The newsletter of the Sport Aircraft Association (Auckland Chapter) Inc

Sport Aviator

November 2018

www.saaauckland.org.nz

Committee 2018/19

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Composites	Alistair McLachlan	299 2775
Metal Skin	Kevin Paulsen	296 5125
Avionics	Liviu Filimon	268 1199

FRONT PAGE
Pat Sheehan's Vans RV-9A ZK-VNS is now technically ready to fly and has completed it inspections and taxi tests. Just a CAA inspection and paperwork to go.

Contents

Next Meeting

WHEN: Thursday 29th November 2018

WHERE: Auckland Society of Model Engineers Club Rooms
Peterson Road, Panmure Basin
Mt Wellington

SPEAKER: Guy Slocum
Guy is a retired Fighter Jockey Ex RAF from the Cold War years. Russian spy planes, air refuelling over the Arctic and all that stuff He flew English Electric Lightning's and many other high performance jets. Should be very interesting.

President's Report

Hello all

Looks like winter just does not want to leave and has been interfering with our aviation activities, and therefore I did not make it to Black Sands. What a disappointment. I was so looking forward to it. Anyhow there will be more opportunities.

I have completed the 25 hours of endurance testing on my Sonex now and entered a statement into the log book, which David Wilkinson has signed for me as test pilot. Now I can share the fun with others.

I did get out to Ardmore for the Armistice day airshow. What a great display and turnout. The weather could not have been better. The highlight was the running of the Mosquito and also the P39 Airacobra from Pioneer Aero was on display which looks like it will fly soon. I don't think there are many flying.

The November Meeting will be the last meeting of the year, how time flies. Just a reminder of our Christmas BBQ on the 8th of December so bring the family and enjoy.

See you all on Thursday.

Cheers

From the Editor

Hi Everyone.

November already. The year has raced past us again. Still lots to do before Xmas however so it is still nose to the grindstone.

As Gary mentioned in his report, the weather did not play ball again for Black Sands this year. I flew over to Raglan on the Friday afternoon in the hope that the winds would not be as bad as forecast. David Wilkinson also flew in and we enjoyed a nice evening meal of fish and chips with the guys but sadly the next morning the winds were already getting up by 6:30 and the rain radar was showing rain inbound. David and I made the decision to bail from Raglan and we were both airborne about 6.55. With a 20knot tailwind I was on the ground in Whitianga at 7:30. Nice when the wind works for you for a change.

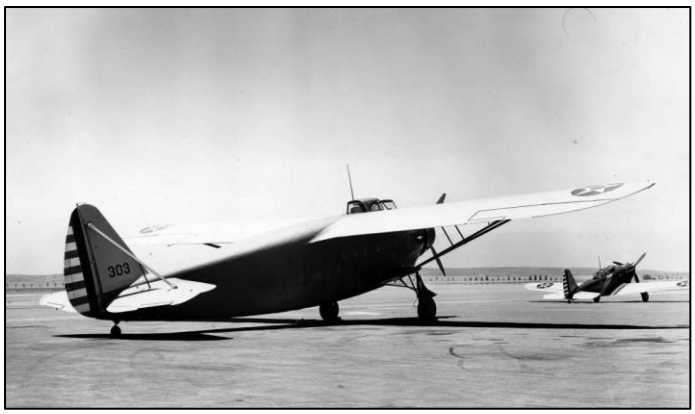
The following couple of weekends were good for flying with the RNZAC Northern Region flying competitions being held at Whitianga on the 17th and the Warbirds Armistice Day display on the 18th. I sadly didn't get to the Warbirds event due to other commitments but by all accounts, it was a great day. Nice to see another Mosquito about to take to the skies soon.

I did manage to fly in the RNZAC flying competitions as they now include competitions for Microlights. I only entered the Navigation exercise and somehow managed to win this category. It was certainly a good opportunity to refresh some rather rusty skills. I also learned that given most Microlights now perform similarly to Certified aircraft, that we may be able to just enter the normal category competitions. Still need to confirm this with RNZAC organisers but it would be interesting to see how the Microlight pilots compete with Part 61 licenced pilots.

This weekend past I emailed all SAANZ members with the registration pack for the Great Plains Fly-In at Ashburton in February. The team at the Ashburton Aviation Museum are once again hosting the SAANZ National fly-in and have organised what looks to be another great event. With Waitangi Day falling on the Wednesday prior to Great Plains, there is the opportunity for those intending to go to take a couple of days leave on the Thursday and Friday and make it a five or six day weekend. Delys and I are intending to head down the weekend before and make the most of the whole week. Would be great to see a good representation from the North Island again this year

The mystery aircraft for October was provided by Barry Gillingwater and successfully identified by Steve Stride as a Kreider-Reisner XC-31. Wikipedia says.

"The Kreider-Reisner XC-31 or Fairchild XC-31 was an American single-engined monoplane transport from the 1930s designed and built by Kreider-Reisner. It was the largest single-engine, fabric covered aircraft built to that time. Designed as an alternative to the emerging twin-engined transports such as the Douglas DC-2, it was evaluated by the Air Corps at Wright Field, Ohio, but rejected in favour of all-metal twin-engined designs."



Enjoy the newsletter.

Cheers
Gavin

CHAPTER NEWS

Chapter Xmas BBQ

By David Wilkinson

Just remind all members that the BBQ will be at my hangar at North Shore airfield on Saturday 8th December from 11am onwards with lunch at 12-1230. I will email further details to the chapter closer to the date.

ARMAC NEWS

ARMAC Xmas Function

By Jon Farmer

ARMAC have booked JC Ryder's (Westwind) for the evening of Tuesday 11th December and invite SAA members to join them. There will be a social time followed by a roast dinner and then the film "Those Magnificent Men in their Flying Machines".

Come along any time after 5.30 bringing your own drinks and nibbles. Roast dinner will be on at 7pm and the film at 8pm. Cost is $30 pp, pay at the door but please let me know if you are coming by Wednesday 5th December as we have to let JC Ryder know the numbers so that they prepare enough food. They sell Cornetto ice creams at $3 each but again, please let me know if you would like one as Ryders get them in to order.

Please RSVP to me on 5200641 or 0273490053 or <jk.farmer@xtra.co.nz>

Riversdale Road is off Rosebank Road and JC Ryder is #177 which is almost at the bottom, on the right after passing an open park.

PS. If you google 'Those Magnificent Men in their Flying Machines', the Wikipedia article has a wealth of information about who built the replicas, what engines they had, those that actually flew and those slung between two large cranes on wires etc. One replica was so marginal in free flight that they got the lady CFI of an aero club to do the flying to save a few kilograms!

MEMBER NEWS

Paul Carran – Vans RV-8

By Paul Carran

The last home build aircraft I built was a balsa wood model when I was 12 years old!

When I tried to buy some cowl plugs for my RV8 from Vans they were very helpful and nice. However, they confirmed they only have cowl plugs for the main air intakes and nothing for the bottom scoop. The dual set is US59.99 plus shipping.

Given that I had to make something for the scoop, I went to the Warehouse and bought three car wash sponges and a roll of red insulation tape for a total of NZ$8.

With a piece of line I had to link them together, I fashioned a set of cowl plugs.

Whether they will last very long is another question, but I guess I'll worry about that later.

FUNNY

Air Malaysia Airline Ad

By Dave Wilkinson

Spotted at Auckland International Terminal.

PROJECT NEWS

Pat Sheehan – Vans RV-9A

By Pat Sheehan

An update for an RV9A at North Shore. ZK-VNS has passed its initial engineering inspection and is technically ready to fly.

Engine and taxi runs performed as expected. Can report the Dynon Skyview ADSB out solution passes inspection for those heading that way.

Phase 1 [of flight testing] will be completed without wheel fairings for ease of inspection and to increase drag to help with engine run-in and as a control for any heavy wing scenarios. Apparently, you can get a rate 1 turn if you get the fairing setup wrong. Just CAA and lots of paperwork to go then I'll be looking for something new. This one took 7 years but the next one won't take nearly as long, it doesn't come with a wing kit - but it will still fly!! Pat

PROJECT NEWS

David Wilkinson – DR107

By David Wilkinson

Early Christmas present.

PROJECT NEWS

David Groves-Hills – Vans RV-4

By David Wilkinson

Finishing off elevator. (Replaced one skin. Wasn't too happy with first attempt!)

Seats ordered from Oregon Aero, USA. Considered importing foams only, but after approaching local upholsterers decided Oregon Aero was the way to go. The local "one-off" price was up there anyway.

I purchased a second hand HIO-360-D1A (Hughes 300 engine) some time ago. This decision was a little rash as being an angle valve engine, cowling modification is required to accommodate the same and they are quite a few pounds heavier. However, after talking to Gary Blythe of Aviation Power Supply, Ardmore, it appears that he is able to build an engine using existing crankcase, crankshaft, accessory case, con rods and hopefully the "semi cold air induction" sump, all in excellent condition. Supplying new parallel valve cylinders will address the weight and fit problems. I had already bought the standard camshaft. The D1A engine has a different than usual camshaft, which gave 190 HP @ 3200 RPM. Designed to meet the gearbox and subsequent optimum rotor speed.

PROJECT NEWS

Keith Weale – Vans RV-12

By Keith Weale

I seem to have the doubtful honour of being the RV-12 ADS-B overseas guinea pig for Van's Aircraft, their term, not mine.

The RV-12 for sale in the USA has optional ADS-B OUT components for the Dynon SkyView system that meet the performance requirements of FAR section 91.225. These are the Dynon SV-GPS-2020 WAAS enabled GPS receiver and antenna transmitting 1090 MHz ES, coupled with the Dynon SV-XPNDR-261 250W Class 1 transponder, reaching a Source Integrity Level (SIL) of 3 and System Design Assurance (SDA) of 2. I thought, 'if it's good enough for FAA surely it will be good enough for CAA' so I ticked the boxes when I placed my order for the Avionics kit mid-September. This turned out not to be as simple as I had imagined, as until now Van's Aircraft has not sold this system to customers outside the USA. I had to wait about three weeks while their engineers sorted out whatever they sorted out. I believe that somewhere along the line there were communications between CAA, Dynon, and Van's Aircraft but I do not know what the outcome was, only that CAA requirements are not exactly the same as FAA requirements.

For good measure, Van's threw in the ADS-B IN receiver as well (not for free), even though I hadn't ticked that box. Until recently the receiver received only UAT/978 MHz transmissions, which New Zealand will not be adopting. However, a dual band receiver is now available which will receive 1090 MHz transmissions. If you see a shark fin under my aircraft, that's its antenna. It remains to be seen what I will see on the screen, but I am hoping that I will see all other ADS-B OUT equipped traffic.

The outcome of all this is that Van's Aircraft and Dynon seem to have recognised that their market outside the USA also needs ADS-B compliant hardware. It remains to be seen, however, if my system will work in New Zealand and if it will meet the CAA requirements – fingers crossed.

The drama didn't end there. In my haste to pay Van's the money when the kit was finally ready for delivery, I paid their intermediary bank instead of the beneficiary bank. That set the process back another two weeks as my money went who knows where back and forth over the Pacific. All the while the exchange rate was plummeting so that when I finally did sort everything out, I transferred the money on the day of the lowest exchange rate in years. Oh well, owning an aeroplane isn't cheap.

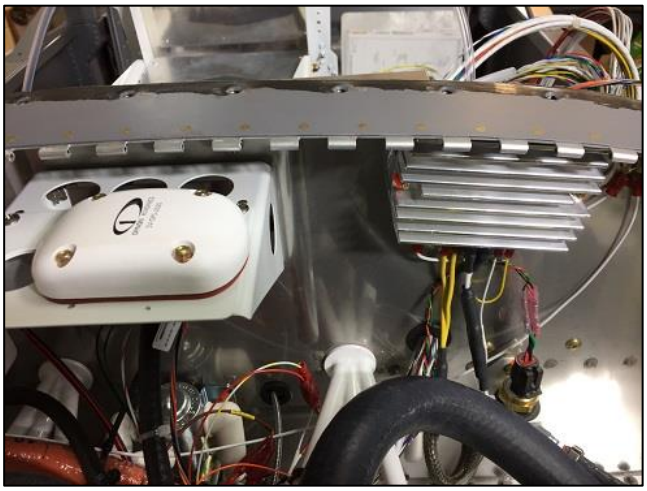
I also opted for the new Silent Hektik voltage regulator recently the SH is an optional replacement for the horrible Ducati VR, which has a reputation for failing in a matter of hours. The new VR is mounted on the firewall with a NACA duct on the top of the cowl directing cold air onto it. My only worry about this is carb ice as the VR is very close to the air filter, but I trust that Van's has considered that possibility.

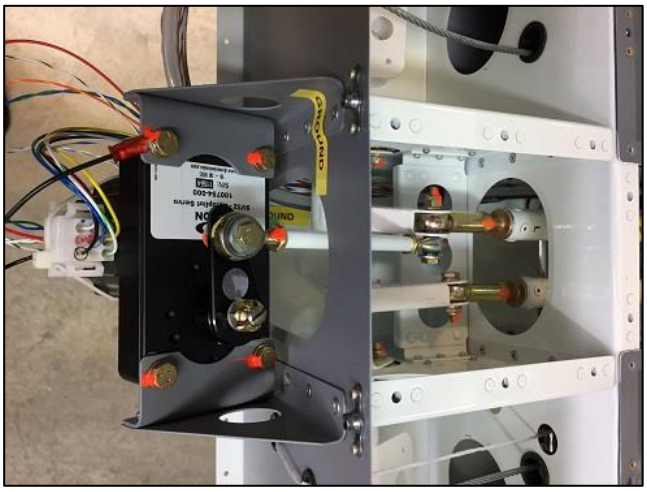
The VR is mounted, and the autopilot servos are mounted. The rest is a work in progress.

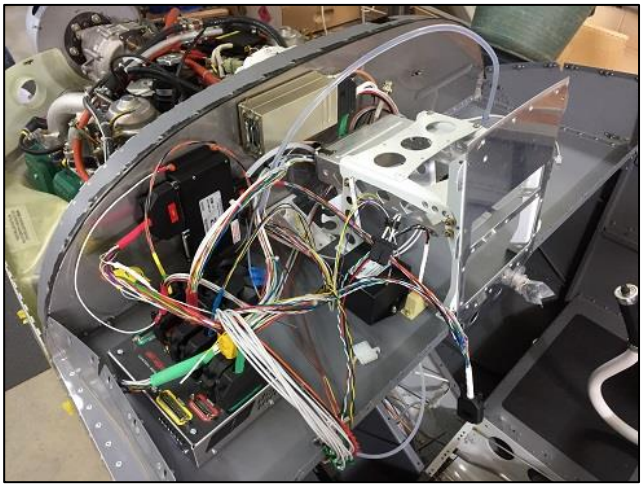
Gavin.

I have just looked up in my log book and the day you will publish the newsletter Wednesday will be the exact third year anniversary of starting my build 28 Nov 2015.

Here are some photos. Avionics bay definitely still a work in progress but GPS antenna voltage regulator and AP servo motors completed.





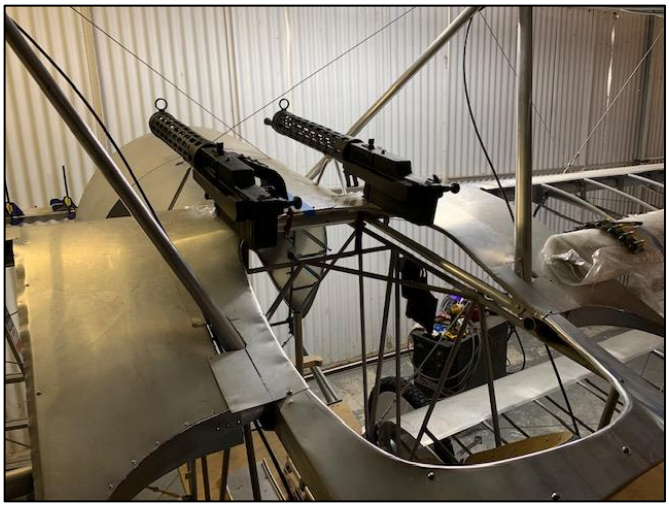


PROJECT NEWS

Pete Walton - Fokker DR-1

By Pete Walton

Been getting some work done on the Fokker. Fokker now has some teeth!



Engine of the T51 is now running. Just tweaking it to get it running smoothly. New cowls are fitted but will fly before painting them. Weight and balance complete. Extra battery was required in the tail to counter the extra weight in the nose. Increase in power between the Suzuki and V8 is 185hp versus 420hp. Won't be using all that extra HP to get airborne though. Gavin Trethewey is to do the test flying.

PROJECT NEWS

Evan Wheeler – Murphy Rebel

By Evan Wheeler

New engine now fitted and running in the Rebel.

Have taken it out for high speed test run down the strip. Ground role to flying speed took about 80 feet. Climb performance expected to be in excess of 1500fpm.

Just awaiting paperwork from CAA to make it legal and will be good to go.

FUNNY

Replacement Parts

By John King

MEMBER NEWS

DCM

By DCM

I was visiting Don Wilkinson's house a few weeks ago and in the basement I found a secret stash of Corby Starlets.

They may over time grow into big boys and stop being a toy.....

PROJECT NEWS

Pete Walton – Vans RV-14

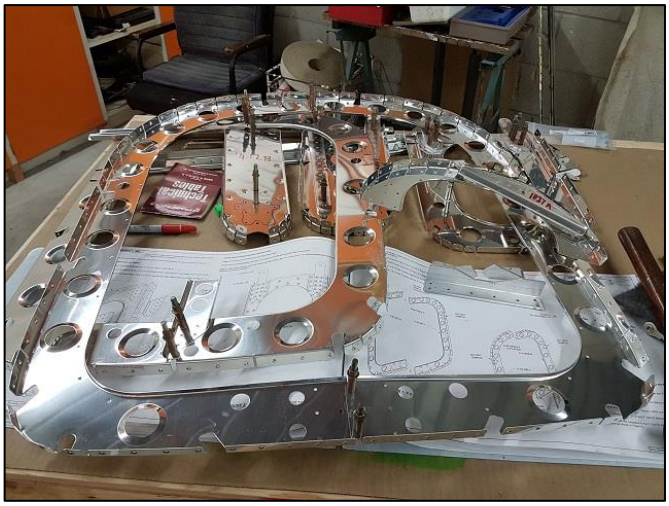
By Chris wade

Chris sent me some images of progress on the RV-14 fuselage.

The build is moving ahead quickly by the looks of things.

I note the interesting use of the clothes line to dry primed aircraft parts.

I'm not sure Ruth would approve.



WEB STORY

The Gimli Glider

By DCM

Why was Captain Pearson punished for Air Canada Flight 143 (July 23, 1983) when he actually saved hundreds of lives by gliding the plane superbly?

https://www.quora.com/Why-was-Captain-Pearson-punished-for-Air-Canada-Flight-143-July-23-1983-when-he-actually-saved-hundreds-of-lives-by-gliding-the-plane-superbly

TL;DR (Too Long; Didn't Read)
Air Canada chose to lay the majority of the blame on Pearson as he was the captain of the flight. This was successfully appealed. However, for a good read, keep reading.

I'm not a pilot, but as my dad was a pilot for AC at the time and a union representative, I got the union side of things on this accident. I have also read the TSB report.

Some location shorthand:

YEG — Edmonton International Airport.
YUL — Montreal Dorval International Airport
YOW — Ottawa International Airport.
YWG — Winnipeg International Airport.

Facts and events before the accident:
The aircraft had a manufacturing defect in the fuel quantity indicator system processor. The fault was one the computer was not programmed to handle so the computer blanked the fuel gauge displays. There were no spare processors available.
The day before in YEG a maintenance technician discovered that if he disconnected the channel of the processor with the fault (the processor has two channels) the gauges worked.

He pulled the relevant breaker, put a tag on it to warn people to leave it pulled and wrote it up in the log book that the aircraft was cleared to fly so long as the fuel gauge readings were confirmed with a manual drip check. (Like checking the oil level in your car.) The aircraft flew to YUL the next day with no problems.

After arrival in YUL, a maintenance technician decided to run his own tests on the fuel quantity indicator system. He reset the breaker which caused the gauges to go blank. After completing his tests he was distracted by the arrival of the pilots and the refueller, did not pull the breaker again nor remove the breaker tag. Neither the pilots nor the refueller noticed the breaker was not pulled and as the gauges weren't working as stated in the log book, the blank gauges were not a surprise.

Based on the published Minimum Equipment List (MEL) the aircraft was not legal to operate with the gauges blank. When the pilots pointed this out, the maintenance technicians convinced the pilots that the aircraft was cleared to fly by Maintenance Central. (Later during the investigation it was found that this was total baloney.) The pilots acquiesced to the technician’s explanations however Captain Pearson elected to load all the fuel necessary to fly all the way to YEG; normally they would have only loaded enough fuel to fly to YOW. This decision likely prevented a greater tragedy had the aircraft ran out of fuel on approach to YOW and crashed in a populated area.

The necessary fuel was calculated for the trip to YEG with a stop in YOW. As others mentioned the AC 767s were calibrated in metric. The fuel load was thus in kilograms. The refueller's truck measured fuel in litres and all of the other aircraft types in AC's fleet at the time measured fuel in pounds. It is not hard to see where this is going. Kerosene weighs 1.77 pounds per litre but only 0.8 kilograms pet litre. Normally the refueller connects the hose, enters the desired total fuel quantity in kilograms into the aircraft's refuelling panel and the aircraft quenches its' own thirst. With the computer inoperative, the fuelling had to be done manually including the conversion of litres into kilograms. The refueller and the pilots both used 1.77 instead of 0.8 and the aircraft only had 40% of the fuel load required and the same error was made on the manual drip check.

The flight left YUL and during the stopover in YOW the tanks were drip checked again and the same math error occurred.

Once airborne and enroute from YOW to YEG the stage was set for one of the best feats of airmanship. Here is brief list of events:

About halfway to YEG, the pilots get their first indication of trouble — a low fuel pump pressure warning followed by a second.

Pearson wasted no time and diverted the flight to YWG. A descent was started and at about 35,000 ft. one engine quit and shortly after that the second one quit as well. Everyone was now in a large glider with no thrust, no electrical power save for the batteries and no hydraulics. The pilots lost their electronic instruments and had to rely on standby instruments. As Captain Pearson put it, he had less instrumentation than a Piper Cub.

Fortunately, Boeing built in a failsafe — the ram air turbine. This little gizmo popped into the slipstream and its' propeller driven pump provided limited hydraulic pressure for the flight control surfaces. It would not however power the landing gear or flaps.

Between the pilots and ATC they worked on gliding to YWG. As this was the days before 'green dot' best glide speed indication (all Airbus pilots know about this,) Pearson had to figure out his best guess for a speed that would produce the best range. As a private glider pilot he had experience to draw on.

Eventually they figured out they weren't going to make it. ATC offered Gimli, an retired air force base. F/O Quintal, having been based there when he was in the military, knew the field. They headed for Gimli. What they didn't know was that the runways had been converted into a dragstrip.

With no hydraulics to lower the landing gear, the gear was lowered by gravity. The mains clunked into place and locked, but because the nose gear swings forward when it drops, the slipstream did not allow it to lock. This would help later.

Approaching Gimli, Pearson realized they were too high. Not wanting to risk running out of altitude or stalling while executing a 360º turn, Pearson drew on his glider experience again and executed a maneuver called a forward slip, where the plane is banked in one direction and the rudder applied in the opposite direction. The result is the aircraft maintains its' heading and speed, but descends much more quickly.

Just before touchdown Pearson leveled out and flared, but because there were no flaps, at a much higher speed. He touched down 600 ft into the ideal touchdown zone (usually the first 1000 ft of a runway.) Some tires blew from the high speed and when the nose settled, the nose gear collapsed back into the wheel well and the plane slid on its' nose.

The pilots noticed some kids on bikes on the runway (remember the runway is now a dragstrip,) and they see a guardrail that had been installed to create the strip racing lanes. He maneuvered using the brakes to rub up against the guardrail and the aircraft managed to stop without hitting anyone.

No one was injured during the landing and the aircraft was evacuated using the slides. Because of the nose down attitude, the rear slides were steeper than normal and some passengers were injured sliding down these slides.

The aircraft was patched up enough to be fuelled and flown to YWG for repairs and ultimately was returned to service. The Gimli Glider flew until 2008 when it was retired and sent to an aviation boneyard in the Mojave Desert for storage and eventual scrapping.

So at what point could all of this been prevented? There were many, these are some:

Had there been spare parts on hand.

Had the YEG technician documented better.

Had the YUL technician not been interrupted and/or returned and pulled the breaker.

Had the correct conversion constant been used by 3 people (the pilots and the refuellers) both in YUL and YOW.

Had AC ordered its' 767s with imperial measure.

Had AC provided better training on manual refuelling procedures for the 767.

Had the maintenance technicians not lied to the pilots over the legality of flying the aircraft as it was.

Had the pilots refused to operate the flight.

As there were so many who made errors along the way, the pilot's union thought it unfair to pin all the blame on Captain Pearson and F/O Quintal. The review board (not the TSB) agreed and their suspensions were overturned.

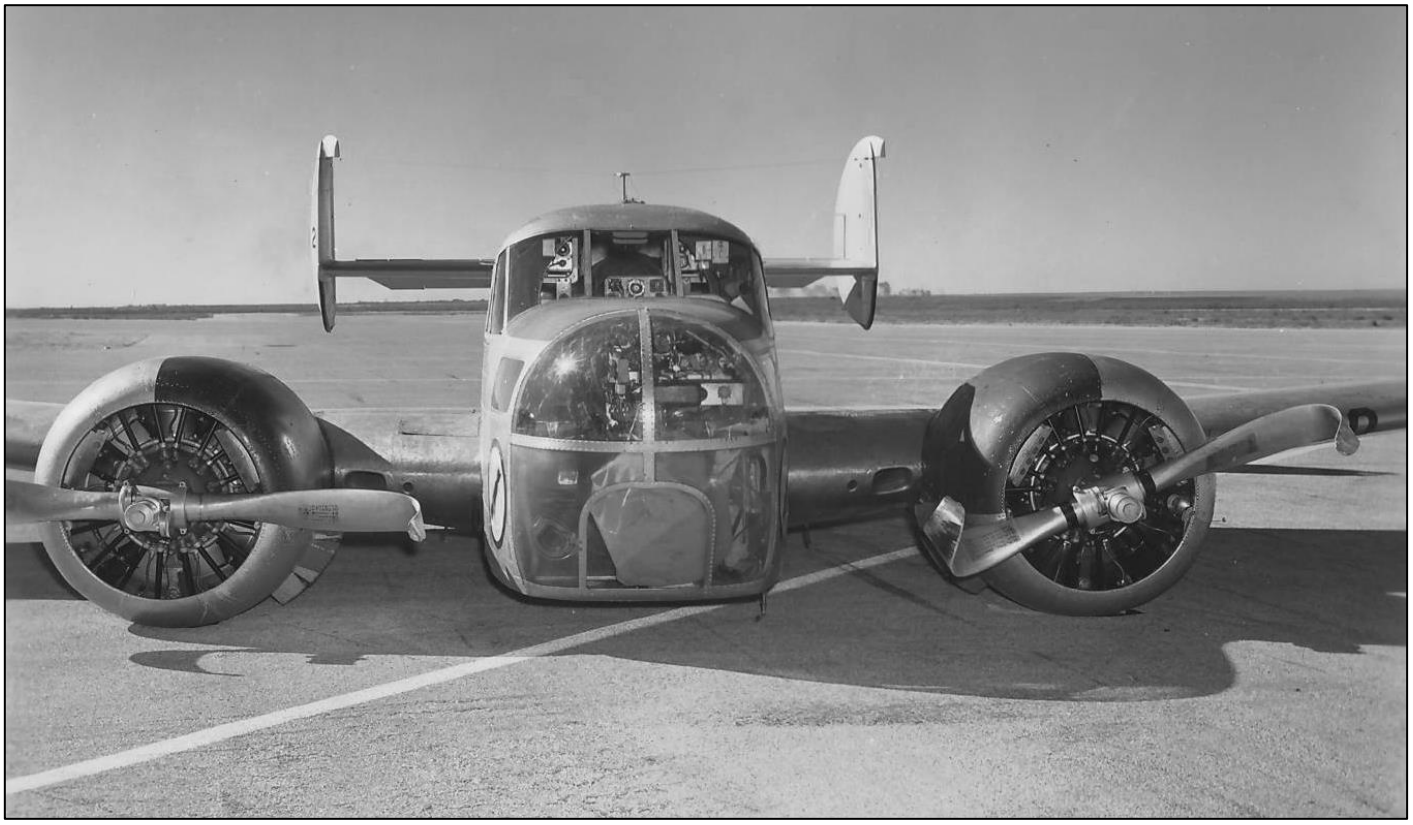
I will also add what one comment mentioned: As I recall my father telling me, Air Canada put six different crews into a 767 simulator and recreated the scenario. None of the six managed to land the aircraft intact. I originally thought the TSB did this, but it was not mentioned in the report. If I'm wrong, I'll have to get the memory chips in my head cleaned again.

See the TSB's report:
https://reports.aviation-safety

If you don't have the time, here's the Wikipedia entry: Gimli Glider - Wikipedia

Mystery Aircraft Quiz

The mystery aircraft this month was provided by Barry Gillingwater. If you can identify it in time for the meeting this week you will earn yourself a chocky fish.



ON THE WEB

On board a B29

Nev Hay

A good example of the Flight Engineers art on a classic aircraft.

https://mail.google.com/mail/u/0/#label/03+SAA%2FMag+201811/FMfcgxvzLNgVQrnBhPhzstXCRwfvDbSH?projector=1

ON THE WEB

Drone Company Withdraws Application

Gavin Magill

A Christchurch-based company wanting to test commercial drones over Alexandra has withdrawn its initial application but plans to try again.

https://www.stuff.co.nz/technology/108455689/skybase-withdraws-first-application-to-test-drones-from-alexandra-airport-after-public-backlash

ON THE WEB

Two rescued from dangling plane.

Peter McVinnie

Sometimes there's a razor-thin line between good luck and bad and the pilot and passenger of this ultralight had some time to think about that in South Africa. The aircraft hit a zipline over a 1,000-foot gorge near Rustenburg about 8:30 a.m. The line held but the aircraft became entangled and hung there for much of the day as authorities puzzled over a rescue. Inside the aircraft, the two unhurt occupants did nothing more than try not to tempt physics. After some time, rescuers reached the aircraft and after equipping both people with harnesses, lowered them to the ground, 300 meters below.

ON THE WEB

General Aviation News

Nev Hay

If you would like some articles as a "page stuffer' for Sport Aviator the site below is interesting and offers expansion sites to explain some themes.

GENERAL AVIATION NEWS

https://generalaviationnews.com/author/ben-visser/

Upcoming Events

Chapter Events

2018	
Nov 29	**Chapter Monthly Meeting** Last Thursday of the month 7.30pm at the Auckland Society of Model Engineers clubrooms, Petersen Dr, Panmure Basin
Dec 8	**Chapter Xmas BBQ** North Shore Airfield. At David Wilkinson's hangar from 11am onwards with lunch at 12-1230. Further details to be email closer to the date.

Aviation Calendar 2018

2018	
Every Sat	**Dargaville Aero Club** The place is buzzing every Sat, wet or fine, windy or calm, and the catered lunch at 12.30 is good value, just don't be late! Club website is http://dargavilleac.weebly.com/. If going as a group, please ring in advance so the cook expects you. Ph. Murray 027-478 4308 or club house on 09-439 8024.
Nov 30 Dec 02	**Taildragger Weekend 2018** Bridge Pa Aerodrome, Hastings A relaxing weekend for Tail Draggers and friends. Contact: Cassandra Jeffries: cassj@hbecac.co.nz Graeme Bycroft: gcbycroft@xtra.co.nz

Aviation Calendar 2019

2019	
Jan 26	**Thames Wings & Wheels** Thames Airfield, Thames. 10am – 3pm Static aircraft and vehicle displays. Food, Drink & entertainment. Ice cream for the kids. Music by Andy Mac, Deb Standen and Tim Armstrong.
Feb 8-10	**Great Plains Fly-In** Ashburton Aerodrome, Ashburton. Annual SAANZ summer fly-in (South Islands turn). SAA AGM, Wings Awards and Annual Dinner. Contact SAANZ Administrator Gavin Magill Ph. 027 291 0525. Email. admin@saa.org.nz
Feb 22-24	**Wings over Wairarapa Air Festival** Hood Aerodrome, Masterton. Welcome to Wings over Wairarapa (WOW) 2019! We look forward to celebrating our 20th year of operating Air Festivals with you. Wings Over Wairarapa Air Festival will feature WWI, WWII aircraft, agricultural, helicopters, military and civil aircraft on display and in the skies. The Royal New Zealand Air Force display team 'The Black Falcons' will be a key feature of the weekend. We also have, for the first time, a stunning Saturday Night Show featuring the UK 'Airborne Pyrotechnics' gliding team. **http://www.wings.org.nz/**