

Welcome to the second of our four Squeaky Wheel special issues celebrating the 60th Anniversary of MOTAT and the MOTAT Society.

We are still on the lookout for articles - a special MOTAT history memory, a favourite item you'd like to highlight – so please do get in touch with your ideas for our next issue!

Once again thank you for being an integral part of the Society's story and supporting the museum. Here's to 60 years of MOTAT and the MOTAT Society and our shared values and collective commitment. We hope you enjoy this, the second issue of the 60th Anniversary special issues for 2024.

MY FAVOURITE ITEM IN THE COLLECTION... Polaroid Spirit 600 CL.

Accession number: 2021.28 https://collection.motat.nz/objects/124815/camera-polaroid-spirit-600-cl. Department: Visual Technology

Related items: Operating manual, accession number PUB-2023-1 https://collection.motat.nz/objects/129346/polaroid-spirit-600-cl-operational-instructions.

The Spirit 600 CL is an instant camera produced by the Polaroid Corporation in the early 80s. Distinctive in its silhouette and branding, this specimen of the classic folding camera in all black displays the classic Polaroid Corporation logo, practically an icon of the 1980s. The camera features, of course, the stunning innovation of Polaroid, the instant photograph. But with that convenience comes packaged a host of limitations. A fixed focal length of 106mm means you have a minimum distance you can be from your subject (the CL stands for closeup - and includes a close-up lens you can slide across for distances of 60cm-2m), a limited range of shutter speeds and apertures with no ability to adjust them manually, and a flash that defaults to on, even in daylight. But it is these limitations coupled with convenience that most likely saw the resurgent interest in cameras like the Spirit 600 CL in the 2000s. The Lomography movement of the late 90s and early 2000s entered the public with candid consciousness. its focus on spontaneous photos over carefully crafted or technically brilliant photography. The aesthetic was a spiritual predecessor to the early photographic filters of Instagram, an embracing of the imperfections that gave film photography, and instant film, its "retro" quality.



Above: Polaroid Corporation. Camera [Polaroid Spirit 600 CL], 2021.28. The Museum of Transport and Technology (MOTAT).

The Spirit 600 uses the classic Polaroid 600 instant film which is maybe the most recognisable of any photographic format. This film was discontinued after the bankruptcy of the Polaroid Corporation in the early 2000s, but in 2010 the film was relaunched after the acquisition of the Polaroid production plant by The Impossible Project (now known as Polaroid B.V.). The nature of the film, to me, is the most interesting part of these cameras. I can't remember the first time I encountered a Polaroid camera, but I expect it was in my early teens. At this point, instant film was pretty cool, the convenience of it, but I didn't give it much thought beyond that at the time. On re-encountering instant film in my adult life, after forays of varying depth into film photography, my technical understanding of film development has made the instant film development process somehow more, rather than less, magical.

Photographic film (and paper) is light sensitive, usually through an emulsion infused with silver halide particles. Once it is exposed to light, a chemical process is introduced, causing the areas exposed to light to change to a tone or colour. Colour film has multiple layers that are sensitive to certain wavelengths of light, and in addition to a developer chemical, it requires dye couplers to bind different colours to the developed silver particles: a complicated process in the dark room, best left to experts.

Instant film does it on its own, and the way it does it is almost comical. Taking the photo happens in the same way that an ordinary film photograph is taken - the shutter opens and the film is exposed to light. The Polaroid then ejects the polaroid from the slot at the base of the camera. That slot plays an important role. Down in the base of the 600 film, in the large white rectangle where you label your photograph "besties," is a pod containing the development chemicals. The slot that the film exits through acts like a laundry thresher, squeezing the chemicals down along the photograph as it exits, and starting the development of your photo. The polaroid is a marriage of the science of optics, a complicated chemical process, both ingeniously married with a mechanical innovation. No wonder it continues to capture people's imagination!

Article by Richard Kearney

If you would like to share your favourite item in the MOTAT collection, send in a contribution - 200 words, and a link to the item on MOTAT's collections online.

items can be viewed at https://collection.motat.nz/explore or contact the collections team on <u>collections@motat.org.nz</u>



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ARCHITECTURE OF THE WESTERN SPRINGS PUMPING STATION AND ENGINEERS COTTAGE

There are more than 100 paces between the back door of the Engineers Cottage and the entry to the Pumping Station, the engineer's workplace.

Western Springs Lake, to the north of the Pumping Station, from which the water resource was drawn is not to be seen nor featured. The lake was formed by Auckland City Council in 1875 to contain water discharging from a volcanic aquifer and spring¹.

MOTAT is bult around the legacy site of the two separate distinct buildings. They are the anchor stones of MOTAT and foundation artefacts to its collection and existence.

The lake is not an artefact.



Above: An early image from the lake showing the chimney and north side of the pump house and boiler house. Note other buildings and boats on the lake edge. PHOTO CREDIT: NZPINTEREST.COM

Constructed 1877, the Engineers Cottage is a single storey twin gable (transverse) weather board dwelling, of a type seen all around the adjacent suburbs of Ponsonby, Grey Lynn and Arch Hill. It predates the next wave of residential subdivision in Auckland represented by the bungalows of Westmere and Pt. Chevalier.

Homes of the era address the street, like any other home with a white painted picket fence in this case facing east to Great North Road. Pre motorway Western Springs and Great North Road would have been a very different community. The lake a less picturesque and utilitarian setting.

The Engineer would have gone off to work through the back door of the cottage and strode the 100+meters to oil the pump and maintain the fire in the boilers. He

may have used the main entry on the south side of the assembled building group, walking into the prevailing cold southwest wind hardening his determination for a hot fire.

The Western Springs Pumping Station (design by William Errington and constructed in 1877) is an ensemble of building made up of three joined parts, each diminishing in stature, height and grandeur. The Pump House is the show piece on the west, the boiler house is practical and central, with a utility lean-to office on the east (perhaps a later addition).

The Pump House with elevated granite entry steps to double doors leading to a furnished two storey lined interior housing the dinosaur sized pump, a living entity moving and rhythmic. The of form of the building follows the functional requirements of the Beam Engine Pump serving and delivering water to the population of Auckland.

Construction is of Avondale (assumed) brick set in complex courses (English Bond) with colour and brick face variation to fascinate the eye.

Exterior elevations of the Pump House feature Bluestone basalt rock plinth and corner quoins on the exterior corners to frame the brick fabric with a concrete frieze and cornice line with concrete corbels. The hip roof with ventilation lantern is unseen from close quarters behind a low brick parapet but can be seen from an elevated distance. Originally the roof was slate now corrugated steel. Large arched windows give light to the interior and visual elegance with slender fenestration to lighten the exterior proportions.

The Boiler House is a separate building joined to the Pump House and accessed internally from it. It is a building of industrial utility and purpose with only a few high-level windows and twin large high arched door openings on the south side. The stone quoin edge of the Pump House drops to ground between the Pump and Boiler Houses to delineate the hierarchy. A fragrance of burned coal and heat with the potential energy of the boilers displayed and active excites the Boiler House interior. The Boiler House interior is unlined, the wonderful timber structure of the roof can be seen above, dark with coal dust and soot.

Bricks (some or all of them perhaps) from the former chimney, demolished in 1948, lie on the ground as paving.

A simple lean-to is the third building at the east end is of basic brick with orthogonal access doors and windows scaled for people to enter and look out from, serve the boiler and pump engine with supplies or equipment and keep records of service. The brick exterior courses are ordinary running bond. The mono pitch roof is corrugated steel sheet. This building may be an addition as the junction between it and the Boiler House is very clearly distinct and butted together. It is the south (cold) side of the Pump Station buildings on which all the coming and going happens and the museum experience is gained. The lake an extremely picturesque vista of sun warmth, shelter and water with New Zealand and exotic trees and bird life is not engaged other than as back drop. Unfortunately. The north side of the Pump House is leaned on by an inventive tram barn roof, it is to my eye, one of the nicest roofs in Auckland.

Why the design of the residence and the industrial plant turned their backs to the sun and arcadian environment of the lake is a signifier of the times and culture in which they were designed and built. The intent being to provide a visible show of serious importance and stature to the public domain of Great North Road. Displaying with civic pride the new technology and healthy resource provided to the people and development of Auckland in clean fresh water.

A vision for the future might include the lake as an artefact drawn into the museum domain, the beam engine delivering water to an entertaining feature enjoyed by people occupying the sun and shelter of the north side of the Pump Station on the edge of the lake, a research fellow resides in the cottage (heated by steam) exploring the future use of steam technology to supplement other motive power sources.

¹ Auckland Council information

Bruce Wild is an Architect, Volunteer at MOTAT and Committee member of the MOTAT Society

photographs by Bruce Wild or as noted



Above: North side of the Pump Station

BIOGRAPHY : RODNEY DEARING

Rodney Dearing was appointed Director at the Museum of Transport & Technology in May 1984. His appointment was the first under the new Trust Board following the Museum's financial rescue by Auckland City Council.

The arrangement with Auckland City meant that the Trust had acquired the entire museum from the Society for the price of one dollar, while the Society Committee continued to work alongside the Director to manage the operations.

Rodney soon got into the milieu of managing the museum and had the dubious task of reporting to two organisations – the new board (with overall financial oversight) and the newly reformed Society and its management committee.

His tenure was marked by some significant developments that have formed the basis of where the museum is today. Some of these key developments were outlined in the Motat Messenger of May 1988 – only four years after Rodney had started.

The first of these was the handing over of the Aviation Centre Phase 1 building. This enabled the Lancaster bomber, which had been in the custody of the museum for 24 years to be moved fully under cover. A major programme of conservation and refurbishment got underway under the management of the Pathfinders team.

Rodney, together with the board then went on to negotiate with Auckland City funding of \$1.6m for the proposed Science Technology Centre. The idea of a centre for science and technology was certainly one of Rodney's most remarkable

achievements. He had already explored how such a centre might work with 25 interactive exhibits that had been installed previously in what was called the Exploration Gallery.

Not everyone was enamoured by the "science" part of technology. However, as outlined in the chairman's report to the Society Annual General Meeting in June 1988, it was very much the time to mark Motat's difference from the "folk" museums of the past, to meet new challenges in the leisure market to sustain its future. Rodney Dearing headed the drive to meet the challenge of attracting and engaging the new generations as they came along.

Rodney Dearing stepped away from the Museum in 1994, having left an incredible legacy that has been built on since then. Sadly, Rodney passed away a few years ago. With the opening of Te Puawananga Science and Technology Centre in 2024, Rodney would be well pleased with what has further developed from his contribution.



Above: Sep 1992. Fire Engines : Seagrave, unveiling, 03-2058. Walsh Memorial Library, The Museum of Transport and Technology (MOTAT).



Above: Portraits : Rod Dearing, 04-1961. Walsh Memorial Library, The Museum of Transport and Technology (MOTAT).

FRONZ SUSTAINABLE FUELS AWARD FOR MOTAT

MOTAT was recently presented with an award from FRONZ for our efforts to introduce sustainable fuels into our operations along with a \$1000 to go towards the cause.

We started down this track two years ago with a visit to SCION (the Forestry Research Institute in Rotorua) to find out more about a product - torrefied wood pellets - they were making on a lab. scale from waste forestry slash. Use of this material for a fuel appealed at the time with slash presently being a waste product and causing untold damage when the motu is subject to severe flooding.

More importantly though it can be a sustainable, recyclable product provided the forests are renewed. Sure, you can argue you produce CO2 when you burn it but if the forests are replanted the CO2 gets reabsorbed by the growing trees in an ongoing cycle so there is a constant balance.

On the other hand, burning fossil fuels add incrementally to the total carbon dioxide already in the atmosphere and we are all becoming painfully aware of what this is doing to our weather.

The load of torrefied pellets made for us by SCION was burnt in 100 in a carefully monitored trial which impressed us all at the time - good steaming capability with little smoke and ash - generally a cleaner operation all round. We used around 30% more fuel than for the equivalent operation on coal.

We should be able to improve on this consumption when we have access to a completely torrefied product with a heat value similar to coal. Unfortunately, no manufacturing plants are in operation in NZ producing this product yet.

In the meantime, both the MOTAT boiler house and 100 are running on another waste product. This is made from compressed Vitex sawdust and is in the form of 50mm diameter pieces not to dissimilar to lumps of coal. Again, the calorific value isn't as good as torrefied wood or coal but Vitex like our native Puriwi, is one of the hottest burning wood's around.

Provided we keep this product out of the rain we are both getting a good result burning this substitute fuel.

Our operations are much cleaner with reduced smoke and smell and an ash that is valuable for gardens rather than a toxic sulphurous waste we were dumping as landfill previously.

Other heritage boiler users are watching our progress keenly as coal is gradually phased out and none of us want to see our heritage steam treasures relegated to cold, rusting, lifeless museum pieces.

A group of us recently returned to SCION for an update on torrefaction and progress towards making this fuel in NZ.

A new business venture - Foresta NZ - is well underway with plans to set up the first commercial plant in the Kawerau - Rotorua area shortly. We had a discussion with their management in their Tauranga office on the same day we visited SCION.

Following on from this first plant, Foresta's plans are to build a number of identical plants alongside all the major exotic forest areas in NZ. First product is probably two years away and if we can talk them into compressing into coal sized lumps our future fuel needs will be solved.

By Tony Messenger



A MOTAT SECRET – LOCKHEED LODESTAR ZK-BVE

ZK-BVE with its stubby fuselage, drab yellow paint and unrestored state is the least appealing of the MOTAT aviation collection. Now a topdressing aircraft it has a history and story line that ranks it up with the Solent and the Lancaster as a MOTAT star.

The aircraft was built in 1940 by Lockheed, one of four Series 18 models purchased by United Airlines in the early days of American commercial aviation. She operated from October 1940 as the City of Fresno on the Los Angeles – San Francisco service.

It was taken over by the US Government in May 1941 for transfer to the British RAF under the World War II Lend Lease programme to assist the British war effort. This was a time when the Douglas DC-3 became the dominant commercial airliner and United purchased no more Lockheeds.

The aircraft operated in Africa under BOAC (British Overseas Airways Corporation) registration as G-AGCN Lake Victoria based in Cairo, Egypt from Sept 1941 to November 1947.

During this time in 1941 – 1942 the aircraft would have been involved flying supplies into Malta then under siege by the Italian and Nazi German air forces and navies. Air Vice Marshal Park, the New Zealander the MOTAT Aviation Museum

is dedicated to. He commanded the RAF in Malta at that time, defeating the Luftwaffe in 1942, and preventing the island being captured.

Postwar from 1948 to 1957 the aircraft flew with European and American operators. In 1957 it was ferried to Sydney and converted to a top-dressing aircraft. Purchased by Fieldair in 1957 it came to New Zealand and registered as ZK-BVE.

In 1961, Fieldair, James Aviation, and Rural Aviation combined to form Airland NZ Ltd, based in Palmerston North. In December 1968 it was damaged in a wheels-up landing and its registration cancelled.

In 1971 it was acquired by MOTAT and brought to the Sir Keith Park Memorial Airfield in Western Springs - two old heroes re-united.

International aviation is a major and dynamic industry. In the old MOTAT Aviation Museum format when the Solent was accessible to visitors there were a stream of cabin crew from foreign airlines coming to have a look at the inflight catering facilities of the Solent. The stewards personally cooked the meals on a small stove in a galley and clambered over a main spar to get to the flight deck. The modern crew visitors invariably got the giggles at the primitive conditions of first class flying in the 1950's.

In due course when the Lockheed is on show it will be of great interest to the United Airlines crews visiting Auckland to visit one of their airlines first passenger aircraft from 80/90 years ago. Probably a lot more giggles.

By Bill Rayner



Above: The original United Airlines plane

Above: The aircraft at MOTAT in 1988.

WHAT'S IN **HAT**? A **EXTENSIVE HILLS HATS COLLECTION** MOTAT'S

Hills Hats have operated in the Wellington region since 1875 and in 2025 will celebrate their 150th anniversary. They have been renowned for their mix of innovative and traditional hat-making techniques and have been providers of elite fashion items as well as thousands of uniforms. Their clients include artists like Rudi & Lissy Robinson-Cole, Troy Kingi, and Willie Nelson and large organisations such as the Black Caps, NZ Police, and (most importantly) MOTAT.

Uniform items (and hats) manufactured by Hills Hats can be found in museum collections all around Aotearoa, but MOTAT has the largest collection - 44% of all items collected and publicly available.

Museum	Transit/port Authorities	Airlines	NZDF	Emergency Services	Fashion & civilian	Unknown / other
MOTAT	19	10	2	1		3
Auckland Museum	1		13			
Maritime Museum	3		1		1	
NZ Fashion Museum					3	
Waikato Museum	2					
Tauranga Heritage	1		3	3		2
<u>Te Papa</u>			2		1	1
Nelson Provincial					2	1
Museum					2	T
<u>Canterbury</u>			1			
<u>Museum</u>			1			



Figure 1: New Zealand Rail et al. Uniform Hat [Station master's cap], 2014.339. The Museum of Transport and Technology (MOTAT).



Traditionally Hills Hats' biggest customers have been government agencies, particularly emergency services, defence force agencies (including in the 1990s being the official supplier to the UN), and transport-related agencies (including port, harbour bridge, bus, tram, and rail organisations). In 2020, most of their international orders dried up, and they temporarily pivoted to high fashion face masks.

Hills Hats have also been the long-term official supplier of MOTAT's caps on the tramway and railway. There are none presently in the collection (they're working on it), but a wander out onto the Western Springs Tramway any day of the week or M2 when rail is in operation will give you a variety to see in person!

By Scott Pilkington

Figure 2: Hills Hats Limited. Apr 2020. Face Mask, 2020.8.1. The Museum of Transport and Technology (MOTAT).



Figure 3: Sam and John demonstrating the finest Hills Hats fashion on board No. 248, June Live Day 2024. (1News Reporters 2024; Dix 2018; Government House 2020; Hills Hats n.d.; Lawrence 2017; Prasad 2023; Lei'ataua 2024)

Further reading:

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hats/HG7ZSVB6VBH3DGBWFHDC55MBWA/.

MOTSOC VISIT TO IHUMĀTAO

In April a small cohort of MOTsoc members visited Ihumātao where we were taken on a guided tour of the Ōtuataua Stonefields Reserve by Layna Tawha-King and Elleshia Aiono from Te Ihu a Mataoho. The stonefields is an historic commercial garden built in the 15th century using Polynesian farming techniques that utilised the sun to heat stone wrapped garden beds and warm the soil for temperate crops.

Standing at the highest point, our guides pointed out key features in the landscape, including the emptiness of maunga long quarried away. They shared stories of their ancestors and how those stories named the area

and its features. They also shared a timeline of how the huge garden and its surrounding village were encroached upon in the 1840 and 50s, to the alienation and raupatu (confiscation) of the land in the 1860s, through to a reclamation, including the recent eviction and resulting protest in 2019.

The tour was followed by a rongoā (herbal/plant remedies and Māori medicines) demonstration and a walk through the rongoā gardens the iwi is currently cultivating. This was a unique MOTsoc trip to better understand mātauranga māori



ŌTUATAUA

and Tamaki Makaurau Auckland's deep social history. We hope to return again soon and seek out similar opportunities for learning for the MOTsoc members. By Makyla Curtis Photos by Scott Pilkington



IN MEMORIUM FRANK HANNAY

Long standing MOTAT Aviation volunteer Frank Hannay passed away in May and was honoured by a memorial service in the MOTAT Aviation Hall on May 14th attended by many of his old MOTAT Aviation volunteer and aviation industry colleagues as well as his family and friends.

Frank joined TEAL as an apprentice aircraft electrician around 1956. TEAL became Air New Zealand in the 1960's. On completing his apprenticeship in the early'60's he joined the NZ National Airways Corporation.

He worked on a variety of aircraft over his time with NAC with the DC3 becoming his favourite, with the job of taxing the aircraft from the tarmac to the hangar one he particularly enjoyed. He stayed with NAC which became the domestic division of Air New Zealand for some time later moving into line maintenance which involved monitoring and servicing aircraft problems when operating passenger flights.

Frank retired from this position, and on retirement joined the Aviation Section workshop group under around 2010. This was a time when MOTAT management looked to the Section to complete the restoration of as many aircraft as possible to fill the new Aviation Museum extension before the official opening.

With only one aircraft engineer there at the time he was welcomed with open arms, and later became a great assistant to the Aviation manager and a member of the outstanding group of retired volunteers who restored the MOTAT aircraft collection. He also had a particular interest in the Air NZ 747 simulator re-activation.

By Norm McKelvey Retired Aviation Section Manager

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