

# Weekend Extra Magazine

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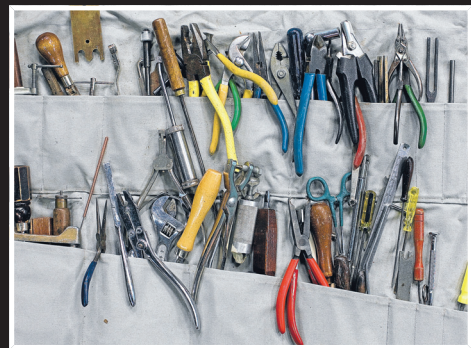
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## Art of fine tuning

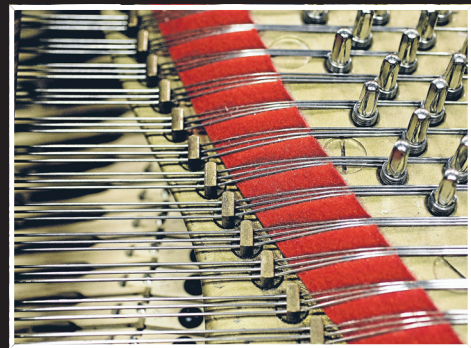
The piano wedged in a sand dune at Turakina Beach was the biggest professional challenge piano tuner Allen Birchler has faced - and the most fun. What he really wanted that day was neither a string puller nor a tuning lever, but a spade to dig the strings free. He tells reporter **Lee Matthews** about piano tuning.



**Top heavy:** The hammers that strike the strings.



**All tooled up:** What the well-dressed piano tuner takes to work.



**Three strings to every note:** Getting them all in phase, with the strings at the correct tension, is the challenge.



**Just like dentistry:** Minute adjustments, sometimes using a mirror, and the tuner has to bear in mind that every change made affects every other note, and groups of notes.



**Gently does it:** If a job's worth doing, it's worth doing properly.

Every action has an equal and opposite reaction. If ever a profession was governed by Newton's third law, it's piano tuning.

Allen Birchler is the Palmerston North piano tuner who keeps many of the city's top pianos sounding sweet. He's hard at work on Massey University's Steinway D, preparing the grand for performance in this semester's free Wednesday lunchtime concert series. Diedre Irons will play it on March 30 - works by Chopin, Ravel, and Gillian Whitehead, 12.30pm to 1.30pm.

The keyboard's unpacked and extended, its rock maple hammers, horn-beam hammer heads, and spruce wood key sticks exposed. Watching him, the word that springs to mind is fettle; ultra-fine adjustments to achieve perfection.

His tools are also unpacked; their cloth-compartmented bag unrolled to more than a metre in length. Screwdrivers, pliers, spanners, string pullers, tuning levers - but no spade. Not for a concert grand.

"You have to remember that every adjustment you make puts something else out," he says, fingers gently at work, deep in the depths of the Steinway's key sticks.

There's a lot to disturb in a Steinway. It has about 12,000 parts, and the tension on all those long strings, stretching over the soundboard the length of the case, adds up to a formidable 20 tons. Get it badly wrong, and the piano will blow apart, case cracked. Then you have 12,000 pieces of firewood and miscellaneous bits of metal, and an expensive decision to make about rebuilding.

The bigger the piano, the longer the speaking length of the string, the greater the tensions that are required. Engineering and physics challenges just mount up.

The piano keys are only the start. They lead to complex gearing and springing systems that create the sound. Playing a note causes its hammer head to strike three strings, simultaneously, which have to vibrate in perfect

phase to produce the correct sound.

"You want the phasing of the wave to happen at the same time, otherwise it's like a car missing on one cylinder," says Mr Birchler.

Piano tuning used to be dismissed as mere string pulling. Sadly, for the pianos, that's all some tuners were. Others play a different tune.

Mr Birchler's fingers ripple; a trill floats out of the Steinway case. He shifts a hammer, just a smidgen of a fraction. Then the key's neighbour notes again, played singly, then a chromatic scale. He's listening for reactions to his adjustment action.

"For every note, there are more than 12 interactive adjustments that you have to make. It becomes a circle of refinement, to balance them all, for concert tuning.

"What you don't do is mess with the hammer head. That's the holy grail of the piano, the big spring, the note's power source. Just as hitting a golf ball causes it to compress before it flies, the hammer head pushes and squashes the note strings."

The hammer head is covered with merino wool felt, fibres cleverly layered to interlock and spring in a particular way. Adjusting the density of that felt, applying resins to change its texture, is piano technology so advanced that it's just about indistinguishable from magic.

Mr Birchler says piano tuning is 80 per cent technical mechanics and 20 per cent expertise. The last bit is the very edge, where a bad tuner falls flat. Or sharp. Or just plain sour.

"Sound and tone, and the human factor, that's what it is."

The 20 per cent is experience and the human ear. Computer programs offer a suite of electronic tuning systems, and Mr Birchler uses them as he uses other tools, but they only go so far. "There are times I use the programs. And when I do, I enjoy disagreeing with them."

Every piano is unique. Every piano sounds different, plays differently.

The size of the room, its construction, the piano's placement, the tempera-



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**Allen Birchler, piano tuner**

ture . . . oh, the temperature!

"Well, it's your basic physics, isn't it? A piano's wood and metal, and wood and metal, expand and contract at different rates when the temperature changes."

If you're serious about your piano, eschew the nice sunny corner. Sitting it against an uninsulated exterior wall or in a room with a logburner, with wide temperature and humidity variations, won't be good. Nowhere near the kitchen or bathroom, either - wet, wet, wet. Humidity plays havoc.

Mr Birchler eyes the cold, currently empty auditorium in Massey's Sir Geoffrey Peren building.

"You put a couple of hundred people in here, all exhaling . . ." he shakes his head. "They get it right in Europe, of course. They keep the concert halls at constant temperature, the tuner does his job, and for the performance the venue's temperature control systems balance all that audience-generated heat and humidity."

We both sigh gustily for Europe, then look guiltily at the piano. Oops.

"Are we looking at a hay paddock, a front lawn or a bowling green?" Bowling-green level adjustments are for top-end instruments, the Ferraris of the piano world. But New Zealand has a lot of overgrown hay paddocks; old pianos that have been neglected for years.

"The fleet's in a bit of a shocking state, overall. With knowledge and good techniques, you can bring them back to sound very nice."

He first heard a piano tuned when he was 12 years old. Frank Capel was the tuner, a blind man, and young Allen was sitting mousey-quiet, listening to him work.

"About halfway through he turned to me and said, do you want to have a go? I don't know how the heck he know I was there . . ."

Initially, he didn't think about tuning as a career. His school days were a bit mixed; he's dyslexic, and in those days there was no specialist teaching available. He had an after-school job with Palmerston North's Piano Services Co, but he went into the printing industry. He swapped four years later in 1964, and began working as a trainee tuner.

"You need 20 years at least tuning, to learn the technology," he says.

"We trained on the job. These days, the Australians have technology courses you can do, they give a good grounding in the technicalities."

Piano tuners in the New Zealand Piano Tuners and Technicians' Guild get together several times a year. There are about 50 members, and they're expecting to host about 300 tuners - from New Zealand and overseas - at a conference in Wellington in September. They'll talk about the latest techniques, hold masterclasses.

The internet's helpful for tuners as well. Mr Birchler can put a technically complex problem into a tuners' chatroom, and get advice overnight from the world's best.

What the net's not good for is buying a bargain piano. "There's no such thing as a bargain piano. You buy the best piano you can afford, and you maintain it well, and that's how you protect the investment."



**Man for the job:** Piano tuner Allen Birchler at work.

Photos: MURRAY WILSON