



GATEWAY

The Official Magazine of the Gippsland Gate Radio & Electronics Club Inc.

August 2014 From The President

Well it has been cold here in Melbourne and I haven't been too keen to get outside and change my dipole over to another design.

To be honest, I haven't been doing too much outside at all!

However, I have ventured out to purchase a new Cub BBQ and it certainly is a solid beast. As soon as I sort out some transport options, it should get to the Club by meeting night.

I also made it to the Pub night where some members gathered for a very delicious dinner. Thanks to Wayne for organizing it and for Bryan for taking the bookings.

These cold nights allowed me to clean up more of my messy radio room and also take some time to read the stack of AR magazines that I have been hoarding. Interesting stuff!

Jota /Joti is coming up next on the Club calendar. Let's hope that the propagation is kind to us this year as we have been promised a greater participation rate from the Guides and Guides from the surrounding areas.

I can't wait for the final report about our Hamfest. With numbers down a little on last year, we seem to have come out with a healthy surplus again.

Thank you again to all our members that turned up to help and also congratulations to the door prize winners. We are very lucky to have Altronics and PK look Antennas as sponsors and assistance from Rockby Electronics.

I acknowledge that holding a Hamfest is getting harder and harder for some of us but I hope we can energise ourselves for this once a year event.

See you at the August General Meeting,



Bruno Tonizzo

Bruno VK3BFT

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Event Queue from August 2014

**August 15th – Friday Night. General Meeting at the Guide Hall
From 2000 hrs**

**August 16th 17th – Sat-Sun Remembrance Day Contest
see wia.org for information**

**September 5th – Friday Night. Prac Night at the Club Shack
From 1930 Hrs**

**September 12th – Friday Night. Committee Meeting at the Club Shack
From 1930 Hrs**

**September 19th – Friday Night. General Meeting at the Guide Hall
From 2000hrs**

**October 3rd – Friday Night. Prac Night at the Club Shack
From 1930 Hrs**

**October 17th – Friday Night. General Meeting at the Guide Hall
From 2000hrs**

**October 18th – Saturday. JOTA At the Guide hall
Details to be announced**

I GET HIGH WITH A LITTLE HELP FROM MY FRIENDS

The restoration of a classic boom lift for Amateur Radio use

By Ian Jackson VK3BUF

About 5 years ago I found myself up an 8 metre ladder to trim a dodgy branch on an ancient Cypress tree. I had carefully roped this fibreglass ladder to the branch near the cut off point. After cutting about halfway through, the tree decide to do a running horizontal split all the way to the trunk, immensely tightening the rope which mostly severed one side of the ladder. It got complicated very quickly, as the ladder pivoted around the remaining side and the 300mm thick branch slowly surrendered its weight to gravity around me. While clinging to the ladders remains with one hand and juggling a running chainsaw with the other, the thought passed through my mind that perhaps there ought to be a better way...



Two years later I got my revenge. The same 120 year old cypress was dangerously crumbling into my neighbours horse pen. I decided to make the tree go away and so I hired a boom lift, which got me about halfway up one side of the tree, where I began some strategic pruning.



The tree was a monster, with the base of the trunk more than 2 metres in diameter, but I had a full drum of 2-stroke and a whole weekend in which to convert this fuel to sawdust. A result of this mission was my admiration of boom lifts and the way that it allowed me to do stuff without getting killed, and so I added it to my long list of toys it would be nice to have in a more perfect world.

Over the past few years I kept an eye out for one, but prices of second-hand boom lifts tended to start around the \$18K mark, which was significantly beyond my reach.

To cut a long story slightly shorter, I got word of one that was for sale from a builder for about a quarter of the aforementioned price. He had possessed it for



several years, but it was in very poor condition. I concluded from an inspection that while it was mostly a wreck, it also had a lot of positive aspects too. Deciding that it was as good as I was likely to find, I took out temporary registration and towed the machine the 100km back to Drouin West. It was a slow trip as the brakes were rusted and ineffective, the lights had to be jury-rigged and big hunks of rubber were missing from some very dodgy wheels.



The big hole where the electric controls were supposed to be

There was not an intact wire on the machine. I knew it would have to be totally re-wired, but I also knew I could deal with that and wiring issues had been a bargaining chip on pricing.

The operator basket wobbled precariously on its support brackets and was coated in concrete, paint and ancient house-rendering resins.

The Honda engine under the cover was a mess. It had a rusted fuel tank and was covered in grime. While it had a starter motor, there was no battery and the electric start had probably not been used in a decade.

The first order of business was to get the motor going. I mounted an inverted milk carton on a wheel stand as a temporary fuel tank and tried to get it going with the pull-start. It was difficult to start, but I did get it going long enough to show that the hydraulic pump and lines were all still intact. I certainly was not game to ride it more than 2 metres off the ground at that stage.



A very sad engine bay

The ignition coil proved to be unstable, so I began ordering parts from Ebay. Parts for the Honda GX140 were cheap and easy to get. A new fuel tank, exhaust system, carburettor and coil were all fitted. After a couple more starts the motor shaft locked solid and refused to turn. Mark VK3PKT came to visit and we stripped the engine down and discovered a loose bolt that had been hiding inside for a long time, which was now firmly wedged in the flywheel teeth. Once

located, this was easily fixed, but it revealed that the magneto coils were burned out. These were a little bit non-standard, so it was easier for me to re-wind them by hand and seal them with Teflon tape than to source identical replacements.

Little by little the engine was put back together. It would now start and run ok, but the mechanical governor for tracking engine revs was not yet working. This meant that I had to set the revs quite high to stop it from stalling when the hydraulics were activated.



Mark VK3PKT studying the inside of the old Honda GX140



A basket case...

The next mission was to renovate the basket. It was loosely bolted to the boom extension arm with a tangled mess of hydraulic hoses crudded up with chipped old paint and overspray. The basket was carefully removed from the boom and about 20kg of concrete, paint and epoxy was sanded, scraped and chiselled from inside and out. Again with

Mark's help, Some superficial cracks and fissures were repaired with a fibreglass repair kit. It was repainted with a small roller using gloss-white enamel. I was quite concerned about the metalwork that supported the basket. The core structure was sound but metal support brackets were bent and rusted. I suspected that the basket had endured a collision at some stage in its past. This was probably the cause of the basket wobble. New galvanised square sections replaced the old angle brackets and were securely welded in place. This made it stronger than the original supports, with negligible added weight penalty.



Before and after the repair of the basket support structure

Any bolts, nuts and washers that were removed from the machine were replaced with stainless steel equivalents.

A 2mm thin aluminium chequerplate

protective floor was added to the basket, giving it a tough, work surface. The stainless steel anchor point for the safety harness looked a bit weak, so it was reinforced through the wall of the basket with a larger backing plate. All prepared metal surfaces, particularly on hydraulic fittings, were primed with a heavy cold-gal zinc based paint.



Inside the upgraded basket.

The operator console inside the basket was replaced with a new engraved plate, then fitted with illuminated motor stop/start controls. An old 240V power outlet was replaced with a new double outlet and waterproof protective cover. This allows an extension cord to be plugged into the bottom and power tools can then be used in the basket. As the original edging was missing, some replacement edging rubber was sourced from Queensland via Ebay to soften the hard edges around the inside lip of the basket. .



The restored basket & half-painted boom

This was also a good time to make some 'special' additions befitting amateur radio use. Two runs of RG213, 50 ohm coax were threaded through the length of the boom and later terminated in the basket on an acrylic patch panel. A 7-core rotator cable and (for good measure) a Cat5e 8-core data cable was added and terminated on a waterproof RJ45 socket.

A special vertical section of lightweight box section was added to the basket assembly to support an antenna rotator, about 300mm above the basket. This may be unbolted when not required for antenna work, but it allows for the unit to double as an instant fourteen-metre high portable tower.

At this stage painting of the boom sections could commence, so a deep blue was selected. (in fact the blue enamel was colour matched to my old Ford 3000 tractor. I figured that any paint left-over could also be used on the tractor at a later date)

Before any painting could be done on the boom, there was a mountain of prep work. The old 'FOR HIRE' labels had to be sanded off. All loose dirt was blasted with high-pressure water. Every ounce of old, caked grease had to be carefully scraped away from every coupling and interior surface, then it was washed with petrol-soaked rags and primed with more zinc paint. For this sort of work a fine 75mm paint roller and long-handle brush is much better to use than spray painting. There are no over-spray issues, the paint can be put on with its native thickness and is less-likely to run on vertical surfaces. Also, between sessions a little cling-wrap on the roller can keep the brush and roller moist, allowing a lot of small



An \$80 tow hitch replacement

painting sessions, without the annoying cleanup required with a spray-gun.

While this was going on, other important work was taking place. The original wheels and tyres were scrapped. Some chunky off-road wheels and tyres were provided by a friend. The rims were also re-sprayed in silver-grey. The brake callipers were sent off to a brake centre for overhaul. All new brake lines & hoses were fitted, along with a new inertia-style tow hitch, again sourced from the Internet, as the original one had seized up. All pivot pins on the boom were inspected and in some cases replaced. Fresh brackets were welded for the spare tyre and large aluminium tool box that I was intending to fit shortly. Bent-up mud guards were beaten back to their original shape.



All new controls fitted

Slowly it all came back together. The local Warragul trophy shop engraved a new control panel in aluminium for the electrics and hydraulics, made to fit an old roller-shutter key control that was modified to become a spring-return ignition key. The complete underside of the floor was cleaned, primed and re-painted in black enamel. The original jockey wheel system was missing and had been substituted a long time ago with a very poor trailer jockey wheel. This was discarded and a new heavy-duty wheel was sourced and a fresh mounting mechanism was fabricated from beefy steel sections. All new trailer wiring was fitted and wired to new LED indicators and tail lights. As a nice touch, a sign writer in Drouin made up my callsign in large white vinyl letters for the main boom. Surprisingly, this was only \$26 and came pre-spaced on wide peel-off backing paper.

The four hydraulic stabiliser jacks were cleaned, re-painted and re-greased. Every grease nipple on every coupling was removed and replaced. (there were 36 of them) Then every joint was carefully re-greased.

With a little help from the local chain saw & mower store, the engine governor was re-calibrated, now the engine runs very smoothly, even under full load. The tool box was mounted and contains all relevant safety harnesses, tools, a



The completed unit, shown with antenna rotator column

small step ladder and orange safety cones. Finally the unit was re-registered with Vic Roads and a new rego plate was fitted.

The machine was now ready for testing on the road. It is a heavy lump, and the poor Mitsubishi van certainly notices it on hills, but the inertia brakes work a treat. Moving it around with the 4WD van has proven to be essential, as in low range it can creep around in tight places without cooking the clutch and spinning on wet grass.



View from the GGREC tower

As it is an older-style machine, the hydraulic controls are direct valve levers. Modern ones are all done electrically with a fast-and slow setting for speed control. This older style allows controls to be gradually 'eased on' to permit very fine adjustments from the basket. A manual

override knob in the basket permits emergency descent in the event of motor failure. The basket controls are also duplicated at ground level, allowing the operator to send the machine to its full 14 metre height with nobody in it – perfect for antenna work.

Operating near full height can seem a little scary when looking down, but as soon as attention is focused on the job in-hand, the height is ignored and it quickly feels like working from ground level.

The restored machine won't to be used commercially. It was recently used to mount and align the new 2.4 GHz internet access dishes at the Clubrooms. It was an interesting restoration project and a great accessory to Amateur Radio. I think back to the probable hundreds of antenna operations I had been involved with over the past 35 years and lament over how much safer and faster the work could have been done with this type of equipment.

While it won't be needed every week, I expect it will allow me to continue tree and antenna maintenance on my block safely for a long time to come.



Which way is North again?

General Meeting 18th July 2014

| | |
|----------------------------|--------------------------------|
| Location: | Guide Hall Cranbourne |
| Start Time: | Meeting commenced at 2000 hrs. |
| Chairperson: | Bruno VK3BFT |
| Minutes taken: | Bryan VK3FOAB |
| Present and Guests: | As per attendance sheet. |
| Apologies: | As per attendance sheet |
| Visitors: | None |

Correspondence received:

1. Email from Albert **VK3BQO** re. amendments to email address lists.
2. Email from Rob **VK3BRS** to WIA re. decommissioning of 13cm and 23 cm beacons to allow for upgrading.
3. Email from Clint Jeffrey **VK3CSJ** offering a download of the PowerPoint presentation from his talk together with details of the IPS review currently underway.
4. Email from the Treasurer EMDRC re. sale of goods from a deceased estate.
5. Email from Chris Chapman **VK3QB** asking to be removed from club email list o/a work commitments.
6. Email from the Secretary, East Gippsland Amateur Radio Club to Ian **VK3BUF** re. construction of the 70cm dipoles for **VK3RWD**
7. June 2014 edition of Breakout magazine
8. July 2014 edition of the EMDRC Radio Bulletin magazine
9. Email from Steve **VK3EGD** proposing the trial of a security camera for the clubrooms.
10. Copy of a letter from Steve **VK3EGD** to Harris Hanafie re. his hamfest table allocation.
11. Email from Ian **VK3BUF** concerning signatories on the club accounts.
12. Email from Steve **VK3EGD** acknowledging the passing of Harris Hanafie, offering the condolences of the club, and arranging for the refund of his booking fee.
13. Business insurance invoice received from Fitzpatrick & Co., due on 13 August.

Correspondence sent:

1. Email to Clint Jeffrey **VK3CSJ** regarding his presentation offer and thanking him for same.
2. Email of June 2014 Breakout magazine to all members.
3. Email re. the deceased estate items available from EMDRC to all

members.

4. Email to Steve **VK3EGD** re. the removal of Chris Chapman's name from email lists.
5. Email to members of the July 2014 EMDRC Radio Bulletin.
6. Email to all members from Bruno **VK3BFT** re. the hamfest setup arrangements and door prizes.
7. Email to committee members re. the committee meeting on 11 July.
8. Email to members of the July 2014 edition of the NERG News.

Treasurer's report: For the period 15 June-15 July 2014

Graeme **VK3BXG** presented a report detailing the income and expenses of the club for the period. Members wishing to view the accounts in detail can do so at a General Meeting, or a statement of accounts can be made available on request.

Read and Moved: Graeme **VK3BXG** Seconded: Leigh **VK3FACB** Carried: yes

New Callsigns: nil

Previous Minutes:

Read: as distributed Moved: Seconded: Approved: yes

Thanks were extended to Mark **VK3PKT** for getting the magazine out on time, despite a bout of illness. As noted in the magazine, Mark will cease being the editor at the end of the year, so a new editor will be required for 2015. Bruno asked members to give consideration to taking on the role.

Business arising from the previous minutes:

1. Beacons: Rob **VK3BRS** reported on progress with the beacons. They are temporarily set up at Albert's QTH for testing. The 23 cm unit is running, with adjustments having been made, and measurements taken. Rob detailed how the unit will transmit carrier at a range of power levels, after transmitting its identification. The PA for the 13cm board is also ready to go. Consideration is being given to mounting hardware at antenna level, so that only power will need to be run up the tower. The locked system will be at the bottom. An alarm system will be installed, and the handheld transmitter will broadcast a signal advising of any failure. The handheld will also monitor use of the beacon.
2. Repeaters: Albert **VK3BQO** reported that **VK3RDD** is operating satisfactorily at the moment. The signal on **VK3RWD** seems to be down somewhat at the moment, but is still useable. **VK3RLP** is not operating at the moment.
3. Replacement of BBQ: Members were informed that a number of units

had been examined, and it is considered that a unit from Barbeques Galore, at \$599, plus approx. \$80 for a matching cover, would provide a serviceable unit for many years to come. Moved Steve **VK3EGD**, seconded Craig **VK3FDRG** that these units be purchased. Passed.

4. Sausages for Hamfest: Ian **VK3BUF** advised that these have been purchased and are under refrigeration.

5. D Star Meeting: Albert and Rob advised that they did not attend the meeting.

6. Pub Night: Members were asked to indicate their interest by filling in the sheet available at the meeting.

New business:

1. Security camera in shack – A wide-ranging discussion took place about the pluses and minuses of having a security camera in the shack, as proposed by Steve **VK3EGD**. He outlined the capabilities of the camera (IR, able to provide stills as well as motion shots, 24/7 coverage, email alert, information able to be transmitted across our microwave link etc.) The installation was a “proof of concept” one at the moment.

Points raised during discussion included: a. Why was there a need for the system in the first place? b. Who would have access to images, and in what circumstances? c. When would the system be triggered e.g. whenever the shack is entered, or only if alarm is triggered? d. The need for security vs surveillance, and dangers of data being intercepted during transfer. e. The issue of privacy of outside groups e.g. Guides during JOTA. f. Provides a level of protection of members against allegations of impropriety g. Protects valuable assets of the club h. The need for the development of a written policy to cover these and other points, and for the information of members.

Bruno suggested that members give consideration as to whether we want to undertake a trial with the camera, but that in the meantime, the system would not be operational. The matter of a trial will be canvassed with members at the next General Meeting.

2. Additional member to Committee: Bruno advised that Ian **VK3BUF** had been appointed as an additional member of Committee (as per the Club Rules), and that he would hold that position until the next election, in 2015.

3. P.A. System: Mark **VK3PKT** suggested a self-contained PA system be purchased for use during meetings, hamfest and when we have guest speakers. Ian **VK3BUF** provided specs on a number of units, including one which we may be able to obtain at a discount. It was moved Bruno **VK3BFT**, seconded Michael **VK3GHM** that the unit suggested be purchased. Passed.

4. Prac nights: Rob **VK3BRS** reported that the balun building prac night

was a success. Further projects are being considered including flexible 2m antennas and chronulators (examples being on show at this meeting.) Ideas for projects are welcomed. The next prac night will be on the uses of CROs.

5. Hamfest tomorrow: A reminder that starting time will be 0700.

6. Giveaways: A number of members have giveaways available, should members wish to make use of them.

Meeting closed : 9:07 pm

VK UHF band temporarily changed

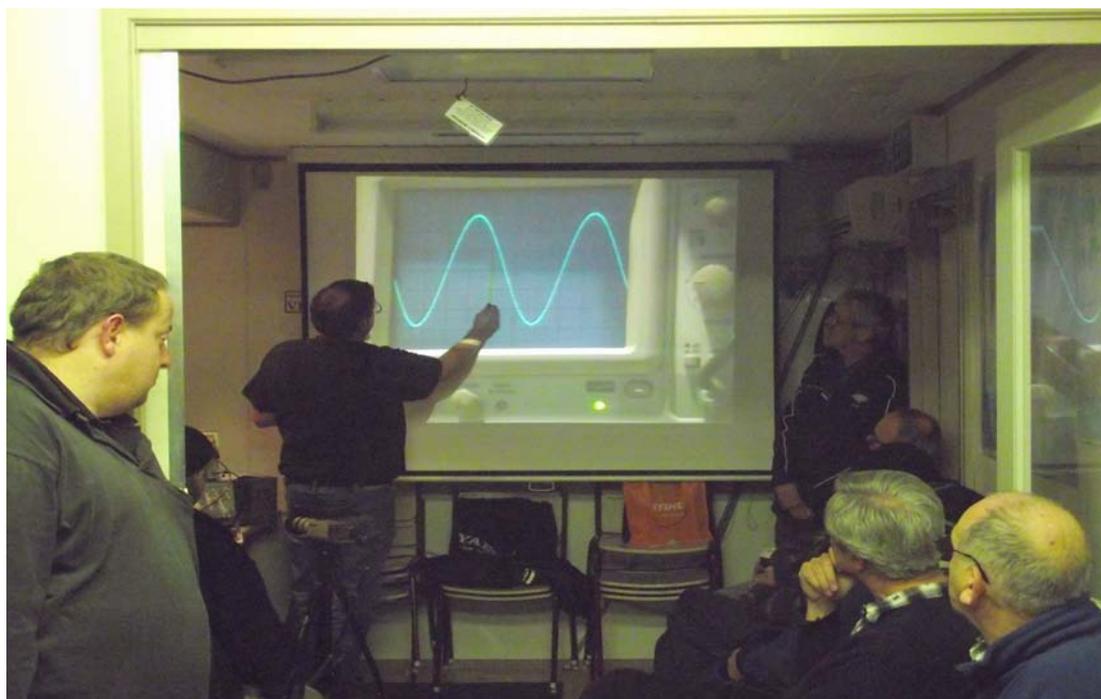
The Australian Communications and Media Authority (ACMA) has reminded that as part of the re-planning activities for the 400 MHz band, it has made 442.5 - 444 MHz and 446.5 - 448 MHz temporarily available to the Land Mobile Service.

<https://www.amateurradio.com.au/news/vk-uhf-band-temporarily-changed>

Amateur Radio Victoria

www.amateurradio.com.au

CRO Talk at the Prac Night





Club Information

Meetings 2000hrs on third Friday of the month at the
Cranbourne Guide Grant Street Cranbourne

Prac nights first Friday in the Peter Pavey Clubrooms Cranbourne 1930hrs

Visitors are always welcome to attend

Office bearers

| | | | | | |
|-----------|---------------|---------|------------------|-----------------|--------|
| President | Bruno Tonizzo | VK3BFT | Repeater Officer | Albert Hubbard | VK3BQO |
| Admin Sec | Bryan Simm | VK3FOAB | Web Master | Stephen Harding | VK3EGD |
| Treasurer | Ian Jackson | VK3BUF | Magazine Editor | Mark Clohesy | VK3PKT |
| General 1 | Mark Clohesy | VK3PKT | Property Officer | Bruno Tonizzo | VK3BFT |
| General 2 | Wayne Cooke | VK3XF | Secretary | Ian Jackson | VK3BUF |

Call in Frequencies, Beacons and Repeaters

- The Club Station **VK3BJA** operates from the Cranbourne Clubrooms.
 - 6m Repeater Cockatoo **VK3RDD** In **52.575**, Out **53.575** CTCSS **91.5**
- 70cm Repeater Cranbourne **VK3RLP** In **434.475** Out **439.475** CTCSS **123Hz**
VK3RLP Repeater supports Remote Internet access (IRLP) Node **6794**.
- 70cm Repeater Drouin **VK3RWD** In **433.575** Out **438.575** CTCSS **91.5Hz**
 - Simplex VHF - **145.450** MHz FM • Simplex UHF - **438.850** MHz FM
 - **VK3RLP** Beacons **1296.532** MHz & **2043.532** MHz

Membership Fee Schedule

Standard Member rate \$40.00 Junior Member rate \$25.00

Pension Member rate \$25.00 Extra Family Member \$20.00

- Fees can be paid by EFT to **BSB 633000** - Account **146016746**.
 - Always identify your EFT payments.
- Membership Fee's Are Due at each April Annual General Meeting.

Magazine Articles to editor@ggrec.org.au or pockets@twistedsouls.com

All other Club correspondence to: secretary@ggrec.org.au

or via Snail Mail : PO Box 1098, Cranbourne 3977

GGREC Web Site & Archive may be viewed at: www.ggrec.org.au

Facebook Page www.facebook.com/GippslandGate

The deadline for magazine items is the Tenth day of each month.

Commercial Advertising is \$10 full A4 Page or \$5 ½ A4 Page per edition

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