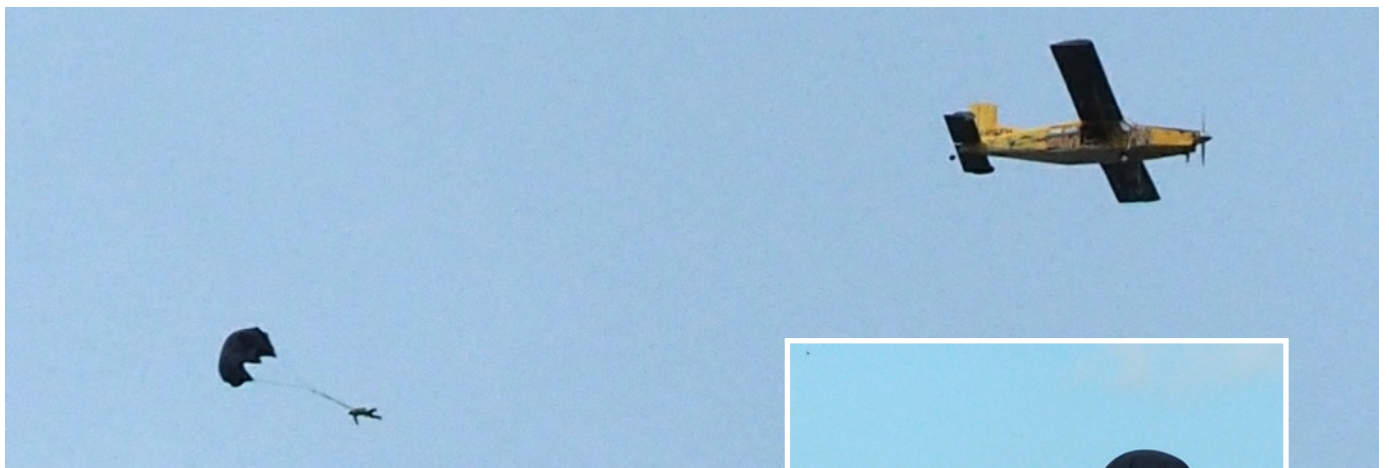




May 2019

Wingtips

Editor: Brian Oakes



Top photo: Jim Reid's Phoenix 2400 chases the third quarter moon.

Bottom photos: Peter Ederle's huge Pilatus Porter drops a parachutist onto the field



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Above, right and page 1, Jim Reid's glider is a Phoenix 2400 (2.4 m span) from Banggood! Power comes from a 2200 mAh lipo.



Left: Mick Pasfield found this aerobat on Banggood. It's an ARF Edge 540T by Saikou and flies well on 3S lipos.

Right and below: Henk Jansen modified his damaged Citabria, a parasol wing aeroplane, by replacing the wing with one from an Extra making a low-wing sports model that flies very well. It's hard for Wingtips to keep up!



Reminder

MAAA President Neil Tank and Secretary Tyson Dodd will visit the BMAC flying field this Friday 17 May 2019 from 9.30 am till 11.30 am. BMAC members are urged to attend if possible. Morning tea will be provided.

This will be an opportunity to ask questions of the MAAA officers, and learn about any forthcoming changes to CASA regulations that may affect our flying activities. As well, BMAC can show our facilities and the way we operate to MAAA guidelines.



Seen At the Field, continued

Above and right, Julius Horvath shows how one could have fun mowing the lawn at home – given sufficient skill! The machine is a Goblin 570 Sports.

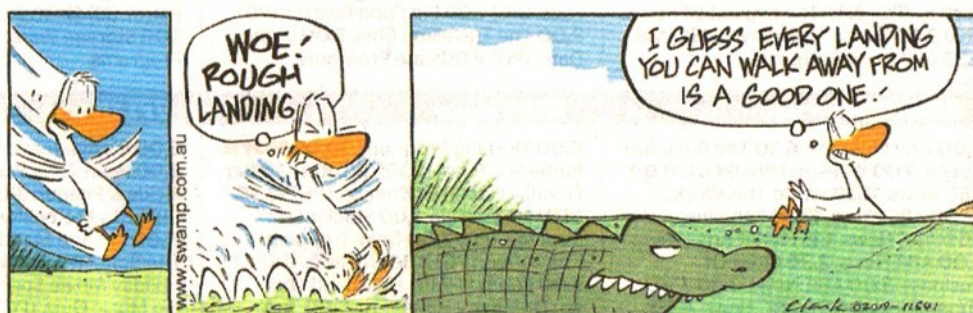


Left and below: Graeme Coronel's Tomboy launched by Bill Roberts.



Left, Peter Gurney's Tiger Moth is a Hobby King product (very similar to the VQ ARF) powered by an ASP 62 4-stroke. This was its maiden flight and it will carry the cowl when Peter has everything sorted.

SWAMP By Gary Clark





**Seen At the Field,
continued**



Above and left, Michael Leys' 4-star 120 is powered by a Saito 125, hence the oil trail. But it flies particularly well.

Below left and below: Peter Gurney's VQ Strega was designed for a 46 engine, but he's fitted it with a 15cc petrol. The full-size machine is a North American P-51 Mustang, much-modified for racing. Peter's model has the speed of a racer – note the take-off – but the thrust dislodged the engine!



Skilful piloting brought the model for what will be an easy repair.

Scale Realism

By Brian Oakes. Source: an undated edition of RCM&E

Sometimes, when a scale model aircraft is flying, it can be mistaken for the full-size. Often not.

Years ago I saw a model Fokker Eindecker doing a knife-edge; the full-size Fokker was underpowered and such a manoeuvre would have been impossible. The effect was humorous, not realistic. At the recent Bairnsdale scale rally there was a DHC-2 Beaver flying at scale supersonic speed. (To me, model jets look fantastic flying at scale supersonic speed, but the Beaver didn't.)

So at what speed *should* a scale model fly to look realistic? The answer is *not* for the model to fly at the same fraction as its scale, e.g. for a quarter scale model to

fly at a quarter of the speed of the full-size. This would be ridiculous.

For example: the full size DC-3 cruises at 180 knots or 333 kph and stalls at 108 kph. A 1/10 scale model would have a wingspan of 2.9 metres and probably weigh around 10 kg, but would need to stall at 10.8 kph! Impossible!

In wind tunnel testing of scale models a system of dynamic scaling is used. This is quite involved as there isn't a single factor, but we can use the *square root of the scale*. Below are some examples which would roughly give a scale effect:

Aircraft	Full size stall speed	Scale	Model wingspan	Square root of scale	Model Stall Speed
DC-3	108 kph	1/10	2900 mm	3.16	$108/3.16 = 34$ kph
Gypsy Moth	46 kph	1/6	1520 mm	2.45	$46/2.45 = 19$ kph
Spitfire	109 kph	1/5	2245 mm	2.24	$109/2.24 = 48$ kph

Featured Model of the Month: Ron Barnes' P-47 Razorback

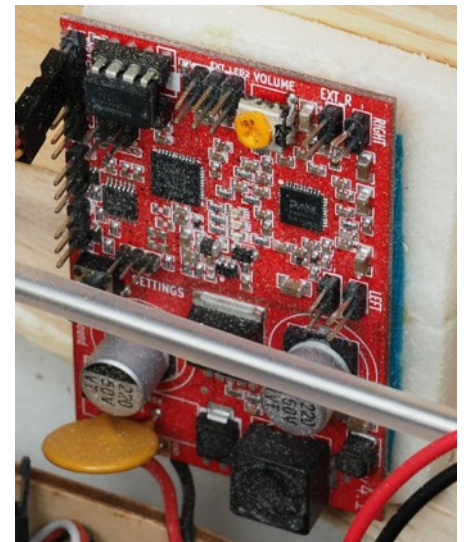
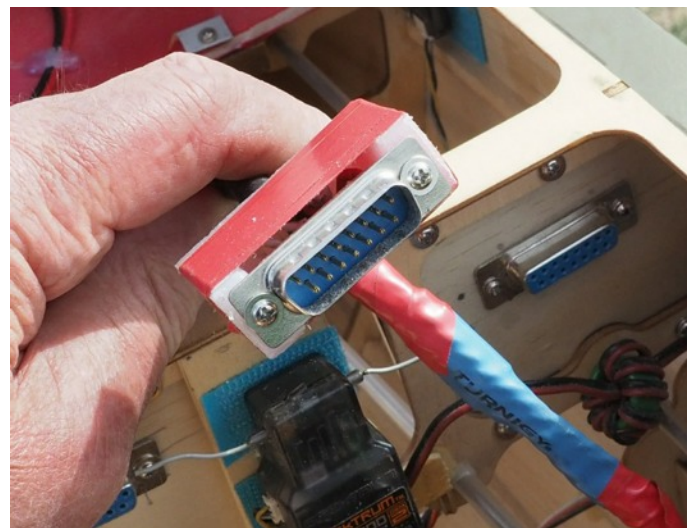
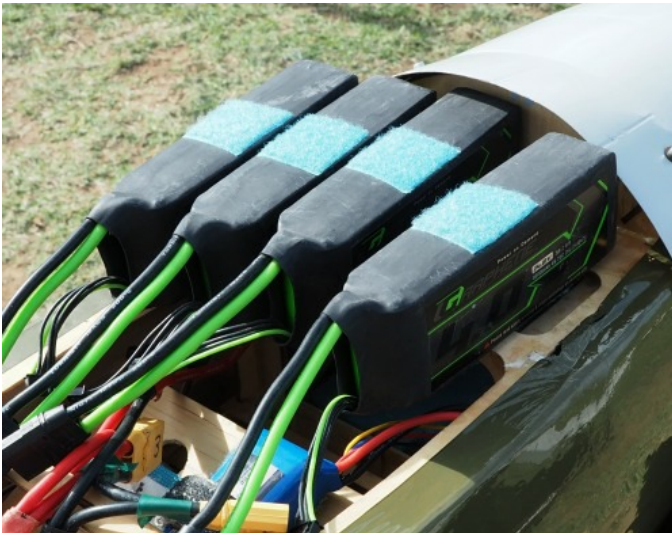


Ron Barnes' P47 Razorback, is a Hangar 9 ARF of 2080 mm (82") wingspan, weighing 8.6 kg. Batteries are four 4S 4Ah lipos (below), connected to make 8S. The motor is an E-Flite Power 90 rotating at 325 kv. When attaching the wing, Ron needs to connect servo leads for aileron, flaps and retracts, so, instead of three normal servo leads, he has wired VGA plugs and sockets (right).

The Razorback is happy when the flaps are lowered – only 3 degrees of down elevator are needed to correct the trim for 50mm of flap.

Take-offs are tricky, Ron reports, as down elevator is needed at first. Once flying, the model is reluctant to slow down for a landing, no doubt due to the weight.

He's also fitted a MrRCSound sound card (bottom right) and two transducers (bottom left), although the system was not being used for the first few flights.



There isn't space for it this month, but see June Wingtips for a horror photo of Ron.