



## Incident report- rollover in soft sand.

Aircraft. Magni M16 Gyrocopter

Location Transit Bay Fiordland

Date. 15 April 2019 Time 9:40 am

Pilot Total flight time 30,250 hrs. Time on type. 501

POB One

Injuries Nil

Aircraft Damaged.

Gyrocopter rollover on beach during later stage of take off roll due to encountering an unobserved patch of soft sand. Main Rotor, Prop & Mast were damaged.

Having flown helicopters for 30+ years I am relatively new to gyrocopters, two years & have flown 500 hrs. 400 of these in the South Westland & Fiordland areas with numerous beach & riverbed landings. I have fitted 26" Tundra tyres & a larger suspension nose wheel assembly to allow me to operate in this environment. I was reasonably confident I had cautiously found the aircraft & my limits with regards to performance, slope & soft / rough ground. In my opinion I had pulled back from these limits enough to provide an acceptable level of risk.

The plan was to fly from Neils Beach to Spit Island in Preservation Inlet & return. One POB .A distance of 160 nm each way. A flight I have done numerous times. With my aux tank I have 5.5 hrs endurance. I usually land on a beach enroute to check for engine leaks etc as there are some rather long hostile stretches with no landing areas available. Also to stretch the legs & enjoy Fiordland.

Landings are made below high tide for two reasons, this is generally the firmer sand, & above high tide is DOC land with wilderness areas with no landings permitted. I elected to land on Transit Beach just south of Milford Sound. I had landed on this beach the day before although at the southern end as there was a wind from the north. Allowing for the tides meant landing at Transit Bay 2.5 hrs after high tide & Spit Island 4 hours & after some wandering around then back at Transit Bay 3 hours after low tide.

I landed at the north end and while on the ground walked my take off run. The sand was not as firm as lower down the tidal area (under water at this time) but I was confident it was firm enough. I expected a longer ground roll as no wind & was reasonably heavy with fuel and life raft etc, but had plenty of beach available.

I pre rotated the rotor to 250 rpm and commenced the take off. All was good with the rotor rpm building then at about 70 meters and with approx 30 kts almost instantly the aircraft slowed & rolled over on its right side. After exiting & securing the aircraft I could see the nose wheel had broken through and sunk in approx 200 mm. The sand in this patch was still quite damp underneath. With a sat phone call to RAANZ & a helicopter operator the gyro & I were lifted out to Milford.

What I learnt & will do differently in the future.

This patch of soft sand was at a crucial distance in the take off roll. If it had been earlier things would have happened slower and I would probably have had time to quickly reduce throttle. If it had been later then the nose wheel would have been coming lighter and possibly would not have dug in. I now have even more respect for when at high power settings if the nose wheel meets high resistance and with all that thrust still acting is going to either vertically or laterally can result in bring the tail end around past the front. I am fully aware that beach conditions are constantly changing and need a good assessment prior to landing.

In the future I will also have an even more vigilant & humble approach to suitability of landing & take off surfaces & will include a taxi run down the take off area prior to taking off to further check the suitability.

After 30 years with no pilot error accidents this confirmed to me the old saying in flying the “every day is a school day until you retire”.



*Editor's note: Liferaft, satphone, fuel reserves, 30000+ hours. A very experienced pilot and well prepared flight....and you can still get caught out!*

## Membership changes

Peter Barton	Bay of Islands Aero Club	Advanced Local	Upgrade
Daneva Quinto	Canterbury Recreational Aircraft Club	Novice	Joined
Robert Evans	West Coast Microlight Club	Novice	Joined
Bryan Flanagan	Eastern Bay of Plenty Microlight Club	Novice	Joined
Sheldon Hedgman	Wairarapa Aero Club	Novice	Joined
Craig Steele	Eastern Bay of Plenty Microlight Club	Flight Instructor	Upgrade
Lloyd Wallace	Geraldine Flying Group	Novice	Joined
Kery Olsen	Feilding Flying Club	Novice	Joined
Rory Patching	Golden Bay Flying Club	Novice	Joined
Kelly Loach	Associate	non-flying	FRT0
Anthony Loach	Associate	non-flying	FRT0
Oonagh Daly	Canterbury Recreational Aircraft Club	Novice	Joined
Owen Martin	Wairarapa Aero Club	Novice	Joined
Rachelle Taylor	Feilding Flying Club	Novice	Joined
Anthony Taylor	Feilding Flying Club	Novice	Joined
Noah Savage	Feilding Flying Club	Novice	Joined
Nirav Patel	Wairarapa Aero Club	Advanced National	Joined
Duncan McLane	Matamata Aero Club	Novice	Joined

© 2016 Recreational Aircraft Association of NZ Inc  
PO Box 15-016  
Dinsdale 3243  
Hamilton

07 825 2800  
[office@raanz.org.nz](mailto:office@raanz.org.nz)  
w: [www.raanz.org.nz](http://www.raanz.org.nz)

Not receiving this by email? [SUBSCRIBE](#)

Don't want to receive this any more? [UNSUBSCRIBE](#)

Want to contribute? [CONTRIBUTE](#)

---

# WAIRARAPA AERO CLUB

FLYING SINCE 1929



# 90<sup>th</sup>

## ANNIVERSARY

### SEPT 20-22<sup>nd</sup> 2019

Wairarapa Aero Club  
Hood Aerodrome  
Masterton

**Join us for our 90<sup>th</sup>  
Celebrations.**

- Friday night bar & nibbles.
- Saturday activities, joy/trial flights, vintage aircraft, aero club history.
- Saturday night formal dinner and dance.
- Sunday breakfast.

REGISTER AT: [www.wairarapaaeroclub.co.nz](http://www.wairarapaaeroclub.co.nz)

Or email [wairarapaaeroclub@gmail.com](mailto:wairarapaaeroclub@gmail.com)