SLIPSTREAM

BULLETIN OF THE AUCKLAND MODEL AERO CLUB INC. EST. 1928

July 2016

Part of the Club's display at the Warbirds Ardmore airshow. See the report on page 14.

NZ REGISTERED MAGAZINE

Tomboy & Texaco

Tomboy and 1/2A Texaco will be flown as a monthly competition at either the AMAC field at Karaka or the Tuakau Club field.
Contact Keith Trillo for confirmation of site and possible postponement, Mobile: 027 460 7180.

AMAC placings count to event Club points

Slipstream contributions

Contributions of photos and information about latest projects are very welcome for the Building Board section of the bulletin. Field reports and articles are too!
Please just send them in.

Deadline for articles for the August Slipstream is July 22.

Editorial – An unofficial Centenary

While the Mission House that gives Mission Bay its name, is well known, the aviation activities that occurred there in the early twentieth century are probably less known. It was the site of the Walsh Brothers' and Dexters' New Zealand Flying School based in the old Mission House.

In June 1916, a hundred years ago, a new trainee who was going to make a great contribution to the company and to New Zealand aviation, joined the school. I refer to the young George Bolt. His achievements combined a curiosity and passion for aviation, but they also provide glimpses of significant experimentation in model aviation.

These experiments started in Christchurch, well before his time with the flying school, with the design of a model balloon that flew well enough to be lost in the heights of Hagley Park. He also experimented with an early CO2 motor used to power a model resembling a Bleriot. Bolt was an early subscriber to Flight Magazine, a useful source of ideas for his early designs. After the numerous rubber powered models built by him, but too unstable to fly, he discovered quite by accident, that a canard arrangement would fly well. Well enough, in fact, to put on public displays of flying models in Hagley Park. By 1912 his canards had become competitive in early aeromodelling contests. He won a gold medallion for a contest winning flight of 49 seconds in a competition of half a dozen other early model aviators at that time.

Inspired by Vivian Walsh's first early powered flight in New Zealand in 1911, Bolt was immediately keen to build his own aircraft. Unable to afford any motor, Bolt had designed his own glider and learnt how to fly it off the Cashmere Hills in Christchurch. Both his model flying and gliding achievements were written up for Flight Magazine.

To fund his glider building experiments, he found a job in an engineering factory, providing skills that were to be of great value to him later when came to Auckland to join the flying school. When he did, his initial role there was helping with airframe assembly, but it was his mechanical knowledge that soon proved his worth, particularly in engine overhauls. He had a natural understanding of engines. Vivian Walsh quickly recognised the abilities of his 'star pupil', giving Bolt the responsibility of flying and engine bench tests on the new Flying Boat 'A' biplane and on the flying boats that succeeded it.

Bolt's achievements, both before joining the flying school and beyond, make inspirational reading and a full account is to be found in E. T. Harvie's biography referenced below. In it there are constant reminders of how a want to succeed at model and full-size aviation could materialise in great achievements. While George Bolt is remembered in George Bolt Memorial Drive, the gateway to Auckland Airport, I feel that it is timely to recognise his great contribution to aviation in the twentieth century.

Stan Mauger

Reference

Harvie, E. T. (1974) *George Bolt: Pioneer Aviator.* Wellington: A.H. & A.W. Reed

Monthly Club Night - Mike Fairgray

6-6-16

Present were Brian Carleton, Mike Fairgray, Tony Hill, Lloyd Hull, Stan Mauger, Bill McGarvey, Arthur Pearce, John Raybould, Bryan Spencer, Don Spray, Mike Stoodley, John Swales, Keith Trillo, Stephen Wade, Charles Warren and Keith Williamson.

Mike Fairgray thanked members for the prompt payment of the club subscription. A good number had paid by Internet banking, and only five members had still to pay. All paid members had been registered with MFNZ and where appropriate Karaka Sports Park. The Committee had been looking for new events that the club could include in the years flying calendar. Two metre glider would now be included in the calendar and flown to past club competition rules. These gliders had had a good following in the past. Brendon Neilson had suggested that the club include a competition for Radian 2m electric glider on the flying calendar. This was very active in the Tuakau club and was a fun event. Charles advised that a price deal of $220.00 could be had if four or more gliders were purchased by club members. Interested? Then let Charles know.

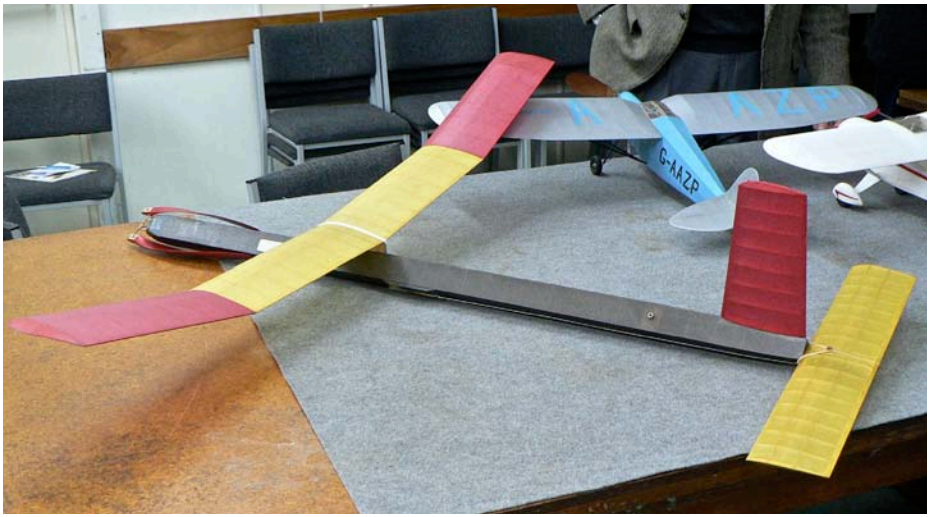
Stan Mauger noted that Open Rubber was back on the club flying calendar and one event had been held already. It would be included in the Club competition points.

Tonight's theme Open Rubber Models

Not a lot of open rubber models graced the table. Stan Mauger had brought his power scale Vickers Vildebeest. Scale detailing had progressed further and the model had had colour applied. Still to do were engine cylinders, guns, aileron and tailplane struts. A quick test glide had shown it to be tail heavy but very promising. Stan is hoping to enter the model in the Hope-Cross F4A Free flight Power Scale Trans-Tasman Challenge to be held in Richmond, Australia in a few weeks.

Charles Warren had a brace of hand launched gliders and while not actually rubber powered they could loosely be said to meet the theme as they could be launched with a catapult and the catapult was the rubber content! His SE5A RC conversion was now finished with machine gun and markings of the First World War ace Mick Mannock.

Bill McGarvey had his 1959 vintage high performance model which qualifies to be flown in open rubber nostalgia under MFNZ Rules. This was a large model and one wonders how much rubber is needed to be loaded to obtain good performance. The model was equipped with an electric DT timer. As Bill explained a small battery was attached to the inside of the fuselage providing current to an element. The timer can be set for ten seconds to allow for initial setup and then a time for when the DT is to activate. On setup a rubber band connected to the thread which runs back to the tail is locked across the element and at the designated time the element heats up and burns through the rubber band which allows the tail to lift thus providing and effective brake to allow the model to return to the ground. The folding propeller was a work of art matching the quality of the build. Bill hopes to break the cycle of coming second in all the competitions he has entered with this model. Good luck Bill!



Upper: Bill McGarvey's Hipperson Wakefield. Should make a good time in Open Rubber!

Centre: Following the night's theme were Mike Fairgray's Flying Aces Moth, Jimmy Allen Stokey and Keil Kraft Senator.

Lower: Stan Mauger's APS Spinner, a simple design that flies well.

Don had his Puss Moth and Piper Clipper on the table. The Puss Moth qualifies for open rubber and had recently had wind under its wings. Don commented that he had to yet train his models from homing on to fence posts.

Bryan Spencer had a large assortment of bits and pieces that he had accumulated from dealing with past modellers' estates. These included GWS receiver controller motors, gearboxes, transfers, small can motors, a selection of knife blades and colour trim. These attracted members like bees around a honey pot and a good number of items vanished into pockets hopefully to be taken home and used. Bryan had also ordered a further stock of diesel fuel.

Arthur Pearce had a Fly Past magazine with an article on restoring P40s and New Zealand had a worldwide reputation for rebuilding P40s. Mike Fairgray had his usual selection of model magazines. Mike had three rubber models on the table, a Flying Aces Moth, Keil Kraft Senator and a Jimmy Allen Stokey.

They were built some time ago and have been residing in his workshop, gathering balsa dust and it was now time for them to move on. The Moth had flown and showed good performance. The tissue covering the Senator's fuselage had become brittle and would need recovering. The three models were free to a good home. By the end of the evening the Senator had been snapped up by Don Spray and the Moth by John Swales. The Jimmy Allen Stokey returned to its corner in the workshop but is still available free to a good home, just contact Mike. This concluded the table so it was off to tea and biscuits.

Upper: Charles Warren's brace of hand launched gliders. Is there a competition brewing?

Upper: Keith Trillo has a soft spot for the Pitts Special. This kit should make a good flier.

Lower: A duo of scale models built by Don Spray, comprising CO2 powered Piper Clipper and Rubber powered Puss Moth. Note the engineering on the Puss Moth prop (see inset).

Upper: Charles Warren's SE5a built to the Doug McHard plan but converted to RC.

Lower: Stan Mauger's Vickers Vildebeest. Still a long way to go with detailing engine, undercarriage, struts, markings etc. Some of the moulded parts in the foreground.

FF &CL SIG Postal Plan Scale Competition 2016

Now under way

Any rubber powered scale model built from a published plan (or kit) qualifies. Flights may be put in at any site including your local park as long as the flight is timed by someone else.

Queen's Birthday flying at Hoteo - Don Spray

The weather gods looked good for the Saturday so George and Don were off for some pre-Trans-Tasman trimming at Hoteo. It was a beautiful day with mist in the valleys and the slightest of westerly breezes. George had a stunning aerobatic flight with his Airacobra, complete with a disintegrating landing and bits flying in all directions. However, plug it all back together and it's back for more – quite amazing.

His Broussard did a majestic flight complete with an excellent glide and landing, as did his rubber-powered Folkerts Racer. On 800 winds, it did a couple of leisurely circuits and a 50 second flight. Great, pack them away and he's ready for Sydney.

My Zlin had a well-behaved flight but found a fence post on landing and now requires a new wing. The Heinkel is finally behaving and achieved a long flight. It just needs some mildly induced turn. The Piper Pacer had a nice flight as I learn how to adjust the power of the Gasparin CO2 motor. More turn required.

Last but not least was the big Puss Moth which had a very stable flight, although I still cringe when putting on the last couple of hundred winds. So, pack up while we're ahead.

Altogether it was an excellent morning – we could have flown all day.

Aka Aka Diary - Charles Warren

I have been out to Aka Aka a couple of times in the last month. Once was mid week when I test flew the SE5A. The engine was not giving full power and I was unable to get it to climb but it seemed quite controllable and made a soft landing in the long grass. I took it out again last Sunday and was unable to get it to start. Since then I found the fuel tube was split so that has now been replaced. On Sunday Stuart was out with his yellow Greenly Tug and had a number of flights with no problems. Michael Derecourt was there but I did not see him fly anything. We had a visitor, Keri who has recently moved to Pukekohe and wants to join a club in the area. He flew his 2 metre glider, a Goldberg Sophisticated Lady, using the Hi-start bungee and had some good flights. He also flew a discus launch glider. However he is really into dynamic soaring and is looking for a site on the coast with a good cliff and a friendly farmer! He has discovered through personal experience that it is better to make friends with the landowner first before launching a 200mph guided missile on his property. By lunch time the breeze was building up and the fliers went home but I went to take a look at the progress Lloyd is making with his latest project which is a 6 ft span Airmaster for electric power. The fuselage and fin skeleton is built and he is looking into spinning an aluminium cowl on his lathe. He has a friend who is going to show him how it is done.

That is about it for this month. We missed one of the few good flying days because we were busy with the show at Ardmore but that was time well spent.
Photographs are on the next page - Ed

Upper: Stuart Ward at Aka Aka with his next glider under construction. The fuselage is planked with 0.8mm ply.

Lower: Visitor Keri Sergison with Stuart launching Keri's Sophisticated Lady using a Hi-start bungee..

Upper: Lloyd Hull's latest project, a Modelair Airmaster for R/C and electric power, takes shape in his spare room.

Lower: Freshly mown grass cuttings (thanks to Lloyd) and Charles Warren's SE5A after it had one test flight. Further flights delayed by split fuel tube.

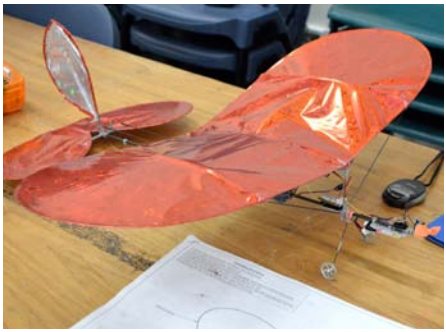
Hangar Rat at Balmoral Hall - Stan Mauger

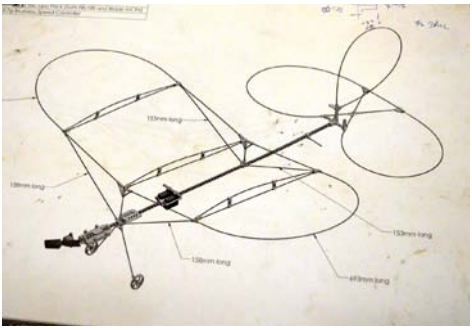
30-5-16

This was a low-key flying evening owing to some of the regulars being away. Trimming was interspersed with official Hangar Rat flights. Angus Macdonald brought along his models compactly accommodated in a very small box. He spent the evening trimming his new model. Keith Trillo was getting good flight times from his Hangar Rat and managed to slip in a flight of his Modelair Hornet before the close of the evening. Stan Mauger worked at improving times with of his Hangar Rat. Chris Groves flew his Hangar Rat but did not record official times. His twice sized Vapor showed how slowly this design can be made to fly. Elsewhere in the hall Geoff Burgess was flying his 350mm span Ares foam Sopwith Pup, and John Swales his Piper Cub in the breaks between Hangar Rat flights.

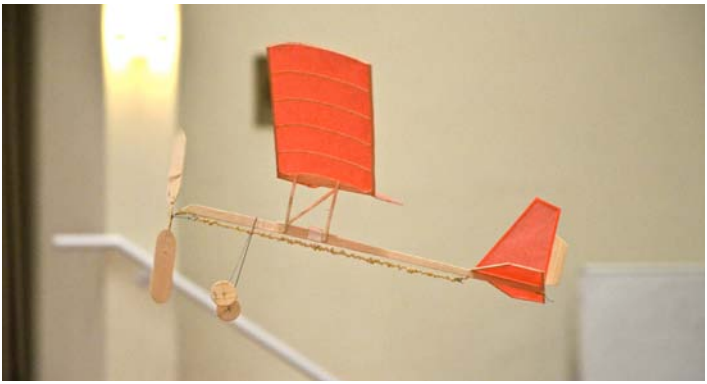
Thanks to Mike Stoodley for assisting with timekeeping and John Swales for excellent photos for this report.

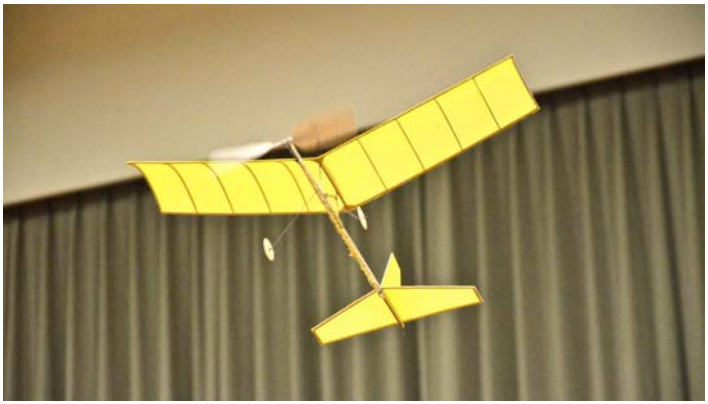
Results				Best two flights total
1. S. Mauger	1:23	1:43	0:52	186
2=. K. Trillo	1:12	1:12	0:53	144
2=. A. Macdonald		1:10	1:14	144





Above: (Clockwise from top left) John Swales attending to his RC Profile Piper Cub. Geoff Burgess brought this foam RC Sopwith Pup. The twice size Vapor drawing and the model flown by Chris Groves.





Upper: Stan Mauger keeping an eye on his model as it descends.

Centre: Angus Macdonald's new model climbing away nicely.

Lower: Keith Trillo's Hangar Rat going for height.

Display at Warbirds Ardmore open day - Stan Mauger

5-6-16

The Club once again took the opportunity to provide a static display of models at the Ardmore Warbirds airshow. Keith Trillo, Don Spray, Angus Macdonald and Stuart Ward arrived early on the job to display models. They were assisted by Charles Warren, Brian Carleton and Stan Mauger. The available space on tables and floor was soon taken up with displays of models representative of the model disciplines we fly. Keith and Angus brought indoor and outdoor rubber models, Don, free flight scale and Charles his Tomboys. Stuart and Angus's large gliders were a visible presence, while at the other end of the scale Keith's historic models generated interest from visitors. Charles started his MP Jet diesel periodically and soon had a bunch of youngsters and parents around him.

The weather was about as good as could be wished for, attracting a good crowd. At its peak, we had a good circulation of people past the display. Great interest was shown in the display and often questions re supply of materials and the usual queries of where we fly were frequent. Not unexpectedly seniors often looked nostalgically at models with responses like "I had one of those, I had a diesel in it I think. No idea what happened to it!". Charles was seen handing out membership application forms and also Slipstreams, so lets hope it was all worth the effort.

Special thanks to Keith for organising the display and to those who came to put in time manning it and representing the Club.

Above: Charles Warren soon attracted young onlookers when he started the MP Jet.

Upper: Hamish Ward discussing the Greeley glider tow plane.

Above: Keith Trillo's replicas of early model aeroplanes attracted interest. Angus Macdonald is seen fielding questions, beyond.

A Good 'Big un' - Angus Macdonald

You have no doubt, heard the saying in aeromodelling, 'a good big one will always beat a good little one'. Two previous examples of the '8-Ball' proved to be good flyers so maybe a bigger one will be even better. The first was built as a '1/2 E Texaco' but half way through the build, the rules were changed and it became a (full) E- Texaco and proved to be a nice flyer. A ½ E was still needed so the plan was reduced by 7% which brought it into the overlap area of 'E' and '½ E' requiring only a change of battery to fly two classes. Construction materials remained the same, as the first one needed ballast to bring it up to weight rule. Its performance was very similar, with a floating glide responsive to thermals.

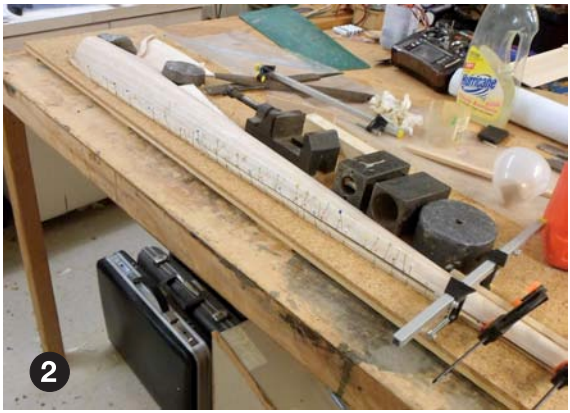
While hunting through 'vintage' designs while dreaming of the 'good old days' of free flight power, up popped the "8-Ball", reminiscent of the models built and flown many years ago. It was designed by Ray Schofield (USA) and published in 'Model Airplane News' – April '49 issue- as a development of several earlier models. Its sleek pylon and elliptical surfaces made it "the one to build". It turned out to be two to build. ELECTRIC of course! Many flights have been had on sunny Sunday mornings, in the comfort of chairs provided for the 'more mature' flyers by Keith Trillo, our Karaka steward. Thanks Keith—much appreciated. This severe case of '8-Ball-itis' resulted in the 'good big-un' thoughts. Fossicking among various 2S Lipos, revealed two 800 m/a specimens. What wing area is required for these? Reverse calculating revealed a figure of 897.43 sq. ins. More deep thinking found that 1.6 times the original plan gives 900.64 sq. ins. Pencil to paper. No.3 to build.

The resulting plan called for double curvature and sharp radii. Would 1/8 sheet balsa succumb to such treatment ? No place for quarter-grain (C grain). Two sheets of 48 x 4 x1/8 "A" grain (right angles to "C") should do the trick. The design calls for a 1/8" profile keel with semi-circle (and a few more exotic shaped) formers. Household ammonia (works better than water – check your ventilation) was allowed to soak for a couple of hours into the (approximately) pre-shaped sides which covered the main fuselage and part way up the pylon. Photo **1** shows this stage. A ½ hour of torture with pins, clamps and weights persuades the 1/8 sheet to succumb (photo **2**).

1

Allowed to dry overnight in a warm room, the balsa gave in and accepted its new shape. The keel profile was clamped to a hardwood plank to maintain a straight fuselage, and the skin trimmed to a good fit (photo **3**).

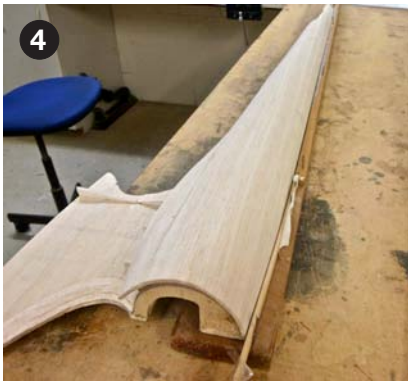
PVA glue (gives time to work) was applied and the skin pinned along the bottom edge first then



persuaded into place with lots of pins etc (photo **4**).

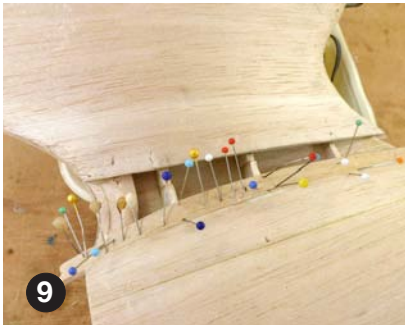
After plenty of time for the PVA to harden and a bit of trimming, behold a nice firm ½ fuselage to treat with the same indignities on the other side. With pins, pegs and some old FAI black strip 1/8" rubber, a recognisable fuselage emerges (photo **5**)

A shorter piece of 4" sheet for each side of the pylon (from top down) gets the same merciless treatment (photo **7, 8, 9**) and the resultant gap filled with a narrow well soaked piece which is quite amenable to doing 'the twist'. A little bit of lightweight filler and some sanding gives a good surface for covering with LiteSpan. A quicky of white foam with ply front and back turned up in the lathe produced a quite acceptable mould for the fibre-



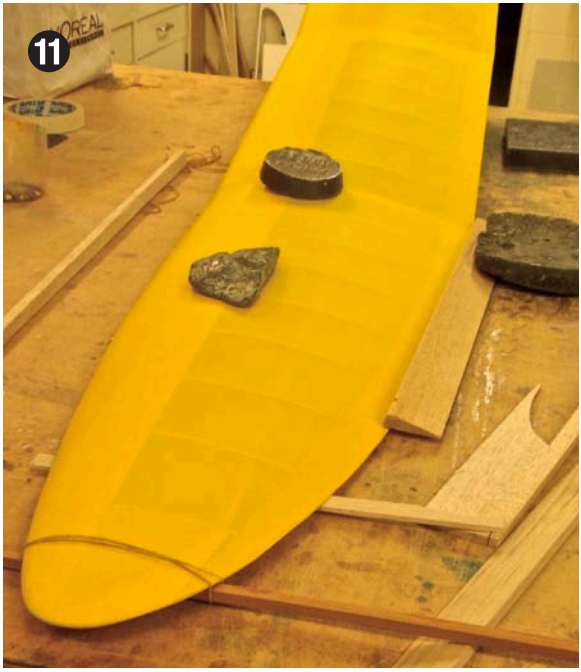
glass cowl. The flying surfaces are built with the spars through the middle of the ribs. WHY? Possibly to obtain a smooth flow from LE to TE; but then to sheet the LE back to the high point and provide a 'cliff' for the flow to fall off? One wonders! Oh well! Rules call for the plan construction. This and the elliptical plan surfaces, (not a straight line in a truckload), brought some periods of difficulty! With wing framed up, the saddle for the top of the pylon was built on the centre lower surface of the wing over thin clear plastic (photo **6**).

It was then glued to the top of the pylon still in place on the wing with lots of extraneous packing to ensure that it was true. The tailplane, although elliptical, had to have one straight



line; the hinge line of the elevator. With the ribs on the spars, the TE of the stabiliser, a straight piece, was pinned flat on the plan upside down with the front of the ribs sticking up in the air. With a light bracing pinned along the front of the ribs, they were glued to the spars and TE. When hard, this much was turned over onto the plan and with lots of little bits of packing, construction proceeded in a more or less conventional manner. The hinges made no protest when the elevator was offered up to the TE (photo **10**).

Covering for the tailplane is LiteSpan and the wing is Solartex. Both these materials have been given one coat of clear shrinking dope after heat shrinking them- and will be given another one at least- to harden them up against warping (photo **11**). Lead weights are holding them true on the bench while drying.



So far one glide test with the tailplane pinned and taped in place, to check the decalage, was very satisfactory. With tailplane glued and all electronics installed. As with all such stories as this, we wait and wait and wait for a fine calm day for the next step (photo **12**).

Postscript

Since this article was written, the model has flown well with an excellent glide.

Edgar Percival's beautiful Gulls - Guy Clapshaw

Edgar Percival's aircraft were noted for their graceful lines and outstanding performance. Many record breakers of the 1930s flew Percival designs, among them Charles Kingsford Smith in a Percival Gull Four named 'Miss Southern Cross', Beryl Markham in a Vega Gull, Alex Henshaw in a Mew Gull G-AEXF and our own aviatrix Jean Batten in a Gull VI.

Percival's designs evolved over the years. His first design was christened 'The Gull' and leaned heavily on some of the design concepts learned from his time at Hendy aircraft, particularly the twin mainspar wing construction which was both light and strong. Comment was made that the first Gull was similar to the Hendy 302 monoplane, which Percival didn't deny, describing it as a 'design after the Hendy 302'. The Gull was larger than the Hendy, carrying the pilot in front of two passengers. The prototype Gull, registered G-ABUR, was built in the vaults of a disused brewery and made its first flight in 1932 at a time when devices like wheel brakes, flaps, closed cabin and variable pitch propellors were not in general use. Flight testing and certification was a lot faster in those days, enabling G-ABUR to compete in the King's Cup air race the same year, where it finished in twelfth place. There was choice of engines available ranging from the 130 horse power Hermes IV or Gipsy Major to the more powerful 165 H.P. Napier Javelin fitted in the prototype. The aircraft was extremely elegant for its day when compared to other contemporary designs - de H. Moths, Miles Hawks and some Continental designs.

Unable to persuade established manufacturers to build his radical design, Percival instructed George Parnall and Co to manufacture twenty four production aircraft, named the Gull IV for its four cylinder Cirrus Hermes power plant. An alternative aircraft, the type D2, powered by the more powerful 160 H.P. Napier Javelin was also available. Small changes from the original Gull prototype were made in the production aircraft, perhaps the most interesting being the under-fuselage airbrake fitted immediately behind the cowl.

With the successful completion of the contract with George Parnall and Co, Percival was eager to set up his own manufacturing facility at the new London-East, Gravesend. Airport buildings and hangars were constructed in 1933 and the Gull production line began producing the first of 22 Gull D-2. The design was improved over successive years, with four panel windscreen, a new streamlined undercarriage, trailing edge flaps and optional extra fuel tanks to extend the range from the standard 640 miles to over 2,000 for future record attempts. Edgar Percival was never a man to shun publicity, and flew one of his machines from Gravesend to Algeria and back in fourteen and a half hours - and 'Yes!' he wore his customary business suit and brown trilby hat! By 1935 Percival's designs had earned favourable public recognition with their success in air races and numerous record breaking flights to all parts of the World, several of which were single engine crossings of the Atlantic. Percival's theories on aerodynamic performance were born out by the field of 36 entrants in the 1935 King's Cup comprised of 34 Percival designs.

Edgar Percival's very competitive nature led to him designing a purpose built aircraft to win him the 1934 King's Cup. The machine was a 24 foot wing span single seat monoplane powered by a Napier Javelin III engine. Designated the Type E, and register G-ANCD, it made its first flight in March 1934 at Gravesend in the hands of its brown suited designer/

test pilot. Percival's theories on aerodynamic performance were proved correct when G-ANCD (now christened the Mew Gull), recorded the fastest time of 191 miles pr hour .in the 1934 King's Cup. Regrettably, harsh handicapping denied him the victor's laurels.

Like it's larger Gull siblings, the Mew Gull evolved over time. Several choices of engines were experimented with, redesigned undercarriage, split trailing edge flaps, longer fuselage, re-moulded cabin area and a more powerful 6 cylinder 210 horse power Gipsy Six engine improved the breed. Edgar Percival used this machine to become the first person to exceed 200 miles per hour in the King's Cup.

Percival went on to produce a total of six Mew Gulls, which many consider was the most elegant of his many Gull designs. Today, two Mew Gulls still fly - Henshaw's G-AEXF and a replica of Giles Guthrie's G-AEKL.

Above: A replica of Giles Guthrie's Percival Mew Gull G-AEKL .

Mew Gull production didn't pay wages and expenses however, so Gull production had to continued during these years between 1933 until after the Second World War. Various marks of Gull emerged from the Gravesend factory, culminating in the ultimate three seat Gull Six made famous by Jean Batten. The success of the 'Six' persuaded Percival to design a larger machine in 1935, able to carry pilot and three passengers in saloon car comfort. This became the Type K, which he christened the Vega Gull.

The Vega Gull was basically an enlarged Gull with wider centre section, wider undercarriage track, enlarged tailplane, and cabin with increased cabin volume. The additional wing area permitted a 300 pound increase in max gross take off weight to 2,750 pounds. Edgar Percival took the first prototype on its initial test flight in November, 1935, and was delighted to find that despite its additional weight and area, performance was almost identical to the smaller and lighter Gull Six.

89 Type K Vega Gulls were produced before the outbreak of the Second World War. The initial price was GBP 1,550, which included soft leather upholstery, full equipment of instruments, ease of handling, sparkling performance and dual controls as an optional extra. Edgar Percival's skill as a test pilot when demonstrating his Vega Gull to both the Air Ministry and Royal Navy resulted in an order for twelve of these machines for communication duties. Engine power was upgraded to the more powerful 205 h.p. Gipsy Six II engine to produce the Type K-2. The extra power increased the cruising speed to 158 m.p.h. The new type had the new moulded 'fish bowl' windscreen and the cabin roof transparencies were eliminated from subsequent examples. Vega Gulls quickly acquired success in the racing scene, the 1936 King's Cup becoming a battle between four Vega Gulls for first, second and third places. Appropriately, the eventual winner, Charles Gardner, accepted the magnificent King's Cup attired in business suit, collar and tie !

The success of Percival's designs forced a move to larger manufacturing premises at Luton's new airfield in Bedfordshire. Construction of an aircraft factory commenced in 1936 after brief negotiations for a ten acre site on the airfield's North Eastern boundary. Aircraft production started before the factory was completed, in January 1936, and test flying commenced in March the same year.

Numerous racing successes and new records followed the move to Luton, the most noteworthy perhaps being Jean Batten's record Australia to the UK in a record 5 days and 18 hours in Gull Six G-ADPR now on permanent display at Auckland International Airport.

When war clouds threatened the World in 1939, Percival Aircraft were already geared up producing the twelve Vega Gulls for the Royal Air Force. Favourable test flight reports of the aircraft by RAF test pilots had led the Percival design team to anticipate orders for a more upgraded aircraft . This became the Proctor I, designated the Type K-3 .

Above: The author's Percival Proctor MkI reverse engineered as a Vega Gull.

The demands of war necessitated increased efficiency in manufacturing, with production time reduced. Security was also stepped up with the introduction of factory passes and the installation of a Home Guard (Dads' Army) unit on the airfield with orders not to shoot at any enemy intruders lest they attract attention to the airfield!

An initial order for Proctors came in 1938, with three seats, strengthened floor, square rear windows, a rather ugly blister on the starboard cowl to cover an engine driven generator for the radio, navigation lights and radio mast. These modifications led to significant adverse changes to the aircraft's performance, which the Air Ministry were happy to accept.

Demand for Percival Proctors soon exceeded supply, necessitating additional production by F. Hills and Sons in Manchester. By war's end in 1945, 330 Proctors had been manufactured by the Luton factory, and a further 812 by Hills and Sons. Many of these machines were used for the training of wireless operators for Bomber Command. Once Proctor production was established, the design office turned its attention to improving the breed. This resulted in a completely new design, the Proctor IV, with enlarged fuselage,increased wing area and increased weight, which it was hoped would be more suitable for the training of wireless operators. The new design was produced as either a three seat radio trainer or a four seat communications aircraft. Early Proctors used the de H. Gipsy Six but this was soon replaced by the more tractable Gipsy Queen II.

Edgar Percival's influence on Gull design ceased when he sold his share of the company to Hunting & Son in 1944. After selling his part of the Company in 1944 he settled in America and became a permanent U.S. citizen "by enactment in 1948 of a Senate Bill" especially for his benefit. In 1951 he went to New Zealand and helped with pioneer aerial fertilizer distribution. Even in 1980 he was working on new ideas in U.K. and New Zealand while writing his memoirs.

Above: A Percival Proctor MkIII.

Above: Mike Biddulph is well on with restoration of his Proctor MkIII, in Essex, England.

With Edgar's departure, the nomenclature 'Gull' disappeared from the product line to be replaced by 'Proctor'. Many believe the Proctor IV was an example of a good design ruined by governmental bureaucracy and this was certainly reflected in it's performance. Cruising speed deteriorated by 20 knots below the agile Vega Gull and Proctor I's 130 knots, the increased weight led to significantly longer take off landing distances, leading to some claims the only thing that got a heavy Mark V airborne on a calm hot day was the curvature of the Earth !

Hunting - Percival's design team had anticipated a post-war demand for civil transport aircraft,by designing a post-war version of the Proctor IV christened the 'Peewit' (usually referred to as the Proctor V). The idea was shelved when a plentiful supply of very cheap former military aircraft flooded the market. Of the 55 aircraft put up for sale in December, 1945, four Vega Gulls and Jean Batten's record breaking Gull VI were available. Despite this flood of aeroplanes, Proctor V production continued sporadically but was hindered by the foreign currency regulations of the time. The last Proctor the Mark Six, was a Mark Five modified for floats. Only one example was built for a Canadian customer before Gull production ceased.

Nowadays an encouraging number of Gulls and Proctors still exist. New Zealand is perhaps the world leader, fielding three airworthy examples, Mark V ZK-AQY and AQZ and the world's only airworthy Mark I ZK-DPP. Great Britain has several Mark Vs, a Vega Gull plus two Mew Gulls G-AHKL and G-A EFX, and Australia flies a veritable cornucopia of various Marks of Gulls.

Free Flight contest day

Indoor flying at Morrinsville

Sunday October 9, 2016

- **Hangar Rat • HL Glider**
  Flown to MFNZ rules
- **Push E • Modelair Hornet**
  Flown to AMAC rules
- **F4D Rubber Scale, F4F Peanut Scale**
  Flown to FAI rules. Refer to link on MFNZ website under Scale FF & CL SIG
- **Kit Scale**
  Flown to rules on MFNZ website under Scale FF & CL SIG

Come and join us

Venue: **Westpac Stadium Hall, 21 Ron Ladd Place, Morrinsville**

Programme:	**9.45am**	Arrive and unpack ready for start time
	10.00am	Hangar Rat, Push E, Modelair Hornet and HL Glider Scale static judging until 12.30pm
	12.30pm	Peanut Scale, Rubber Scale, Kit Scale
	3.45pm	Prizegiving.
	3.55pm	Hall vacated.

Fliers Entry: $20.00

Spectators welcome

Contact Stan Mauger 09 575 7971, stanm09c4@gmail.com for more information

Organised by the Auckland Model Aero Club Inc
in conjunction with the Scale Free Flight & Control Line SIG

Calendar June

For information about the location of club fields and cancellations or postponement of flying, contact the field stewards.

KARAKA

Sundays	**Tomboy Extravaganza** *(for Club points)* Flying can take place between 10am and 2pm (9am to 3pm for gliders and other silent models). **NDC events** See below.
Karaka Steward	Keith Trillo 09 298 4161 027 4607180 careith@hotmail.com

HOTEO

	NDC FF events See below.
Hoteo Steward	Paul Evans 479-6378 ziply@xtra.co.nz

AKA AKA

Saturdays & Sundays	Intending fliers should phone Brett Naysmith to confirm that there will be flying.
Instructor	Brett Naysmith
Aka Aka Steward	Brett Naysmith 09 235 8803 brejo@xtra.co.nz

AUCKLAND

August 7	MIMLOCT Mass International Memorial Launch of Cloud Tramps Auckland Domain 4.00am [No kidding!]

CONTROL LINE

Contact C/L Steward	Stan Mauger 575 7971 stanm09c4@gmail.com

MERCER

28 August	Combined Control line scale day with Free Flight Club.

INDOOR EVENTS

Balmoral	
Monday July **25**	**Indoor free flight scale all classes** [7.30-10pm] *- for Club points.*
Ellerslie	**Michael Park School Hall**
Tuesday July **12**	**Indoor radio flying** [7.00-10pm]
Tuesday July **26**	**Indoor Radio Scale** including ARF Scale, Simple Scale and Full Scale classes [7.00-10pm] *- for Club points.*
Indoor Steward	Bryan Spencer 570-5506 bspencer@xtra.co.nz

NDC Calendar July

Free Flight	**Vintage**
Coupe d'Hiver	Vintage RC Texaco Scale
Open Glider	Vintage Classic RC Precision

Calendar Looking ahead

The following flying events are scheduled for the year. Note that weather may cause cancellation of some outdoor events. Refer to the contacts for possible cancellation before departing to the fields.

PLEASE ADVISE ME OF ANY OTHER EVENTS DURING THE YEAR THAT COULD BE INCLUDED IN THIS CALENDAR - *ED*

PATETONGA

September 18 Free flight Scale Day Patetonga (TBC)
Contests for all classes
- for Club points.

MORRINSVILLE

Westpac Stadium

October 9 Indoor free flight events

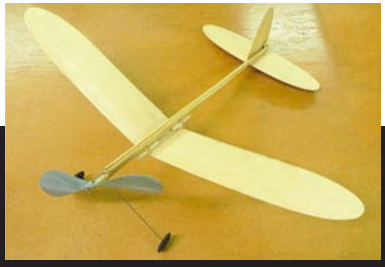
Events: HL Glider, Hangar Rat, Modelair Hornet and Push E **-** Free flight Open Rubber Scale, Peanut Scale and kit Scale.

HOTEO

October 16 Free flight Scale Day Hoteo

WAHAROA

January 2017 Nationals. January 3-7



MIMLOCT Sunday August 7, 2016

(Memorial Mass Launch of Cloud Tramps)

Plans for the Cloud Tramp were published in the October 09 Slipstream, or are available from the Editor • There is now plenty of time to start building one of these simple models.

OFFICERS OF AUCKLAND MODEL AERO CLUB INC.

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Club subscriptions

NZMAA Affiliation is mandatory for Club flying
Senior $50 (+$70 NZMAA) **Family** $55 (+$75 NZMAA)
Junior $10 (+$20 NZMAA) **Social** $40

Intending members with current NZMAA affiliation pay only the AMAC sub

Please make payments to

The Treasurer Auckland Model Aero Club
Mike Fairgray,
3 Kanohi Tce Mangere Bridge 2022, Auckland

NEXT CLUB MEETING AND NATTER NIGHT

Monthly club meeting
7:30 PM

Monday July 4, 2016

ASME Clubrooms, Peterson Reserve, Panmure.

Theme: Radio Controlled Model aircraft

Items for the table:
Models, plans, engines, photographs etc

Trading table:
Buy, swap and sell

Visitors or intending members welcome