



# The Squeaky Wheel



The MOTAT Society Newsletter  
ISSN 2350-2940 (Print)  
ISSN 2350-2959 (Online)

Issue 25 - June 2016

## FAREWELL TO FOUNDING FATHER

*In this issue of The Squeaky Wheel we celebrate the life of one of MOTAT's founding members, Ian Stewart, who passed away recently (see pages 4, 5 and 6). Here Ian is addressing the crowd at the opening of the Western Springs Tramway extension to Motions Road corner on December 19, 1980.*

*Albert Chan photo*

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## COMING UP AT MOTAT

July 9-14

Science Roadshow

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## MOTAT BOARD POSITIONS

Applications are being accepted from candidates seeking positions on the MOTAT Board.

The successful applicants will be persons who, in the opinion of those appointing them, have the management skills, experience, and professional judgement necessary for the governance of, and carrying out of the Museum's functions and achievement of the objectives as described in Sections 12 and 13 of the MOTAT Act.

### Members of the Board

The Board consists of 10 members of whom -

- (a) 6 are to be appointed by the Auckland Council; and
- (b) 4 are to be appointed by the Society under Section 14 of this Act.

No person who is currently an elected or appointed member of the Auckland Council, the Chief Executive of the Auckland Council, an employee of the Auckland Council who reports directly to the Chief Executive, or a member of the Museum staff may be appointed or remain a member of the Board.

In carrying out its functions under Section 13, the Board must recognise and provide for, in such manner as it considers appropriate, duties and functions of the Board as viewable on the internet under the Link to the MOTAT Act in paras :- 13 Duties, functions and powers of Board.

Interested persons who have the above mentioned qualities please apply in writing enclosing their C.V. to:-

**The Chairman  
MOTAT Society  
PO Box 44 430 Point Chevalier  
Auckland 1246**

Applications will close 17.00 hours 30th June 2016  
and interviews will commence on 19th July 2016

## TRACKWORK RATED THE BEST

A major upgrade of the track on MOTAT's Western Springs Railway was recognised at industry awards held over Queens Birthday Weekend.

At the Federation of Rail Organisations of New Zealand's annual conference, held at Auckland, the Western Springs Railway received the award for Improvements to Track Layout To Improve Operational Efficiencies.

The work, the first major work to be undertaken on the track since it was laid in the early 1980s, was carried out by contractor Martyn Radford, under the supervision of Richard Croker, a retired New Zealand railways civil engineer, both long standing members of the Rail Section. Martyn was assisted by Nigel Whitwell of Glenbrook Vintage Railways.

Using heavy machinery the existing track was lifted and the sub-bed dug out, to be replaced by a new bed before the track was replaced, using existing track and sleepers where possible, and new ballast spread.

Mainline Steam was the major winner at the awards presentation, receiving the award for steam locomotive restoration for Ja1240, passenger cars for the refurbishment of passenger car Ao48, and diesel locomotive award for the restoration of Tr213.

The goods wagon award went to Silverstream Railway for the restoration of La18921; the rail safety award went to Goldfields Railway for safety work at a level crossing; the tramway award went to Wellington Tramway Museum for the restoration of Fiducia tram 260; the young achievers award to Elliot Baptist of Bush Tramway Club; and the top award, the Paul Heighton Award, went to John St Julian of Glenbrook Vintage Railway.

A major sponsor of the awards was the MOTAT Society. Chairman Henry Swan said the Society has for many years continued its sponsorship of the FRONZ awards for conservation excellence, in spite of the financial difficulties the Society has faced.

He said that such sponsorship was a key part of what the Society is about.

The sponsorship totals \$1500 with the awards being supported being the tramway restoration award and the Paul Heighton Award for excellence.

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## RAIL AND TRACTION STEAM TICKETS

Four new locomotive and traction engine drivers completed their training in March, passing the prescribed unit standards.

This brings the total number of MOTAT team members who hold both qualifications to eight, with a further two team members holding locomotive driver's qualifications only.

The development of the training material for this course will allow more frequent and better organised training of team members, said Chief Executive Officer Michael Frawley.

A second course is planned for late 2016.



*Refurbished trackwork at Western Springs Railway's Waititiko station which helped the Rail Section win the top trackwork award at the recent Federation of Rail Organisations of New Zealand conference.*

*Richard Croker photo*



*Rail Section representatives, Martyn Radford (left) and Richard Croker (right) with former Australia Deputy Prime Minister Hon Tim Fischer, holding their awards at the FRONZ annual awards on June 5. The awards were presented by Mr Fischer, a guest speaker at the conference.*

*David Maciulaitis photo*

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## PLANNING FOR ON-LINE

Work is underway planning for a strategic approach to improving and developing the MOTAT collections online.

Chief Executive Officer Michael Frawley said this included looking at a range of digital media from the collections and new and innovative ways for users to engage with those collections.

More than 8140 photographic items from the library collection have now been digitalised and 2500 of those have been uploaded to the collections online portal

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## CLEANING UNDERWAY

A regime of object cleaning across the collection utilising a combination of part time staff, interns and volunteers is currently being implemented by MOTAT.

To date the fire house, several cottages in the village and the tram fleet have been cleaned.

Chief Executive Officer Michael Frawley said the museum was currently working with contractors to clean the K900 locomotive.

## OBITUARY

# MOTAT FOUNDER PASSES ON

MOTAT lost one of its founding fathers on May 15 when Ian Stewart passed away aged 89 years.

Ian had been with MOTAT since its inception in the 1960s.

MOTAT was born at a public meeting held by the Auckland City Council on July 5 1960, presided over by the then Mayor, Sir Dove-Meyer Robinson, but Ian's involvement began in the 1950s when his younger brother, Graham and his in-laws, the Sterlings, established the Old Time Transport Preservation League with a museum on Mervyn Sterling's farm at Matakohē, near Dargaville. where many of MOTAT's key current exhibits were stored and preservation started.

Ian, an electrician, was by that time a senior electrical technician for the Auckland Harbour Board. and was a signatory to the agreement which established MOTAT.

The first exhibiton hall was opened on the current MOTAT site on March 5 1964 and the museum opened officially to the public in October 1964.

Ian was a General Manager of the Tram Section and had been involved in much of the planning and carrying out of the track and electrical work on the tram system.

After ill health prevented him from being actively involved in the section, he became a consulting engineer to the Western Springs Tramway.

In 2001 he was awarded the Queens Service Medal for his work at MOTAT.

MOTAT Chief Executive Officer, Michael Frawley, said he believed to would be fair to say that Ian was the "father" of the tramway as he had a pinnacle role in its creation, a role for which he was rightly honoured with the Queen's Service Medal (QSM).



*Members of the MOTAT Tram Section, in full uniform, form a guard of honour as Ian Stewart's body is carried to its final resting place in the Waikumete Cemetery. Pallbearers are members of Ian's family, sons Garth and Les, neice Anna Pocock (nee Stewart) and grand-daughter Melissa, and long time Tram Section members at rear Ian Mison (left) and John Wolf.*

*Evan James photo*

"Ian's experience in the working and running of our tramway, from the specialist engineering requirements to the laying of steel rails, to overhead designs, to the inner workings of a tramcar was beyond par in this country," he said.

The Museum intended to commemorate Ian's dedicated service to the Museum, and especially the tramway, by naming one of the tram stops after him or erecting a bench overlooking the tramlines as a tribute.

"Ian may be gone but he will not be forgotten by the Museum," said Mr Frawley

Ian is survived by his wife Margaret, his sons Les, Garth and Malcolm, and their respective wives Helen, Karen and Sharon, and his grand daughter Melissa. His first wife Flora had pre-deceased him in 1961.

*"So with a clang of the foot gong and a clear track ahead, we say farewell. We live with so many memories of you, Ian, and they will always be close to our hearts." - Graham Stewart.*

*"The tram is full, release the brakes, go in peace Chairman Stu." - John Wolf.*

## LOVE AFAIR STARTED WITH TRAM 248

*by Graham Stewart*

Born on March 21, 1927 at Nurse Stewart's in View Road, Mt Eden, Ian was named after his father's close friend, Ian Perman who worked for the British Secret Service during World War 2 and sadly disappeared without a trace. His second Christian name, Walter was given after his father, William Walter Stewart (WW Stewart of railway fame). From a young child, Ian had a fascination with electric current.

As a young child Ian asked me to hold two wires as he unsuccessfully tried to electrocute me with a hand winding mini electric generator!

*The trip which started a love affair with trams. Ian Stewart with younger brother Graham pose with the crew of Tram 248 in 1938. Motorman Dick Sterling is standing next to Ian.*

*photo from Graham Stewart*





*ABOVE: The Stewart family, Graham (left) and Ian (right) with their father, rail historian W. W. Stewart, photographed in front of Auckland tram 11 at MOTAT in 1976*  
*NZ Herald photograph*

My first memory of Ian and electric trams was in late 1938 (78 years ago) when as two young boys we were taken by our father for a ride on the then most modern tram ever to grace the streets of Auckland. This was thanks to our next door neighbour, Dick Sterling, uncle of pioneer MOTAT member, Merv Sterling, who was a Senior Motorman with the Auckland Transport Board.

The tram was none other than No. 248 a key tram in the MOTAT fleet.

We rode from Edenvale Road, Mt Eden to the Three King's terminus and back and we duly posed with the crew for photographs at the terminus.

Ian's first involvement with electric powered transport was at a noted model garden railway in Epsom in the 1940s. This 1-3/4 inch gauge railway was a well-known attraction in Auckland.

It was called Roberts-Stewart-Roberts and apart from two steam-powered locomotives, the rest of the locomotives were powered by electricity.

Frank Roberts, a retired engine driver, had built the models from scraps of tin, often using old jam tins and many of the electric motors ran on a wing and a prayer!

That was when Ian's natural talent for fixing things first came to the fore as he adapted equipment to keep the trains running. Many of these model locomotives are now exhibits at the Museum of New Zealand, Te Papa Tongarewa.

Ian's interest and knowledge in all things electric continued to grow and he soon found himself emerged in his second love – the electric tram.

That story started in the late 1950s and has since gone on to create history.

It's difficult to imagine where the running of the electric trams at MOTAT would be today if it had not been for Ian's dedication over the decades. His contribution to the Museum is deeply appreciated.

I would describe Ian as one of the most kind and thoughtful people I had ever known – a true gentleman, a quiet man with high values.

*LEFT: Auckland's transport and technology history preservation's founding families, the Stewarts and the Sterlings, met when the "I Am The Last Tram" exhibition was opened at MOTAT on September 2 2010. Ian Stewart (left) Graham Stewart (right) with Darcy Sterling (centre) Merv Sterling's son.*

*Evan James photo*



## HIGH STANDARDS FROM A PIECE OF STRING

*by John Wolf*

I first met Ian in 1964, when the trams had arrived from Wellington.

They were lined up along the front boundary and contained a number of spare parts that were sent with the trams.

The first task was to get the trams onto their trucks and get the spare parts out of the trams and stored away.

Ian had a plan (as always) temporary tracks were placed at the western end of the pump house where the Energiser building is now and the trams were placed on their trucks on the temporary track.

Ian's attention to detail in the setting up of the temporary track allowed enough space for points to be included to link with the future track that ran from the back of the pump house and past the admin building to the area beyond the Pioneer village.

It was this level of attention to detail by Ian that was to set the scene for the development of the tramway that was to follow.

Both Ian and brother Graham had established contacts with Engineers at the Auckland Transport Board years before when

the trams were still running in Auckland,

The knowledge and experience of these people was willingly passed onto Ian and Graham, so when it came time to think about laying the tracks putting up overhead and getting the trams running Ian knew what had to be done and what standards we had to work to, and a suggestion from one member that we could just throw down a few sleepers and bolt the rails down was politely but firmly dispatched by Ian. This knowledge was then passed on to other members of the section.

The standards were high and Ian was leading a group of volunteers with no previous experience in track laying. Levels were taken, the track bed excavated and drained and the first few lengths of straight track laid immediately behind the pump house.

That wasn't too bad it was all straight but now we had to think about bending the rails for the curve immediately behind the office building.

"I've got a plan," said Ian who produced a hand operated jim-

*continued on next page*



*Ian leans on the operating bar of a home-made rail bending jack to correct over-bending by the hydraulic jim-crow (seen on the other side of the rail) watched by Ian Mison (left) and Kevin Swan. c. 1965.*

*John Wolf photo*

**continued from previous page**

crow from somewhere along with an 8ft bar that was needed to operate the jim-crow.

This device usually required 3 to 4 men to operate it. It was placed over the head of the rail and tightened up like a giant nut cracker.

Ian was always casting an eye on the amount of deflection in the rail and from his pocket produced a length of string and rule to measure the deflection or curvature of the rail.

The title "Project Manager In Charge of String" was immediately established and applied to the person in charge of the calibrated length of string.

I kid you not the string was calibrated with a knot at each end and one in the centre to ensure accuracy at the measuring point.

The string and cord measurement was used right throughout the track laying process.

The hand operated jim-crow was superseded by a hydraulic jim crow designed by Ian and manufactured in the Harbour Board Workshop along with specially profiled blocks to suit the different rail profiles.

The calibrated piece of string took 2nd place to a deflection gauge made from a scrap piece of aluminium once again with a calibrated scale, I think the scale was a piece of masking tape marked off at 1/16th of an inch intervals and stuck to the back of the gauge. A pointer and spring arrangement registered the amount of rail deflection on the scale.

Once again this equipment was designed and manufactured by Ian. The calibrated piece of string was however retained for use whenever Ian deemed it appropriate.

The implementation of the hydraulic jim crow although heavy to shift but easier to operate did lead to the occasional over exuberance when bending rail and as a result a new phrase found its way into the tramway vocabulary "It's too Bloody Much" which resulted in the use of a tram jack, a wire strop and a block of wood being applied the opposite side of the rail to rectify the over exuberance of the jim-crow operator. There is a photo of Ian applying himself to this task (top of page).

As if laying track and bending rails wasn't enough Ian had thought through the options of running 4ft and 4ft 8.1/2" gauge trams and had made a decision right at the start that the track would be dual gauge.

This certainly complicated things when it came to point work and crossovers, however once again Ian had a plan and the phrase "I've got the drawings" found its way into the tramway vocabulary. Ian produced the drawings he had made and under his expert guidance we set about making the cross overs and open mates for the special work that leads into the workshop and lower tram barn.

The erection and installation of the tramway poles and over head wires was closely supervised by Ian to ensure that they faithfully preserved the system and the technology that applied when the trams were operating in the streets of Auckland. This has resulted in the preservation of an authentic tramway streetscape that is a part of the whole tramway story.

Ian guided the building and development of the tramway through every phase including the Order in Council that was granted by Parliament to allow the Tramway to operate.

In three short years our dual gauge tramway was constructed and became operational thanks to Ian's expert guidance.

The Tramway was opened by the Hon Peter Gordon Minister of Transport on Saturday 16th December 1967.

With the tramway operational attention turned to restoration and maintenance. Ian provided guidance and leadership through the restoration of trams 11, 248, 135, 257 as well as overseeing track and overhead maintenance.

Plans for track extensions to the Motions Road corner, the Zoo and ultimately the MoTaT 2 site were drawn up by Ian with options to run on either side of Motions Rd depending on the position of the road crossing.

The success and efficient operation of the tramway today is due to Ian's forward thinking design.

Ian's ability to lead with honesty, integrity, and openness earned him total respect from everyone he worked and associated with.



*Ian Stewart (right) supervises Ollie Scott (hand on rail) and Ian Jenner, laying a turnout behind the pump house to connect temporary tram storage tracks c.1965.*

*Kerry Bennett photo*



*Three of the MOTAT's original volunteer "army" share memories at Ian Stewart's funeral on May 19. Left is Martin Layzell with Ian Jenner (centre) and John Wolf (right)*

*Evan James photo*

# BLACKSMITH SKILLS TO THE FORE



*A new rail clamp made by Rail Section members (left) alongside an original which was used as a pattern.*

What do you do when you find a vital part is missing during a restoration project.

In the case of the Rail Section, they figured out how the original was made, and made a new part themselves.

This was the case for a rail clamp on the recently completed restoration of crane 283.

The last part of the project involved making a new rail

## RAIL SECTION

clamp assembly.

Old photos had shown that the clamp was missing before the crane's arrival at MOTAT.

The rail clamps are used to secure the crane to the track during operation to prevent tipping.

The clamp was originally to be made by a blacksmith, but after several delays members were decided to make it themselves.

Using a gas torch instead of a forge, members beat a length of steel bar into the shapes required, and added a new screw assembly which they also made to replace worn parts on the existing clamps.

Meanwhile work has continued on Ea 3271, which will be a runner wagon for the crane.

Structural work on the chassis has now finished and painting started. It has received its primer, and is ready for the top coat.

Wood for the floor boards has also been prepared, and is now ready for installation.

In other Rail Section news, locomotive L 507 arrived back on home rails after a six month stay at the Bush Tramway Club's railway at Pukemiro, near Huntly, where it helped to celebrate the 30th anniversary of the club, and ran in service on the club's regular live days.

Work has also continued on the refurbishment of carvan Af 970, by Richard Croker and his small team

## INTERIOR COMPONENTS FOR TRAILER 21

The manufacture of interior woodworking for trailer 21 continues at a steady rate with the completion of the roof bows and a start being made on the end bulkheads.

The roof bows were made from American ash and the bending to the correct profile, as dictated by the steel framing bars already restored, was contracted out to Woodform Limited of Henderson.

However, problems encountered trying to bend the solid wood pieces meant the beams had to be laminated instead.

Once the bows were back at MOTAT they were varnished with seven coats of gloss varnish and work has now started on filler pieces below the bows.

These are being cut from 50mm thick ash stock, which was machined down to 1½ inches thick before being machined to shape.

Meantime work has started on making components for the end bulkhead components.

Working from CAD drawings prepared by team leader Leyton Chan from the remains of the original end bulkheads, the work so far has involved making window sills, door pillars, and end panel stiffener ribs, which has involved a lot of mortice and tenon work, mostly done by hand.

## TRAM NEWS



*The curved roof bows for trailer 21 after their delivery from the specialist wood benders Woodform Limited of Henderson. Made from ash, as per the original specifications, the bows are seen here being matched to the previously restored steel framing. Fifteen in total, the bows have since received seven coats of clear varnish and are ready for installation. Problems with the bending procedure meant they had to be laminated instead of being made from one-piece wood.*

*Evan James photo*

# STORIES OF THE AIRTRUK FROM THOSE WHO KNEW

## AVIATION



by Volunteer Aviation Host  
Christian Lamdin

*"The stories I hear from the people I host at the Aviation Display Hangar are definitely a significant reason why I am there. Stories of the young and the old."*

On arriving at MOTAT 2 it can be a little difficult for visitors to get past the Avro Lancaster such is its imposing nature right at the entrance to the Aviation Display Hall.

As a host it is so easy to loiter near the entrance and then get so caught up in the fantastic stories of this exhibit that ten or fifteen minutes have passed before I realise that at this rate it will be next Friday before these poor visitors manage to get back on the tram to MOTAT 1 with their ears still smouldering.

However, recently I caught a boy of about 12 years of age taking a photograph of the Transavia Airtruk.

I swept on him and started highlighting the sesqui-wing, the twin booms reminiscent of a P38 Lightning, but with separate tail-planes that allow the truck to back right up, and the fact that an engineer could be carried in the back (not that I really knew why a topdressing pilot would be wanting an engineer on board?)

"Yes" he said, "the Fletcher also takes a passenger but it is usually a truck driver not an engineer."

I was impressed at the immediacy of his knowledge. We exchanged names, his was Hugh, and I enquired further about his knowledge.

"My father flies one down in the South Island. He works on the Linton Station and the truck driver also operates the loader.

So if they're working in a remote place and there is lots of country to cover, the truck driver will drive up to a remote airstrip and meet Dad there.

Then he loads the plane all day long and at the end of the day he hops in the plane to get a lift back down, and then the next day gets a lift back up. That way they can just leave the truck up there."

I was impressed and pleased that my understanding was able to get such a tune up.

"I was just wondering" he asked "how stable they are when they land with the wheels being so close together?"

"Sorry I have no idea" I responded. "But what I can tell you is that the Transavia was seen as a step up safety wise over some of the other planes being used for topdressing, including I guess the Fletcher, because often the other planes had the motor in the front and the fertiliser in the back, and if in the course of swooping over trees and in and out of paddocks the pilot makes an error and goes into the paddock, he risks ending up being the jam in a jam sandwich and getting squeezed out the sides."

"Yes that happened to my father last year", the young fella responded.

"Luckily he knew to lift his feet as he went into the ground otherwise his legs would have been trapped. All he ended up with was a broken back and cuts to his mouth from the dashboard.

"Also he said that as you go into the ground it is advisable to open up the throttle because then the prop rips the engine out which

means it doesn't squash you. And he did that too; the engine ended up 50 metres behind him back in the paddock."

I was learning plenty.

Hugh then pointed to the Cessna Agwagon and pointed out that it looked to him like it was painted in the Phoenix colours, the same company that his dad flies for.

We popped up stairs to read the information board, and wouldn't you know it, he was spot on.

I then got caught up talking to his grandmother who had worked for Air France loading and unloading catering for Concorde amongst other jobs, but that's another story. This one is about the Airtruk.

After I left them to wander through the rest of the exhibits, I returned to the Lancaster and introduced myself to the very next visitors I encountered, three elderly women (and one of their husbands perhaps) who had just arrived.

One of them, well into her seventies at a guess but very youthful and energetic introduced herself as "Wanting to see how many of these planes I've flown".

"Oh yes which ones?" I asked.

"Well I can see the Airtruk, and I know you've got a Victor (AESL Airtourer) and an Agwagon, and the Tiger Moth."

"That's interesting" I responded, "I've just been talking with a young man who was wondering how the Airtruk handled with such a short wheel base..."

"Oh it was fine, it was a lovely plane" she said.

"I flew it as a glider tug for the Auckland Gliding Club, and it used to come in beautifully, you could see everything" ... and she mentioned something about how nicely it "rounded out" or something similar which is technical lingo that I don't understand, so my apologies if I haven't expressed it correctly. (She also said that she didn't fly it much because if she had the seat right forward to she could reach the pedals, then she couldn't get the stick right back, and if she had the seat far enough back so she could get the stick back, then she couldn't reach the pedals).

Her name was Rosemary Gatland and her father Frank Gatland had flown Short Stirlings in WW2 before being shot down over France and taken prisoner.

He escaped several times and ended up at Stalag Luft III from which one of the great escapes took place. But that also is another story. This one is still about the Airtruk.

Tuesday, one week after the above events took place I was back on duty on a very quiet day when a rather rough and ready elderly gentleman (well into his seventies) entered the Aviation Display Hall.

I introduced myself to him, and with a big smile on his face he swept past me in a rather brusque manner with no immediate interest in any information I could give him. But about an hour later he caught me up to tell me that the signboard for the Auster Aiglet says that the Gipsy Major engine puts out 300hp, which is rather optimistic as they usually only put out 130hp.

Having just been reading about Jean Batten and these inter-war planes I already knew this so we had a bit of chuckle and I asked him a little more.

He had flown the Auster, learnt to fly on Tiger Moths, also flown the Transavia, "a nice plane" he said, "always rounded out beautifully"... I had to interrupt him at this point.

"With Auckland Gliding Club?" I asked.

"Yes" he answered.

So I told him about the ladies from last week. "That'd be Rosemary Gatland" he said. "Her father flew Lancasters in the war."

"Stirlings" I corrected him.

"I taught her to fly" he said. "Back in the 60's. Tiger Moths. They're collectable now though. Some of them fetch up to a hundred and twenty thousand dollars."

And so it continued. Another day on duty in the Aviation Display Hangar.