

## ALPINE FLYER

June 2006

President – Andrew Evans

Vice President – Mark Bland

Secretary – Mike Pobjoy

Airworthiness Officer – Manfred Rueff

CFI and Treasurer – Ian Cohn

Editor - Ian Cohn



World Open Class Champion Michael Sommer

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### PRESIDENT'S COLUMN

I'm back after a 5 week honeymoon in Europe and UK following my wedding to Kerrie on 1 April. The trip was fantastic, visiting 14 countries along the way. A highlight was a visit on our last day to the Duxford Imperial War Museum just north of London where they have a Mach 2 glider (aka Concorde) on display. It was a real thrill to be able to explore the interior of this aircraft and I was amazed at the lack of space in the passenger cabin, which did not appear to be much larger than a Saab 340. The museum is well worth the visit for aviation enthusiasts and contains a fantastic collection of British and American aircraft from the Second World War, as well as more modern aircraft. Many of the WW2 exhibits are in airworthy condition and regularly fly in air shows. Restoration work on many exhibits can also be observed.



Kerrie Evans and the Concorde display at Duxford Imperial War Museum UK.

A lesson learned on our self drive tour of England, Wales Ireland and Scotland was that if you want your marriage to survive beyond the honeymoon, choose hire cars with satellite navigation installed. After getting lost in Dublin and Edinburgh we decided this would be a good decision in our third rental car.

Thanks to our Vice President Mark Bland for holding the fort during my absence and congratulations Mark on your excellent column in "Alpine Flyer" during my absence.

It has been a season of many records for the club, now that we have officially entered winter. We had our earliest start to a flying season in August 2005 and our latest finish with flying taking place well into June. We have broken our previous record for total season flying hours in the IS28 also with 210 hours flown compared to the previous best of 179 hours in 2004/2005.

Our syndicate glider Pilatus GCD has had a successful first season with a total of 91 hours flown. I am pleased to be able to boast that I have earned the most frequent flyer points in GCD.

Thanks to Mark Bland again for taking on the role of event organiser for our 30<sup>th</sup> birthday celebrations in November 2006 and I ask all members to assist Mark to make this a real success.

Another thankyou goes to Nicholas Cohn who hosts our [Newspage](#) free-of-charge on his server in Amsterdam. Nick has been granted an honorary Social membership for the 2006/2007 season. We hope that he will make use of his membership when he visits Mt Beauty in December.

Keep warm and enjoy the ski season and I look forward to seeing members on the airfield again when we resume flying for the 2006/2007 season.

Andrew J Evans  
President

## Operations

### Circuit Traffic and Launching

When winch launching, there can be a delay between the "Glider Ready to launch; All Out, All Out" call and the winch actually commencing the launch. Further, the cable can be airborne for up to 45-50 seconds. For these reasons, it can be dangerous to commence a launch if there are any aircraft, especially gliders, in the circuit for runway 14.

So if any aircraft calls downwind for runway 14 or is observed to be on downwind leg of the circuit the rule is to not start a launch or to halt a launch that has been started. The glider pilot should release the cable and radio "Stop Stop Stop" if the "All out" call has been given but an aircraft has joined downwind.

Launch Assistants and Pilots - don't gamble with aircraft safety.

### Don't Land with the Undercarriage Retracted

Pilots are again reminded that they are required to

- (a) Conduct a pre-landing FUST check.
- (b) Physically check that the undercarriage is down and locked before/during doing the "FUST" pre landing check.

We have sometimes seen that a pilot will just change the undercarriage position for landing. This may work most of the time, but, if the undercarriage is already extended for any reason, – it doesn't work.

We also sometimes see some pilots flying around with their undercarriages unintentionally extended. This may be eliminated by doing a "FUST" check immediately after launch since you usually have to action all the FUST items after launch anyway. The only difference is that in this case the flaps and undercarriage have to be placed in the flying position, not the landing position.

### IS-28 Flap Positions for Take-off and Landing

Pilots are reminded that the standard flap positions for the IS-28 are

- Take-off Flaps position 2
- After Take-off Flaps position 0
- Thermalling Flaps position 1
- Ridge soaring<sup>1</sup> Flaps position 1
- Cruising<sup>2</sup> Flaps position 0
- Landing Flaps position 3

1 - below 55 knot.

2 – 55 knot or above.

### Annual Checks

#### **GFA Operational Regulations**

**“6.3.5. A solo pilot shall undergo an annual competency check in accordance with the GFA Instructors Handbook.”**

Solo pilots are reminded that as of the 31<sup>st</sup> of August, all pilots are required to have their Annual Check with an MBGC Instructor before further solo flying.

Solo pilots are required, under GFA Regulations, to provide a signed "Declaration of Physical Fitness" (GFA Operational Regulations Appendix 1) for the Club's records.

Please also bring your log book for inspection, and expect to brief the Instructor on matters subject to current GFA Operational Bulletins, general flying safety matters, and current radio procedures.

### Motor Glider Take-off Performance

Recently Manfred and I flew over to Benambra in his IS-28M2 motor glider. Our first attempt to take-off from Benambra did not succeed because we did not get to lift-off speed and abandoned the take-off before we ran out of runway.

Why was this so?

Well, there are many factors that produced this result. In thinking about this, I came up with the following:

- Benambra is at 2300 ft above sea level so the engine did not produce full power. Engine power is directly related to atmospheric pressure and at 2300 ft the pressure is 8% less than at sea level.
- On our first attempt there was no headwind.
- Manfred and I are not exactly light weights (sorry Manfred) so we were near maximum take-off weight.
- The long runway is laid out on a dry lake bed but had had some rain the day before and so was a bit soft.

Subsequently, on the second take-off attempt, Manfred used the slightly raised side of the runway which appeared to be drier and harder, and we had an increased headwind component of about 3 knots, so we managed to lift off OK.

The lesson here is that motorgliders are not exactly home sick angels when it comes to take-off performance, and you should plan very carefully where you land, if you want to take-off again. The enemies of good take-off performance are high pressure altitudes, elevated temperatures, uphill slope, weight, increased ground rolling resistance (soft surface and long grass), and tailwinds.

These same factors affect all powered aircraft and should be considered for all new landing (take-off) situations especially where the runways are short and/or there are significant obstacles in the area beyond the end of the runway.

Ian Cohn  
Chief Flying Instructor

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## 30th Birthday Plans

Extract from:

[www.visitmtbeauty.com.au/history/airport](http://www.visitmtbeauty.com.au/history/airport)

**“The first use of the strip was by the Glider Club of Victoria which saw flights recorded as far away as Mount Kosciusko. The Mount Beauty Gliding Club began flying from the airfield on October 22, 1976 and members of the club have been active in the general maintenance and all developmental work since that date. Notable amongst them Ray Addinsall and Manfred Reuff. Manfred Reuff, in particular, providing strip maintenance and grass cutting.”**

In late October, the 30<sup>th</sup> Anniversary of the commencement of gliding operations at Mt Beauty comes around. The Committee has decided to celebrate this anniversary by inviting all members, former members, Friends of MBGC, and members of other clubs to fly with us over the 2006 Melbourne Cup holiday weekend from Saturday 4<sup>th</sup> of November to Tuesday 7<sup>th</sup> of November. It is planned to hold a birthday dinner and party at a suitable venue in the Mt Beauty area on the Saturday night.

Initially, Andrew Evans, Mark Bland, Ian Cohn and Kitty Vigo have volunteered to form the organising Committee (OC) for this event and any help and suggestions from anyone connected with the Club would be most welcome.

Andrew's special task is to compile a history, so if you have any documents, log book entries, photographs or reminiscences from past years that would be of value here, please send them to Andrew.



A picture from Easter 1994 submitted by Kitty Vigo. Who were those handsome men?

Ian, Kitty, and Mark will be doing general organising but don't leave it all to them.

For the OC get an idea of member participation in this event for planning purposes, it is very important to register your interest as soon as possible with any of the organising committee members. So write us a letter (Box 486, Mt Beauty, 3699) or send us an email ([gliding@mtbeauty.com](mailto:gliding@mtbeauty.com)) to let us know whether you can participate.

## Treasurer's Talk

### Easter Aerotow Charges

We have now paid the bill for aerotows conducted during both the 2005 and the 2006 Easter holiday periods. In general, the charges came in at a little less than previously estimated so some members that took aerotows will find that their next accounts may include a minor credit amount.

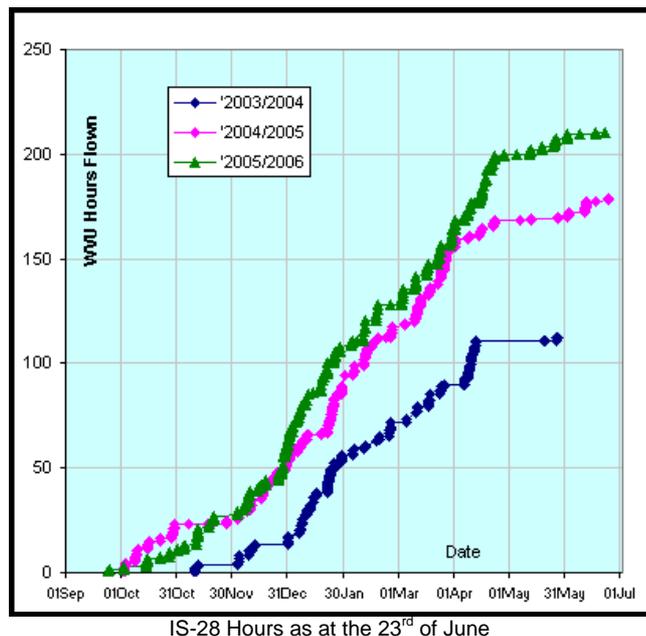
### Payments

The best way for members to deposit money into their MBGC accounts is via internet banking or by direct credit. This saves the Treasurer a trip to the bank to deposit cheques and cash. When doing this please remember to add your name to the deposit details so that the Treasurer knows which account to credit with the money. The Club's bank account details are listed on your account statement sent out by the Treasurer.

### Hours and Launches

At press time we had done 210 hours on the IS-28 so far this season, and we were 31 hours ahead of last season's total at the same date.

During May we flew on 7 days out of 31. The IS-28 flew for 7.5 hours. Other gliders we launched flew 10.5 hours. Our total number of launches for May was 69.



### Our Finances

The club requests that all members ensure that their accounts are in credit. If you owe the club money, it is a real drag on our ability to provide members with low cost and reliable flying and a burden on the Treasurer in terms of the extra administration time required to chase up debtors. So get organised. It's your responsibility to get your account in credit and keep it that way.

### Mt Beauty Foodworks "Spirit of the Community" fund



Mt Beauty Gliding Club points were 4104 as at 17<sup>th</sup> of June. We received \$31.90 from the

fund on the 8<sup>th</sup> of June. Thanks to everyone who put their points to MBGC.

When purchasing any items from the [Mt Beauty Foodworks](#) supermarket make sure that you put your points to the Gliding Club – code 1060.

### Books

We have obtained a further supply of the GFA's basic gliding text "Basic Gliding Knowledge" available at \$28. To get your copy contact the Treasurer. Glider pilot logbooks are also available at \$5 per book.

Ian Cohn - Treasurer.

## **Editor's Epistle**

### Distribution

"Alpine Flyer" is available for download from [www.exalander.com/mbgc/mbgcnewspage.htm](http://www.exalander.com/mbgc/mbgcnewspage.htm).

### Contributions to Alpine Flyer

This is your Newsletter, so let's have your contributions. Send them to the Editor at [gliding@mtbeauty.com](mailto:gliding@mtbeauty.com). Photographs, stories of your gliding/aviation experiences, equipment reviews, and "how I learned about flying from that" stories are all welcome. If you can't use email, send contributions to the Editor at Box 486, Mt Beauty, VIC, 3699.

## **Members and Friends News.**

### New Members

We welcome new Social member, **Jarrah Trebilcock**, who is working at Falls Creek over the Ski season.

Former member, **Ray Brown**, has recently taken up the cudgels again and rejoined as a Social member. Welcome back Ray.

Social Member **Alec McGregor** has relinquished his membership in favour of his son **Hugh**. So welcome to MBGC Hugh.

### News from Europe

Honorary Social member, **Roger Mull**, reports that **Mart and Heather** have been encountering poor weather in Europe and haven't managed to get in much flying so far.

### Barograph

An anonymous benefactor has donated a Repogle Barograph to the Club. This Barograph is available for members for use in recording FAI badge qualifying flights, especially Silver badge height gains. If you want to use the barograph please book it for use with Ian Cohn.

Thanks are due to our anonymous benefactor and to VMFG member and friend of MBGC, **Roger Druce**, for facilitating this donation.



The Repogle Barograph

## **World Champion**

Friend of MBGC, **Michael Sommer**, who flew with us at and just after Easter, has proved that flying from Mt Beauty is the ideal lead up to serious competition flying by becoming World Champion in Open Class at the World Gliding Championship competition held at Eskilstuna, Sweden, finishing on the 17<sup>th</sup> of June.



Michael getting ready to launch in his ASW22 BLE.

As you can see from the score card below Michael started off well, slumped a little, and then came home with a good run.

<a href="#">Day 1</a>		<a href="#">Day 2</a>		<a href="#">Day 3</a>		<a href="#">Day 4</a>		<a href="#">Day 5</a>	
1000	(1)	874	(11)	647	(17)	566	(14)	1000	(1)
<a href="#">Day 6</a>		<a href="#">Day 7</a>		<a href="#">Day 8</a>		<a href="#">Day 9</a>		<a href="#">Day 10</a>	
890	(4)	548	(3)	1000	(1)	991	(2)	975	(3)

## **Rick Morris' Zodiac**



Rick Morris with his now complete Zodiac.

Friend of MBGC, Rick Morris of Markwood, reports that he has now done 12 hours of his mandatory 40 hour flight test program on his Zenith Zodiac and that the test program is proceeding to schedule.

## Maintenance Matters

### Camira Water hose.

Our Camira retrieve car recently developed a leak in the cooling water system. Thanks is due to **Jarrah Trebilcock** for replacing the offending water hose.

### Camira Parachute Rack

**Ray Brown** recently repaired the Camira parachute rack on the boot by reinforcing the back corners with metal angles.

### WVU Annual Maintenance

**Manfred** is planning to take the IS-28 out of service for its annual maintenance early in July.

### Winch Battery Maintenance

On a recent check the fluid levels on the winch battery were found to be very low. Since the battery is charged using the battery charger, sometimes for long periods, it is important that the fluid levels be checked regularly.

## Mt Beauty Gliding Club Diary

**Sunday 18th June 2006** - IC, MR and PD flew the IS-28. Winds were calm to a light northerly drift, and a strong inversion produced no thermals. Total glider flight time was 30m from 4 flights. Max altitude was 2,500 ft. Max flight time was 8m.

**Monday 12th June 2006** - IC, MBd and MR flew the IS-28M2 and the Sapphire to Benambra and return.



Manfred, host Ben Buckley, Mark and Ian at Benambra.



Manfred and Mark with Benambra identity Malcolm Hollonds and cat.

**Saturday 10th June 2006** - IC, MBd and GHs flew the IS-28 and the Pilatus. Winds were calm to a light southerly drift limiting launch heights, and lack of sun produced no thermals. Total glider flight time was 52m from 6 flights. Max altitude was 2,800 ft. Max flight time was 11m.

**Saturday 3rd June 2006** - JT, MR, RB, RH, KV, PG, MBd and PD flew the IS-28 and the Pilatus. Light winds were variable to north-westerly, and sunny conditions produced some weak thermals. Total glider flight time was 5h 5m from 19 flights. Max altitude was 6,000 ft. Max flight time was 1h 30m. Thanks due to RB for doing most driving of the winch.

**Sunday 28th May 2006** - JT, MR, RH, VM and IC flew the IS-28M2, IS-28 and the Pilatus. Winds were variable, and sunny but stable conditions produced one weak thermal. Total glider flight time was 1h 5m from 7 flights. Max altitude was 3,400 ft. Max flight time was 27m.

**Saturday 27th May 2006** - MBd, JT, GHs, MR, RH, KV, RB, and IC flew the IS-28 and the Pilatus. Winds were variable, and partially sunny conditions produced some weak thermals. Total glider flight time was 4h 35m from 16 flights. Max altitude was 4,700 ft. Max flight time was 1h 24m.

**Friday 26th May 2006** - MBd, JT, GHn, MR and IC flew the IS-28 and the Pilatus. Winds were variable, and partially sunny conditions with high cirrus overcast produced some very weak thermals. Total glider flight time was 1h 35m from 6 flights. Max altitude was 3,500 ft. Max flight time was 52m.

**Saturday 20th May 2006** - MBd, KV, RH, MBt, MP and IC flew the IS-28, Pilatus and the Blanik. Winds were variable turning south-easterly later, and partially sunny conditions produced some thermals. Total glider flight time was 6h 24m from 12 flights. Max altitude was 6,600 ft. Mark Bland flew up to Mt Feathertop in a two hour flight.



NZ visitor Roy Smith after his flight with Rod Harris on 20th May.

**Sunday 14th May 2006** - MBd, KV, GH, RB, MBn, MP, and IC flew the IS-28 and Blanik. Winds were calm and no thermals were available due to heavy overcast. Total glider flight time was 1h 13m from 11 flights. Max altitude was 2,500 ft.

**Saturday 13th May 2006** - MBd, KV, GH, MBn and IC flew the IS-28 and the Blanik. Winds were calm and sunny conditions produced a couple of weak thermals. Total glider flight time was 2h 01m from 11 flights. Max altitude was 2,700 ft.

**Saturday 6th May 2006** - MBd, AB, MP, and IC flew the Pilatus. Winds were calm and no thermals were available due to heavy overcast. Total glider flight time was 56m from 6 flights. Max altitude was 2,700 ft.

**Saturday 29th April 2006** - MBd, PGn, MP, and RB flew the IS-28 and the Pilatus. Winds were calm and no thermals were available. Total glider flight time was 52m from 7 flights. Max altitude was 2,700 ft.

### MBGC Current Fees and Charges

Member Category	Full	Assoc -iate	Social	GFA Visitor
Debenture	\$500	\$250	Nil	Nil
Joining Fee	\$100	\$50	Nil	Nil
Annual Fee	\$100	\$50	\$25	Nil
Winch Launch	\$10	\$13	\$13 <sup>1</sup>	\$15
IS-28 Flt Fee Per Minute	\$0.40	\$0.50	\$0.50 <sup>2</sup>	\$0.60

<sup>1</sup> 5 launches per annum only - \$15 per launch after 5.  
<sup>2</sup> 2 hours per annum only - \$0.60/min after 2 hours.

For MBGC members, flight time charges cease for flight time beyond two hours.

TIF fees are \$100 for winch launch and \$150 for Aerotow launch for up to 30 min flight.

GFA membership fees

Annual	\$187	Three Month	\$60
Family Annual	\$151	Three day	\$10

## The Tail End

### Rocket Man

Extracted from the Geelong Gliding Club chat forum:-

"This might be a little off topic but its fun. If gliding is getting a little sedate and your looking for other options, here it is .....

<http://www.youtube.com/watch?v=I9DWAuqP-CQ&search=jet%20parachute>



You can just see the guy dreaming this idea up with a few mates over many beers during the long Finnish winter."

### 50th Birthday of the LET L-13 Blanik Design

According to available sources the first flight of the LET L-13 Blanik occurred in 1956.

The Blanik is a two-seat, all metal, training and sporting glider.

The wing, tail and fuselage all metal construction with an aluminum skin. The movable areas of the flight controls are fabric covered.



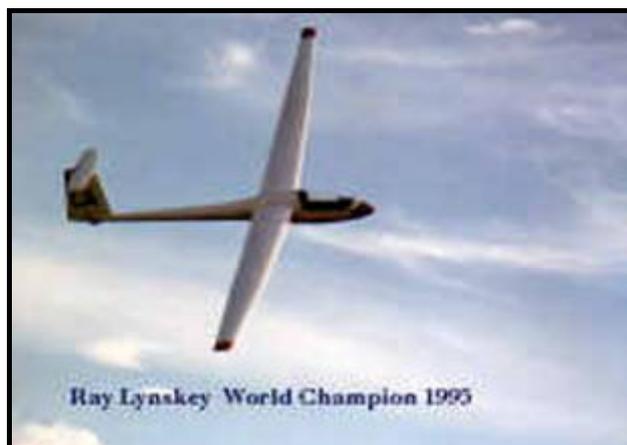
MBGC Syndicate Blanik on approach to Mt Beauty Rwy 32.

This legendary glider made its first flight in March 1956. Thanks to its exceptional robustness, durability, and ease of maintenance this glider has won praise worldwide. It is currently flown in over 40 countries on every continent (except the Antarctic).

### Specifications

Wingspan:16,2 m. Length: 8,4 m. Empty weight: 292 kg. Maximum speed 253 kph, Minimum speed 55 kph. Maximum Glide ratio 28:1.

### The World's First 2000km - An Oldie But a Goodie



On 14th December 1990 Marlborough Gliding Club member Ray Lynskey flying his Nimbus 2, Golf Lima Alpha, became the first glider pilot to achieve 2000km non stop. In fifteen hours his marathon flight took him from Blenheim's Woodbourne airport to his southern turn point of Lumsden (in Southland), then north up the Southern Alps and onto the North Island to his

most northerly point near Wairoa in Hawke Bay. From there he returned to Blenheim after some 15 hours of flying covering a total of 2026 km.

His average speed was 135km/hr at heights of up to 28,500ft . As part of this epic journey he crossed the notorious Cook Strait twice in one trip. Ray went on to become World Champion at the 1995 Worlds held at Omarama in southern part of the South Island.

This is Ray's account of this record breaking flight.

### **2000Km - Ray Lynskey**

The soaring season had started well in the South Island, but November arrived and surprised everyone with its low temperatures and frequent heavy rain. The westerlies which followed in early December were very disturbed, ruling out long flights but often providing excellent soaring conditions for relatively short distances.

On Saturday the 8th of December a moist north-westerly flow spread onto New Zealand, giving heavy rain on the West Coast and hot dry Foehn conditions to the east of the ranges. This heat wave lasted about 5 days, scorching eastern plains while ironically rivers fed from the high country were in flood, closing some roads. Rain spread east off the mountains at times with the passing of each front, but dried out quickly.

On the evening of December 13 the forecast indicated that the wind had generally backed further to the west, and appeared to be less disturbed by fronts than had been the case previously during this weather system. An active cold front was not due to move onto the South Island until later on Friday. It looked a possibility for a 2,000 kilometre attempt, so we raced around getting rigged and making the usual preparations for an early start.

Up at 0430 on Friday morning, the wind was blowing at about 10-15 knots north-west, and first light at Woodbourne showed 2/8 stratocumulus on the tops and some scruffy roll cloud in the Waihopai Valley, but no high cloud or lenticulars. It was worth a go.

We were airborne at 06:00; Jamie Halstead seeing me off and John Sinclair towing in the old Cessna 172. We really appreciated the length of Woodbourne's runway as the Cessna worked at getting the heavy Nimbus into the air.

Releasing overhead the field at 3,000 feet, I headed directly for the ridges to the south, following a vaguely marked wave which allowed a slight climb. I was then able to climb slowly in ridge lift and turbulent wave-induced thermals to 4,000 before moving across to the western end of Blarich and climbing to 6,000. Normally from here the choice is to drop downwind into the Awatere wave or follow the ridges further west, but the best option appeared to be to head straight north-west to the roll cloud in the Waihopai and hope to get there high enough to contact the wave. I actually reached the rough lower part of the wave at 4,000, and thermalled back to 6,000, straightened up into wind and climbed rapidly, at up to 8 knots, until lift weakened markedly at FL140. Looking to the south, waves were marked by lines of cloud which were more like stratus than roll

cloud, but it looked reasonable. It took about an hour to get established in the wave.

The wave clouds were aligned more to the west than north-west, and did not parallel the upwind ridges. I flew south just west of the Awatere, descending to 10,000 before climbing to FL150 over the Acheron River. Continuing on, I hoped that conditions would be stronger to the south, allowing a higher average speed.

My track took me east of Hanmer and out over the Culverden Basin, remaining between FL120 and FL170, but it was not possible to cruise fast in steady lift for very long. Alas I was forced to stop and climb frequently.

Entering Lees Valley heading up slowly through FL165 above all the cloud except some cirrus. Suddenly, I flew into violent clear air turbulence. This unnerving and very unpleasant air took me by surprise and for a few minutes the cockpit was a mess with all sorts of things flying around. I immediately slowed down but it was impossible to hold any set speed - it was fluctuating between about 40 and 90 knots.

This "rolling" turbulence made it difficult to descend, and in fact I was climbing. I guessed that it was the shear between 2 different wind velocities or interference between a higher and a lower wave system. Whatever it was, I just wanted to get the hell out of it. Back down at FL150 it was smooth again.

I followed small wisps in the lee of Torlesse and Hutt, and climbed in quite strong lift to FL210 at Mt Somers. This bit was good and it looked like an easy glide to an obviously active roll cloud in the north Fairlie Basin. I misjudged this and ended up using weak lift at 11,000 ft behind the Ben McLeod Range to avoid getting stuck. This slow climb was frustrating, but I needed it, and as soon as possible left it for the growing roll cloud further south. It looked great, and as I sped off towards it I expected to pull up into at least 10 knots. But no - Nothing. Another small wisp forming further upwind. Off again, flat out. This time yes!

Reducing speed in anticipation I flew just over the top of the developing cloud...and again nothing except less sink. Yet another wisp upwind and other small clouds drifting in a line off the top of the Two Thumbs. I was baffled. Ok no more heading upwind I tracked south at about FL130, trying to pick out the wave by carefully observing the scattered wisps. Eventually I stumbled into a reasonably good climb near Burke's Pass, which took me to FL170. From here it was straight for a flattish cloud in the middle of the McKenzie Basin which was weak but allowed me to maintain height past Simons Pass.

Looking ahead things were pretty broken and mixed up so the best option, something I would have preferred to avoid, was to take the gamble that the scruffy looking Ben Ohau wave was working.

If the sink was any indication, it should be booming. Down to 7,500 west of Twizel, the cloud looked very rough but there was a short straight shadow on the ground from the cloud's leading edge. It took a few minutes in very turbulent air to climb in the strong gusts to cloud base and then settle down in a steady

8-9 knots. About time too. By FL180 it had reduced to about 3 knots. So I headed to the next well-marked wave west of Omarama, where another good climb allowed me to fly over the top of the extensive cloud upwind to Merivale, and on to FL200 in the excellent Pisa wave.

A Queenstown weather report passed on by Christchurch Control earlier said that the rain had stopped and the sky was clearing. Luckily for me it was not completely clouded in further south. It looked even better from FL250 in the Nevis Valley.

As usual, the wind velocity in the south was markedly higher, and it took 10,000 feet to penetrate the sink to cross the next lot of cloud to an edge west of Kingston. Lift here was much weaker, not quite strong enough to maintain height at the airspeeds necessary to make any progress.

My turn point at Five Rivers Garage was under cloud so I pushed on further southwest until it was visible through a gap for the photos - I did not want to descend and risk spending time trying to climb up again, it was already 12:00. 6 hours and 650 kilometres so far. The trip back up the island had better be faster.

Once northbound, I reduced speed to 70 knots, making good progress with the tailwind component and climbing slowly. Near Kingston lift improved to 5 knots and I climbed back to FL160 before diving downwind over the cloud mass to the Nevis wave. This took me to FL180. From there it was simple to run along the leading edge, go downwind into the Pisa wave, climb to FL200 and on to the cloud west of Omarama. This was still working, but not as well as earlier.

I lost a lot of height getting back into the wave at the southern end of the Ben Ohau's. Further north the cloud mass and rain had spread out across the McKenzie, so I stopped for a top up climb to FL170 before heading for a flat looking line of cloud at Tekapo. This marked a weak wave leading over the Tekapo skifield, but what I really wanted was stronger lift to fly faster.

With things looking poor ahead to the north, I flew east to what was now a good wave in the lee of the Two Thumbs. FL160 here allowed me to continue north—east following wisps to the Mt Hutt wave. By now the waves were clearly marked to the north, but not strong enough to climb high, but at least it was warm and pleasant cruising along between FL120 and FL150.

As I went further, conditions began to deteriorate and the sky appeared to be just a jumbled mass of wind-blown cumulus. Wave became difficult to find but I kept going, thinking that the more defined clouds in the Clarence valley would work. I was down to 8000 before finding worthwhile lift, but once above the clouds again the lift went up to 8 knots. I stayed in this lift until reaching FL200, then flew slowly on, maintaining height.

At this stage in the flight, approaching Lake Grassmere at the northern eastern most point of the South Island, I was trying to ascertain what conditions were like in the North Island.

The time was 15:00; it had taken 3 hours to return to the Blenheim area. A little less than 6.5 hours of daylight left, over 700 kilometres and 2 Cook Strait crossings to go. Hmmm.

The haze made it difficult to gauge conditions. Most of the North Island appeared to be covered by an extensive cloud mass; the only clear areas being the southern coast and a gap in the eastern Wairarapa, which with a large dose of optimism took on the appearance of a roll cloud. A pilot report relayed by Wellington Control said that Napier was clear.

To me it looked terrible, but the flight was not impossible to complete at that stage. I still had time, enough oxygen, was not cold, and generally it had been going quite well up to now. There were no high lenticulars in the Wairarapa, normal a necessity to cross back to the South Island, so unless something developed the chances of finishing were remote. It certainly did not look inviting, but having completed the southern leg I decided to continue regardless, even if it meant gliding across Cook Strait and landing at Masterton. There was still a chance.

Advising Wellington Control that I intended to carry on, I set off across Cook Strait for Wairarapa. As I approached the coast it became clear just how much cloud there was. Right across the divide and out toward the east coast. Fortunately the gap over Martinborough was quite wide and looked more like wave cloud now. I crossed the coast at FL120 and soon found weak lift, enough to maintain height at 60-70 knots. Approaching Masterton I decided that it would be better to penetrate upwind to where a more developed cloud seemed to be working. This wave, the primary, was good for FL140, so I continued cautiously northward, toward what looked like total overcast, the plan being to turn back to Masterton when it became obvious that it was not sensible to continue.

It was interesting that in places gently undulating stratus had formed above the bubbly-looking cloud below. This marked weak but reliable lift. At the bottoms of the layer the cloud was quite thin and had some small gaps, the main problem being that the ground was under heavy shadow and was quite dark, making it difficult to locate features. In the lee of the Manawatu Gorge there was an area with no gaps tempting me to turn back for Masterton. I decided to keep going another couple of miles to a more lenticular-shaped cloud. Luckily it worked, up to 3-4 knots. Stopping for a while to climb to FL150, I could soon see that there were better gaps further on, within easy gliding range. In fact it looked much better, about 7/8 cover. Out to the east it was clear so I continued on between FL130 and FL160, finding lift up to 4-5 knots. This was encouraging, and I hoped that the cloud would tend to clear rather than fill in completely.

Soon the cities of Hastings and Napier came into view to the east, and cloud cover reduced to 4/8. Lift was 3-4 knots at best, but reasonably steady and well marked. Wind speed was now much lower, still with some tailwind component going north. The sun was getting lower, and the cloud shadow spread further east.

I had never seen the Willow Flat Bridge turn point before and hoped I could find it. Lake Waikaremoana came into view in the distance to the north and Wairoa was just to the east. I was sure that the winding river amongst the undulating countryside below was the Mohaka, so followed it until I spotted the bridge. It stood out clearly in the sun. Great. Turnpoint two. Took the photos from FL130.

Right. Time was now 17:20. 4 hours daylight remaining - it was actually still possible except for small things like the weather and Cook Strait.

Losing 2,000 feet, I pushed back to the wave used earlier, and followed a similar track southbound. The cloud was definitely increasing. Soon it became very slow going, although the lift was still there. When I reached the Norsewood, it was obviously totally closed in to the south, but I was in 4-5 knots lift - the best for some time. There were 2 wide wave clouds with small gaps between them to the east, and beyond that it clear.

And what was most intriguing was that even further downwind to the east a long thin high lenticular-shaped cloud had developed. Earlier it had appeared to be only a thin cirrus line, however now it took on the right shape. Contemplating this cloud for a few minutes the choices were clear: return north to land at Hastings or take the chance on this lenticular and if it didn't work, well Waipukurau was not far away.

Turning south-east, I stopped briefly in the 2 waves to top up to FL160, and then kept going. The lennie was right over the east coast, and closer I got the better it looked. Sure enough just like magic. Smooth and 6-8 knots up. I could barely believe it.

Maintaining a south-westerly heading at 55 knots, I climbed in front of the best looking part to FL255. Further south it was not so well defined, but I was descending only very slowly at 80 knots. The only part of the North Island that I could see was the east coast.

The rest was covered by a great glaring white mass of cloud. It took time to progress south and I was very uneasy about the lower cloud spreading further east. My intentions were to follow the lennie all the way south, and then push upwind to Lake Wairarapa to see if there was any possibility of making a return Strait crossing, but I really wanted to know if Masterton was clear enough to safely reach.

Nothing changed for some time apart from getting very cold, but passing Castle Point I was reassured to see that the southern Wairarapa had only 4/8 cover, and Masterton was no problem. With a good safe diversion available, all concentration was focused on how to "cross the ditch". Over Lake Onoko there was a vague roll cloud/lenticular. It appeared to be "blurred" around the edges. I would head for that. There weren't many other options.

Before leaving the lenticular, I climbed slowly back to FL280. I could not yet see the South Island apart from the Seaward Kaikouras way off in the distance, due to the haze and low sun in the west. Time was almost 20:00.

After the push into wind I flew just south of the wave cloud and at FL 190 found lift, 3-4 knots initially, where I stayed until it was less than one knot at

FL215. I was now becoming a little optimistic because the upper wind was not too strong, although it was around to the west, and I did not anticipate the heavy sink associated with an upper wave system.

There were also clouds out in Cook Strait which could possibly help. I had made 6 double crossings previously and thought that FL215 should be enough to get home, but without my normal safety margin. To allow the abandon decision to be left until much later I requested that I be able to use the commercial airport at Wellington as an alternate rather than returning to the Wairarapa. Not your usual glider landing spot. Within a few seconds this was approved and I was on the way.

To the left I could see Lake Grassmere shining in the sun, and ahead part of Arapawa Island, but still could not pick out the southern coastline. The glide went well for a while but soon the sink was on the stops down. I passed about 3 miles south of Karori Rock at FL 150, watching the altimeter unwind at an alarming rate, and heading for the south side of a line of cloud slightly lower than I was and aligned west-east. It appeared to be caused by some convergence effect rather than wave, but would it help? Yes!!!! Remarkably, heavy sink turned to zero sink and I could even climb a little at 65 knots.

This continued for some miles and did make the glide look better. I was reasonably happy with how it looked at mid-straits, even with the headwind and more sink expected. But the fact remained that I HAD to reach one coast or other, and Wellington was getting further away. Very soon I would be committed to continuing on to the South Island. The whole southern coast was now quite clear, and the surface of the sea showed a moderate northerly at low level.

A final glide to the south coast remained a reasonable prospect and I made the decision. Tracking directly for the White Bluffs east of Blenheim, I could see several scruffy westerly roll clouds straight ahead and they worked advertised: quite strong sink and rough but useable lift.

I stayed between 5-6000 until there was only 3 miles to go then flew at 130 knots toward the northern faces of the Bluffs. Reaching them at 3000 feet I could then slow down to maintain height before pushing into wind and onto the Wither Hills and home.

Finally it was a very short, very comfortable final glide to Woodbourne and in a couple of minutes I had made a finish and landed.

The time was 2100; 20 minutes daylight left. Done!

It is a most appropriate time to thank all those who helped during this and previous attempts, and a special thanks to the Wellington and Christchurch air traffic controllers.

Brief details of the flight:

Distance:	2026 Kilometres.
Time taken:	15 hours.
Average speed:	135 kph.
Glider:	Nimbus 2B.
Date:	14 December 1990.

Submitted by Mark Bland.

## Scott Crossfield

Scott Crossfield, Aeronautical Engineer and one of the world's fastest glider pilots, died recently in an aircraft accident in the United States. Scott Crossfield was briefly the fastest man alive when he became the first person to fly at Mach 2 in 1953. He later helped design and fly the X-15 rocket-powered research aircraft.



The chairman of the aeronautics division at the National Air and Space Museum, Peter Jakab, said, "He was one of the greatest test pilots in the heroic days of test flying in the 1950s and 60s at places like Edwards Air Force Base. But he wasn't just a great pilot; he really was an enormous contributor to aerospace in many ways during the second half of the 20th century as a technical adviser and policy adviser".

Crossfield took his first solo flight in 1938. He studied engineering before joining the Navy in 1942. After a career as a World War II Navy flight instructor, he joined the High Speed Flight Research Station in California (a predecessor of NASA) as a research pilot in 1950. On November 20, 1953 "Scotty" Crossfield became the first person to fly at twice the speed of sound, achieving the milestone in a Douglas D-558-2 Skyrocket which was carried up to 32,000ft by a B29 Superfortress and "launched". After climbing to 72,000ft, Crossfield accelerated down to 62,000ft where he broke Mach 2.

Crossfield downplayed his aviation milestone, which came six years after US Air Force test pilot Yeager broke the sound barrier in 1947. Mach 2 "wasn't a very big deal," Crossfield said in a later interview. "It was made more of by the media than we did. I'd been flying around Mach 1.9, 1.96, 1.97. We were running into all the typical problems that go with those speeds in airplanes that aren't designed (to go that fast). We were way over designed [for] speed on that airplane." Others played it up as a battle between US Navy and US Air Force test pilots to become the fastest pilot.

The battle to become the fastest person on earth intensified during the latter half of 1953. Chuck Yeager was with the USAF team that was flying the X-1A, designed to surpass Mach 2 in level flight. However, their plans were stymied when Crossfield beat them to the record. Yeager set out to beat Crossfield's record, writing at the time: "The television networks had scheduled special programs about Crossfield and his Mach 2 flight. ... Our plan was to smash Scotty's record on December 12." Just in time to be proclaimed the fastest man alive for the 50th anniversary of powered flight on December 12, 1953, Yeager flew an X-1A to a record speed of more than Mach 2.4.

Crossfield later worked for North American Aviation as a pilot and design consultant for the revolutionary X-15 rocket-powered aircraft. In 1960, he flew at Mach 2.97 in an X-15 launched from a B-52 bomber. There were some close calls. During an X-15 flight in 1959, one of the engines exploded. The emergency landing broke the aircraft's back just behind the cockpit, but Crossfield escaped injury.

On June 8, 1959, Crossfield became the first to fly the aircraft on an unpowered glide from 37,550ft. He flew the X-15 aircraft a total of 14 times. He continued working for North American until 1967, overseeing testing and quality assurance on the Hound Dog missile, Paraglider, Apollo Command and Service Module and the Saturn V rocket's second stage. "I am an aeronautical engineer, an aerodynamicist and a designer," he told *Aviation Week & Space Technology*. "My flying was only primarily because I felt that it was essential to designing and building better airplanes for pilots to fly."

Now that's the real right stuff.



Crossfield talks to the media after his first flight to Mach 2.



An above view of the Douglas D-558-2

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