

JET CRUISER

*Funahua*

*1955 - 2010*



*The Story So Far...*

Sometime in 1954 Gisborne mechanic **H.W. (Bert) Grundy** heard about Bill Hamilton's success with his first jet boat and promptly ordered a waterjet unit from Irishman Creek. Only seven of these Hamilton Quinnat jet units were built, and Bert received No. 6, which he installed in a home-built 20ft glass-over-ply hull he named "Aurora".

Aurora was very likely the first jet boat in the North Island (Bill Dippie went to see Aurora being built before he built his first jet boat) and the first fully fibreglass jet boat anywhere. It is also interesting to note that Bert's younger brother Arnold also ordered a Quinnat unit (No.4) which he put in an aluminium hull he built a couple of years later - but that's another story.

As a mechanic, Bert had access to the latest engines and technology, so he powered Aurora with a MkII Ford Zephyr block, using triple carburetors, a home-marinated exhaust and a cunningly crafted heat exchanger system using copper tube inside a large hose pipe.





Completed in 1955, Aurora was predominantly used for recreation and waterskiing on the lakes around Rotorua, but she was also raced against outboard and power boats during the late 1950s.

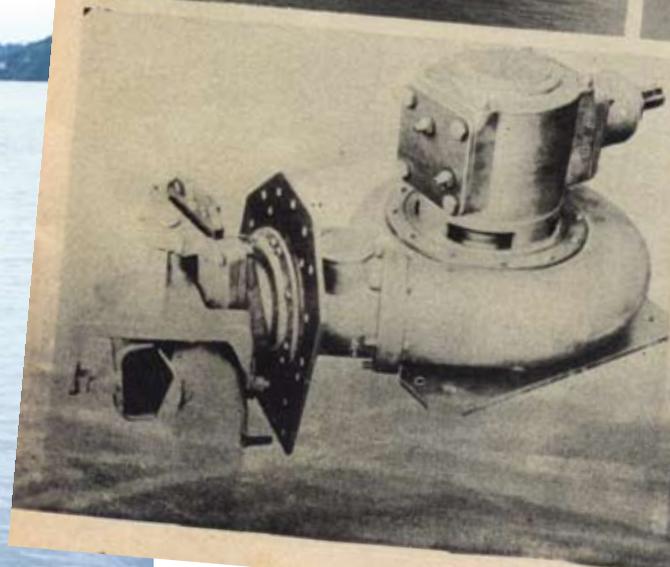
Sometime around 1956 she was given a new paint job and a curved splash-rail added, then in October of that year Bert demonstrated Aurora on the Turanganui River in Gisborne (Ref: Gisborne Photo News No.28, 18/10/56).

Later she was fitted with a wrap-around windscreen and soon after a removable cabin roof and a new single-piece sliding engine bay cover - both made from fibreglass.

Then in the early 1960s Aurora was put in a shed at Lake Rotoma while Bert moved on to new adventures – and there she stayed, unused and untended for about 43 years...



...almost as calm as the Waimata and proved no test for her handling in rough water, but back in the Turanganui River (below) Mr Grundy put the Aurora through her paces. She made some striking patterns as her owner threw her about in the channel.



Left: The marine jet unit which gives the Aurora its propulsion. The pump at right driven by the shaft, top right, takes in water through bottom of boat and drives it through nozzle at left. Nozzle has a flap arrangement which can direct jet to left or right, eliminating need for rudder. Below: The Aurora on its trailer, with the hoist in position. This holds boat up while trailer is driven away, facilitates easy handling at river-side.



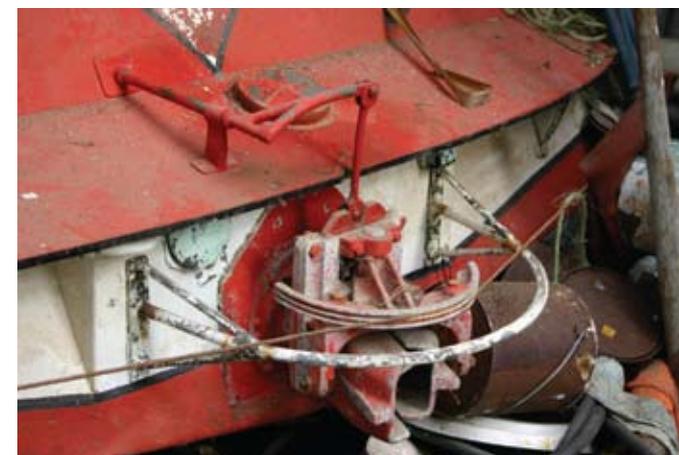
*Hidden Treasure...*

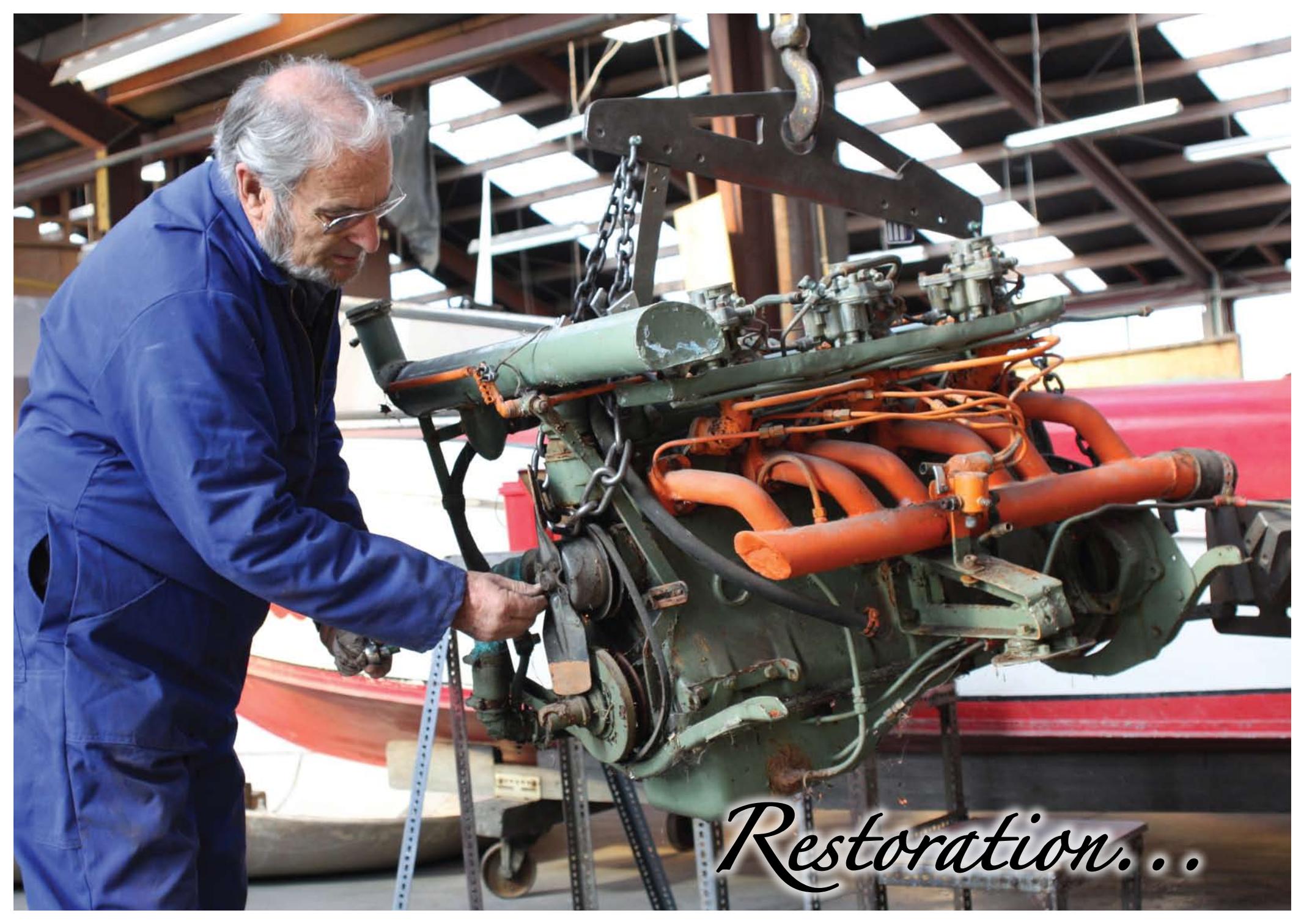


In 2008 **Tony Kean**, Publicity Officer at HamiltonJet in Christchurch, was contacted by a friend of Doreen Grundy, Bert and Arnold's sister. The brothers had both passed away and Doreen didn't know what to do with Aurora or Arnold's boat "No Miss". So her friend suggested HamiltonJet might be interested.

Tony travelled to Lake Rotoma and Tauranga to see the two boats and confirm their authenticity, and to have a look through photographs and movie film of the boats in action during the 1950s. He returned inspired by the originality and character of both boats, and convinced HamiltonJet management of the historical significance and value in these very early and unique jet boats – and a deal was struck.

Aurora and No Miss were picked up and transported to the HamiltonJet Marine Division workshop in Christchurch, where No Miss was stored so the restoration team could concentrate on getting Aurora back to her original glory.





*Restoration...*

The small team of volunteers from HamiltonJet hit their first hurdle virtually right at the start of the project. Not only had most of them never done anything of this scale before, but they had to work around their jobs so were always going to struggle to find the time to really commit to the project. Luckily local technology teacher and experienced car and boat restorer **Gordon Common** offered to help. His efforts early on in helping Tony and **Greg Lye** in stripping the boat out, as well as cleaning the hull and helping to prepare it for painting were invaluable in kick starting the process. Gordon also built the new dashboard and brought out the beautiful natural colour in all the steering and reverse system pulleys.

The engine was stripped down and cleaned up, then painted and rebuilt by **Dave Madeley**, while **Colin McCall** rebuilt the Quinnat jet unit which was then painted in the HamiltonJet factory by **Jason Ennis**.

**Neville Reeves** sanded and painted the hull bottom, then it was flipped back upright where first the cockpit and engine bay were painted, then Jason prepared and painted the top side. Paints were provided by **International Protective Systems**.

Now with the hull finished, work began refitting the waterjet and engine, and connecting it all together.





Again the team faced a conundrum – how much to keep “as original” and how much to “tidy her up”. It was generally felt the original petrol tank, heat exchanger system and other assorted water hoses, wires, springs and cables all cluttered the engine bay, detracting from the engine and jet, and were also in stark contrast to the clean lines of the hull. So it was decided to simplify everything to allow for a clean engine bay and easy view of the engine and jet unit.

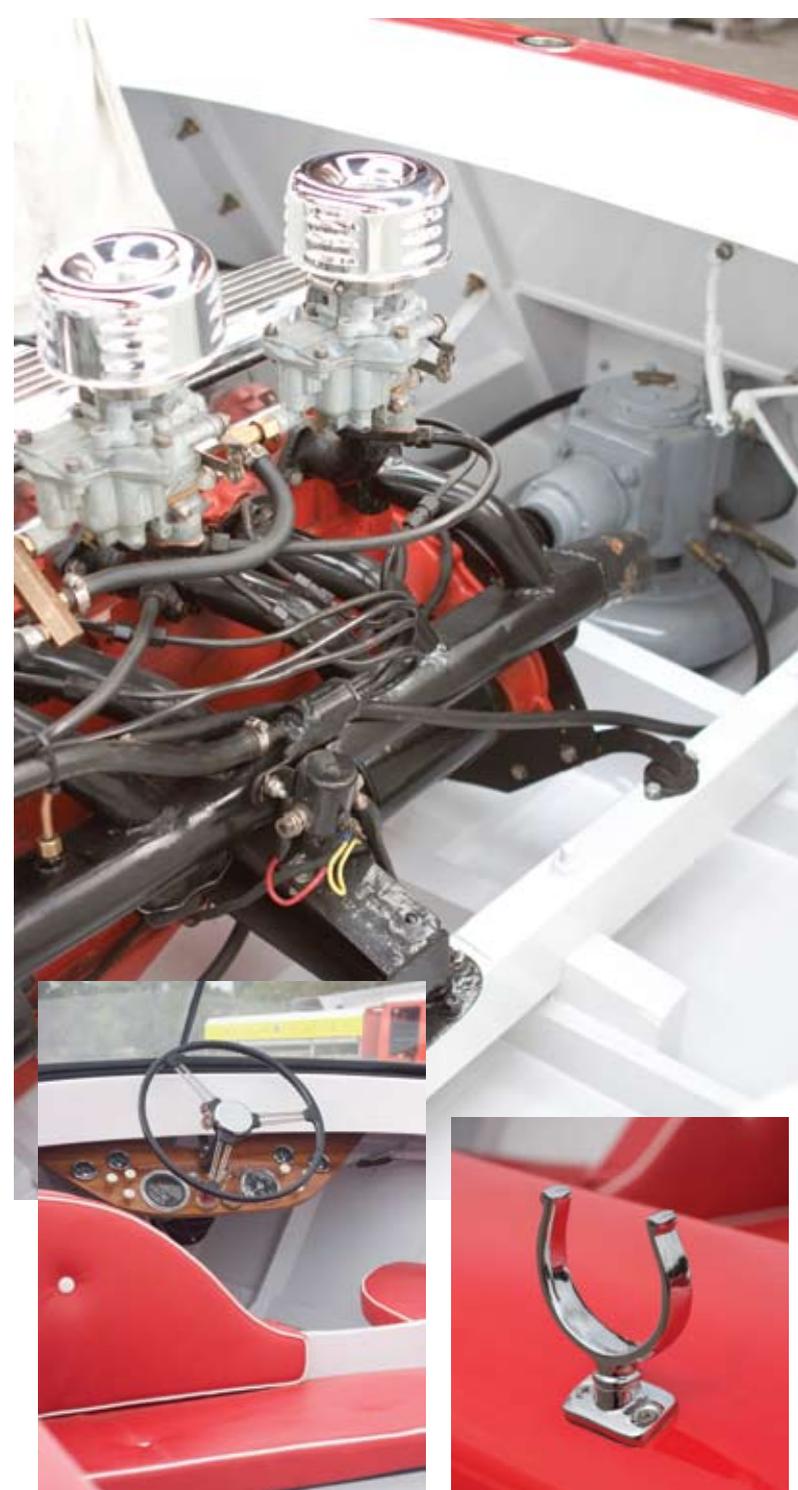
**Roger Abel** built a new raw water cooling system and fuel tank, while **John Sexton** rewired the boat and **Neville Reeves** rebuilt the engine bay covers to the original style - two lids hinged from the middle. **Clarkson Sign Studio** recreated the original Aurora logo for the side of the boat and other signage.

Aurora’s original trailer was too far gone to salvage, so **John O’Brien** welded up a new one to provide better protection of the hull and allow for easy viewing, launching and retrieval. **Steel & Tube** provided the steel for the trailer and **TWL** supplied all the running gear and trailer fittings.

Meanwhile, Tony, Greg and Dave continued fitting out internal components for reverse and throttle, cleaned and painted the windscreen and auxiliary engines (oars), and completed the trailer build. The upholstery was custom-made by Woods & Moulin.

Aurora’s first public outing was at the 2010 Jet Expo at the Waimakariri River in February. The following week she was put in the Hamilton Jet test pool so the engine and jet could be run up and tuned by Dave with help from **Steve Webber** from the Performance Engine Centre.

On February 25th 2010 Aurora was launched into Lake Roto Kohatu, Christchurch - the first time she had been afloat in about 46 years. Her official relaunch was at the New Zealand Antique & Classic Boat Show at Lake Rotoiti, March 2010, where Aurora was awarded “Best Jet Boat in Show”.





## Aurora Specifications...

**Construction:** Fibreglass-over-ply

**Length:** 20ft LOA

**Beam:** 7ft 2in BOA

**Displacement:** 1000kg

**Engine:** Ford Zephyr MkII (triple carbs)

**Waterjet:** Hamilton Quinntat (serial no.6)

- reputedly pumps 5,000 litres/min (1,100 gallons/min)

**Speed:** Approx 35 kph (22 mph)





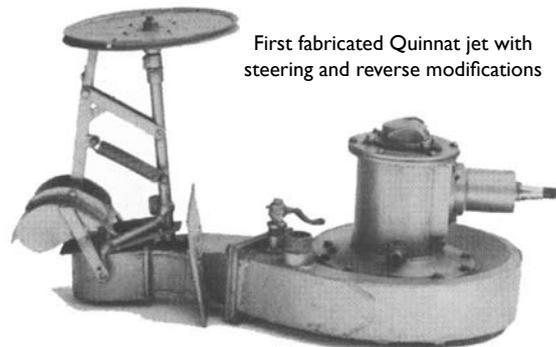
# About the Quinnat Waterjet Unit...

The Quinnat waterjet unit is a horizontally mounted centrifugal pump, driven by an engine via a bevel gear at a reduction ratio of 1.4:1. Water is drawn directly into the pump (ie: there is no intake duct) where a Francis-type impeller with six veins accelerates the water around the bowl and out the outlet nozzle.

The original Quinnat was modified from the US designed Hanley Hydro Jet. The most crucial change was the jet outlet coming out through the transom instead of out the hull bottom, and the use of steering deflectors rather than a rotating outlet nozzle.

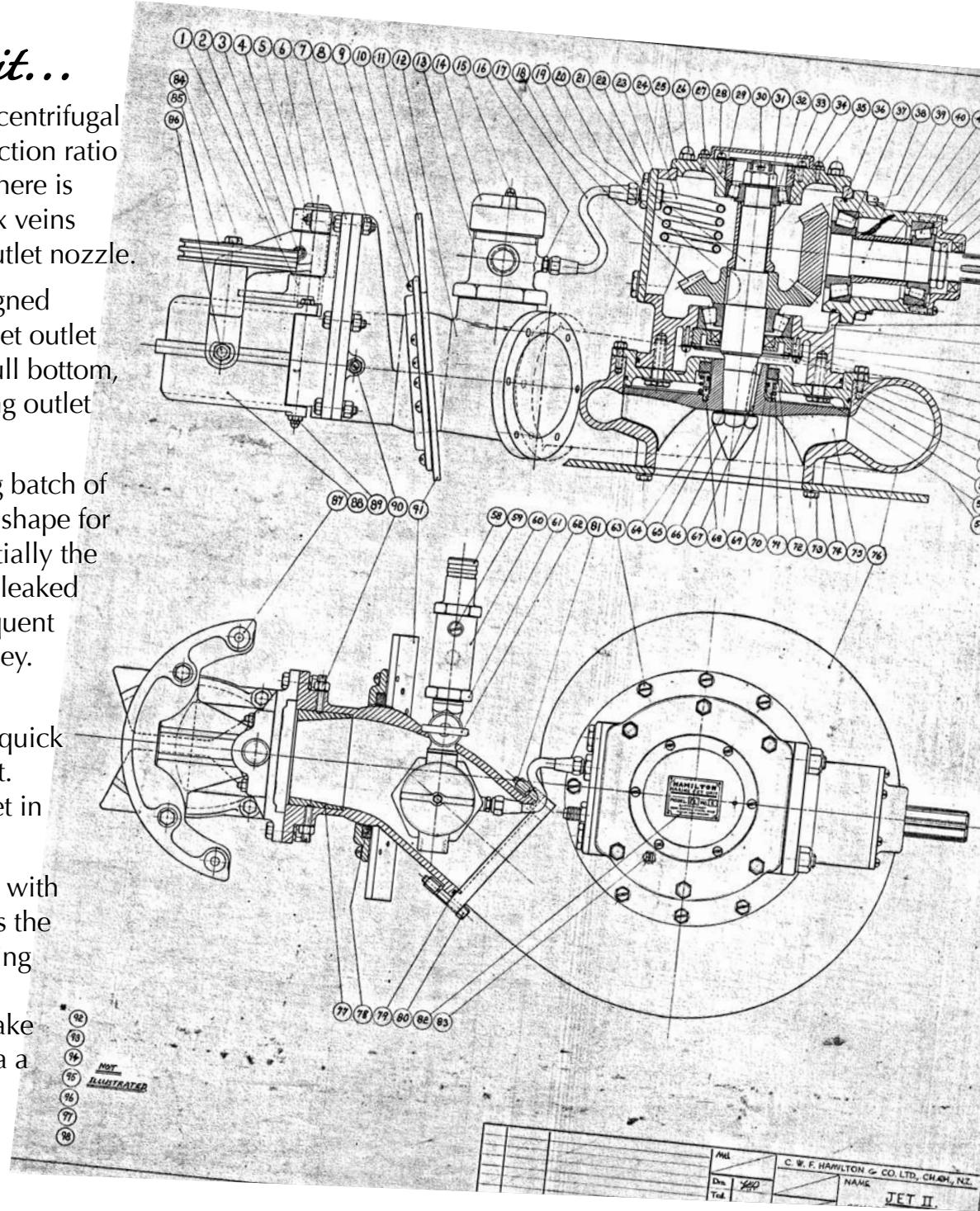
While the first unit was fabricated steel, the following batch of six Quinnat jets were cast aluminium, improving the shape for a more efficient flow of water through the pump. Initially the Quinnat had a low-mounted steering bracket, which leaked water where the cables exited the transom, so subsequent models were fitted with a high-mounted steering pulley.

The Quinnat gained a reputation for being noisy and unreliable in the bevel gear, which contributed to its quick replacement with the directly driven Rainbow jet unit. However, we have been able to set up the Quinnat jet in Aurora to produce very little gear noise.



First fabricated Quinnat jet with steering and reverse modifications

Another issue with the Quinnat is the lack of reversing mechanism, which can make driving Aurora a challenge.



# Restoration Team...

- Tony Kean • Greg Lye • Dave Madeley • Gordon Common • Jason Ennis •
- Neville Reeve • Colin McCall • John Sexton • Roger Abel •

# Sponsors...



**Hamilton** Jet

