

# Air Racing

## with Stephen Green

### MID AIRS

More often than not one of the first questions asked by a modeller about racing is how often mid airs occur. The reality is quite different from the perception but Red Bull seems to be producing a few. The class is designed to attract new racers and one's experience and depth perception improves, the potential that clanging into another model is imminent, becomes more obvious.

Most happen around the turns. The simplest way to avoid a mid air is to ensure that daylight can be clearly seen between the aircraft looming into view. A couple of wing spans of height differential provides plenty of separation, without any meaningful sacrifice of time. You still have to keep your wits about you exiting the turn, both pilots are relying on the other model to remain on course.

If another model suddenly appears during the pylon, take immediate action but don't over control. It doesn't need much of a gap to build a buffer and you can always berate your caller later. If you're game. To slip

Too close to judge reliably. A little more vertical separation, one wingspan, provides a margin for error

off a couple of metres of height in the turn I usually squeeze in a little rudder. Gaining height during a tight turn is one sure way to kill speed, but if that's the only way, go for it.

At the risk of repeating myself, descending is preferred but once below pylon height, to maintain obstacle clearance, climb back up a few metres.

If there is a strong headwind, I stay low until the model is heading downwind, then climb. It may sound silly, but a second is a second. A few times in ten laps can make a small difference.

### BENDIGO GTR

This report came from Les Davis. 'Our big race day in Bendigo comes around



each year in winter period and how lucky have we been with the weather, the weather gods must really like us to give us such a lovely day for flying after the extremely cold and damp lousy days we had prior to the weekend.

The entries came flooding in more than expected. How are we going to handle this many entries in a one day event, but as CD, I couldn't say no to anybody. So we went with the lot. The whole twenty two entries that had come in, eleven in Texan and another eleven in Redbull 120. With this many entries, we had three heats in Texan and three in Redbull, to make a total of six for one round of flying. We wished to get five rounds completed if possible. That meant thirty races to be run in one day. Boy boy, are were going to be busy to try and achieve this goal.

We had asked all the competitors to be ready to race at 10 am if the weather was suitable, and the weather was, so a 10 o'clock start was on. Believe it or not we had completed two full rounds by 12 noon ready for the lunch break. When we got to the canteen they had all but sold out of food. The amount of visitors/spectators,

Over rolling slightly is one way of slipping off height in the turn. But you have to be careful



At least it was in front for all to see. Great grab by Bill Matthews



Red Bull is cheap entry level racing, but not if you keep this up. (I would junk the receiver, switch and battery pack. Ed)



Interest in Texan racing is building in Victoria



Even though this Raven was virtually unscathed it is a requirement to land immediately after a mid air

flyers and support crews had beaten us to most of the hot food. Bugger !

After the lunch break the quality of the racing improved. The pilots had locked in on the course and were really in the groove and flying great lines. In several heats the four aircraft were all bunched together for six or seven laps before one got away to lead them home. This look magnificent with all four aircraft turning around the pylon after pylon, almost in a vertical formation style. This shows the skills of the pilots. With four rounds now completed we had the short break. The boys in the cage needed wee break and a drink, and we were still on time to finish before 4 o'clock. This is appreciated as most competitors can make it back home at a reasonable hour.

The last round is where the pilots who have four good scores on the board can really go for it and throw caution to the wind. Nothing to lose and plenty to gain if no cuts are recorded. This is the excitement round and yes, it happened. We had a midair in the second last race. Two Turbo Raven aircraft racing in the Redbull touched together. One survived and the other spiralled into the runway and exploded on impact. Local club member Billy Matthews caught on film, (*digital film? ED*) the contact and subsequent exploding aircraft when it made contact with terra firma. It was a spectacular to say the least. (Gary Martelloni is still smiling. Rick Johnson is now looking for a new aircraft).

The presentation was completed on time, all competitors received a goodies bag, the helpers/workers were thanked and great days racing was now complete, yes the 30 races were completed in the 5 hours we had for racing, this was due to the pilots being ready at the start line as soon as the previous race had finished, must thank the pilots for their "readiness", this made the race day so easy to run and the day all went to plan".

**Results TEXAN. First place, Les Sawyer, Second Greg Lepp, Third Phil Pope. REDBULL120. First place, Leigh Kellock, Second Les Sawyer, Third Cliff McIver. Note, in Redbull 120 Class there were 4 aircraft using 30cc petrol engines, the finishing order for the petrols was, 5th, 6th, 7th and 10th, out of 11 starters. Looks like the petrols may need a class of there own ?**

Thanks Les. Perhaps the Davis boys could show the way on how to get a petrol powered Red Bull racer competitive ! Also thanks to Joe Finocchiaro for the pics.

#### LANDING A TEXAN

A much discussed subject (ad nauseum) but racing isn't over until the model is safely parked back in the pits. We are getting better but this category continues to lead the way for proving additional entertainment after throttles have been retarded at the completion of lap 10. It was this reason alone that Red Bull 120 got the guernsey for attracting new victims.

Great to see and interest in AT6 is building (in Victoria at least). Also great to see the boys still having fun putting their AT-6 back down on the ground. Right Rob?



Which one bounced ?



All we can say is that both pilots are called Rob



Gasp!

SEAGULL NEMESIS

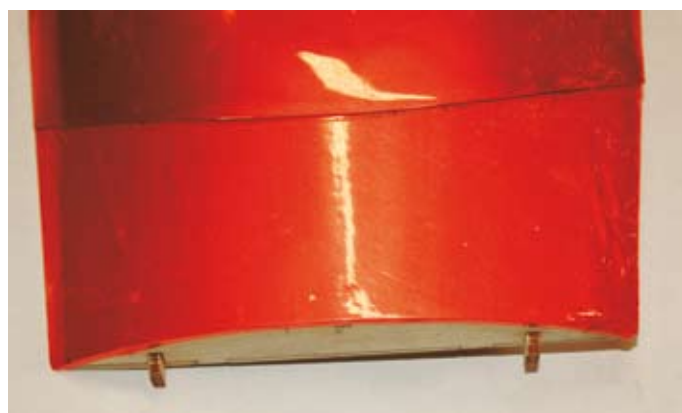
With twenty flights now the model is pretty well sorted. A few components have worked their way loose but nothing has fallen off, including the CA hinges, which seem to get poor press from many modellers. Most hinge failures that I have witnessed are often due to not enough glue. I have never lost a control surface and have never pinned a hinge.

Despite using Lockite the retaining nut on one axle has worked its way off twice. The problem is the soft wood inside the spat slowly compresses, thus reducing the tension on the thread. If it happens again

Pilots have reported that the soft ply tongues wear out



Insufficient tension can be applied to secure canopy bolts. Mount flexes when bolts are tightened.



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## Air Racing



Soft ply plate compressed and axle nut fell off



Side mount Bisson muffer for OS GT 55 in the Nemesis. DL engines exhaust button reduced the noise level 3db

Small Dubro cowl mount rubbers chop out after twenty flight. Use larger model size

the wood will be replaced by much harder ply or aluminium. When the muffer was changed to the new Bisson unit designed for this model, the engine mount and muffer bolts had unwound the usual half a turn. This is typical for a large single cylinder and they should be checked every twenty flights until you get a feel for what is required.

The only other issue is the canopy mount. One fix by Jason Sagidak is to glue balsa block in between the gap from the flange and the fuselage. Cliff McIver replaced the system with hardwood glued right across the canopy frame and secured the canopy with Dubro 4-40 set screws into blind nuts. Both of these simple improvements prevent the sides compressing slightly, which is the problem. Cliff also replaced the ply tongues in the forward section with carbon dowels. A few chaps have reported that they wear thin. I cut the floor out and mounted the pilot onto the fuselage rather than the canopy frame. This reduced the overall canopy weight. To date the forward pegs have not shown any significant wear.

If you are interested in racing in a larger engine capacity class this model will cost around a grand which represents pretty good value. This will vary depending on the motor and muffer combination and there is quite a selection of engines avail-

able such as the DA 50, DL 55, OS 55, MVVS 50 plus an ever increasing number of new brands of which I am not familiar.

The Nemesis also doubles as a good sport model and in reduced power mode, 5000 rpm from a 50 cc mill will still give sparkling sport flying performance. To allow for torque I take mine off at less than half power. From what I have heard most owners have been happy with it. I haven't raced mine yet and hopefully there will be enough entries to run a heat at Cootamundra to see how my combination fares.

### SIDE MOUNT BISSON MUFFER

Model Engines requested a muffer to suit a side mount installation in the Nemesis. The 25mm (one inch pipe) would indicate that noise must not be much of a problem in the USA. Perhaps they thought we all race at Dallas Fort Worth, Air Force base. It must be said that this is more of a manifold or header pipe than a muffer. Until someone makes a more suitable muffer, you can purchase one of these with confidence that it will be allowed at Cobram and Cootamundra. Both are not in noise sensitive areas. Flying at your local club may be a different matter. Even with my original muffer I kept the one flight quite short to stop the noise travelling. A larger prop will reduce the noise level to the point it wasn't

that dissimilar to many scale aero models with low pitch hovering props.

### DL ENGINES EXHAUST MUFFER

The initial ground test with the button in the tailpipe was 8,000 rpm static for 101db at 5 metres. That was an 18x16 APC, which unfortunately are no longer available. Without the button the noise level rises to 104 Db at 8500 rpm. The instructions suggest drilling and tapping the tailpipe which is what I will do when the next one arrives. The cable tie in my installation didn't hold for long. Speed in the air was up 212 kph at 9500 so I am assuming the after muffer was long gone. Speed in a forty five degree dive was 240 kph.

### COBRAM 2013

The date is set for June 1st -2nd which is the week before Queens Birthday weekend. The only change is that to be eligible, Red Bull aircraft must have either 120 or 30cc engine capacity listed on the box or instructions. Models will be noise tested to the limit which is 989 db @3 metres. Formula One will have the same level of prize money, \$2000. We now have an up to date spreadsheet scoring system, and a few more personell to assist in running the event.

### GOODYEAR

The open class mentioned a few issues ago is on for Cobram. 35% scale with 5% deviation, up to 63cc. Tuned pipes allowed. It's game on and until next issue remember to bank, then yank !

### RACE CALENDAR

#### National Air Races

**Cootamundra 27-28 Oct 2011**

**(Red Bull AT-6 F-1)**

**Adelaide Golden Era**

**Virginia SA 12-13-14 April 2013**

**(All categories except Red Bull)**

**Cobram Air Races**

**June 1-2 2013 (All categories)**

**Great Texan Race**

**Bendigo Vic August 2013 (Redbull AT-6)**