WAMASC NEWS

NOVEMBER/DECEMBER 2015

FIELD SAFETY

First Aid personnel, defibrillator and Fire fighting equipment are available at the field for your convenience.

NEWSLETTER

This is your Newsletter and I welcome any articles and photographs that Members may like to contribute. We look forward to hearing from you!

Please feel free to contact any of the committee or me directly at:
david.collett2@bigpond.net.au

The opinions expressed in any given articles are not necessarily those of the Editor or the Committee.

SAFE FLYING!

CFI Report

On Saturday the 31st of October another young member of WAMASC by the name of John Slabbert successfully passed his solo examination for the fixed wing silver wings category.
His flying of the aircraft was excellent and he passed with no trouble at all!
I am looking forward to seeing him practice for those gold wings perhaps?
Well done John!

Many thanks to Stuart Hamilton who was his instructor and got John to solo level very quickly indeed!

We have also had a couple of new members join our club recently- a big welcome to Michael Dunn and Todd Montgomery!

Mike has gained silver wings for both the fixed wing and rotary wing category and Todd has gained bronze wings for fixed wing and silver for multirotor.

Welcome aboard guys!

Wings:

WAMASC stocks of wings have been replenished along with the new silver wings.
For those who have already passed bronze wings on aircraft weighing over 2Kg the silver wings are automatically awarded-please advise me if you would like to recieve your set of silver wings if applicable.
There is no charge for any wings awards or the new silver wings-a charge is only applicable for (replacements) for damaged or lost wings etc.

Tail dragger handling:

Aircraft fitted with what is known as a (tricycle) undercarriage are much easier to handle when taxiing and during the takeoff roll.
Tail draggers however, (aircraft with no nose wheel but a small tail wheel
instead) can prove to be much more difficult to handle especially in a crosswind.

There are various factors to take into consideration when using this kind of undercarriage system.

The three main considerations are:

1: The effect of crosswind on the aircraft

2: The torque of the engine and propeller

3: The main undercarriage location with respect to the aircrafts centre of gravity (C of G) If the C of G is very close to the main undercarriage this means less of the aircraft's weight is on the tail wheel and results in minimal traction, this of course reduces the authority of the tail wheel.

When taxiing it is beneficial to use at least 15 degrees of up elevator as the effect of prop wash (airflow over the aircraft produced by the propeller) over the tailplane with up elevator

applied deflects the tail downwards thus applying more pressure on the tail wheel and therefore more traction.

When beginning the takeoff roll the primary consideration is the crosswind component (if present) as once the aircraft starts its roll the tailplane will lift and weathercock into the crosswind.

The way to negate this effect is to apply a moderate amount of rudder input opposite to the crosswind as the takeoff roll is commenced and then gradually release this rudder input as the aircrafts' airspeed increases.

The aircrafts' tracking on the runway once it has passed a critical speed before which the crosswind would more easily weathercock it into wind is then held in check by carefull and quick response with the rudder input as appropriate to maintain a straight track down the runway.
(the critical speed referred to is a result of more forward speed which vastly increases airflow over the aircraft thus increasing rudder authority and almost completely overcomes the effect of a crosswind).

Like all things this takes practice to perfect and the amount of rudder used is of course dependant on its authority and this varies with factors such
as:

1: The size (surface area) of the rudder
2: The type of airfoil cross section of the vertical stabilizer including the rudder
3: Propwash effect and quantity
4: Engine torque
5: Moment arm (how far the rudder is placed physically away from the centre of gravity of the aircraft)
6: Crosswind component speed

<u>Aerobatic Manoeuvre Workshop:</u>

The 3 turn spin:

Another of the MAAA gold wings manoeuvres is the three turn spin.

Essentially the manoeuvre consists of three components:
1: Stalling the aircraft to enter the spin.
2: Executing precisely three turns of spin in a stalled configuration as the aircraft decends in a vertical downline.
3: Recovery and pull-up to resume upright level flight.

As always ensure you begin with sufficient height to recover in case of disorientation - (three mistakes high is a good rule of thumb!)

In the gold wings schedule this manoeuvre is executed in both directions ie:
a three turn spin from right to left and a three turn spin from left to right so one enters from downwind and one enters into wind.

To begin we will set the aircraft up on what is referred to as the high line of the aerobatic box (imagine a vertical rectangular box with the long sides horizontal and the short sides vertical, the aircraft will be flying on the top of this box and the manoeuvre itself is executed in the dead centre of this box right in front of the pilot).

Practicing the into wind manoeuvre first we start by approaching on the high line from downwind in normal upright level flight.

Before the centre of the box is reached reduce power to idle and allow the airspeed to drop, as it does so gradually apply a little up elevator (but not so much as to start climbing) so by the time the aircraft reaches the centre of the box it is very close to stalling.

Once at the centre of the box introduce rudder in the direction of your choice to full deflection gradually over around three seconds then introduce full up elevator over two seconds, this is then immediately followed with full aileron deflection in the same direction as the rudder input, (all these control inputs stay in this configuration during the spin).

(The reason for these delays is to ensure the aircraft stalls and starts its spin immediately so as to avoid having the aircraft banking when entering the manouvre-a correctly entered spin avoids a wing high situation).

Now the aircraft should be spinning correctly and descending on a vertical downline.

As the aircraft approaches the third full rotation (spin) release all control surface inputs to their neutral position except for elevator - apply a little down elevator for around two seconds to maintain the vertical downline then elevator goes to neutral and increase power to around 30%.

The aircraft will stop spinning with a slight delay and this delay varies with different types of aircraft. The release timing for the control surfaces so as to complete three full turns of spin is dependent on many variables, one of the primary variables is the mass of the wing and its inertia induced after rotating in the spin - you will get used to your aircraft and the exact release time with practice.

Now we have been on a vertical downline for a couple of seconds it is time to introduce up elevator to pull up, increase power to cruise setting and resume normal upright level flight.

Manoeuvre complete.

Happy Flying
Greg Russell-Brown
WAMASC CFI

Rob Vonk's F-16 build

Scratch built planes may be rare to see these days but scratch built turbine jets are almost never attempted by most of us.

Many of you may know Rob "Jet-A1" Vonk as one of the resident jet pilots at WAMASC. Always keen to learn new things, Rob has embarked on one of the most ambitious builds seen in recent times. He is scratch building a 1/6 scale F-16 which will be powered by a Kingtech K180 turbine.

Unlike a traditional balsa build, Rob's F-16 is built just like a full size fighter using vacuum bagged fibreglass and carbon fibre. Vacuum bagging applies pressure to the layers of glass and carbon to fuse them together and remove excess epoxy resin. The resulting parts are much lighter and stronger than traditional fibreglass parts such as engine cowls found on many ARF planes.

With the help and advice of follow jet pilots Gregg Voak and Stuart Austin, Rob is fast becoming an expert composite aircraft builder and hopes to have the jet ready to paint by the end of the year.

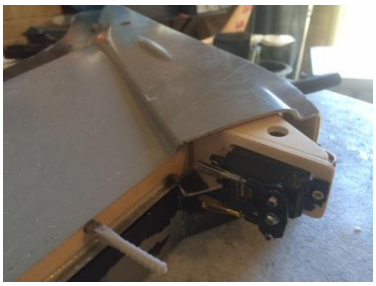
Editor's note:
The following photos have been kindly taken and supplied by Rob Vonk and Stuart Austin. They may not be in sequence.

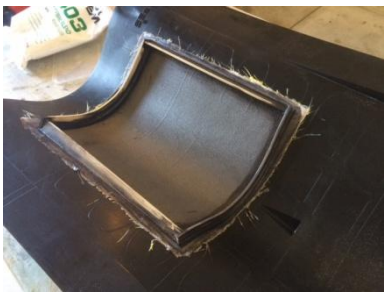














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WOW 2015

These photos were taken over the weekend by Eran Smith and Alan Catton.

Safety Reminders:

Just a few reminders on safety that we may have forgotten over the years…

1. Taxiing in the pits is prohibited.
2. Children are NOT allowed into the pit area, even if accompanied by an adult.
3. Children are NOT allowed on the flight line under any circumstances.
4. MEMBERSHIP BADGES MUST BE WORN AND VISIBLE AT ALL TIMES IN THE PIT AREA.

Gate Padlocks

There seems to be some confusion on locking the main gate at the end of the flying session. There are three padlocks – one for WAMASC, one for Whiteman Park and one for Fire Services: if the three padlocks are linked together as shown in fig 1 all services are able to access the field. If linked as fig 2 only one (in this case WAMASC) has access.

Always lock as shown in Fig. 1