



Red Bull racer

Matt Hall lines up for a red hot Red Bull assault

by Owen Zupp

Australian Red Bull Air Race pilot Matt Hall burst onto the international arena in 2009 to finish third in the competition's overall standings in his 'rookie' year.

With the 2010 season set to commence in Abu Dhabi, the former RAAF fighter pilot has a new aircraft, a new team and the benefit of experience.

Red Bull is ready to roar.

IN TRANSITION

There is no doubt that Matt Hall's third placing in 2009 caught many by surprise, Matt included. There had been rumblings of his potential during pre-season trials and much discussion relating to his military fighter background, but on the race circuit he was an untested quantity.

Many had perceived that his background as an elite RAAF Fighter Combat

Instructor (FCI) and his extensive time on RAAF F/A-18 Hornets and exchange time flying USAF F-15 Eagles would make the changeover a formality for the 38 year-old. Yet the worlds of air racing and jet fighters are somewhat different. There are no head-up displays or ejection seats in the Red Bull racers and in the fighter world the opponents are rather more unforgiving than an inflated pylon.

After such a long career on the edge of the flight envelope, the exposure to g-forces and the physical g-straining manoeuvres from Red Bull came quite naturally to Matt. However, in terms of hands on flying, it is his past exposure to low level operations that are most readily translated into Red Bull Air Racing. Down low, with city skylines in the background, an appreciation of turn rate and radius has aided Matt through the winding courses he has encountered. Even so, he points out that significant differences still exist between the two disciplines. "Flying an F/A-18 at low level is done with the aid of the velocity vector. In this type of flying the

manoeuvring is absolutely visual."

Significantly, from Matt's standpoint, he rates his mental focus as the greatest attribute he has been able to transfer to competition flying from the military world. Concentrating on the task at hand, he relates that, "I'm not disturbed by things going wrong. If I hit a pylon, I don't get agitated or frustrated." It is a quality that is critical for all sportsmen at the elite level and often the differentiating factor. As Matt highlights, "All of the Red Bull pilots are great and last season over half the field managed a podium finish; they all have the ability. But except for the top two, no-one could achieve that level consistently."

While he has been able to transfer some of his RAAF skillset, it has still been an incredible learning curve over the past 12 months. Matt's ability to assimilate so readily stands as testimony to the mental focus he values and undoubtedly lies at the core of the success in his rookie year. The challenge now lies in maintaining the intensity and stepping it up a notch in 2010.

BEING PREPARED

Perceptions mean little to Matt Hall. As we sit in a small hangar at Maitland's country airfield, it is quite literally a world away from the international race circuit and the likes of Budapest and Lisbon. Yet it is here that the campaign begins – low on glamour and high on work ethic.

By his own assessment, he has never been stronger. Through careful diet and a combination of gym work, running and cycling, he is down to the same weight as when he joined the RAAF 20 years ago. And weight is critical in the world of Red Bull racing as it is not merely a matter of uplift but a function of g-force that can see an extra 10kg equating to 80kg under 8 gs, with the increase in fatigue that ultimately results.

In the aircraft, Matt would typically fly around 40 hours pre-season between the two-seater Giles 202 at Maitland and his race plane. This does not include 10 hours each year flying the actual courses in the lead-up to the races. While the number of hours may not be substantial, the intensity and demands of this flight time are at the upper end of those experienced by pilots in any endeavour.

Mentally, visualisation plays a significant role in Matt's preparation. While we are all familiar with aerobatic pilots 'walking through' their routine, many Red Bull pilots do so amongst cans on the ground to represent pylons. However, Matt parts company with this technique and prefers to crystallise the course in his mind's eye. Comfortably standing or sitting he will 'fly' the course in his head. He will 'see' the pylons, move his eyes and trigger the g-strain manoeuvres at the appropriate time. He will even rehearse the words he will say to himself in the cockpit as he encounters the various challenges of the course. By the time Matt straps in, he has already 'flown' the course a number of times.

In addition to the man, there is the machine, and 2010 sees a new MXS racer wearing the colours of 'Matt Hall Racing 95'. It is modified a certain amount on last year's aircraft and Matt elaborates that the aircraft will "continue to evolve through the season." Operating at minimum weight, it is lighter than his previous aircraft and possesses a more aft centre of gravity. This contributes to making the aircraft more 'unstable', making it easier to manoeuvre and with less force required on the elevator equating to less aerodynamic drag.

Underneath the cowling, the Red Bull race engines are subject to a number of restrictions, yet Matt's new engine will squeeze out an extra 20 to 30hp (15 to 22kW) over his previous engine. Typically these engines have a recommended 400 hours before being torn down, and Matt



photo – Red Bull Air Race

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describes his new powerplant as "a strong engine with a lot of torque."

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THE YEAR AHEAD

After a successful 2009, Matt may well have lost the element of surprise and may now be a marked man by other teams. And if he is, Matt thinks that's great as it detracts from his competitors focussing on their performances. Herein lies a key component to Matt's competitive philosophy. It's not about the other guy; it's solely

NO EXPECTATIONS Hall says he avoids setting particular goals or expectations when it comes to standings for 2010. (Matt Hall Racing)



about one's own performance and the elements over which you have control.

On race day, Matt doesn't set a minute by minute routine, in fact he is more likely to be found lying down and resting in an effort to have both mind and body in the zone before he is called to strap in. He also doesn't want to hear any chatter about the other teams, results, times or problems starting engines. His mindset is purely on his own race. The only two exceptions to this rule are, firstly, if there is a consistent error surfacing on the course, such as a particular corner that everyone is blowing out on and secondly, if there is an obvious opening for him "to do well with ease", such as when all those competitors before him may have failed to complete the course. Otherwise, the focus is absolutely on his own race.

Matt avoids setting particular goals or expectations when it comes to standings for 2010. "I'm concentrating on improving upon my performance last year. It is quite possible that I could improve and still come fifth if the other pilots have improved as well." However, as a rookie last year, one would suspect that Matt's margin for improvement is somewhat greater than that of the established pilots. He highlights in his typically understated, logical manner that he is fitter, has a better mental approach, a faster aircraft and a year's experience and therefore he should improve. The key lies in "not making errors."

Matt also realistically appreciates the fluctuating skill levels that occur through the course of the season. By the time he hits the first start gate of the year, he rates that his low level handling will be at its peak due to training, but his pylon



TRAINING MACHINE Hall flies his two-seat Giles 202 out of Maitland. (Owen Zupp)

proficiency will be needing the ‘hands on’ the racing provides. His most balanced performance in all aspects will tend to occur mid-season.

Major news for the coming season is the inclusion of New York as a Red Bull Air Race venue. Rather than a ditching Airbus A320, the Hudson River will play host to the race pilots and the huge crowd that is bound to congregate along the shorelines among the skyscrapers. As Matt says, “New York will be a venue that a lot of viewers will recognise and relate to right across the world.” The only trade-off is that last year’s US course at San Diego was Matt’s favourite as it was, “A flowing track, with lots of turns that still allowed you to keep the speed up.”

While the United States has provided some favourites, Matt found the Windsor course in Canada the most challenging. “At first glance I thought it would be easy, but it was actually a very ‘zig-zagging’ course and I blew two pylons on the first lap.” He is now focussed that the course won’t catch

him off guard in 2010.

Meanwhile, Perth will hold a special place for the Australian when he races there in April. With a home crowd behind him and the Red Bull Air Race growing in popularity, the scene is set for a spectacular event. Now Australians have a home town hero they can get right behind and there is little doubt that all eyes will be on Perth when Matt puts his MXS through its paces.

TO THE FUTURE

The most comparable sporting event to the Red Bull Air Race would be Formula One racing. While the budget of the air race teams may not rival the likes of Ferrari, they have evolved a long way from a group of modified unlimited aerobatic aeroplanes. This evolution is set to continue and the money involved is similarly set to grow. Matt has invested \$800,000 and a lot of time and ideas towards his new aircraft, and is appreciative of the sponsorship from Massel Foods and Eventscorp Western

HOME TOWN FAVOURITE With a home crowd behind him Perth will hold a special place for Hall when he races there in April. (Owen Zupp)



Australia. However, he is up against a very large sponsorship pool funding the teams from Europe.

Yet despite the money involved, to date the camaraderie amongst teams remains friendly. In fact, Nigel Lamb recently came down under in the off-season to fly a warbird formation with Matt at the Temora Aviation Museum, and he was among the first to congratulate him on his performances in 2009. There will always be competitive tension, but for the moment Red Bull rivalry remains in the best sporting traditions.

Matt has interesting visions of where air racing may ultimately lead. “Using new materials, the aircraft could be 30 per cent lighter and stronger in combination with more powerful engines.” He points out that higher speeds would lead to longer courses which may be difficult to fit into city confines and detract from the spectacle somewhat. As a consequence, he foresees, “More turns and more gs, with the pilot lying more down to compensate for this.” It is a spectacular future and one that we may see evolve as interest, budgets and sponsorship of the sport continues to grow.

RED HOT

I had the privilege of flying with Matt and it was a further insight into his skill and approach. Despite flight after flight at Maitland with one media representative after another, he remained totally on his game. Quick to respond with informed answers and with no shortage of patience despite the fact that it must have been tested, he was the consummate professional and a potential sponsor’s dream.

In the aircraft he was smooth and relaxed as he spun the horizon around like it was ‘Wheel of Fortune’ and snapped the Giles through positive and negative g as if the aircraft was on a string. There was no bravado and a notable absence of the ‘trash talking’ we see from so many of the sportsman of this modern era. From engine start to shutdown, Matt practised what he preached; he was absolutely focused.

The world is continuing to flock to the growing spectacle of Red Bull Air Racing and the trend is set to continue. In Matt Hall Australia has a genuine contender for the title, though he would never let that concept enter his performance-focused mindset. For him, it is simply about personal improvement and the minimisation of error. Even so, Matt and the 2010 Red Bull season are set to take air racing to the next level against the dramatic backdrops of cities like New York.

All in all, things at Red Bull are set to get red hot.

Follow Matt via his website: matthallracing.com