their office sifting through thousands of file prints to fill my shopping list. The co-operation never faltered even though I continually had a changing panorama of several hundred file prints laid out across their carpeted floor. Former MOTAT member and at that time Publicity staff member Kevin Crosado, finally vetted my selection of photos against my shopping list because by then I was almost seeing file prints in my sleep.

The One Downside.

I had approval to commission the building of an operating museum standard model of locomotive K 900 by artisan, the late Jack Boyes. To say the finished product was superb would be an understatement and was done at a special rate as another gesture to MOTAT. Another well know modeller Brian Lilley had changed to modelling in a larger scale and donated his Beyer Garratt articulated locomotive to MOTAT.

Regretably both these locomotives were stolen at the same time and this is the one downside of the whole project. Neither locomotive has been sighted since.

There had been no break in and there were only two keys, one I had and the other kept in the office.

Opening.

In order to provide as much publicity for MOTAT as possible, invitations to the opening were extended to officials of other Museums, rail preservation groups, and model clubs, as well as to every construction helper and sponsor company.

Merv Smith was asked to drive the traditional silver track spike signifying the completion of the trackwork. We had real silver miniature spikes made and because of the size

of the crowd relative to the size of the band rotunda Merv performed the ceremony twice.

The MOTAT Military Section fired their historic cannon as a salute and guests were treated to train and bus rides to

complete a great day.

The Post Office approved a first day cover commemorating the event and the stamps were cancelled with the MOTAT Post Office (yes we had one) imprint.

Theft Of Trains Tragic Say Modellers

Two irreplaceable model trains have been stolen from the Museum of Transport and Technology.

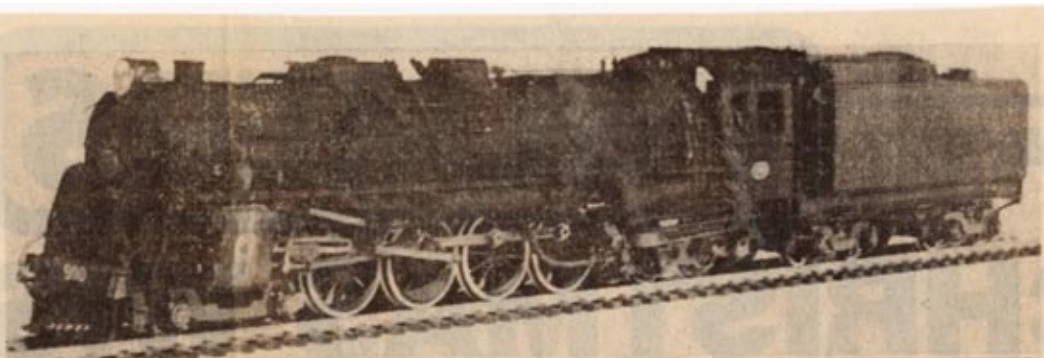
The trains, a 33cm long K900 (pictured here) and a 40cm long Garratt, were taken from the museum's North Island main trunk model railway display sometime between November 18-24.

The chairman of the museum's model railway section, Mr Les Downey, said both trains were made by model railway enthusiasts and were irreplaceable.

It took three years to make the K900, he said.

To find somebody with the necessary skill and time to make another would be almost impossible.

Replacing the K900, which was bought by the museum for a nominal sum, would cost more than \$2900.



The Garratt was on loan from a private model group and would cost more than \$1000 to replace, he said.

Although there had been speculation that the trains were stolen for sale overseas, Mr Downey suspected school children were the culprits.

Both trains ran on HO/00 track, which was commonly used in home model railways.

"We are pretty upset because they are too good to be running on a toy railway," he said.

Mr Downey said "many thousands of voluntary hours went into making the display."

"To do this sort of thing is denying the public the pleasure of seeing it."

MOTAT has offered a \$50 reward for information leading to the recovery of the trains.

14 NZ Herald, Friday, December 14, 1968 * 30.11.1968

MEG SHOWING OFF HER NEW COLOURS



Evan James photos

F.180 "Meg Merrilies" is now showing its true colours with the painting of the cab and coal bunkers.

Painted in the late 1800s colour scheme of black and Indian red with yellow lining, it follows the scheme first introduced to MOTAT on L.507.

The work was carried out by signwriter Shane Price, better known as "The Bicycle Chap" who is a feature at MOTAT on his penny farthing bicycle.

Still to be done is the making of the distinctive saddle tanks, the steel for which has been rolled, and now need to be hot rivetted together, and painted in the same colour scheme.

RAIL SECTION



ANCIENT PRINT TECHNOLOGY A HIT WITH PATRONS

A printing press which can trace its lineage back to 1436 is proving to be a hit with patrons at the MOTAT Print Shop. The press, which is a replica press built by craftsman and boat builder, the late Frank Brough, in the MOTAT Rail Section workshops, was built from plans supplied by the Smithsonian Institution in the United States.

It is a replica of a Guttenberg press, named after its inventor Johannes Gutenberg, who invented it in 1436, recognised as the first printing press to use movable type..

The plans from the Smithsonian were produced by examining and measuring an historical press at the institute known as the Franklin Press, used by Benjamin Franklin when working as a printer in London between 1724 and 1726.

Franklin, who became known as the "Founding Father of America", was sent to London as a tennager to acquire knowledge and equipment for an ill-fated venture to establish a newspaper in Philadelphia.

The press that Franklin used while he was in London, was later acquired by a printing machinery supplier who identified it as the press used by Franklin and presented it to American John B. Murray, and it was shipped to America in 1842.

It was displayed in the US Patent Office until 1883 when it was presented to the Smithsonian.

Since then the Smithsonian has produced a book containing the plans of the press and a detailed description of its design and construction, which was used by Mr Brough to build the replica from recycled rimu.

At the MOTAT Print Shop the press is used for printing patrons' names on previously printed sheets of card, using wooden type, as per the original use of the press.

Patrons are encouraged to pull the handle which works the press, and the resulting sheets are then silver embossed.

PRINTING



The Franklin Press replica at the MOTAT Print Shop.

Evan James photo



Zoe Alderson pulls the handle on the replica Franklin Press at the MOTAT Print Shop to print her name, held by mum Claire.

Evan James photo



Setting up the Heidelberg printing machine to print the stock onto which the patrons' names are later added on the Franklin Press are Norman Laurence (right) and Brendan Laing.

Evan James photo