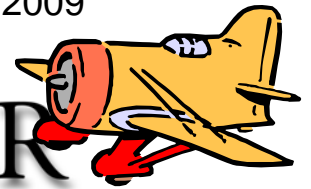


THE NORTHERN FLYER



ACN A000187B

Darraweit Guim Clubhouse Phone No 0357891448

Field GPS Coordinates
S 37° 26' 43.0"
E 144° 51' 18.3"
(Front gate)

Secretary: Mark Sills 9434 5354
President: Robert Macdonald mob 0405750259 Ph: 94013081
Web: www.northernflyinggroup.com

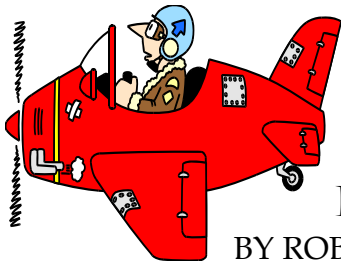
General Meeting.

The next General meeting is at: **8pm Monday 2nd February**
The Nick Ascenzo Reserve hall on the corner of
Alexander Ave and Boronia Ave, Thomastown.
Melways Ref Map 9 B7.

WHAT'S ON

Working Bee 10am Start	Feb-8
Working Bee 10am Start	March-8
Indoor Night 3 rd Sat each Month Mill Park Basketball Stadium (Behind stables shopping center.	Next: Feb-21st
Club Comp Last Sunday of the month	Next: Feb- 22
State Glider Weekend	Mar-21& 22
VMAA Trophy	Apr- 18 & 19
Twins and More	May- 3
Scale / ARF State Champs	May- 24





PRESIDENT'S REPORT

BY ROBERT MACDONALD

Happy New Year and welcome to 2009!

Over the Christmas break, a lot has happened. Late in December, we had the Christmas party at the primary school in Darraweit and, once again, Northern members worked hard, helping to make the event run as well as possible. We set up the lights and made up and served 155 roast beef and pork rolls in just over 1 hour. Dave Whitty's truck was, once again, a valued part of the night, used as the stage. Ken picked out 'White Christmas' as the carol for the 'Northern Nightingales' to kill. It was a fun night, and many thanks to all that helped.

I feel that the club is running very well. We have just picked up 6 new members over Christmas and the 'spirit' of the club feels very strong. We have had very good support from most members throughout 2008, when needed. I guess some of you might be sick of me asking for help or support, but there is always something needing to be done. Working bees, hosting events for the VMAA and even our own events and fund raisers take a lot of support from you. Jan 25th saw a team of 16 members at Bunning's selling sausages and raffle tickets to give the club around \$450 & \$75 in our coffers. Fundraising plays a major part in the running of our club, and also for you as members. Profit from these events helps keep your fees down and lets us develop the flying site and facilities. I have asked some of you, 'Why do you do it? Why do you support the club so well?' There seems to be 2 common answers. Some say they want to help out the committee, and others say that they enjoy the club and its members and want to put something back into the club. Either way, on behalf of the club and the committee, I thank you for your support.

Just a note from the flight instructors:

As we have quite a few students on the books, can you please ring to let your instructor know if you are planing to come out for a fly? Also, if possible, can you please try to get out as early as you can, so we can make the most of your days training? Thank you-

Rob Mac 0405750259

Brian 94353851

WORKING BEE: No.1, FEB 8TH

& No.2, MARCH 8th

10:00am start,

BBQ lunch supplied

With the VMAA Trophy coming to the State Field this April, we must make the field look its' absolute best. We want to do 2 working bees. They are both on Sundays, as this is the day we get the best turn out for. If you can't make it to a Working Bee and want to help out, and/or redeem your \$50 levy, contact myself and I will be more than willing to let you know what jobs need to be done, making best use of your Working Bee time. For those coming to the Working Bee, we will need some brush-cutters and rakes. Everything else is at the field, so all we need is you. The standard 'work, eat, fly' format applies.

The Trophy will be a big weekend for Northern, with a lot of the Trophy team and support team normally working as our canteen staff. This will be a great opportunity to showcase the State Field to visitors. There are still those who question the State Field's viability, and many of these people think that we have had an easy ride and that the MAAA & VMAA paid for everything. We know better. Yes, once again, we are asking for help and support over the 2 days. The team and back-ups are now set, thanks to Mario.

HOT BREW

Over many years of mixing fuel, I have tried many different blends of oil and nitro. In my Old Timer (Mark's motor), I run up to 40% nitro in the search for more power. Recently at the field, one of our members who shall be referred to as 'Mr X,' had trouble starting 2 of his engines. We tracked the problem down to too much oil, as Mr X was distracted at home and added 2 lots of oil to his fuel. On the Monday, I received a phone call from Mr X,, telling me that there was another problem with his fuel. It seems Mr X had 2 identical 20Lt containers. One was Methanol, and the other was Hydrochloric acid! Mr X was very distracted and mixed the acid and 2 lots of oil!!! For fuel! Talk about your hot brew. It had eaten up most of the internal engine parts!

Well, that's it for the first one of the year. I look forward to some very exciting times coming up.

FLY SAFE, FLY FOR FUN!

ROB MAC

EVENTS COMING UP:

21st - 22nd March: State Glider weekend.

18th - 19th April: VMAA Trophy.

3rd May: Twins and More

24th May: Scale /ARF State Champs

An Introduction to Aerotowing

Tow Planes

Tow planes come in many shapes and sizes.

There are no hard and fast rules governing what tugs will pull what gliders. Suffice to say, more power, more size, more stability are good attributes for a tug. If you want a scale like slow tow, then the lower power to weight ratio tug/sailplane combination is what you want. This set up requires that both pilots fly precisely to avoid marginal conditions or early releases. If your desire is to get as many sailplanes into the air as possible in a short amount of time, then a super tug with a big motor will allow you to do this.

The tow release on the tug should be **between the C/G and the trailing edge of the wing**, and on top of the wing.

The Towline

Some pilots use towlines with flags at the glider end -- some with and some without bungee cords to absorb jerks on the line. Others use towlines that have neither flags nor bungee cords.

While there seem to be two schools of thought about towlines - **with** flags and/or bungee and **without** - most pilots agree on the following:

- Use towlines that are 120 ft long, more or less.
- Use 100 lb. test towline for 1/4 scale and smaller gliders, and 200 lb. test or better for larger sailplanes.
- Include a weak link in the towline at the glider end consisting of a loop -- usually fashioned from heavy duty fishing tackle -- attached to the glider's tow release. Some of us put a weak link loop on the tug end of the towline as well.
- All of us use a snap at the glider end of the towline. The snap, which mates with the loop attached to the tow release, makes it easy to hook the sailplane up to the towline.

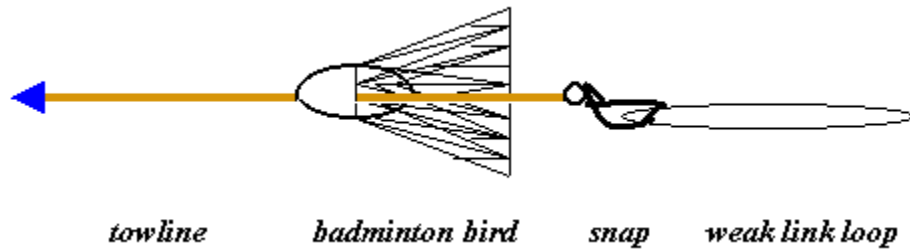
The snap is a good example of a little thing that makes a big difference! Without it, the glider loop on the towline needs to be attached to the glider's tow release at takeoff time - - a procedure that often involves time-consuming fiddling with a finicky tow release. This can be frustrating and discourteous to all, especially when the towplane is servicing more than one glider.

When the snap is used, the loop can be attached to the glider's tow release before coming to the flight line. Then it takes only a few seconds to snap the towline to the loop. The time saved means more time is available for towing both directly and indirectly -- a tug that doesn't use up gas or drain its batteries waiting for a slow hookup has more time to tow.

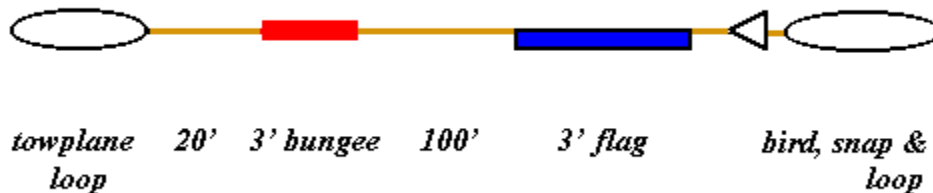
Towlines with Flag and Bungee

The flag serves two purposes: it makes it easy to see when the glider is flying out of position on tow, too high or low for example; it also makes it easy to tell when the glider is released at height.

The drawback to using a flag is that it can flutter and tangle the hookup loops on the snap. The way around this is to attach a badminton bird, pointing towards the towplane, between the flag and the loop, just in front of the loop. See the illustration below (not to scale). The bird will keep the line taught so the flag doesn't tangle.



The bungee cord, which helps to dampen jerks on the line, should be attached to the towline about 20 feet behind the tug. See the illustration below (also not to scale). The 20 foot separation between tug and bungee is needed to prevent the bungee from slingshotting the towline into the propeller if the glider releases while pulling on the line. The bungee cord is particularly recommended for newcomers to airtowing. An alternative is "stretchy" line, which also dampens jerks on the line.



Towlines Without Flag or Bungee

German and Swiss pilots don't use bungees or flags. Instead, they use a thick line -- 1/4 inch or thicker -- which has about three feet of built-in stretch and is brightly colored. This towline is easy to make up and its stretchiness provides a comfortable margin of error. It's easily seen on the ground, doesn't tangle, and looks more like the real thing since there is no flag fluttering in front of the glider on tow. However, without a flag, it's harder to see the line part company with the glider at 2,000 feet. Pilots who want to try this simpler towline need to be careful not to tell the towpilot that they're released until they're absolutely certain that the glider has let go of the towline.

Where to Find Towline

You can purchase many varieties of towline at your local hardware store. Nylon is excellent because of its built in stretchiness. Surveyor's line is available in day glow colors, but it's only suitable for smaller sailplanes.

You Choose

Any combination of the elements above will work as long as the towline is strong enough (100 lb. test or better), roughly 120 feet long, and you use breakaway loops at either end. We hope our "variations on a theme" has inspired you to try a different approach next time you make or buy a towline. Smooth towing!

Sailplanes appropriate for towing

Almost any glider can be towed aloft. Polyhedral ships should probably be avoided, as they tend to continually correct their attitude on the roll axis making for an almost uncorrectable wallowing on tow. Slowing the tow down helps, but these ships are best launched from a bungee or winch. They are not generally suited to aerotowing. The smaller scale gliders (2meter) are somewhat trickier to tow for a beginner, as everything happens faster.

The kind of sailplane that benefits most from a tow aloft is a large scale glider 3.5 meters up to 9 meters. These planes do not winch well or bungee launch to any great height, if at all. They also, because of things like Reynolds numbers and span loading, really come into their own at the higher altitudes achieved with aerotowing. The best range of sailplanes for aerotowing would be 3 meter and up aileron controlled ships. The larger they get, the greater benefit they achieve, in practical terms, from a tow versus an alternate launch method. Those who have the luck of living near a large active slope not withstanding.

Dolly or cart

Dollies are not required unless you have electrics or special ground conditions that warrant this.

Dollies are useful to train newcomers to aerotowing. What the dolly does, is take away all axis of control until the glider has flying speed. It lets the beginner get the feel of the plane while the tug is doing its job getting things off the ground. They can become a crutch if one lets them. They are generally a four wheeled affair with a lip on the front to catch the leading edge of the wing until the sailplane lifts off. It is recommended to learn with out one.

What is a Towpilot?

A tow pilot is a power plane flyer who can fly large climbing circles while towing a sailplane at a steady rate of climb until both planes are nearly out of site. Sound easy? It's not. Practice. Hint. Initially down trim is usually needed for the towplane. Each sailplane tows differently and elevator trim on the tug will have to be adjusted accordingly.

Loops

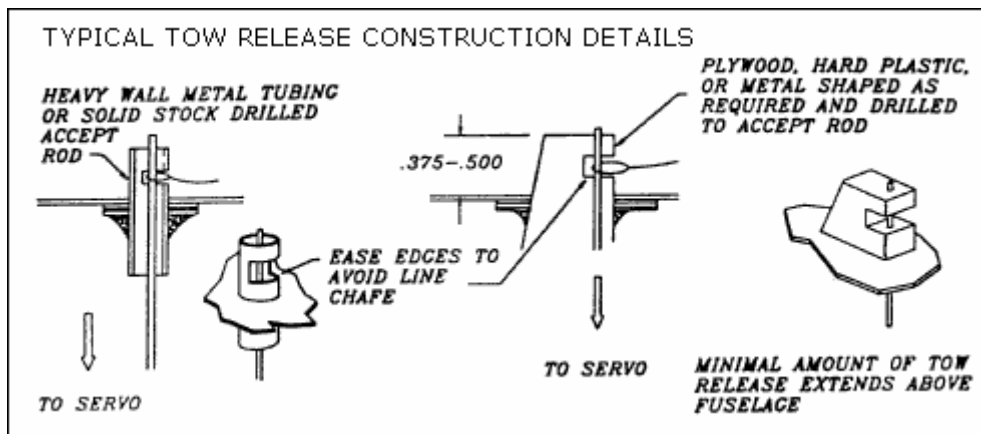
Not an aerobatic routine, loops are small circles of winch line or 80 lb. test fishing line used to engage the release mechanism in the nose of the sailplane. These are then in turn clipped to the clevis on the tow line. Cheap, reliable, and easy to use. This is a weak link, it is very hard to either break a line or damage a plane on tow with lighter sailplanes, with heavy sailplanes not so hard.

Tow Releases

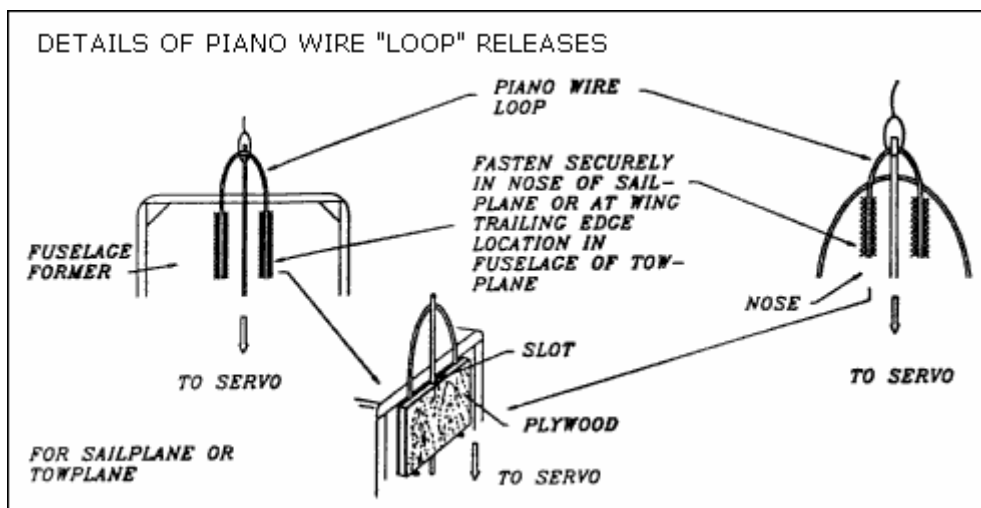
Any tow release which is simple, reliable and can engage the loop previously described will work. A simple music wire U with another piece of wire crossing it to trap the string will do. Commercial releases are also available from Europe which are more scale like and fit nicely in the nose of a scale sailplane.

Two piece mechanical releases with a captured ball are bad news, as they are unreliable and you have to continually chase down the mating end for the next tow. It is mandatory to have a release on both the tug and sailplane.

Keep the following in mind. All sailplane releases should be located either in, or in reasonable proximity to, the nose. All towplane releases should be located on top of the fuselage at the trailing edge of the wing, as shown in the illustration at right.

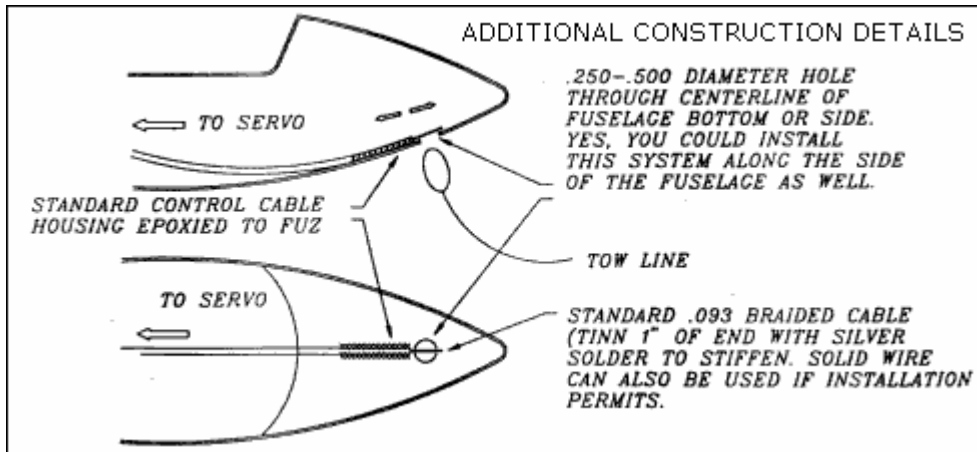


Use your imagination in adapting these releases to your requirements. They all work quite well in proper applications. A bellcrank, or any other motion transfer device, can be incorporated as long as the total system is slop-free and efficient. Consider the forces that can be generated by a large sailplane-towplane combination when designing and choosing wire sizes for the "loop" variety of release. Wire sizes in the range of .078-.093 for the loop and pushrod should be sufficient for all but the very largest of sailplanes.



Even though the amount of tension on a release system may change throughout the tow because of varying flight speeds between sailplane and towplane, it is a good idea to use as large a servo as you can, especially if you are driving an additional function such as a

retract. When you *need* to get off, you don't want the release system hesitating because of insufficient power. A servo in the neighborhood of 40 oz. of torque is a starting point for 1/4 scale planes.



If you have any newsletter articles or tips, or sale items, please send them to me and I will include them. Baz

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