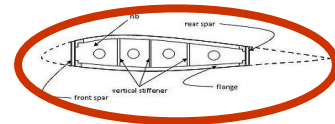


# The Spare Rib News



The monthly newsletter of the  
Kapiti Aeromodellers Club

July 2023

[www.kapitiaeomodelersclub.org.nz](http://www.kapitiaeomodelersclub.org.nz)



Kapiti Aeromodellers Club group

## Notes from the Scribler



The flying weather of late has been exceptional. I reckon we've had more good flying days in the last 6 weeks than we had in the previous 6 months. Although we've had some cold days, overall the weather has been relatively mild. The cold spell, though, achieved one thing. It slowed the grass growing. In the years I've been involved in mowing, I cannot recall a time where we had to mow mostly weekly all through the summer and up until just a few weeks ago. Leaving it a fortnight was just a bit too long.

Slowed now though and easier to manage.

In the last month we've seen a fair bit of newer members Dean, Daryl and Jesse. All 3 have gone solo after minimal stick time. I think Jesse takes the cake though. Uncle Phil Patterson turned up on motorbike to have a chat, got handed Jesse's Trojan to sort out. Which he did, got Jesse in the air and the next flight Jesse was solo. Quite impressive really.

He also took the time to help Ross sort a problem. Had it both ways really. Got in a bike ride and some flying without having to bring a plane!

The June club night was something quite different with the night being all about model rockets. Something different and equally interesting. Reminded me a lot of my youth in manufacturing gun powder at home using stuff from dad's garden fertiliser bins. We made rockets, bombs, guns. Not sure how we still have all our digits.

The Silver Fox BBQ was greeted by the best BBQ day for a while, and a number flew.

Which, of course, meant an increase in attendance to munch a sausage.

Was a great day.

Let's enjoy the month ahead.

I certainly intend to.

Steve



*Captain Perfect  
presents*

*Andrew Farrow*

## *Presidential thoughts*

What great flying weather. Seems to be a common theme in the past couple of months. Quite an interest in our evening on rockets in June. Many thanks for Phil Kendon from Wellington College who spoke on various aspects of rockets and teaching the secondary science curriculum, and Ryan Groves who had 1/2 dozen of his model rockets on display.

We get Ryan back in July to talk about his jet, along with Peter Brown from Levin.

There has been a complaint received by GWRC of a plane disturbing a horse recently. See elsewhere for details but be careful flying too low at the northern end of the strip. Can't be helped on landing and take-off depending on wind but we don't want to disrupt other users of the area.

I've test flown my 83" Big Stick. No dramas. Next up is a Spacewalker of a similar size powered by a Saito 125.

We have a committee meeting next Tuesday night, so if anyone has something they would like discussed by the Committee let me know.

Fly safe!

John Pfahlert  
0211509763

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## *Safety and the North end track*

John has asked me to put together a few words concerning safety at the North end of the strip in relation to the walking/cycle track and the bridle path. As he said, a complaint was received about flying at the strip last Sunday, unsettling a horse. John has spoken to the person concerned, and the upshot of that conversation was that this person has seen us flying there before, has admired our models and the horse has not spooked before. She was of the opinion that perhaps the model had flown deliberately low. Now, as flyers we know that doesn't happen and when flying a circuit, we wouldn't even be aware of a horse on the bridle path. However, a member of the public without our knowledge, wouldn't know that. What is interesting here is that there was almost no wind on the day and as the sun was very low, we were mostly taking off to the South and landing from the South.

Andrew raised a similar conversation with me a few weeks back. He was down at the walking track and a large model was doing aerobatics in the area, above the walking track. He thought it quite frightening.

Our club rules require, when taking off to the North, to ensure there is nobody on the walking/cycling track or bridle path opposite the end of the strip.

This incident should remind us to take best care.

Unless taking off to the North, where we ensure the pathways are empty, we should maintain a reasonable height over that area at all times, without fast low passes (over the track).

The club rules require, when doing aerobatics, we do so on a line with the eastern side of the strip. Unless practicing pattern/Imac, which can chew a lot of sky, perhaps we need to ensure when doing aerobatics, we don't go too far North.

*Steve Hutchison*

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## *Klotz and Nitro*

President John is heading up to New Plymouth next weekend and is willing to bring back supplies of Klotz and Nitro. Klotz is \$94/gallon and Nitro about \$45 litre.

If you're interest, give John a ring on 0211509763

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## Unrecoverable

Recently Brent lost his Laser when he lost all control.

Often when this happens, even though the pilot swears it was the radio, investigation usually points to equipment failure or 'dumb thumbs'. In the last couple of years, I've seen a number of mishaps which could have been avoided. Servo coming off its mount, failed flight battery, fractured push rod. So, when Brent suddenly had nothing at home in the middle of a roll, we were all perplexed.

Brent took the model home and took all the gear out and tested it.

He posted his findings to FB, where a number of you will have seen it.

Brent was using a power distribution board. There are a number of such boards about and Powerbox is probably the best known. Dual batteries are fed into the board as are all receiver channels and there are outlets off the board for each channel.

Brent has 2 models (were) fitted with the same power board. He put them side by side and shot a video which he pasted on FB. I've taken a couple of screen shots to show what he found.



The distribution board on the left is from another model. You can see the servo voltage output is shown as 8.12 volts. The board on the right comes from the crashed model. Here you can see the output voltage for servos is 3.79 volts. Same battery input for testing to both boards. High voltage servos in high G manoeuvres will not be happy with a lack of volts. At least the reason has been discovered.

By the way, this is not a Powerbox distribution panel.

Steve

## *And another one flies*

Another model from the stable of Paul Buckrell took to the skies this week.

The Hangar 9 Christen Eagle II.

The model is of 54inch span. Paul is running with the recommended Saito 125 4 stroke. He has modified the engine to run a spark plug rather than a glo plug, which makes things easier and a cleaner operation.



The Christen Eagle was developed in the late 70's by Frank Christen to compete with the Pitts special. As can be seen from its profile, it drew much of its design from the Pitts which Frank Christen had competed in. Aviat built both the Pitts and Christen Eagles.

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## *Membership Cards*

If you weren't at the AGM and either live locally or fly frequently, I have your membership card. If I don't give it to you, pester me.

If I don't see you in the next month, they will either be delivered locally or posted.

Steve

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As Jesse posted on the club group FB page.

[Jesse Lindsay](#)

· [June 20 at 7:04 PM](#) ·

Cheers to the guys today for helping to get my Trojan up for her first flight. Stoked to have had a fly too!

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## *July club night*

More Jets night.

Pete Brown and Ryan Groves are bringing along their top of the range jets to show some of the other jet models flown by members.

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## *August club night*

Aviation fuels.

Brian McClare. Member Brian McClare worked for BP and headed up their Aviation Fuels division.

He has some interesting stories to tell.

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## *What a sight it was*

The RNZAF held a fly past in our area on Friday June 16<sup>th</sup>. The flight included 6 of the air force's T6c Texan II aircraft flying in formation with the Spitfire bringing up the rear. The Spitfire flown was from the Biggin Hill Trust and piloted by Squadron Leader Sean Perrett. The flight was to help commemorate 100 years of military aviation in New Zealand.



## *It's all rocketry to me.*

For something completely different at our June club night, we had a night talking about model rocketry. Who even knew it existed?

First up was Wellington College teacher Phil Kendon.

Phil runs an optional class each year and over the last few years has concentrated on rocketry.

The slide to the right covers the basic syllabus. There is a lot of physics and calculations involved, but as it is an optional class and students aren't necessarily science students, everything has to be within the reach of all.

OpenRocket software is freeware that is used to help design the rockets.

Commercial engines are used.

The project aim is to build a rocket that can carry a

payload of an egg in a container that, when the rocket reaches its zenith, the payload is deployed by parachute and hopefully the egg returns to earth unbroken.

### Rocket project at Wellington College

- A 1 – term project for an optional class 'Space and Rocket Science' for Year 11 students
- Quick research + present – history of space exploration
- Make and launch a small kit-set rocket
- Use these skills to design and build a rocket to launch an egg and bring it back in-tact
- Perform some maths + physics calcs to determine:
  - height reached by rocket
  - thrust provided by engine (then compare with manufacturer)



### Egg lofting project

- Suggestion for how parachute brings the rocket parts down
- You'll need to design and make the parachute to an appropriate size. See instructions on the separate sheet.



Egg recovered....  
But broken



Phil, with student rocket in hand.  
You can get an idea of scale.

The tasks set for the students throughout this project showed it to be a fun filled project with a lot of serious learning.

It was more than interesting.



Following Phil's excellent presentation, Ryan Groves took to the podium. Ryan has an interest in model rocketry and owns more than one or two. Ryan brought along a selection of rockets which ranged from small to ridiculous.

Ryan gave us a good understanding of how the rockets work, how they are powered, how multiple stage rockets work and how the parachute is deployed. There's more to it than you think and its quite clever.

Apparently, you can only use commercial engines and not make your own gunpowder the way we did back in the day.

What's really interesting is that there is a New Zealand Rocketry association, and they have rocketry events. They have championships and 'rally' type events. Ryan also gave us a good run down on CAR101 and 102 and how they cover such activities.

## How the engine works

- First stage, second or third stage
- Trace smoke
- Pre set ejection (C6-5 C6-3 D6-5)
- Timed or Electric ejection
- Time for a long walk






**ESTES MODEL ROCKET ENGINES**

The Estes model rocket engine that makes model rocketry the great hobby to follow. Its internal components are precision-machined and tested to meet the highest standards.

The standard of a factory-produced model rocket engine is the highest in the hobby. Its quality and performance are guaranteed.

All of our engines are built under the strictest quality control and adhere to performance specifications.

All engines comply with the rules represented by the National Model Rocket Association and are certified by the National Association of Rocketry.

**HOW DOES A MODEL ROCKET ENGINE WORK?**

- When engine is ignited, it produces thrust and heat.
- After propellant is used up, it burns out, producing trailing smoke and allowing rocket to coast.
- After delay, ejection charge is activated, deploying recovery system.

**WHAT SIZES ARE AVAILABLE?**

Each engine is available in seven sizes of case and grain length.

TYPE	TOTAL IMPULSE	ENGINE TYPES
1/4 A	0.313 - 0.625	Mini
1/2 A	0.625 - 1.25	Standard, Mini
A	1.25 - 2.50	Standard, Mini
B	2.51 - 5.00	Standard
C6	5.01 - 10.00	Standard
C11	5.01 - 10.00	Standard
D	10.01 - 20.00	E-Size
E	20.01 - 40.00	F-Size
F	40.01 - 80.00	F-Size

**Each engine type is color coded.**

- Single Stage - Green
- Upper Stage - Purple (Upper stage engines can be used as single stage engines in high-thrust rockets.)
- Lower Stage - Red (Lower stage engines contain no delay or ejection charge.)
- Propellant - Blue (Propellant systems are used for E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

**Each engine has an alphanumeric code printed on it.**

**1 - TOTAL IMPULSE**  
This number shows the engine's total impulse. The higher the number, the longer the engine will burn. The impulse of an engine is measured in Newton-seconds (N·s).

**2 - AVERAGE THRUST**  
This number shows the engine's average thrust. The higher the number, the more power the engine has. The average thrust is measured in Newtons (N).

**3 - TIME DELAY**  
This number shows the time delay between the engine's ignition and the ejection charge. The higher the number, the longer the engine will burn before the ejection charge is activated.

## How they're launched

- Launch rail
- Launch pole
- Trailer ??






## How they're recovered

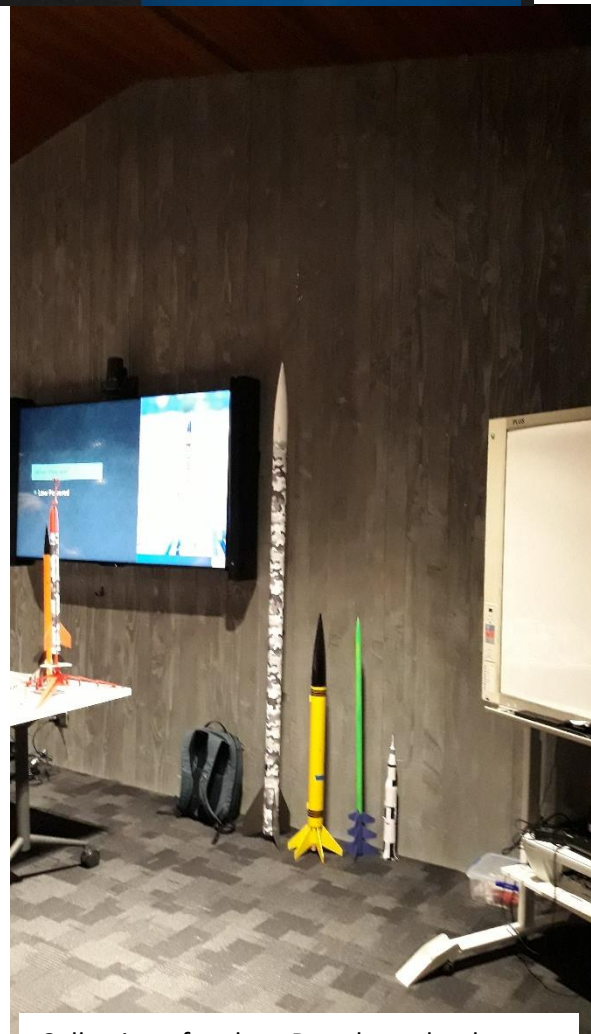
- Parachute deployment



For recovery, when the engine burn is exhausted, it pops the lid off its canister which pressurises the area of the rocket above the engine. In this area the parachute is stowed. It is blown out and deploys automatically. One of the things the Wellington College students learned was the material of the parachute is important, otherwise it melts.

Multiply stage rockets work in a similar fashion with the 2<sup>nd</sup> stage being ignited by the first end 'ejected' from the first stage.

Many of the model shops we deal with sell rockets and the rocket engines.



Collection of rockets Ryan brought along.

All in all, it was a great evening enjoyed by a good number of club members.



*For sale:*

John Ellison is trimming the hangar and has also decided to go electric only. He has the following for sale. The list is somewhat trimmed as a number of other items were sold pre-publication.

Super Custom 2 stroke 108 capacity with OS factory radial mount. Same as OS 108 and ASP	\$120
Veco 61 2 stroke only been In Volcan during my ownership	\$75
OS 40 LA 2 stroke	\$50
Quartz flying wing aerobatic plane	\$150
Ultra Sport 40	\$285
Own design sweet little flyer	\$150



Planes only need receiver and batteries  
4cell 3000ma or 2200 3cell for own design.

Contact John Ellison 0274473707

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And that's it from me for another month.  
As Don would say, 'fly hard, land soft'

*Steve*

