

# Aerobat



October – November 2015

Issue Number 3 Volume 15

### **Web site**

www.hcrf.co.nz

### **Facebook**

Hibiscus Coast Radio Fliers

### **Committee contacts**

#### **President**

Pete Denison  
president@hcrf.co.nz  
(09) 426 2455

#### **Secretary/Treasurer**

Hayden Purdy  
secretary@hcrf.co.nz  
(09) 427 5906

#### **Club Captain**

Nigel Grace  
clubcaptain@hcrf.co.nz  
(09) 420 3182

#### **Social Secretary**

Ngaire Ladd  
ngaireross@hotmail.co.nz  
(09) 4260840

#### **Frequency Officer**

Jim Hall  
jimh,geo@clear.net.nz  
(09) 426 1478

#### **Editor**

Ross McDonnell  
ngaireross@hotmail.co.nz  
(09) 4260840

### **Cover Picture**

Leigh Gordon's F22 Raptor.  
Scratch built from plans from  
Flight test.com  
A very stable flyer.  
(Needs more power!! Ed)

# Aerobat

October 2015

Number 3 Volume 15

## From The Editors Desk



Well Spring is here. You will have noticed the new born lambs in the fields and the daffodils in the paddocks on the way to the field.

It's still a wee bit damp at the field but with a couple of weeks of good weather things should be great again and we will be able to drive right out to the pits. This will of course mean that the flying will have to be a bit tighter so that no one over flies the pits, so expect some tightening of the rules.

Monthly gliding is going from strength to strength and is getting more and more people attending. Gliding and practicing spot landings always shows in a general increase in the flying ability of the club members as a whole.

Nice to see building going on in the club. Some very interesting subjects coming to light. It might be nice to have a few more of them shown at club night so we can all push our sticky little fingers in

them to see how they work. It is a great opportunity to share hints and tricks that make you a better builder too.

I am looking forward to this time of year as to my way of thinking this is when the club gets into its stride and starts to hum with Twilights, Christmas lunch and the open day to look forward too.

May the ground not come up and smite thee.

*Ross McDonnell*



# FROM THE PRESIDENTIAL SUITE

Greetings to you all.

Well at long last the clocks are in Summertime and the Twilights are back again !!! Isn't that good news.

Anyway, arriving home from our holiday time was moving on quickly and I needed to check up on the use of the new runway, the first Twilight being almost upon us a decision had to be made before we cut the grass in the working areas as we had been unable to after weeks of wet weather. Had a chat with the committee who had been talking with the flying members while I was away, I also asked the members who were present over that weekend (it was a nice weekend for once) unfortunately the feedback from both parties was quite negative, the problems being.



- Large boggy section in the centre of the runway.
- The magnetic plane catching pine tree at Orewa end is too close for comfort.
- The downwind leg tended to take us over the largest gum tree plus shorter ones at Western end of the runway.
- And the S/W crosswind made its presence felt a little more prominently.

So we the Committee had a meeting on site to work out a compromise. The best alternative direction wise that could be found has ended up being halfway between the old and new runway (having to work around the uneven parts of the field etc.) It still gives us about 35m extra from the end of the runway to the road than the old one. The new runway is 120 metres long and 10 meters wide. (400ft by 32ft approx. in real measurements Ed) At the same time the Pits were realigned so they are in line with the public boundary fence we put up for our open day, as the Eastern End of the runway has been swung around to the South into its new position means that the pits are not quite parallel to the runway, (being highly technical) I stepped it out 4 steps difference out of alignment, one end to the other. Only noticeable from a drone :-)

The other thing we are working at, is our Risk Assessment Procedures and then onto the Health and Safety Plan this is the "Operating Model Aircraft at our HCRF site" required by Model Flying NZ Insurance wise.) Nigel Grace is heading this along with myself, input from everyone is welcome regarding anything that is bothering you regarding safety etc. It's not too daunting though, mainly clarifying a few things modifying risky procedures etc, personally as long as we end up with common sense practices that will help keep us all safe to enjoy flying I will be a happy chap simple really!

So summer here we come, Let's get flying !!! Happy Landings

*Pete Denison*



# Flight Test Spitfire Foamy

By Norm Burns

The FT Spitfire is the 10th design in the swappable series and the first of which that is a warbird. This is the perfect gateway into scale-like flying and is also a good introduction into four channel flying. This plane is great for beginners and or experienced pilots who are looking for scale lines without the unforgiving flight characteristics of most scale warbirds. This was achieved by taking the wing of the FT Cruiser and heavily modifying it with the unmistakable elliptical Spitfire wing shape, increasing the size of the under cambered wing tips and adding dihedral. The result is a very forgiving scale warbird that flies just as good as it looks.



WING SPAN 1075mm

MOTOR (Option 1) - NTM Prop Drive Series  
28-26A 1200kv / 250w

MOTOR (Option 2) - Suppo 2208/14 1450kv  
Brushless Motor (Park 370 equiv.)

SERVOS - Hextronic 9 Gram Servo

ESC - TURNIGY Plush 25amp Speed  
Controller

BATTERY - Turnigy 2200 mAh 20c

PROP -APC-style Electric Propeller - 8x4E



# Time out that works

Most people nowadays think it improper to discipline children, so I have tried other methods to control my kids when they have had one of 'those moments.'

Since I'm a pilot, one that I have found very effective is for me to just take the child for a flight in the plane during which I say nothing and give the child the opportunity to reflect on his or her behaviour.

I don't know whether it's the steady vibration from the engine, or just the time away from any distractions such as TV, video games, computer, IPod, etc. Either way, my kids

usually calm down and stop misbehaving after our flight together. I believe that eye to eye contact during these sessions is an important element in achieving the desired results.

It also works well in cars.

I've included a photo of one of my sessions with my son, in case you would like to use the technique.

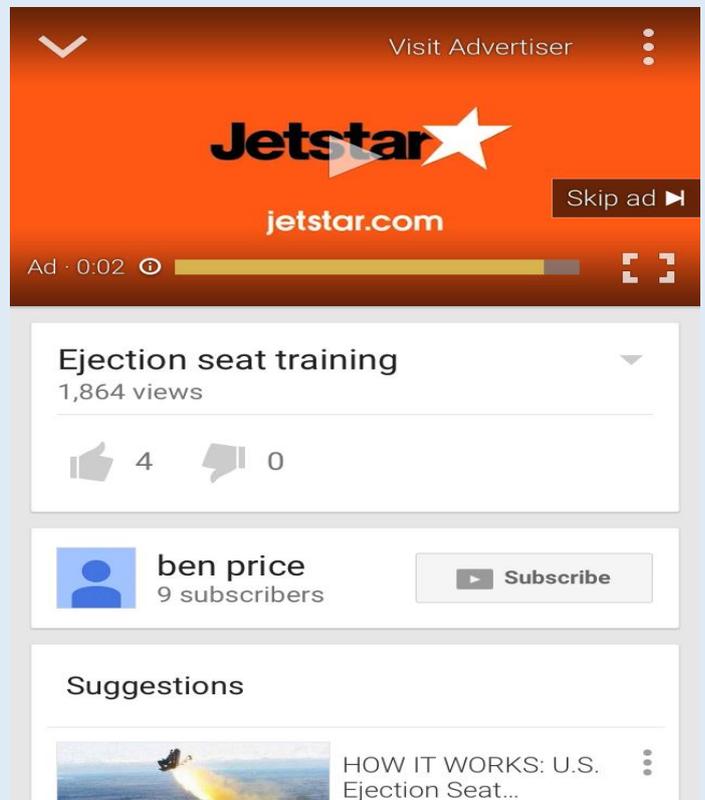
**Please see photo page.9**

## Shopping On Line

While on line shopping for airline seats these popups also came up on the same page. An interesting combination I thought.

Is the universe trying to tell me something?

Should I just stay at home for a while?



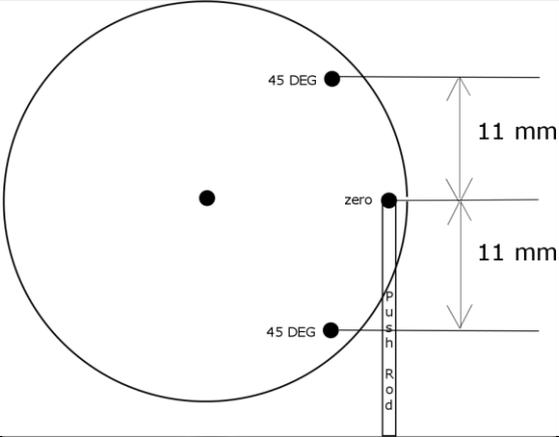
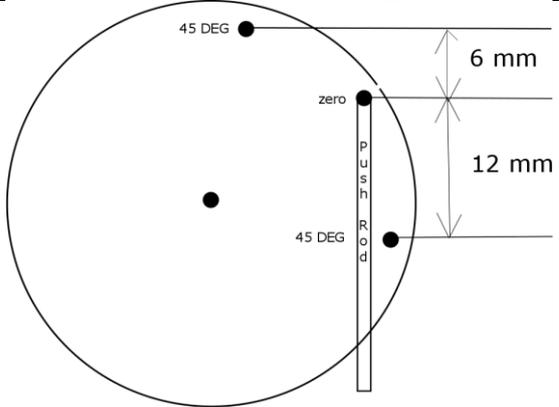
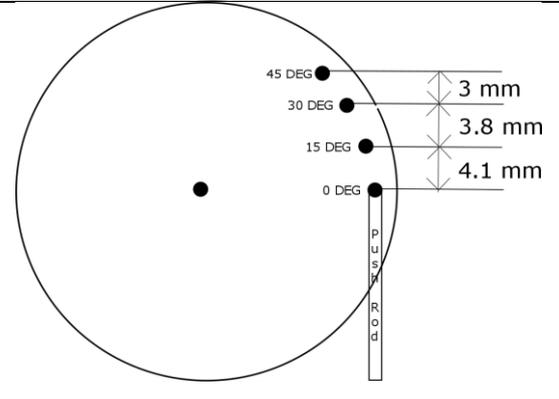
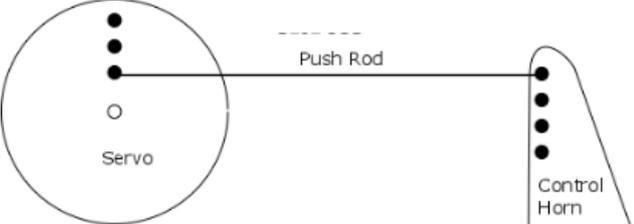
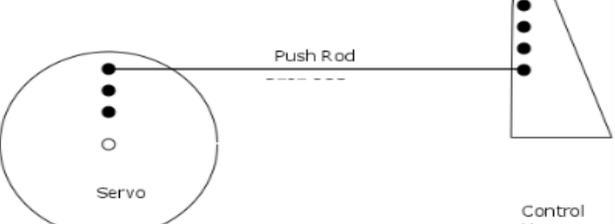
The screenshot shows a mobile device interface. At the top, there's a 'Visit Advertiser' link and a 'Skip ad' button. The main content is a video player for 'Ejection seat training' by 'ben price' (9 subscribers). The video has 1,864 views, 4 likes, and 0 comments. Below the video, there are suggestions for other videos, including one titled 'HOW IT WORKS: U.S. Ejection Seat...'. The Jetstar logo and website URL 'jetstar.com' are also visible in the ad area.



**DO YOU BELIEVE IN UFO'S**  
UFO caught on tape

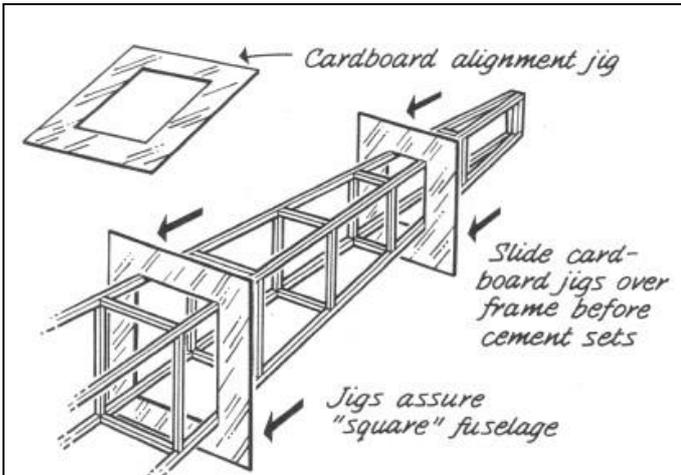
# Setting up servos. By Ross McDonnell

A lot has been written about setting up aircraft but very little is mentioned about the mechanical linkage from the servo to the control surface. So here goes. In the following drawings it is assumed that it is a standard servo with a travel of 90 degrees, i.e. 45 degrees from zero one way and 45 degrees the other way.

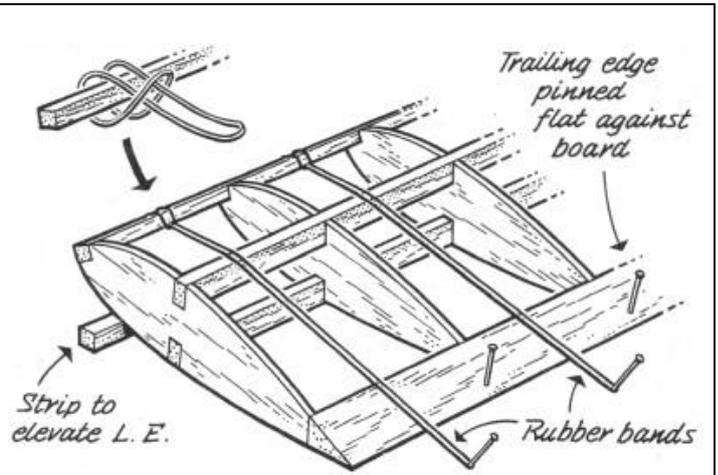
<p style="text-align: center;"><b>NORMAL SET UP</b></p> <p>With the servo arm set at 90 degrees to the push rod when in the centre position, an even up and down movement is made. At this point you get most movement out of the servo too. This is ideal for things like the rudder where equal movement is required.</p>	
<p style="text-align: center;"><b>DIFFERENTIAL SET UP</b></p> <p>So what happens if you don't want equal movement like in the elevators where more up than down is ideal on some models? Well if you don't set up the servo arm at 90 degrees to the push rod when the servo is in the centre position then strange things happen, suddenly the whole setup becomes differential. You see this a lot on new flier's models that have been set up badly.</p>	
<p style="text-align: center;"><b>EXPONENTIAL SET UP</b></p> <p>With the servo arm set at 90 degrees to the push rod, all normal servos are exponential! Unfortunately it is absolutely opposite to what we as modellers would put in as exponential on our transmitters as around the midpoint the movement is large and the more you move toward the end of travel the less movement gets. Maybe it would not be a bad idea to add exponential to your transmitter to cancel this out and make the servo movements linear.</p>	
 <p>This gives, Least strain on servo, Maximum torque on control surface but least movement. This ideal if you can do it as it saves the servo.</p>	 <p>This gives most strain on the servo, minimum torque on the control surface but the most movement. You may have to upgrade the servo if you do this as it may burn out otherwise. If you can't do the other one then a mixture between the two is the best</p>

Hope that all helps.

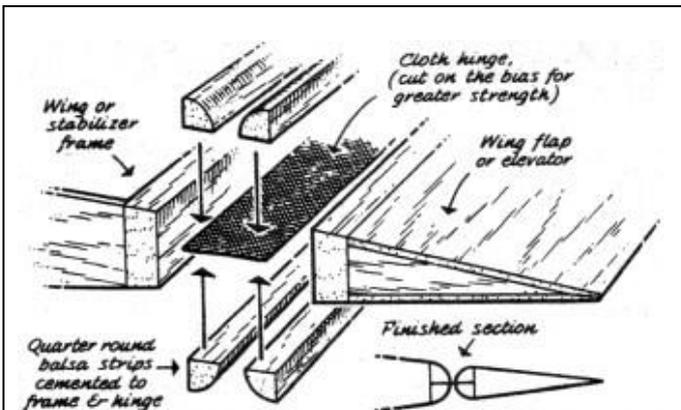
# HINTS AND TRICKS



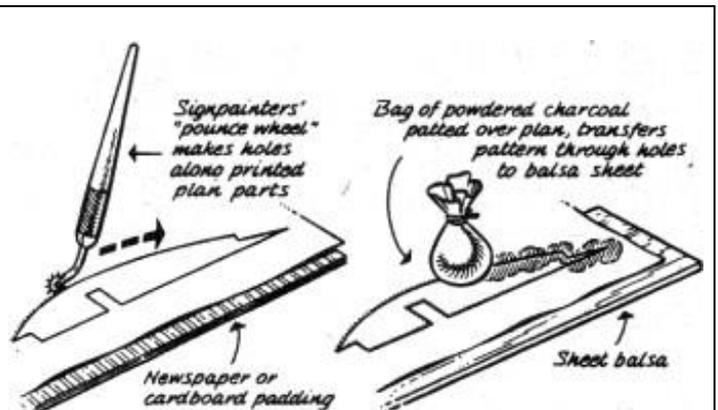
Lewiston, Idaho modeller Joseph Evans cuts simple jigs or templates from waxed cardboard to slide onto fuselage frames during assembly. Held by friction. Assures "square" corners and accurate alignment.



Difficulty of pinning spruce leading edge member in place during wing assembly was solved by Kenneth Lau, Hong Kong, China. Rubber bands looped around strip, stretched and pinned, holds L. E. in position during cementing.



Sturdy hinge construction tip sent by Al Oman, Randall, Minnesota, is adaptable to wing flaps or elevators. Cloth hinge material is firmly held and virtually concealed.



Sign painters' "pounce wheel," available at art supply stores, permits quick transfer of plans to balsa sheet without destroying plans. Used by Alfred Walsky, Parsippany, New Jersey.

## Imperial / Metric Conversion Chart

(Conversions are approximate)

1/64"	0.4mm
1/32"	0.8mm
1/16"	1.5mm
3/32"	2.5mm
1/8"	3.0mm
3/16"	5.0mm
1/4"	6.5mm

3/8"	9.0mm
1/2"	12.5mm
3/4"	19mm
1"	25mm
12"	300mm
24"	610mm
36"	915mm

# AROUND THE CLUB



A Close look at Leigh's F22 Raptor



Bryan Leeves taking this flying lark seriously.

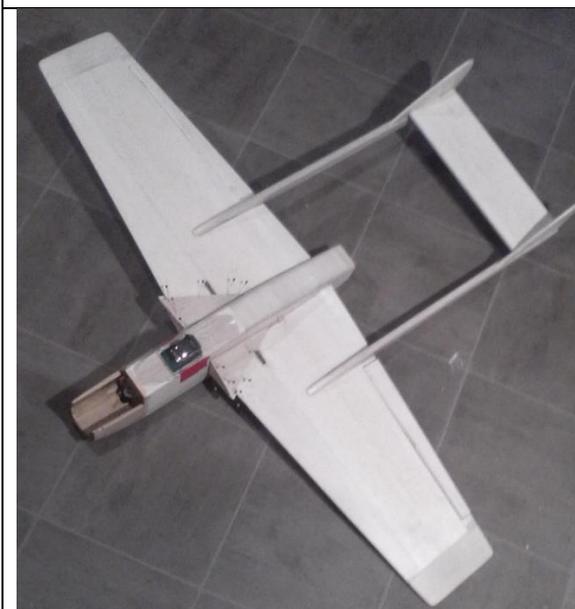
You can see the stress involved



The field in winter.



Wayne Drinkwater's newest family model



Ross Mac's Club build Vampire at the point of no return as the wing has now been glued on.

Not everyone has a famous All Black to pilot their aircraft safely.

# H.C.R.F. Calendar 2015 - 2016

**Pony Club Yellow highlight will not be confirmed by the pony club 16 August 2015**

**Pony Club Rally days are every Tuesday afternoon at the field starting September 2015.**

NB ones with Pony in the day (and in yellow for those in colour,) are Pony Club. ***THEY MAY NOT AFFECT US.***

**As our fixed flying times are every Wednesday, Saturday and Sunday morning.**

Date	Day	Event	Where/When
30 September 2015	Wed	Twilight 1	Wainui 5-00 pm
3 October 2015	Sat	Winch Gliding	Wainui 8.30 am – 12.00 noon
5 October 2015	Mon	Club Night	Whangaparaoa Guide Hall 7-30 pm
7 October 2015	Wed	Twilight 1 Rain Date	Wainui 5-00 pm
2 November 2015	Mon	Club Night	Whangaparaoa Guide Hall 7-30 pm
7 November 2015	Sat	Winch Gliding	Wainui 8.30 am – 12.00 noon
21 November 2015	Sat	Wainui Mini ODE	Wainui
22 November 2015	Sun	Christmas Lunch	To be advised 12 Noon
25 November 2015	Wed	Twilight 2	Wainui 5-00 pm
2 December 2015	Wed	Cross Country Practice Evening	Wainui
5 December 2015	Sat	Winch Gliding	Wainui 8.30 am – 12.00 noon
7 December 2015	Mon	Club Night	Whangaparaoa Guide Hall 7-30 pm
9 December 2015	Wed	Twilight 2 Rain Date	Wainui 5-00 pm
2 January 2016	Sat	Winch Gliding	Wainui 8.30 am – 12.00 noon
1 Febury 2016	Mon	Club Night	Whangaparaoa Guide Hall 7-30 pm

## From page 5

### Time out that works



## From Nigel's shed

A busy last couple of months has seen Wiggo completed.  
A RCM&E free plan enlarged 15%  
40" wing span  
power is a Turnigy propdrive 35-48 1100 kv  
60amp speed controller  
3 cell battery



Second project is a New Ruler, an old time free flight model by Henry Stuck wingspan 72" this plane was started by the late Frank Crowfoot from Blackfoot flyers club and had a fair bit of hanger rash mostly sun damage so has taken longer than expected to get to this stage, should be flying this summer.



The big Piper Cub still continues cabin is now complete just windows to fit and nose cone to finish and wings to cover and it's complete.

*That looks just so scale. Well done. Ed*



**After** consultation with the Auckland Council the Auckland Regional Flying Sites Group managed to get the original recommendations changed to the following. We are pleased to say that most of our recommendations were taken on board and this new document as set out below is a great improvement on the original document

## Flying Unmanned Aircraft on Council Parks



### 1. Introduction

Amended Civil Aviation Rules (CARs) relating to the operation of Unmanned Aircraft (including UAVs, RPAS, drones and model aircraft) came in to effect 1 August 2015. These rules now require people to obtain the approval of the landowner to operate a unmanned aircraft over their land.

The guidelines set out below apply to land owned and managed by the Auckland Council as parks.

*Note that separate rules apply to land under the control and management of Auckland Transport. This includes all public roads and streets. Refer to [www.at.govt.nz](http://www.at.govt.nz)*

*Note also specific rules relating to the flying of unmanned aircraft may apply to some parks. Please check park notice boards or the council website for specific details. Refer [www.aucklandcouncil.govt.nz](http://www.aucklandcouncil.govt.nz)*

### 2. Guidelines

**The casual use of unmanned aircraft is permitted on public open space within the Auckland Council but casual use is prohibited at;**

- **Council cemeteries**
- **Auckland Botanic Gardens**
- **Auckland Zoo**
- **Designated dog exercise areas**
- **Public Roads under the control of Auckland Transport**
- **Cornwall Park**

Cornwall Park is owned and managed by the Cornwall Park Trust. Refer [www.cornwallpark.co.nz](http://www.cornwallpark.co.nz)

Permission must be obtained from Regional Facilities Auckland to fly around Mt Smart Stadium, QBE Stadium, Western Springs or Aotea Square. Refer [www.rfal.co.nz](http://www.rfal.co.nz)

Any person proposing to use an unmanned aircraft for commercial purposes, such as filming must obtain the appropriate permits from council. (Refer [www.aucklandcouncil.govt.nz](http://www.aucklandcouncil.govt.nz) and search *Commercial Activity in Parks* or *Permission to Film in Auckland*.)

**Users of unmanned aircraft are requested to be aware of and abide by the conditions set out below.**

### 3. Scope

The guidelines below cover (refer to examples illustrated in attachment A);

- All electric powered remote controlled model aircraft of the type commonly referred to as “drones” that weigh less than 1.5kg, and,
- Hand-launched remote controlled model aircraft less than 2.0 m wing span and weighing less than 1.5kg.

The guidelines do not cover the following;

- Fixed-wing electric-powered model aircraft greater than 2.0 m wing span or weighing greater than 1.5kg.
- Fixed-winged model aircraft that are internal combustion engine (petrol) powered.
- Bungee or winch-launched aircraft. A tow line no greater than 15 metres is permitted.
- Single rotor helicopters that are internal combustion engine (petrol) powered.
- Single rotor helicopters that are electric powered with a rotor span greater than 0.5m or weighing greater than 1.5kg.

- Jet powered models, except electric fan-jets weighing less than 1.5kg are permitted.
- The classes of unmanned aircraft listed as exceptions above can only be flown on private property or officially recognised public flying sites or sites under the control of an approved operator, such a model aircraft club.

#### 4. Conditions

Flyers are permitted to use council parks but are requested to be aware of and abide by the following conditions;

- Comply with the Civil Aviation Rules relating to the mode of operating unmanned aircraft. Note that specific restrictions apply in areas known as “controlled airspace” or within 4kms of an aerodrome. Refer map Attachment B and [www.caa.govt.nz](http://www.caa.govt.nz) or [www.airshare.co.nz](http://www.airshare.co.nz)
- Comply with the Auckland Council Public Safety and Nuisance Bylaw 2013 which states:

***(1) A person must not use a public place to:***

*(c) use any material or thing (including a vehicle, bicycle, motorised scooter, model aircraft, skateboard, roller skates or roller blades, shopping trolley or similar object) recklessly or in a manner which may intimidate, be dangerous, be injurious to or cause a nuisance to any person;*

In addition to the Civil Aviation Rules, the Office of the Privacy Commissioner provides guidance on preserving peoples’ personal privacy by not flying over other people using a park or over adjoining private property. Refer [www.privacy.org.nz](http://www.privacy.org.nz)

**AND** comply with the following code of conduct for the casual use of unmanned aircraft on public open space, including beaches;

- Be courteous of other park users, who often have visited the park for the quiet enjoyment of the park.
- Be courteous to people enjoying the beach and people walking dogs on parks.
- Not operate over a sports field if in use by others
- Not fly over parked vehicles or park roads. The approval of Auckland Transport must be obtained to fly over or from a public road, including from a footpath or grass berm.
- Not operate within of 20 metres of or be flown over other users of the park
- Not operate over or within 50 metres of a live stock on parks, sensitive wildlife habitats such as wetlands, or, nesting or roosting birds.
- Not operate within 20 metres of or be flown over park buildings and over-head wires
- Not operate over dry flammable vegetation.
- Not overfly adjoining private properties
- Be in full view of the operator at all times (e.g. not operated through binoculars, or via video monitor, or smartphone, unless an observer is present)
- Be flown in daylight hours only, and
- Cease operation if requested by council staff

The council will not be actively policing these guidelines but any breach of the above conditions could result in termination of the individual’s permission to use public land for the use of unmanned aircraft. Any breaches of the Civil Aviation Rules must be referred to the Civil Aviation Authority.

*(Also Refer to <https://www.airshare.co.nz/> to check the maps before you fly Ed)*

*(This is a shortened version of the updated document that will soon appear on the Auckland Council Web Page. <http://www.aucklandcouncil.govt.nz> search for drones. Ed)*