



**Alternative Technology Association  
Geelong EV Branch  
Minutes  
October 4<sup>th</sup>, 2013**

1. Welcome and declare meeting open: Meeting opened at 7PM
2. Present: Peter R., Andrew VS., Kevin L., Doug R., Ian U., Leigh H., Janet M., Doug T., Mick A., Robert D., Blake R., Russell S.
3. Apologies: Michael A., Kevin W., Richard G., Tim J., Al R.
4. Minutes of previous meeting: Minutes were accepted by attendees.
5. New Attendee Introductions: None.
6. Correspondence of Note: See below under "EV Events/Vehicles of Interest".

7. Business Carried Forward:

7a. Conversion and Other Project Reports:

**Mick A. – Mule**

Was upgraded to lithium, has plenty of oomph. Don't charge it often, and when he does its only when it drops below 90%. Fitted with an Xpert Pro battery monitor, 12 batteries, 36v, 60AH thundersky cells. BMS fitted is Zeva non-balancing system – monitoring only. Thanks to Peter, Kevin and Andrew for the upgrade.

**Peter Reeves – Holden Rodeo / Proton Jumbuck**

Powder-coated components, controller and electric components box fitted under bonnet. Rear battery rack under construction – ongoing process, slow and tedious.

**Kevin Leach – BMW**

As of yesterday afternoon, it is fully legally on the road. Frank sent through paperwork, Kevin took it down to vicroads, the guy had a look, and ok'ed it. Had to pay \$5.70 for "hybrid" stickers even though it's pure EV. Apparently you won't be fined if they are not fitted, but very much advised due to safety of emergency services personnel in the event of a crash.

**Doug Rolfe – Nissan EXA, Suzuki Vitara**

Vitara update: DC/DC converter is in and working. Also BMS restored and working. Took it for a 4km drive and it's quite under powered. Got to 60km OK and 80km after a long slow acceleration in 4th (maybe Karl had the controller dialled back to protect the batteries?). Also either the instrumentation needs settings changed or the controller is only delivering 25-30 amps. Will upgrade the fuses and wind the wick up. There are also switches fitted for everything (including the brakes!). The Zilla was most likely heavily tweaked for the previous batteries, so probably just needs some tuning.

**Michael Axtens – Daihatsu Charade & Blade Electron**

Both vehicles mobile, vac pump, charade all good

**Robert Doig – Suzuki Mighty Boy ute**

Got batt cover, all mounted now. Tried doing some crimping on the 30pin controller connector, but had trouble. Kevin has the appropriate crimping tool, so that should help. Also had issues crimping BMS connectors.

**Leigh Hateley – Enfield**

Nothing to report.



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**Doug Trigg – Mitsubishi Lancer**

Got electrician signature for 240v system - checked to make sure that safety fuse was wired correctly (and did a bit of rewiring), and all good now. Just waiting on Frank to come down and sign it off now.

**Janet Massey – Blade Electron**

Still working on batteries. Managed to discharge a couple of batteries down enough to see discharge curve. Don't want to go through the same process for the rest. Decided to make a day of setting batteries discharging and gardening. 9 cells seem to be self-discharging, however 1% discharge a month is expected, but these were discharging off the bottom of the charge curve. Going to balance all, install the BMS, charge them, and note all individual cells voltages (as reported by the BMS). Have installed amp-hour meter, which can be used to track and calculate all cell capacities. If any have to be replaced it is a fair amount of effort, so want to know definitively before doing so.

**Andrew Van Slageren – BMW**

Nothing to report except for work on Mick's mule.

**Blake Ramsey – Honda CRX**

Have been attempting to remove fuel tank from the Civic. Concerns about using an angle grinder to remove it...

7b. EV Events/Vehicles of Interest:

EV conversion components for sale

Michael Gutteridge has dropped the price on his EV bits for sale. The itemised costs are listed below and \$10k for the lot. See email from Peter for photos of items.

Anyone interested should contact Michael directly at [deepgreen\\_r@bigpond.com](mailto:deepgreen_r@bigpond.com), Mob 0417 243 610

- EuroDrive 132 Frame modified induction motor (300 - 450v 3 phase air cooled) - original cost \$4,400 (can supply specifications and test results upon request)
- billet aluminium adaptor plate and balanced drive spline for above mentioned motor to suit VW transaxle - original cost \$1,650
- Tritium WaveSculptor200 controller plus driver control (liquid cooled) - original cost \$6,875
- Tritium 1 x BMU and 10 x CMP from current IQ series plus wiring and connectors original cost \$3,300
- Delphi 3.3kW DC-DC converter (liquid cooled) - original cost \$1,500
- Brusa 3.3kW NGL5 air cooled charger - original cost \$2,500
- Assorted Gigavac contactors 225A, 12Vdc coil, 15" leads, aux (GX12BAB) - original cost \$120ea (have approximately 20 units)
- Assorted Busman fuses 200A - 500v - original cost \$66.50ea (have approximately 10 units)
- A portable 3 phase 5kVA diesel generator (21hrs on meter but looks like new) - original cost \$1,000
- Total replacement value of listed items is \$24,295

Alan Leenaerts has queried whether we can assist in the fitting a Prius upgrade kit:

I have been considering buying Adam Lata battery kit for prius for some time.

I have been discouraged by the installation.

Do you think the Geelong branch might be able to help me install it?

Regards

Alan Leenaerts

As Alan is Melbourne based, request will be forwarded on to the ATA to potentially tee up something with the Melbourne group.

7c. Private Workshop Activity

Last month: Robert's Mighty Boy Ute and Mick's electric Mule

Tomorrow: Robert's Mighty Boy Ute (with the potential for Jumbuck work also).

7d. Recent Events:

7e. Upcoming Events:

7f. ATA developments:

Doug

This Wednesday and Thursday (9<sup>th</sup> and 10<sup>th</sup>) there is the all energy conference (info on renewables solar/wind, seminars, cutting edge stuff). Will be at Jeffs shed, and is free.

Canberra is having an EV festival on the 12<sup>th</sup> of Oct -

<http://www.electricvehiclefestival.com.au/>



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Two new films are being viewing ATA. First one is 'What is the electric car' and will be attempting to get licence to show it in Nov. Second one is 'The electric car revolution' which is a 48min doco on YouTube. Might be a possibility for a movie night.

7g. New developments:

vLine recharging stations. Peter followed up and got the following response:

Hi Peter

I'm sorry I have not yet been able to finish my report, but it is still on my desk

Kind regards

Mary

Battery Charger Progress: As discussed with Doug, these are the two battery chargers/analyser units which could be worth the group investing in for cell testing/diagnosis: <http://www.progressiverc.com/icharger-4010duo.html> and <http://www.progressiverc.com/fma-powerlab-8.html>. The FMA seems to have a very good reputation as a reliable, well-built unit, however the specs (especially discharge rage) of the iCharger are probably better for our use (faster testing!).

Tentatively decided on iCharger 4010Duo, as it can use an external dump load which will be a lot easier/simpler to use.

The Pulse on C31: The first segment on our group was shown (and viewed in the meeting) tonight, interview with Peter re his EV conversions. Segment will be available online:

Kevin: See this month's newsletter.

8. Guest Speakers: None

9. New business from the floor:

Janet – Keep looking out for mobile phone chargers – another dozen may be useful. Blake suggested PCs for Kids. Also potentially the Douro St recycling centre.

Discussion around wind turbines, experimental design in Nth Geelong which is apparently very noisy. Turbine in Torquay on the shire building was damaged in the high winds earlier this week. Vertical style turbines will deal with "dirty" air better (i.e. next to buildings), but nowhere near as efficient as traditional turbines. Good ones called "Wind Pods" which look like little blower fans, designed to fit against the side of and pick up the wind from the side of a building. Airfoil based turbines also very efficient.

Blake – Was recently overseas in the Philippines. We're very car centric here, whereas a lot of the rest of the world get around on bikes/motorcycles, i.e. small scale EV's. Something to keep in mind.

Discussion around doing some work overseas – potential ATA assistance/project for their working group?

10. Meeting closed: Meeting closed at 8:55PM, thanks all for attending.

11. Next Meeting: 1<sup>st</sup> November 2013.

Please return all name tags as you leave.